ENGLISH-RELATED OUT-OF-CLASS TIME USE BY JAPANESE UNIVERSITY STUDENTS

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By
Brad L. Visgatis
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Examining Committee Members:

Mark Sawyer, Advisory Chair, CITE/TESOL, Kwansei Gakuin University
David Beglar, CITE/TESOL
Marshall R. Childs, CITE/TESOL
Yoko Kozaki, External Member, Mukogakwa Women's University
Masao Tada, External Member, Osaka International University

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ABSTRACT

This project explored aspects of English-related out-of-class time use by Japanese university students. The aim was to identify the salient temporal and motivational features of the episodes. The study had three parts, two longitudinal components and one cross-sectional component. Data from these three components consisted of out-of-class English time use information collected through a time diary (8,838 episodes). The episode data was collected from longitudinal study participants (n = 125) and cross-sectional study participants (n = 642) who maintained the time diary for at least one week. Data also include interviews with longitudinal participants (n = 40) about their time use and motivation and motivational information collected through an L2 motivational self system survey administered to cross-sectional study participants (n = 1,399) that was modeled after the survey developed by Taguchi, Magid, and Papi (2009).

Two sets of time use and interview data were collected longitudinally (one semester per dataset) through Longitudinal Study 1 ($n_{initial}$ = 66, n_{final} = 15), which included participants from three universities in Western Japan, followed by Longitudinal Study 2 ($n_{initial}$ = 59, n_{final} = 25), which included participants from two universities in Western Japan. Interviews were with participants from these studies. Participants maintained a record of their out-of-class English-related time use during the semester. These data provide an overview of the out-of-class time use of Japanese university students during a full Japanese academic year. Longitudinal Study 1 data were collected during the fall semester, the second term at Japanese universities. Longitudinal Study 2 data were collected during the spring term, the initial term.

Longitudinal Study 1 participants reported 2,529 episodes and Longitudinal Study 2 participants reported 3,322 episodes of out-of-class English access during the study period. One interview was held with the Longitudinal Study 1 participants (n = 15), at the end of fall semester. Two interviews were held with Longitudinal Study 2 participants (n = 25), one during the term and one following summer holiday. Data were examined for their temporal patterns and the contextual and affective features of the time use episodes. The cross-sectional component collected data from participants (n = 1,399) at 11 universities in Western Japan. These participants provided data for the motivational survey (n = 1,399) and at least one week of out-of-class English time use (n = 642) data. The participants in the cross-sectional study reported 2,987 out-of-class English access episodes.

Episode data for all three components (K = 8,838) and the motivational survey data (n = 1,399) were analyzed at the person, group, and amalgamated episode levels for the patterns of participants' time use using ANOVA and nonparametric procedures. The data were also examined using nonparametric procedures (Kruskal-Wallis) to exam the affective variables (anxiety, enjoyment) by the contextual variables (purpose, location, persons present) of that time use. The episode data regarding participants' (n = 1,399) time use and motivational survey data were analyzed using ANOVA, factor, Rasch, multiple regression analyses, and structural equation modeling. The analyses of the time use data considered the temporal features of the episodes (time of day, day of week, hebdomadal pattern), the contextual features of the episodes (purpose, location, persons with), and the affective features of the time use (enjoyment, anxiety). The analyses of the motivational data considered two models of the L2 motivational self system, an intention to learn model (ILM) and a time use

model (TUM). The ILM replicates the model found in the final solution proposed by Taguchi et al. (2009) for their model of the L2 motivational self system. In this model, the outcome factor is Intention to Learn, a factor labeled Criterion Measures by Taguchi et al. In the TUM, the outcome factor of Intention to Learn is replaced by actual time use on out-of-class English access.

Time use results from all three components of this study indicated most out-of-class episodes occur when the participant is alone at home either studying or listening to English music. The most typical episode was listening to music, either alone at home or while commuting. A similar pattern of out-of-class English access was found for participants in all three components of this study. Study-related episodes were not considered enjoyable but also were not seen as causing anxiety. The amount of out-of-class time varied widely between participants, with one longitudinal study participant devoting 40 hours per week to English outside of class.

For longitudinal study participants, the time use episode data, along with interviews, indicated that habit was a primary driver of out-of-class English access, with participants showing stable patterns of time use, whether for enjoyment or study, during the term. For the most part, once participants in the longitudinal components for this project had established a routine it remained fairly consistent during the term. The interviews clarified the initial motivators and drivers of the participants' English-related out-of-class time use. Interviews also confirmed the importance of habit in out-of-class time use patterns. Moreover, the interviews also indicated that the participants' L2 motivation was set in junior high school, though initial interest may have begun much earlier.

Moreover, results from the three components showed that none of the participants met the time requirements of the Japanese Ministry of Education, Sports, Technology and Culture (MEXT, 2002, 2009b) for out-of-class time allocated to study for their English courses, a 2:1 ration, for every week that they participated in the study. Only a few of the participants met this requirement for out-of-class English access during any week of the study and only if all purposes, including enjoyment, were considered.

This study also addresses the call that Dörnyei (2000) made for research examining the links between motivation and behavior in L2 learning. One unique aspect of this study is the use of a behavioral variable, Time Use, in addition to the survey-assessed latent trait, Intention to Learn, to explore the links between motivational profile and actual behavior. Motivational results show limited support for Taguchi et al.'s (2009) structural model following the same paths that they used in their model of the L2 motivational self system. More informative is the difference in the loading of the motivational profile factors on the outcome variable, Intention to Learn, which was the Criterion variable in Taguchi et al.'s final model, and the loading of the motivational profile factors on the measure of actual out-of-class time accessing English. Results show that Ideal L2 Self loaded strongly (.94) on the criterion, Intention to Learn, but much less strongly (.35) on actual out-of-class time use. However, the confirmatory factor analysis also indicated only a marginal fit to the model.

Of importance, however, is that participants who rated highly on their Ideal L2 Self rated highly on the Intention to Learn, but not nearly as highly on actual time use on English. This suggests that responses on surveys of motivation to learn a second

language are measures of intention and should not be used to predict or explain actual language learning behaviors. Like the results found by M. P. Eccles et al. (2012), who looked at intention and behavior in medical intervention studies and concluded that surveys targeting intention did not indicate actual behavior, language researchers might need to take a more critical approach to any interpretation of survey-based results as explaining actual learner behavior.

This study set out to begin the process of understanding language learners' out-of-class time to language learning and exploring the links between out-of-class behavior and the learners' motivations. Through the longitudinal and the cross-sectional components, the study clarified the ways in which language learners use their out-of-class time allocated to second language access, the amount of time that they allocate, and the characteristics of this time use. It examined the connections between motivation and behavior and began the process of linking motivational studies with actual behaviors called for by Dörnyei (2000). If, as this study has suggested, there is little connection between the level of motivation and the type of motivated behavior that is being targeted, then researchers need to reconsider the current construction of such instruments and search for alternative ways to include actual measures of behavior in L2 motivational surveys. Given the large body of research on motivation in language learning, the results of this study indicate that researchers might want to consider ways include a measure of actual behavior or interpret results of surveys more conservatively when making claims of links between motivation and actual intention.

For Tamara,

Thank you.

And thanks for all the fish.

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INTRODUCTION

Time is a unique variable. In its physical sense, time is linear, universal, and measurable on a ratio scale. The concept of time is recognized by all societies around the globe and modern societies have all developed systems for recording the passage of time. By convention, all countries currently recognize the 24-hour day and larger time spans—months or years—are easily converted between different calendric systems.

More importantly, time is a dimension within which every action takes place. Accordingly, every action has a temporal component, regardless of whether that component is recognized or not. Learning, an action that transpires over time, is no exception. Time is the assumed but minimally understood dimension of language learning.

Time is a constant that we have divided into years, months, days, hours, and minutes in order to measure its flow. One day is 1,440 minutes. The ways in which people spend these 1,440 minutes have been measured and quantified in order to gain an overall picture of time use.

Like astronomers mapping the heavens, leaving others to use the data to investigate specific astronomical phenomena such as pulsars or dark matter, large-scale time use studies, especially those sponsored by governments, create a database for scholars to mine in search of an understanding of specific social phenomena. Other time use studies take a more limited slice of the time used in

specific phenomenon, often with a focus just on the activities or groups under investigation.

The sequencing of activities in classrooms, the various tasks that occur in classrooms, and the practices for improving language learning within classrooms have been well studied. How time is allocated outside the class to language learning, however, remains unclear. What language educators know about time allocation to language learning outside the classroom remains a "black box;" educators assume time allocation takes place but know little about the amount of time use, the characteristics of this time use, or what seems to drive this time use.

Impact of Time on Learning

Time has long been considered a basic facet of life and learning. Attention to time has been traced back to some of the earliest scholars such as Aristotle (384-322 BCE) and Augustinus (354-430) (Hintikka, 1973; Wagner, Schober, & Spiel, 2008a). More recently, efficient use of time has been considered "a viable response to the increasing demand of mastering everyday tasks" in a wide variety of fields (Wagner et al., 2008a, p. 150).

Within the field of education, time has long been considered to be one of the most important variables in learning in that it affects both the rate of progress and ultimate achievement (Bloom, 1974; Carroll, 1963; Fredrick & Walberg, 1980). Opportunities for learning require time to learn. As Carroll (1963) stated, "the learner will succeed in learning a given task to the extent that he spends the amount of *time* [emphasis added] that he needs to learn the task" (p. 724).

Time allocated to learning affects all fields, including language learning. In class, time on task is an important issue. However, much learning occurs outside of formal classroom situations, in forms that range from homework (e.g., Cooper, Robinson, & Patall, 2006; Keith, 1982; Trautwein & Lüdtke, 2007), to self-directed study and incidental learning during daily life. Some early time use studies in education explored the relationship between time and learning from the perspective of comparative learning rates and time to criterion. One example of this is Bloom (1974), which contained information about the range of progress made by students of the same age. As Bloom pointed out, "all learning, whether done in school or elsewhere, requires time," which is especially notable in the development of "a satisfactory degree of attainment" in any field that requires competence to be attained over months or event years (p. 682). Bloom went on to suggest that areas such as swimming, reading comprehension, and the arts are of few of these fields. Language learning clearly fits into these areas as it, too, requires time to attain satisfactory achievement. Bloom also referred to earlier studies on learning, particularly the distinction made between elapsed time (e.g., completion of a one-year course of English study) and "the time the learner is actually spending on the act of learning" (p. 683). Time spent on learning, not merely elapsed time that occurs solely within the confines of the classroom, is when much learning takes place. Carroll (1963) suggested that the entire amount of time spent "on the act of learning," not simply "'elapsed time'," needs to be considered, as "the time during which the person is oriented to the learning task and actively engaged in learning . . . is the time during which he is 'paying attention' and 'trying to learn'" (p. 724). Time allocation, as can be seen, is an area of concern among educators that cannot be considered new. It remains, however, relatively

unstudied even in educational situations. As Wagner, Schober, and Spiel (2008a) pointed out, "in comparison to other determinants relevant to achievement (e.g., test anxiety, self-concept), only a limited number of empirical studies primarily focus on time" (p. 139). This lack of research into the actual use of time within the field of education has reduced us to relying on assumptions about how students allocate their time to learning outside the classroom.

Importance of Out-Of-Class Time Use

Time devoted to learning can be divided into two general categories: time spent in class and time spent outside of class. In general, time spent in class is determined by the curriculum and by the teacher. Time spent outside of class, however, has multiple determinants. Among these, time spent outside of class that is directly related to class is primarily determined by particular homework assignments or curricular obligations (e.g., assignments for a specific class or passing some sort of test in order to move to upper level courses).

In addition to this time, other time might be spent outside of class that relates to some goal or goals that are tangentially related to the primary goal of the education. For example, a student might devote study time toward getting a high score on an English proficiency test that is not directly related to the curriculum. Finally, a student might elect to spend time outside of class using the language for other reasons, such as interacting with native speakers, searching the Internet in English about a topic of personal interest that is not related to the language (e.g., fashion), or listening to songs in the target language.

The expectation of out-of-class time use on learning.

In the fields of education, governments, universities, and accreditation bodies all acknowledge the importance of out-of-class time devoted to learning class-related content, in documentation ranging from general information regarding the expected work load of students, to detailed formulae for calculating the appropriate number of transfer credits to be awarded for a specific course.

That Japanese university students are expected to devote time to language learning outside the classroom seems clear from the requirements given in course syllabi and the general statements on out-of-class study by the Japanese Ministry of Education, Sport, and Technology (MEXT) (e.g., 2002; 2004, 2009a, 2009b). For example, MEXT (2002) documents has stated explicitly that

> *1 tan'i to iu gakushūryō ha, kyōshitsunai ni okeru kyōgyō no jikan nominarazu, kyōiku no jimai-jigo ni kyōshitsugai de gakusei ga okonau junbi gakushū-fukushū mo awasete kōseisareru koto ga zentei to natteimasu* [The amount of study to earn one credit is not limited to time spent in class, but also includes requisite out-of-class time spent studying to prepare before class along with time spent reviewing after class]. (p. 3, translation mine)

The European Commission also has made reference to out-of-class time for learning in the European Credit Transfer and Accumulation System (ECTS) guidelines, where "the time required to complete all planned learning activities such as attending lectures, seminars, *independent and private study* [emphasis added], placements, *preparation of projects* [emphasis added], examinations, and so forth" (European Commission, 2010, p. 2) comprise the student workload. Moreover, their guidelines include a "Form for Checking Workload of an Educational Module" that

contains both in-class and out-of-class components. The formula provided in the ECTS information has indicated that a full-time student workload of 60 credits during an academic year at a European university requires 1,500 to 1,800 hours of work, with one credit requiring 25 to 30 hours of work.

The general explanation provided by the United States Department of Education indicates that most American universities follow a class time to out-of-class preparation time ratio of 1:2, meaning that a typical 3-credit 15-week course encompasses 135 hours of total study (45 hours of in-class time plus 90 hours of out-of-class study). This formula has been specifically stated in information from the U.S. Department of Education, which indicates one credit hour consists of one hour a week of in class time and two hours of work by the student preparing. "Most lecture and seminar courses are awarded three credit hours. Over an entire semester, this formula represents at least 45 hours of class time and 90 hours of student preparation" (International Affairs Office, 2008).

Information on time allocation provided by universities. Universities also have acknowledged the importance of out-of-class time devoted to learning in three main ways: through general information for students (e.g., course descriptions, orientation materials, student handbooks); post-course evaluations that include questions about course study load; and detailed syllabus information given out by instructors.

University course catalogues occasionally have made reference to the approximate out-of-class time needed for each one credit of course study. Purchase College (New York), for instance, advised students that, "For each credit, students are

expected to complete a minimum of two hours of academic work (study, preparation, etc.) outside of class each week. Some courses may require three or more hours of outside work each week for each credit" (Purchase College, 2009). The University of Oregon's (2011) on-line guide included similar information for students in their on-line course catalogue, where 1 credit, "represents approximately three hours of the student's time each week for one term in a lower-division undergraduate course. This frequently means one hour in the lecture hall or laboratory in addition to two hours spent in outside preparation."

The expectation of out-of-class time allocation to study is also evident in university course evaluations. Many universities use post-course evaluations that include questions about the amount of time students prepare for the course. Some schools ask general questions about the workload of students. The course feedback survey used by Osaka International University (n.d.), for example, refers to *kadai no ryou* (amount of assignments), a term which can encompass both the number of topics covered during the course, as well as the amount of out-of-class assignments to be completed by the student.

Other university forms are more specific. Many post-course evaluations, such as the one used by Temple University's (2011), have asked students to estimate the number of hours they spent each week outside of class for preparing for the course and completing course assignments. The form used at Temple has included options that range from less than 1 hour to 8 hours or more. For a course that meets 3 hours per week, an out-of-class study load of 8 hours results in an approximate out-of-class to in-class ratio of 1:2.67.

Course syllabi often have included an indication of the expectation of out-of-class time allocation to study. Many specifically have mentioned the types of study students are expected to do, most often in the forms of outside reading and assignment preparation.

Some schools have included directions to teachers for them to specifically mention the types of study the students have to do, as does Osaka Jogakuin College (2010), which told teachers to include the expected amount of time students are expected to spend on homework in their individual course syllabi and suggested this be two hours or more for each hour in class for most classes.

Although these general guidelines provide a rough indication as to how many hours a student might be expected to study for a course outside of class, a certain variability has arisen with respect to different types of courses (lecture, laboratory, practicum, etc.) or particular topics of study. For example, the guidelines for one piano course at Iowa State University had the following: "One-half hour lesson weekly for one credit, one hour lesson weekly for two credits. Students should expect to practice at least one hour daily and attend concerts as recommended" (William & Conklin, n.d.). This equated to a 1:14 in-class to out-of-class ratio for earning one credit.

Multi-institutional bodies and out-of-class time allocation to study. Finally, various other bodies have collected information on out-of-class time use by students. One example is the National Survey of Student Engagement. Started by Pew Educational Grants and coordinated by the Indiana University Center for Postsecondary Research and Planning, this survey has been used to collect data from

hundreds of institutions in the United States (including Temple University) and numerous metrics of student engagement have been published annually. Included among the survey questions are several that ask about out-of-class time allocated to various pursuits, including, "About how many hours do you spend in a typical 7-day week . . . preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)" (National Survey of Student Engagement, 2011b, p. 3). Faculty also have been surveyed regarding the number of hours they "think the typical student *should spend in a typical 7-day week"* [emphasis added] and the number of hours they estimate that "the typical student *actually spends in a typical 7-day week* [emphasis added] . . . preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities)" (National Survey of Student Engagement, 2010, p. 18-20).

These documents all support the contention that out-of-class study time is both expected of students and essential for learning a course's content. Moreover, the ratios mentioned above indicate that out-of-class time exceeds in-class time by a significant margin. "As a former Assistant Secretary of Education often pointed out, time in school actually represents only 9 percent of a child's life from birth to age 18. In 'the other 91 percent' of their time, children, of course, do many things, and we could not seriously study them all" (Adelman, Haslam, & Pringle, 1996, p. 3).

That there is a general expectation that students will spend time outside of class for learning purposes is reflected in (a) the widespread use of homework, (b) its inclusion in formulas used to calculate the number of credits to award for a particular

course, and (c) the inclusion of questions about out-of-class study on university course feedback forms.

Out-of-Class Time Allocation to Target Language (English) Use

The issue of out-of-class contact with a target language is one that impacts upon all formal language learning situations. In target language cultures (i.e., ESL contexts) an overwhelming number of opportunities for language access occur outside of class, out of sight and beyond the control of the teacher. Nevertheless, those hours might very well have more impact upon target language learning than what goes on in the classroom or that which is covered by the curriculum. In the foreign language context (i.e., EFL), opportunities for out-of-class contact with the target language in natural situations are far fewer, and the rewards for those learners who make more of an effort to access the target language outside of class might come in the form of faster progress, better marks, or both.

Yet, not all time spent on study outside of class on language learning is directly related to the curriculum. This includes study directly and indirectly related to learning a foreign language. In many cases, students spend time preparing for standardized examinations, such as the Test of English as a Foreign Language (TOEFL) or Test of English for International Communication (TOEIC), which are not part of a school's foreign language curriculum. In addition, others might devote time to the target language for their personal enjoyment (e.g., listening to music) or using the foreign language for social purposes (e.g., chatting with people from the foreign community). Obtaining a fuller picture of the out-of-class time use of a target

language by Japanese students requires more than the use of end-of-term survey time estimates that are currently used for specific courses.

Calculating the amount of time a learner is exposed to or spends on learning a foreign language is a complex process because time use can occur in three contexts. Each of these poses unique challenges with regards to data collection. The three contexts are

- time spent in class learning or practicing (e.g., time on activities in the classroom);
- time spent outside of class that is directly related to the class (e.g., completing homework assignments, studying for class tests); and
- time spent outside of class that is not directly related to the class content (e.g., watching a movie in the target language for enjoyment, chatting with L1 and L2 speakers of English, studying to get a good score on the TOEFL).

Moreover, the idea that a single time use metric can encapsulate a person's time use is problematic because of the dynamic nature of time. Daily routines are constantly in flux, and the only way to understand how time is allocated is by examining this allocation at multiple points. In fact, there might be no single answer to the question of how much time is allocated, but rather several different possible answers that depend on how samples are collected, coded, and how the data is then amalgamated.

Another issue concerns the ways in which time is used. Consider two language learners who allot the same amount of time outside of class to studying a foreign language. One might choose to spend that time watching movies in the target language, while the other might complete exercises in a self-study grammar book.

From a simple time perspective, the two would look identical, but from the perspective of content, they would look quite different. Simply knowing how many hours a learner comes into contact with the target language outside of class is less informative than knowing more precisely the ways in which the learner chooses to spend that time.

Finally, there remains the whole issue of choice. Why a learner chooses to engage in certain behaviors (e.g., take part in a particular activity at a particular time and for a particular duration) relates to the issue of motivation both connected to learner's personality as well as the external forces that impact upon daily life.

If schools, administrators, and curriculum developers want to make use of both in-class and out-of-class time when planning and implementing a curriculum, then they should make use of the most accurate out-of-class time use information available. Unfortunately, there seems to be little up-to-date and accurate information about out-of-class time use.

Statement of the Problem

In spite of the widespread acceptance of the importance of time with regards to learning and the expectation of allocation of out-of-class time to learning, there clearly is a lack of research into out-of-class time use by students, especially university students. Specifically, there is a lack of knowledge concerning out-of-class time use related to foreign language learning, including lack of information about how much time students spend, how they spend that time, how they decide the ways in which they spend that time, and what they feel about the time that was spent. In short, understanding what happens outside of the classroom remains highly speculative.

The lack of research into the links between time allocation and learning becomes clear from an examination of various research databases. These yielded only one group of studies, by Ulrich Trautwein and his colleagues, that directly looked at the issues of time allocation to study of a second language (Trautwein & Lüdtke, 2007; Trautwein, Lüdtke, Schnyder, & Niggli, 2006; Trautwein, Niggli, Schnyder, & Lüdtke, 2009) and none that have examined the links between foreign language learning motivation and time allocation, though calls for research to examine these links between motivation and behavior (which includes time allocation) have been made (Dörnyei, 2000).

Searches I conducted on various combinations of keywords that target terms such as *foreign language, time allocation,* and *motivation* have failed to return pertinent research findings. Various search engines provided me with few "hits" on relevant articles that link either foreign language (and related terms such as *ESL, EFL, English language learning, foreign language, foreign language learning*) and *time allocation* (along with the related terms: *time, time allocation, time use*) or *time allocation* and *motivation* (along with the related terms: *factors, motives*). A search of the EBSCO databases available through Temple University, for example, yielded few results for the various search terms (see Table 1). Of the 10 studies considered relevant among the 277 articles that matched the search terms, I could obtain eight through the various sources to which I had access. Some of the studies initially seemed to promise a discussion of time use by language learners, such as Klein's (2008) article "Time in Language, Language in Time," but this article addressed how concepts of time have evolved in English and, as with most others found in the search, was unrelated to the use of time. Zuriff's (2003) comment of U.S. university students

that "not much is known about a more basic datum, namely how much time students actually devote to studying outside the classroom" (p. 72) also can be applied to our knowledge of students in Japan. Not much is known about language learners' out-of-class time use of a target language. Not much is known about the links between motivation to learn a second language and the actual time spent in learning the target language.

Table 1. *Terms and Results from Temple University Library Search Engines*

Search terms	Results, relevant
Language learning motivation + time use	0 results.
Language learning motivation + time allocation	0 results.
L2 motivation + time allocation	0 results.
L2 motivation + time use	0 results.
Motivation + time allocation	90 results.
Motivation + time allocation – animal – pigeon – rat[a]	21 results, 4 relevant.
Motivation + time allocation – animal – pigeon – rat – hens – goats	18 results, 4 relevant (3 duplicates).
Motivation + time allocation – animal testing	10 results, 3 relevant (3 duplicates).
Motivation + time allocation + education	20 results, 2 relevant (2 duplicates).
Motivation + time allocation + education + learning	11 results, 3 relevant.
Motivational model + time allocation or time use	2 results, 0 relevant.
English as a second language + time allocation	22 results, 0 relevant.
English as a second language + time use	10 results.
English as a foreign language + time use	10 results, 0 relevant.
English as a foreign language + time allocation	1 result, 0 relevant.
English language learners + time allocation	6 results, 0 relevant.
English language learners + time use	0 results.
Time allocation + language learning	18 results, 2 relevant.
Language learning + time allocation	18 results, 1 relevant.
Learning motivation + time allocation	71 results.
Learning motivation + time allocation – animals – pigeons – rats – goats - hens	3 results, 1 relevant (1 duplicate).
Learning motivation + time allocation + education	1 result, 0 relevant.
Learning motivation + time allocation – brain	28 results, 4 relevant (2 duplicates).
Learning motivation + time use	0 results.

Note. Search results vary as new articles are posted. This search is from May 1, 2011. A sample of the search results for these terms appears in Appendix A.
L2 = second language.
[a]minus terms used to eliminate animal studies.

That out-of-class time is devoted to studying is assumed to occur and is considered important can be seen from the discussion above. The paucity of studies that look at the issue is striking. These two facts also pointed to a clear need for researchers to begin to examine this unexplored area of second language acquisition. Regardless of the context, the lack of knowledge about university students' out-of-class time use on language learning pointed to an area that required investigation.

In fact, out-of-class time can be considered from numerous vantage points. One concerns the temporal aspects. How much time in fact are we talking about? Does out-of-class time amount to a significant amount in comparison to the amount of time spent in class? Do the times allocated to the target language occur in any particular patterns? Another aspect to consider is how students feel about that out-of-class time. Are they satisfied, do they concentrate, do they feel anxiety? Other aspects are the social (i.e., who else is present during that time use) and physical environment (i.e., where does that time use take place) in which the time use occurs, with these two aspects having numerous variations.

Finally, time is only allocated to particular activities because of the motivation of the person. What motivates students to allocate time? How does their motivation influence their time allocation and choices of how to spend that time? How does motivation relate to how students feel about English-related events?

Purpose and Significance of the Study

The purpose of this study was to investigate out-of-class time use allocated to English by Japanese university students using quantitative and qualitative methods

applied over both short-term and longitudinal data collections. The specific foci were on

1. the total amount of time allocated to out-of-class use of English;
2. the ways in which that time is divided into episodes, their frequency, and their distribution;
3. the characteristics of episodes in terms of activity type, duration, location, and affect; and
4. the motivational factors that influence this time allocation.

Knowledge about the total amount of time allocated to out-of-class English by Japanese university students can aid educators and curriculum developers in determining if students' out-of-class time allocation to English meets the curricular and regulatory requirements for time on out-of-class study for credit bearing courses. Without awareness of what actually occurs outside of the classroom, educators cannot make informed decisions about the course load or determine if there is an appropriate balance between in-class and out-of-class requirements.

Understanding of the ways in which time is divided into episodes, their frequency, and their distribution can assist educators in planning out-of-class assignments and activities that take advantage of students' out-of-class time use patterns. Moreover, this knowledge can then help educators schedule activities more efficiently and set up patterns of out-of-class English access early in a term for students to follow.

Similarly, awareness of the characteristics of this time use in terms of activity type, duration, and location can provide educators an understanding of how to match out-of-class target language activities to the students' preferences. Knowledge of these

preferences can help educators in determine the types of activities that students are more likely to complete during an episode, the amount of time they are likely to allocate to an episode, and where they are most likely to access the target language. Knowing this can aid educators in the planning of out-of-class activities for target language acquisition.

Finally, understanding the motivational factors that influence time allocation can help educators and researchers determine whether there are any links between learners' motivational profiles and their out-of-class target language time allocation. This is needed to address the call that Dörnyei (2000) made more than a decade ago to investigate the temporal aspects of language learning motivation and a need to "focus on specific *language behaviors* [emphasis added] rather than general learning outcomes as the criterion measure" (Dörnyei, 2003, p. 23).

The information obtained from this study informs researchers concerning the relationship between motivation and motives, on the one hand, and time use, on the other. This might help to resolve issues concerning both what causes a student to cross the Rubicon of action and what supports an extended period of study.

The Audience for the Study

The data I obtained from this study shed light on a portion of the educational process that has hitherto remained largely out of sight: How students use out-of-class time and what forces govern that time use. Those involved in curricular development and implementation can use the results to better estimate the types of outside behaviors students can be expected to participate in and how much time they might be willing to devote to school work. Teachers might find the results useful in both

understanding one of the limits to student development (time allocated to the L2 outside of class) and might be able to target specific motivational techniques to fit student circumstances (Dörnyei, 1994, 2001b).

Knowledge of the degree to which students access English outside of class is especially valuable to teachers as it allows them to better manage the extracurricular workload of students. Information concerning the motivational forces that impact and direct extracurricular access of the target language can help teachers modify their course policies and apply motivational strategies (Dörnyei, 1994, 2001a) to increase out-of-class learning. Administrators and curriculum designers might also benefit from the results in that they can better estimate the actual time budget that is used for out-of-class time allocation to language study and the types of out-of-class English-related time use that students engage in.

For researchers, the information obtained from this study allows for the incorporation of actual participant behavior as an outcome factor into one current latent trait model of L2 learning motivation. This provides some support for the model proposed by Taguchi, Magid, and Papi (2009), while at the same time verifying the correlation between the use of survey items that purport to measure behavior (e.g., through stated intentions to behave) and actual reports of behavior, thus providing us with a better understanding of the validity of those survey items.

Delimitations

Though results from this study might provide clear benefits to curriculum designers and teachers, there are, however, several delimitations that need to be acknowledged:

- All of the participants were from convenience samples of students drawn from intact classes.
- The longitudinal participants represented a very specific type of program (those with a heavy emphasis on English-language study).
- The instrument for collecting time use information included several novel features that might not work in the same way in other research environments. These features included references to locations that might not be applicable (e.g., commuting, special place at school) and to others present that might not be sufficiently specific (e.g., family, friends, others) for research purposes.
- Much of the data consisted of self-reports, which are difficult to check for reliability.
- Given the high attrition rate due to the burden of compliance in the longitudinal component, completed sets of longitudinal data might only have been obtained from a specific type of student.
- The variables targeted (time use, motive for time use, motivation to study a foreign language), though generally considered universal, might not actually be universal: a different teaching situation might engender motives that differ significantly from the ones in this study.
- Given the exploratory purpose of this study, the emphasis was less upon generalizing results to a wider population and more upon obtaining insights into a hitherto overlooked area of language education.

In spite of these limits in generalizability based on the above, this study was clearly needed. The lack of knowledge regarding how university students allocate out-of-class time use to foreign language study outlined above pointed to the need for

research in this area. This out-of-class time might have several characteristics that need to be explored. I set out to begin that exploration with this study.

Organization of the Study

In this project, I examined how Japanese university students allocated out-of-class time to English, as explained above in the outline of the issue and the overview of this project, including its significance and its delimitations. In Chapter 2, I provide a review of the literature on time use and motivation. In the area of time use, this includes discussion of issues related to the collection of time use data as well as the general lack of knowledge we have regarding students' out-of-class time use. In the area of motivation, the review covers motivational theories and the problems that exist in how motivation has been linked to learning and students' time use. In Chapter 3, I outline the research methods and instruments that I employed to examine the time allocation to target language (English) use by Japanese university students. In Chapter 4, I provide a discussion of the Longitudinal Study 1 results. In Chapter 5, I discuss the results from Longitudinal Study 2. Chapter 6 contains the results from the cross-sectional study. Chapter 7 presents an overall discussion of the results. Chapter 8 consists of the conclusion.

CHAPTER 2

LITERATURE REVIEW

As the central focus of this study of the out-of-class time devoted to English was on time, in the first part of this literature review I discuss what we know about time use research, beginning with an examination of time-use research practices, and then providing a discussion of relevant findings. My initial discussion of methodology is especially important because it offers insights into how to properly interpret the findings from time use studies while also providing support for the data collection method used for this project (see Chapter 3).

Among the time-use findings, first I present information about students' time use garnered from wide-scale, largely governmental studies into general population trends. Following these studies, I discuss out-of-class time use information that is contained in findings from general time use studies that have focused primarily on how young people spend all of their waking time. Next, I present data from academically sponsored data collection and research into the study practices of university students. Then, I discuss student time-use information, largely from secondary school students, that is contained in studies that have explored homework. Following this, I present a short summary of the out-of-class time use information and a list of questions this raises regarding the out-of-class target language time use by Japanese university students.

In the second part of this literature review, I shift the focus to that of the determinants of out-of-class time use, with the main emphasis on motivation. I include in this a short overview of the different theories of motivation, discuss how

they relate to time use, and explain which motivational theory I adopted to help with the analysis of the determinants of out-of-class time use. Finally, I present the research questions that address the questions regarding time use and motivation for this study.

Time Use Studies

Introduction to Time Use Studies

General studies into time use originated in the early 1900s in the field of economics (e.g., Bailey, 1915; Bevans, 1913; Reeves, 1914) and explored how people spent their time, especially with regards to their economic activities. The field of sociology later adopted these methodologies as a way to explore aspects of social behavior. More recently, they have been used by governments to gauge the well-being of their populations, to compare different groups within and between countries, and to investigate change over time. There has also been a growth in the use of time studies as research into leisure, travel, sports, and gender has expanded (e.g., Anastario & Schmalzbauer, 2008; Frazis & Stewart, 2004; Timmermans et al., 2002; J. Zhang, Timmermans, & Borgers, 2005; M. Zhang, 2005).

The aim of general time use has been for researchers to learn how people spend all of their time. Therefore, time use researchers set out to record all of the activities that people engage in during the 1,440 minutes of the day. This time use is recorded as activities (ways of using time) that occur in sequences (episodes) in order to account for all of the time in the day. For many researchers, the focal point is on the intersection between the types of activities and their temporal characteristics (e.g., when during the day do the activities occur, how long do participants spend in a

particular activity, on which days of the week do certain activities occur most often). Generally, the types of activities are examined with regards to how a typical day unfolds. The amount of time allocated to various activities is calculated and plotted to determine the patterns of time allocation that occur. Moreover, much of the research aims to identify common time use patterns that can be generalized to the broader society.

One view of time use that has arisen from these studies is that various factors impact time allocation. Davies and Omer (1996) referred back to the perception of time in "ancient societies," where they suggested "individuals would be thought of as participating in an event, not spending time on it" (p. 263). Usinier and Valette-Florence (2007) suggested Davies and Omer "argue time allocation is also endogenized by individuals according to their age gender, role, and time orientation, seen as an aspect of their overall personality" (p. 334). Bergadaà (1990), in a study of consumer behavior and 15 individuals' temporal orientation, made a similar observation about how individuals perceive time and see themselves as operating within that time. Each of these studies also suggested that much more needed to be done to understand how individuals allocate time.

Since it is impossible to collect data on the comprehensive time use of a complete population for an entire year, researchers have had to make compromises. One compromise has been to reduce the sampling period to just one or two days rather than an entire year. Another compromise researchers have made has been to sample only a portion of the population. Through careful planning and stratified sampling techniques, researchers have been able to generate a database that normally covers one representative week. This database takes "the form of a matrix [that]

represents the fact that, first, a period of time is made up of a temporally ordered succession of different activities and . . . second, [where] each episode embodies a set of different aspects or factors" (Michelson, 2005, p. 23).

The temporal nature of the episodes, along with information about the duration, location, other participants, and affective information about the episode, have provided a concrete picture of the time use of the study participants. Through use of the database, the researchers have been able to focus on aspects of interest, including the episode, the activities, the sequencing, or the participants, alone or in combination. Researchers also have been able to generate summary data for each participant. This has enabled researchers to study social issues, especially differences between subpopulations as categorized by gender, marital status, age, and so forth.

Types of Analyses Applied to Time Use Data

Various types of analyses have been applied to time use data. Often several different data files have been generated, including episode files (with data concerning each episode), respondent summary files (with data amalgamated for each respondent), and a time-points file (with data about each time point during the day). Regardless of the data collection method (see below), data frequently have been discussed in terms of the descriptive characteristics (number of episodes of a specified phenomenon, average number of minutes spent in given activities, start and end times, etc.) and displayed visually.

Often the data have been displayed in the form of 24-hour line graphs where the y-axis indicates minutes or episodes and the x-axis indicates hours of the day, days of the week, or months of the year. In these graphs, different lines commonly

represent distinct sub-populations (men vs. women) or time periods (e.g., weekdays vs. weekends or 1970s vs. 1990s). Time line graphs of overlapping activities also have been used to provide time use data of sub-populations. The survey conducted by Japan's national broadcasting network, Nihon Hoso Kyōkai (NHK) (2006), to quantify time use in Japan, for example, displayed data using lines of varying thicknesses to indicate the percent of a target population engaged in an activity during the day and to facilitate comparison between different sub-populations, such as students who study and those who do not (see Figure 1). Pie charts also have been widely employed in order to display the proportions of episodes and minutes allocated to different conditions, such as others present, amount of tension experienced, and other aspects (see Figures 2 & 3). Numerous other display methods have been used (see Figure 4) in order to facilitate more qualitative study of the participants.

More sophisticated analyses have employed correlations, regressions, ANOVAs (using different grouping variables, such as gender, age, degree of stress, etc.), structural equation modeling, and multilevel modeling. In many instances qualitative data have been used in conjunction with qualitative data to describe in detail the experiences and feelings of participants. Michelson (2005) outlined measures frequently applied to time use data in his overview of the field. Included within these were "*mean duration*" of an episode for location, action, or person with during the episode for all respondents or those in a subgroup; "*mean duration based only those who reported this category* [emphasis original]," which shows the amount of time spent by respondents in a particular activity for those who did the activity; "*mean duration per occurrence* [emphasis original]," that is the length of time spent in the activity, location, or with people present; the percent of participation in the activity,

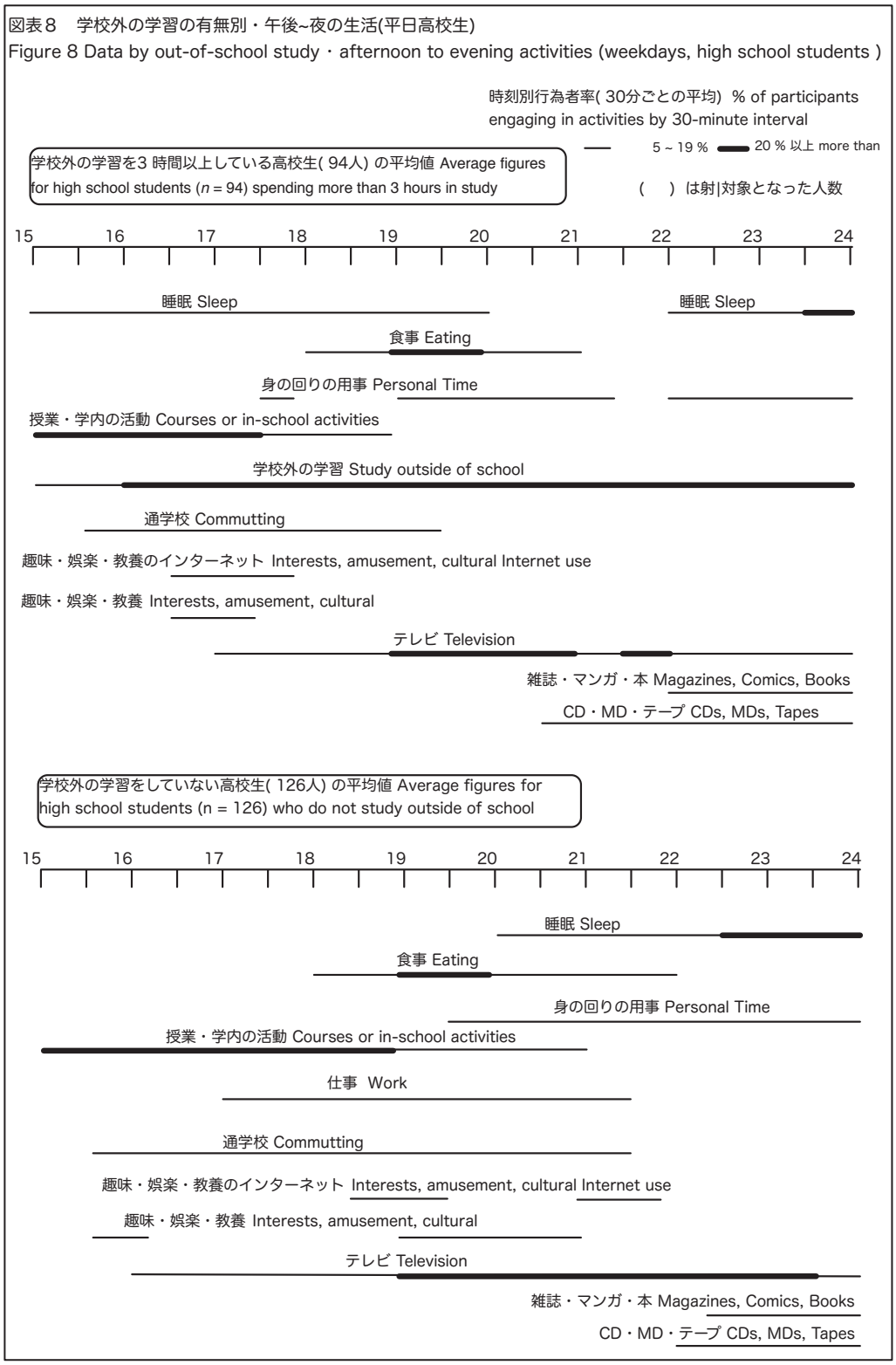

Figure 1. Student weekday out-of-class time use for Japanese high school students who do and do not study. Adapted from *Nihon Hoso Bunka Kenkyūsho* [NHK Broadcast Culture Research Section], 2006, Tokyo: Nihon Hoso Shuppan Kyōkai, p. 100. Copyright 2006 by NHK. Adapted with permission.

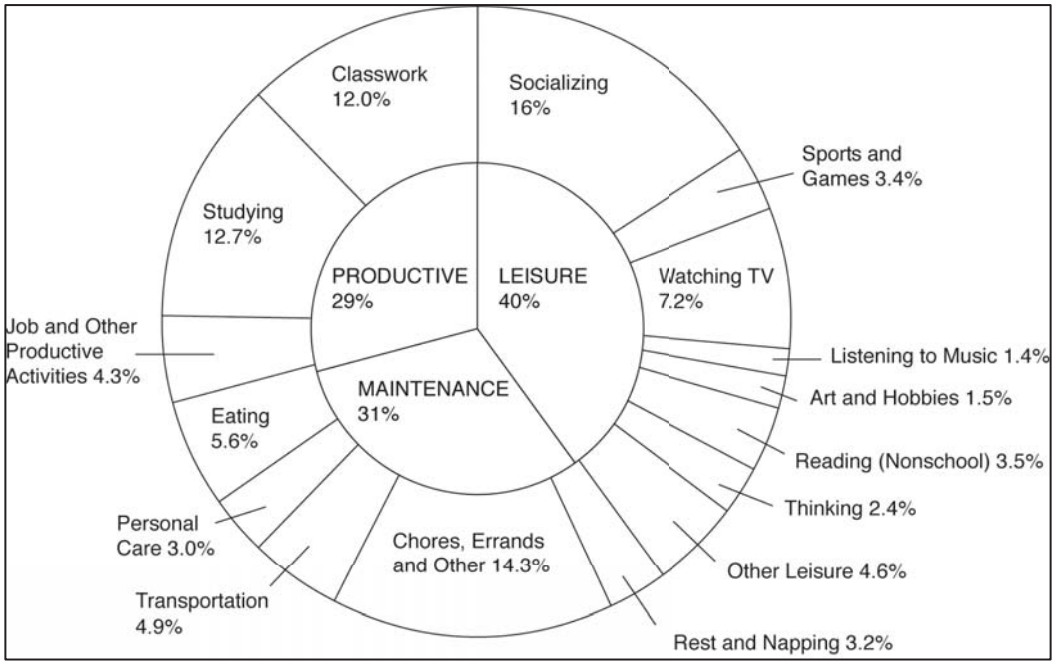

Figure 2. What U.S. adolescents spend their time doing. Adapted from *Experience Sampling Method: Measuring the Quality of Everyday* Life (p. 87), by J. M. Hektner, J. A. Schmidt, & M. Csikszentmihalyi, 2007, Thousand Oaks, CA: Sage Publications. Copyright 2007 by Sage. Adapted with permission.

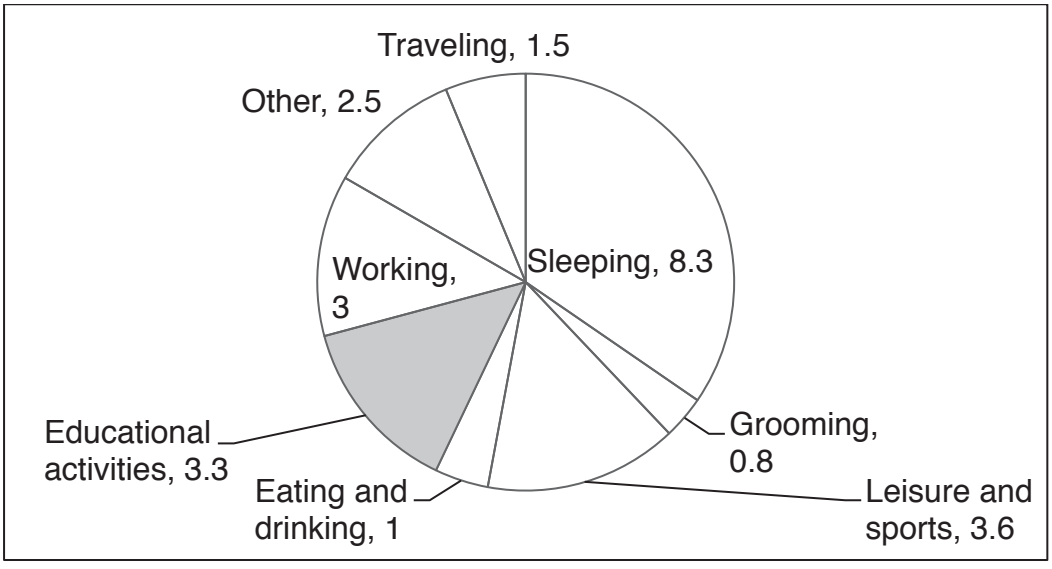

Figure 3. Average weekday time use in hours for U.S. individuals, ages 15 to 49, enrolled full time at a university or college. Data include non-holiday weekdays and are averages for 2005-09 full-time university and college students. Source: Bureau of Labor Statistics (2011).

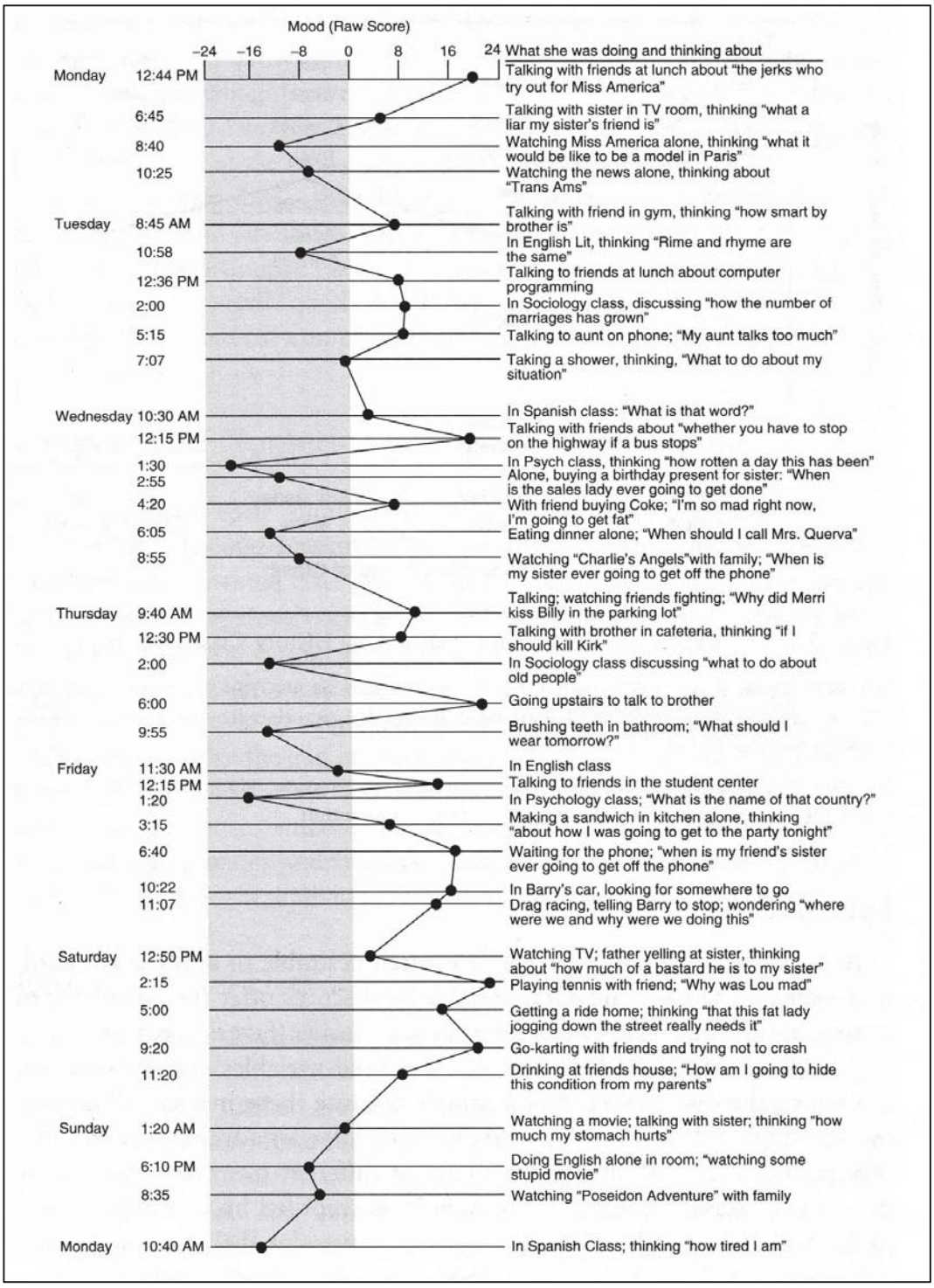

Figure 4. Example individual plot generated ESM data, from data for Lorraine. Adapted from Larson and Csikszentmihalyi (1983, p. 47). *From Experience Sampling Method: Measuring the Quality of Everyday Life* (p. 85), by J. M. Hektner, J. A. Schmidt, & M. Csikszentmihalyi, 2007, Thousand Oaks, CA: Sage. Hektner et al. Copyright 2007 by Sage Publications. Adapted with permission.

the location, or with people present; the standard deviation from the mean for activities and locations; the "*mean number of occurrences* [emphasis original] of episodes" by activity, location, and the people present during the period studied, whether this is a 24-hour day or some other period (p. 64). Each of these measures have proven useful for understanding the use of time, whether this was data for all the respondents' time or the time spent on a specific activity during the day.

Methods for Collecting Data on Time Use

Researchers collecting time use data have employed a number of methods. As with many fields of study, the terminology used by one researcher has not been exactly the same as that used by other researchers. Moreover, variations in how a study can be organized have created areas of overlap between the different methods and grey areas where no single term suffices. Though variations exist, the principal methods used in previous time use studies have been time diaries (TD), Ecological Momentary Assessment (EMA) such as in Experience Sampling Methodology (ESM), and time estimates (TE).

The main factor in deciding between methods has been the aim of the study. General time use researchers are interested in seeing how time is used during the day or over a several-day period. They collect data from individuals on all activities engaged in during a day, amalgamate the individual time usages by day in order to construct composite time use profiles for different sub-populations (e.g., by gender or age) over different time periods (e.g., weekdays, weekends) in order to learn about social phenomena (e.g., Harvey, 1999; Harvey & Pentland, 1999; Hektner, Schmidt, & Csikszentmihalyi, 2007; Juster, Ono, & Stafford, 2003; Michelson, 2005; Pentland,

Harvey, Lawton, & McColl, 1999). For these studies, the most widely employed methods have been time diaries and the Ecological Momentary Assessment, especially in the form of Experience Sampling Methodology (ESM).

Other research with a temporal component has been designed to take a narrow focus and look more deeply at the individual experience (e.g., level of pain among patients), a particular activity (e.g., shopping), or extend over a longer data collection. For these studies, Ecological Momentary Assessment (EMA), activity logs (a form of time diaries), and time estimates have been the most commonly used data collection methods (e.g., Bolger, Davis, & Rafaeli, 2003).

Alternately, researchers have not needed the detail of time use that time diaries and EMA provide, either because the focus of the study didn't require it or because the cost was prohibitive. In those circumstances, researchers often have turned to time estimates or activity logs for gathering the data. Bolger et al. (2003) indicated "the researcher may request participants to complete diary entries following instances of perceiving support or hindrance from their partner. The relevant instances could be of any duration and may be appropriate for self-report so long as they fit the investigator's preestablished definition" (p. 587).

Time diaries in time use data collection.

Time diaries are records of all events that occur during a day, with data collection commonly continuing for one to several days. In cases where participants themselves completed the diaries, data entry normally has been done retrospectively at the end of each day. In other cases, the researcher interviewed the participants and completed the diary. Data from participants was then coded for analysis. With time

diaries, the emphasis has been on recording all activities for each participant, together with the temporal distribution of activities (e.g., "which days?" "what time of day?") and duration. Once coding has been completed, the researcher then amalgamates data from numerous participants (who usually submit data for different days) in order to construct composite profiles.

In time diary methods (e.g. Michelson, 2005; Pentland et al., 1999), respondents usually have been asked to write down all of their activities over a certain period (e.g. one day) and, by compiling results from each day of the week, a general time use distribution has been created. In time diary methods of data collection, as well as in ESM studies (see below), responses normally have been coded using either pre-determined (and more recently "harmonized," i.e., standardized) codes or, less commonly, through coding schemes derived post hoc from the responses. Some examples of education and educationally-related time use codes, such as in the Canadian Time Use Survey 1986, have included "Full-Time Classes," "Other classes—part time," "Special lectures: occasional," "Homework: course, career, self-development," and "Leisure and special interest class" (cf., Harvey, 1993; 1999, p. 31). Time diaries have been used to collect data for a variety of different studies, including those on personality processes (e.g. Bolger et al., 2003; Bolger & Zuckerman, 1995; Fabes & Eisenberg, 1997; Rhodewalt, Madrian, & Cheney, 1998), marital and family interaction (e.g. Downey, Mougios, Ayduk, London, & Shoda, 2004; Larson & Almeida, 1999; Laurenceau & Bolger, 2005; Repetti & Wood, 1997), explorations in the end-of-day intimacy in relationships (e.g., Laurenceau, et al., 2002, cited in Bolger et al., 2003), daily levels of stress and mood (e.g. Bolger, DeLongis, Kessler, & Schilling, 1989), intimacy levels and within-day mood fluctuations (e.g.,

Rafaeli & Revelle, 2002, cited in Bolger et al., 2003), and overall well-being (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). These, and numerous other studies, have been done using time diaries or one of the variations on time diaries. The use of time diaries has allowed for aggregate levels to be studied systematically through participants' responses.

Though data collection forms vary widely, data often have first been entered on a record sheet, as they were on Michelson's (2005) data collection form (see Figure 5) and the data from individual participants has then been coded and amalgamated into episode files for later analysis. Michelson's data collection form included start and end times for the activity, as well as space to indicate where the event took place, who the participant was with, and codes to indicate their degree of perceived freedom to engage in the activity and their feelings of tenseness or relaxation about the activity.

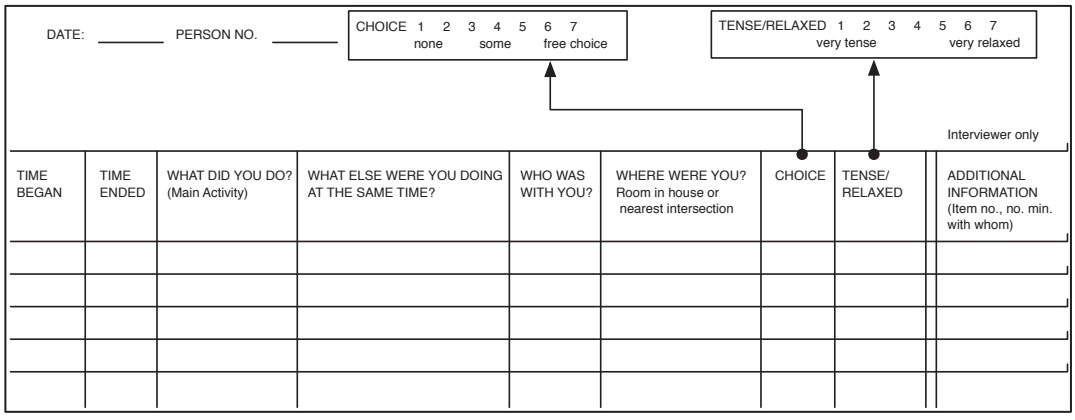

Figure 5. Example time diary data entry form that includes categories to elicit affective data. Reprinted from *Time Use: Expanding the Explanatory Power of the Social Sciences* (p. 36), by W. Michelson, 2005, Boulder, CO: Paradigm. Copyright 2005 by Paradigm Publishers. Reprinted with permission.

One variation in time diaries has been the use of activity logs. These are records normally completed on an end-of-day basis for all instances of a particular activity, with data collection continuing over a given time span, commonly a week, month, or longer. Generally, the respondents have maintained a log to record the amount of time spent on specific activities such as watching television or commuting to work, which has allowed the researchers to obtain "information on duration, sequence, and various other dimensions for the activity being logged" (Harvey & Pentland, 1999, p. 4). In one time diary study, Zuriff (2003) used an index card based system (i.e., an activity log) to track students' (n = 17) out-of-class time spent related to a psychology course over a one-semester period in 1999. The mean time for students was 3.66 hours (SD = 1.78) per week, including time spent reviewing for class, discussing class content with classmates, and studying. Interestingly, Zuriff (2003) found that a comparison between weekly time allocated to the course was 40% less than the time allocation reported on the end of semester evaluation forms (i.e., time estimates, see discussion below) from previous years. Although the end-of-term estimates reported on the semester evaluation form for the year of his study was 3.68 hours, which was almost identical to the weekly average, this was most likely due to the fact that the students had a much better idea of their actual study times through participation in the research.

Kember, Jamieson, Pomfret, and Wong (1995) chose to use a variation of a time diary (activity log) in their study of learning strategies of first-year mechanical engineering students at Hong Kong Polytechnic University (n = 34). They focused on the relationship between study time and academic performance using an hourly logbook (activity log) recording approach as they felt it "most appropriate" for

obtaining data regarding the students' study and their learning strategies and "would not only assist students' recollection of their daily activity but also leave relatively smaller room for impressionistic reactions toward their workload" (p. 332). This logbook divided the day into one-hour blocks, beginning at 8:30 a.m., in which the students wrote all activities, including free time, until they went to bed. They included open-ended questions to get more detail about the participants' approach to each activity, including both general questions and those seeking "information about the nature of students' activities and the approaches they applied to tackle academic tasks" (Kember et al., 1995, p. 332). Cross-checks of unexpected events (late instructors, computers off-line) in the participants' logs indicated these were accurately maintained by the participants.

Another variation of the time diary was the homework diary (an activity log) used by Wagner, Schober, and Spiel (2008b) to obtain a clearer picture of the day of the participants in their study. Participants were asked to record each day's school time and homework time and to separate the homework into the appropriate type, including short-term tests, extensive exams, memorizing, preparing reports, and other activities (see Figure 6).

The Day Reconstruction Method (DRM) also falls into the time diary category of data collection in time use studies. DRM has been used as a post-hoc data collection where specific steps are taken in order to help the participants recall the activities and sequences from the previous day by having them revisualize the day as a movie (Kahneman, Krueger, Schkade, & Schwarz, 2004; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004). DRM has been used for a variety of different

purposes, such as assessing people's well-being (for a discussion of studies using DRM, see Kahneman & Krueger, 2006).

Dear Student!

Please complete the following part of the questionnaire, day for day, as shown in the following example:

Example: On Monday, April 9th, 2005 Peter attended his classes from 8:00 to 12:30. From 14:10 to 15:50 he had Physical Education. From 17:10 to 17:38 he worked on his homework for English class and then started on his Math homework. From 18:30 to 19:13 he studied for his English examination. From 20:05 to 20:20 he finished his Math homework. Afterward, from 20:20 until 20:28, he memorized vocabulary for the next Latin class.

Monday

Today's date	School	Homework	Learning for short-term tests	Learning for extensive exams	Memorizing	Preparing reports	Other activities
	from–to	from–to	from–to	from–to	from–to	from–to	from–to
April 9, 2005	8:00–12:30 14:10–15:50	17:10–17:38 20:05–20:20		18:30–19:13	20:20–20:28		

Figure 6. Example homework diary completed each day by participants. Reprinted from "Time Investment and Time Management: An Analysis of Time Students Spend Working at Home for School," by P. Wagner, P., B. Schober, and C. Spiel, *Educational Research & Evaluation,* 14(2), p. 153. Copyright 2008 by Taylor & Francis. Reprinted with permission.

Observation also has been classified as a variation of time diaries. This involves the researcher observing and recording certain or all events that are seen to occur during a specific period of time, with data collection commonly limited to short periods of time during the day and only extending over a few days. Often the researcher records either all actions or only actions of a particular type. Given the great expense for the amount of data that is collected, observation often has been limited to use with children, who are believed to be unsuitable for self-reporting, or other individuals believed unable to maintain self-reports (e.g. Ben-Arieh & Ofir, 2002; Plewis, Creeser, & Mooney, 1990).

Ecological Momentary Assessment (EMA), including Experience Sampling Methodology (ESM), in time use data collection.

The second major variation in time use data collection is Ecological Momentary Assessment (EMA), which includes the Experience Sampling Methodology (ESM). EMA differs from time diaries in that it does not seek to record all activities in an individual's life during a particular time span, but rather samples events from multiple participants at different times (c.f. "point sampling," Larson & Verma, 1999, p. 704) during the focal time period. Shiffman, Stone, and Hufford (2008) indicated that EMA is not a research method, per se, but a way to collect data that "address questions about individual differences, about the unfolding of processes over time, and about the interactions among these factors" (p. 3). Bolger, Davis, and Rafaeli (2003) considered EMA to be the overarching methodology behind ESM and explained that EMA involved recording a particular state or attribute (e.g., level of pain) at semi-randomized times during the day, with data collection commonly extending over several days, a week, or month. Similarly, Stone and Shiffman (2002) placed ESM into the broader category of EMA, as ESM has focused "on random time sampling of experience" and "has traditionally focused on private, subjective experience, [while] EMA also explicitly includes self-reports of one's own behaviors and physiological measures" (p. 237).

In ESM studies by Larson and Csikszentmihalyi (1983), respondents were signaled at random intervals during set time bands (e.g., once during each 2-hour period of the day) throughout the focal time period (often one day or one week). When the participants received the signal, they were supposed to immediately record their activity (concurrent recording) along with other target characteristics (e.g.,

degree of happiness experienced). The results from individuals were then amalgamated into a profile to generate a "typical" day or week. This then could be extrapolated to the daily time use of a population. EMS generally has required both a large number of participants and methods to randomly contact the participant to signal them to make a record of their time use at that moment. As with time diaries, data from numerous participants then has been amalgamated in order to construct composite profiles for analysis.

ESM have not been restricted to quantitative analyses of the data. Hektner et al. (2007) saw ESM as "a valuable qualitative research tool" that allowed researchers to know what the participants were "doing, thinking, and feeling" (p. 81). They also suggested that ESM was best used when quantitative and qualitative analyses were "brought to bear" on the research questions (p. 82).

The links made through quantitative and qualitative analyses can be seen in the types of issues addressed in ESM studies. ESM has been used to collect real-time data to assess overall level of satisfaction (e.g. Krueger et al., 2009), as well as many other phenomena, including, among others, work satisfaction (Alliger & Williams, 1993), flow among Japanese college students (Asakawa, 2004), and self-efficacy and learning (Bassi, Steca, Delle Fave, & Caprara, 2007). Though EMA/ESM have been considered the "gold standard for the assessment of mood and experience in everyday life, . . . the respondent burden with EMA is high, and assessments may be reactive. There also have been circumstances in which collection of EMA data is difficult, as with some high stress occupational groups" (Dockray et al., 2010, p. 270).

One issue with EMA/ESM data collection has been the frequency of the signals and the actual number of samples of the targeted episode which occur when

the participants have been signaled to record their activities. Though EMA/ESM has been shown to be a reliable method of time use data collection, Reis & Gable (2000) indicated that when a specific type of activity has been targeted the actual samples of appearances of that activity might be insufficient. Wong and Csikszentmihalyi (1991), for instance, found in their ESM paging of 208 (male = 96, female = 102) talented high school students (e.g., having high GPAs, PSAT scores above the 85th percentile for juniors, recommendations from teachers) that "students spent 11.08% of their waking hours studying, doing homework, and preparing for examinations" (1991, p. 554). (It should be noted that this wording is misleading. A more accurate description would be that in 11.08% of the 7811 valid time point samples students reported studying. That is, at the moment of being paged, studying was the primary activity. However, as ESM does not record durational data, there was in fact no information concerning what proportion of student waking time was actually spent studying.) On a per-day basis, of the 7-9 signals responded to, 4.16 were reported as episodes where the student was studying (studying, completing homework, or preparing for exams) in Wong and Csikszentmihalyi's study.

Time estimates in time use data collection.

The third variation in time use data collection methods has been time estimates. Time estimates, sometimes referred to as time budgets or stylized time estimates, are retrospective estimates of how much time was usually devoted to specified activities during a particular time span, commonly the preceding week, month, or semester. When the aim of this method is to capture all activities during the focal period, researchers have used a list of different activities, hence *stylized*, to code the activities.

Time estimates also have been widely used in situations where the researcher was only interested in the summative duration of a particular type of activity, such as the amount of time spent on homework during the week, and did not need a complete 1440-minute description of the participants' day nor information about the temporal distribution or sequencing of activities.

The use of time estimate data collection methods has varied from end of course evaluations that ask students to indicate how much time they spent on homework for a class during a term, such as those on Temple University course evaluation surveys (Temple University, 2011), to surveys of more general populations on the time spent in certain activities during a specified period (e.g., Laurenceau, Barrett, & Pietromonaco, 1998; M. Zhang, 2005).

Summary of time use data collection methods.

A summary of the three major categories of time use data collection methods and their major sub-categories, which indicates how the methods vary, appears in Table 2. There are a number of differences in the type of data that can be collected form each of these, which has a bearing on the method researchers employed.

Reliability and Data Collection in Time Use Studies

Another factor in deciding between methods has been reliability. In general, reliability has increased when the data recording has followed closely after the event, the recording practices have been clear, sample sizes have been large, and all events during a period of time were recorded. As methods, observation, time diaries, and ESM/EMA have been shown to be much more reliable than time estimates (e.g.,

Table 2. *Matrix of Time Use Methods and Common Variations by Types of Data Collected*

	Episode duration	Sequencing data	Concurrent collection	All activities	Targeted activities	Other variables	Longitudinal	Number of Participants	Burden	Cost
Time diaries (TD)	Y	Y	Y	Y	Y	?	Y	Many	H	L
Activity logs (AL)	Y	N	?	N	Y	Y	Y	Many	H	H
Day Reconstruction Method (DRM)	Y	Y	N	Y	?	Y	?	Many	L	L
Observation	Y	Y	N	Y	Y	Y	N	Few	H	H
Ecological Momentary Assessment (EMA)	N	Y	Y	?	?	Y	?	Varies	H	H
Experience Sampling Method (ESM)	N	Y	Y	Y	N	Y	?	Many	H	H
Time estimates	Y	N	N	N	Y	?	?	Varies	L	L

Note. Y = Yes, usually; N = Not usual or not possible; ? = Possible but not common; H = High; L = Low.

Bolger et al., 2003; Michelson, 2005; Pentland et al., 1999). Time estimates have been considered less reliable than other methods due to inaccurate recall. This has long been recognized. Herrmann (1982), in his review of questionnaires that included a memory component, found that "the strength of the validity data is too low to warrant using memory questionnaires as the sole method of assessment" of ecological memory (p. 447) and suggested that "it is prudent to employ memory questionnaires with caution" because of the unreliability of memory (p. 448).

Recall was poor when the span of time between the event and the recording was long, when the event in focus was of short duration, when other salient events might have interfered, especially those occurring more recently, when schema of prototypical events was present, and when the target event involved an affective state rather than an external action (e.g., Bolger et al., 2003; Shiffman et al., 1997; Zuriff, 2003). As Bolger et al. (2003) made clear, though frequently used, time estimates that

asked respondents to recall their time use over a long focal period (e.g., the last month or past semester) have been shown to be highly unreliable (cf., Zuriff, 2003).

Researchers have also compared the use of time data collection methods. Zuriff (2003), considering use of time estimates and time diaries (see above), found that college students in a psychology class overestimated the amount of time spent on studying on the end of term course evaluations by more than 40%. Bianchi, Milkie, Sayer, and Robinson (2000) also found a similar discrepancy between time estimates and time diary data in their study of housework, where their analyses suggested "that estimates of weekly housework hours tend to be about 50% higher in the NSFH2 [National Survey of Families and Households] than in the 1995 time diary data" (p. 202). Robinson and Bostrom (1994) compared working hour data from time estimate and time diary data collection methods and found considerable differences between the data. Moreover, the differences varied according to the total number of work hours that had been estimated. In a study into binge eating, Anestis et al. (2010) found both respective self-reports (time estimates) and EMA predicted global eating disorders, but that EMA had a significantly stronger correlation with binge eating episodes. As Zuriff (2003) pointed out, because of the simplicity of time estimates in survey administration, the data for out-of-class time on study most commonly comes from end of course evaluations which typically include a question asking for students to estimate the number of hours per week they spent on a course. The problem, Zuriff indicated, is that this data might not be reliable. "First, students cannot be expected to recall at the end of a semester the number of study hours from the beginning of the semester, and second, even if they remember, students cannot be expected to average accurately over 10 to 15 data points" (p. 73).

Finally, Juster, Ono, and Stafford (2003) in their comparison of stylized time estimates, time diaries and ESM, found that time estimate data generally recorded higher time use than time diaries or ESM, but that time estimates occasionally underreported the amount of time for short and transient episodes, such as taking care of infants. Nevertheless, they argued that because of the economy of time estimates, in that the burden of completion is much lower than for a series of time diaries or a period of ESM, time estimates had to be considered an appropriate measure for many different situations. For instance, time estimates were probably more useful than time budgets in situations where the time aspect was only one of many variables that was being targeted as the time necessary for data collection using time budgets would preclude collecting data about the other related variables (Plewis et al., 1990). In short, a trade off has had to be made between compliance burden and accuracy, with time estimates having the lowest burden on participants but less reliability than time diaries or EMA/ESM, which have a slightly greater participant burden.

EMA/ESM provide data that lead to a profile of a population. However, there have been numerous cases where the object of the study is not an idealized profile of a population, but rather focused more on individuals (e.g., medical case studies) or on a particular type of event (e.g., out-of-class time use). Although recall methods—especially those that elicit data further after the event—have not been considered as reliable as those that collect data at the moment of the event or just after an event has occurred, they have been frequently used in longitudinal studies that tried to capture change over time and where economy was important (Larson & Verma, 1999).

In general, certain trends can be seen in terms of the reliability of time use data collection methods.

- Immediate recall has been shown to be more reliable than delayed recall.
- Randomized data collection has been shown to be more generalizable than non-random methods.
- Easier compliance has elicited more data and maintained longer participation than burdensome compliance.
- More participants provided data that have then been shown to be more generalizable.

Factors Manipulated by Time Use Data Collection Methodologies

Importantly, numerous variations in the data collection method have been possible through manipulation of various conditions.

1. Participant foreknowledge of aim of research or targeted items. When participants know in advance the types of activities that the study has targeted, the data collection method has been referred to as a *tomorrow diary*. When participants were told of the types of activities that were coded after the fact, it has been referred to as a *yesterday diary*. The former protocol has slightly more accuracy (due to priming) than the latter, but the *yesterday diary* has been seen to "minimize bias and exaggeration of socially acceptable behaviors" (Michelson, 2005, p. 28).
2. Time slot. When all activities were recorded during the day, participants often completed a form that asked for activities on a 10-, 15-minute, or 20-minute basis.

The narrower the time slot, the more detail that was preserved, but the harder it was to garner full compliance.

3. Focal time period. Various time spans have been targeted by researchers, including hours of the day, days of the week, and months of the year.
4. Duration. Data collection has continued over various periods of time, including one or two days, one weekend, one week, etc. As time use tends to be cyclical, researchers often made a distinction between weekdays and weekends and have generally avoided holidays. In many studies, different days of the week were randomly assigned to different participants and the data amalgamated into a one or more week period for analysis.
5. Coding. Coding has been predetermined or derived post hoc from data. With predetermined codes, researchers often interviewed participants about activities that occurred throughout the day and entered the appropriate codes. With post hoc coding, participants often completed a freehand diary and the researcher assigned appropriate codes. The codebooks of very large-scale studies have had as many as 100 different codes, and a recent trend has been to standardize the codes that are used in different countries.
6. Scope. In most diary-based time use studies, all primary events during the focal time period were collected. With studies that employed randomized data collection (e.g., EMA/ESM), the activity occurring at the time of the prompt was recorded. Occasionally, researchers also asked about secondary activities that occurred at the same time as the primary activity (e.g., watching the children while making dinner). Studies also have been event-driven, with a narrower focus that targeted only a type of specific activity or affect.

7. Characteristics of the episode. Many studies recorded other data related to the activity, including information about others present, the location, how the participant felt during the activity, etc.
8. Completion. Most time diary studies were designed to have data entered at regular intervals during the day in order to accurately capture as many events as possible. When it was not possible to have participants fill out forms in real-time, the researchers asked participants to record the data as soon after the event as possible. The longer the delay between the event and the recording, the greater the degradation in the reliability. Studies using other methods, such as longitudinal studies or studies that targeted only specific events, often have had participants record data once per day (end-of-day). This protocol provided a good balance between reliability and compliance burden.

Data from General Time Use Research Focused on Academic Pursuits

Several large-scale time use data collections using time diary methods have been conducted over the past century, mostly sponsored by governmental or intergovernmental agencies. In addition, researchers in several large-scale research studies, employing for the most part ESM, have focused specifically on children and students. Regardless of the sponsor, among the different activity categories used in these studies were those that captured time spent in academic pursuits, including time spent in school, on homework, participating in after-school activities, attending cram schools, and general study. From these studies, we have gained some insights into the amount of time allocated to out-of-class educational activities.

The Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) 2000, for example, listed the proportions of 15-year-old students who spend less than 2 hours each week or more than 4 hours each week outside of class on homework related to mathematics, science, and reading (OECD, 2001). One aspect of the PISA data was the division between the amount of time spent in homework for language, mathematics, and science courses in participating countries as compared to the OECD average. On this scale, the U.S. was slightly below average while data from Japan placed it at the lowest rank on the scale. However, 71 percent of the students included in the PISA 2000 from Japan reported spending time "in other subjects or additional courses outside their school" (p. 169), which helped explain Japan's high rankings in combined literacy and mathematical literacy on the PISA. Information from PISA 2006 indicated that Japanese secondary students spend less time on learning outside of class than students from other nations (see Tables 3 & 4).

Table 3. *Time Spent on Out-of-School Lessons by Secondary School Students in Percent*

	Out-of-school lessons								
	Science			Reading			Mathematics		
	<2hr	2-4hr	4hr<	<2hr	2-4hr	4hr<	<2rh	2-4hr	4hr<
Australia	94.7	4.3	1.0	88.0	8.7	3.2	86.4	10.4	3.2
Germany	91.4	7.0	1.6	88.7	8.1	3.2	84.6	11.3	4.1
Japan	96.2	3.4	0.4	93.2	5.5	1.3	86.7	10.5	2.8
Korea	77.9	18.8	3.3	66.6	26.5	6.9	48.5	31.6	19.9
United Kingdom	93.5	5.5	1.0	90.3	7.5	2.2	90.4	7.8	1.8
United States	86.9	9.8	3.4	78.6	15.3	6.1	78.2	15.5	6.3
OECD average	89.2	8.2	2.6	85.1	10.8	4.1	82.0	12.9	5.1
Hong Kong	82.2	12.4	5.4	86.2	9.7	4.1	72.5	18.8	8.7
Taiwan	82.7	14.0	3.3	85.9	10.9	3.2	62.2	29.1	8.7

Note. Based on students' self report; hr = hours; < 2hr = less than 2 hours; 4hr < = greater than 4 hours. Source: PISA 2006 (OECD, 2007).

A number of countries also have supported regular large-scale research into general time use. Many of these have been adjusted so as to harmonize the procedures and coding system in order to create the Multinational Time Use Survey (MTUS) (Gauthier, Gershuny, & Fisher, 2006). This survey recorded primary and secondary activities for large samples drawn from multiple countries and amalgamated the coded information to create data on time use and time use patterns. The countries participating in the MTUS provided data on a variety of factors during the various iterations of this survey.

Table 4. *Time Spent on Self-Study or Homework by Secondary School Students in Percent*

	Self-study or homework								
	Science			Reading			Mathematics		
	<2hr	2-4hr	4hr<	<2hr	2-4hr	4hr<	<2rh	2-4hr	4hr<
Australia	81.0	14.9	4.0	67.9	24.1	8.1	64.9	26.0	9.1
Germany	68.5	23.4	8.2	62.7	27.2	10.1	51.1	34.5	14.4
Japan	93.6	5.4	1.0	87.3	10.4	2.3	73.6	18.8	7.6
Korea	80.6	14.9	4.5	75.7	18.3	6.0	53.7	27.5	18.8
United Kingdom	75.0	21.2	3.7	71.3	23.3	5.4	74.9	21.1	4.0
United States	67.9	23.3	8.8	63.3	25.2	11.5	58.5	27.6	13.9
OECD average	74.9	18.5	6.5	69.0	22.5	8.5	64.5	25.4	10.0
Hong Kong	71.4	18.3	10.3	69.4	22.2	8.4	54.4	28.8	16.8
Taiwan	77.6	17.6	4.8	64.7	27.3	8.0	61.0	28.1	10.9

Note. Based on students' self reports; hr = hours; <2hr = less than 2 hours; 2-4hr = 2 to 4 hours; 4hr< = greater than 4 hours. Source: PISA 2006 (OECD, 2007).

Relevant to an understanding of how students use out-of class time on study has been the reported number of hours that students spend on out of school lessons and schoolwork or homework. One informative review article by Larson & Verma (1999) into time use in various countries looked at "basic categories of activity, such as labor, schoolwork, and leisure, and amounts of time spent with different companions" (p. 701). In this review, they provided a table that listed the total number

of hours per day spent in schoolwork, including both out-of-class study time and time spent at school not in active study. Differences in reporting between the studies they cited, some of which averaged both school-attending and non-attending youths, mean that these numbers only have provided a very rough estimate (see Table 5). Larson and Verma (1999) also noted that these studies indicate Asian students at the elementary and secondary level spend considerable time attending "cram schools" (Russell, 1997, as cited in Larson & Verma, 1999, p. 712), a point also made by Dolly (1993) in his study of *juku* (cram schools). Furthermore, although the amount of time

Table 5. *Total Time Spent on Schoolwork in Postindustrial Populations (ESM Studies Only)*

Population & Study	School grade	Percentage of self-reports	Estimated hr/day[a]
U.S. (Csikszentmihalyi & Larson, 1984)	High school	25	3.7
U.S. (Leone & Richards, 1989)	5th-9th grades	22	3.1
U.S. talented youth (Csikszentmihalyi et al., 1993)	9th-10th grades	29	4.3
U.S., urban African American (Larson et al., 1998)	5th-8th grades	19	2.7
Italy (Massimini et al., 1986)	High school	31	4.6
Italy (Delle Fave, Massimini & Gaspardin, 1993)	High school	34	4.8
India, middle class (S. Verma, 1998)	8th grade	32	4.6
Korea [9 AM-9 PM] (Won, 1989)	8th & 11th grades	47	5.6
Japan (Nishino, 1997)	11th grade	34	5.4
Cross-cultural (Lee, 1994)			
U.S.	12th grade	19	2.9
Korea	12th grade	44	7.8

Note. hr/day = hours per day; 9 AM-9 PM = from 9 a.m. to 9 p.m. inclusive. Adapted from "How Children and Adolescents Spend Time across the World: Work, Play, and Developmental Opportunities," R. W., Larson, and S. Verma, S. (1999). Psychological Bulletin, 125(6), p. 712.

[a]Estimated hr/day includes both work in class and homework.

devoted to outside school work varies little between cultures in the elementary grades (Chen & Stevenson, 1989) differences have emerged in secondary education (Larson & Verma, 1999).

Stevenson et al. (1990), in one part of a large multiphase and multinational study, used interviews (stylized time estimates) to collect information concerning child out-of-class activities from mothers of approximately 720 fifth graders in Minneapolis, Taipei, and Sendai and found that U.S. fifth graders spent 0.6 hours per day on homework as compared with 0.9 hours for Japanese fifth graders and 1.8 hours for Taiwanese fifth graders. In a study involving 401 fifth- to ninth-grade adolescents (16 students per grade level, approximately 50% female) from two communities (one middle class, one working class) in the U.S., Leone and Richards (1989) found homework took up 0.5 hours per day. NHK (2006) in their 2005 NHK *Kokumin Seikatsu Jikan Chousa* [Japanese Lifestyle Time-Use Survey, translation mine] of 12,600 respondents of various ages, found that for Japanese students, out-of-class time devoted to study are 2 hours and 10 minutes per day for junior high school students and 2 hours and 50 minutes hours for high school students on weekdays. For junior high school students, Saturday hours were slightly higher than weekdays, but high school students showed no such difference. No data on Sunday hours were reported, nor were there data for Japanese university students.

Data comparing national populations has found differences in time use by high school age students. Larson (2001) pointed out that American teenagers spend only three-fifths as much time on schoolwork as those in East Asia and only four-fifths the amount of time spent by European teens, differences he attributed to the time spent on homework, 20 to 40 minutes per day for American teens compared to two to four

hours for teens in East Asia and one to 2.5 hours for those in Europe. This contrasted to some extent with data from other studies that have shown far greater variation between countries. Students surveyed by the PISA 2000 (OECD, 2001) were asked to specify the amount of time they spend on homework in three areas, the langauge of assessment, mathematics, and science. The OECD result indicated that "homework constitutes a major part of students' learning time" ranging from 4.6 hours per week in the three measured subject areas, with a range "from 3.3 hours or less in Japan and Sweden to 5.8 hours or more in Greece and Hungary," an amount that "compares to an average of 12 hours per week of statutory instruction time in these subject areas" (p. 169). This report also indicated that across the OECD countries 25 percent of students reported they attended courses outside of school, while students in 71 percent of students in Japan and 64 percent of those in Korea indicated they attended outside courses. The wide discrepancy in the time on homework reported from different studies could be connected to the data collection methods employed as most of the large-scale studies of time use relied on surveys which use stylized time estimates to collect the time use data.

More recent time-use research has contained greater detail concerning time use among the US population aged 15 years and older. In the 2006 American Time Use Survey (ATUS), for instance, in the category "Homework and research," the study reported that 6% of the respondents (men = 5.2%, women = 6.8%) engaged in this as a primary activity, and among those who engaged in the activity, they averaged 2.42 hours (men = 2.35, women = 2.46); however, this figure included both students as well as paid researchers (Bureau of Labor Statistics, 2007). A complete breakdown of the "average" day for full-time U.S. university and college students also was

obtained from the ATUS data. The data indicated that full-time students spend less time in educational activities, which included time in class as well as time out of class, than in leisure or sports (see Table 6).

Table 6. *Average Weekday Time Use for Full-Time U.S. University and College Students*

Activity	Hours
Sleeping	8.4
Leisure and sports	3.9
Working	2.8
Educational activities	3.2
Other	2.3
Traveling	1.6
Eating and drinking	1.0
Grooming	0.8
Total	24.0

Note. Data include individuals, ages 15 to 49, who were enrolled full time at a university or college. Data include non-holiday weekdays and are an average for 2003-06. Source: American Time Use Survey (Bureau of Labor Statistics, 2007).

University students have been surveyed as well regarding their time use, though not with the same frequency as secondary school students. "A study by McKay (1978) and his review of available data suggested that undergraduates in the U.K. spent about forty hours per week in class and independent study" (Kember et al., 1995, p. 336). The National Survey of Student Engagement in the U.S., a large-scale survey in which Temple University is a participant, found that there was a great deal of difference between faculty expectations regarding the amount of time students should devote to class preparation, faculty estimates of how much time students would actually devote, and the amount of times that students reported in time estimates of their out-of-class study (see Table 7). The estimated time spent on study also varied according to the type of institution (see Table 8). Weekday time use by U.S. university and college students in educational activities on an hourly basis for

both full-time and part-time students also has been obtained through large-scale time surveys (see Table 7).

Table 7. *Hours Per Week Students Spend Preparing for Courses by Academic Discipline*

	Per individual course			For classes in general		
General academic discipline	Faculty expectations	Faculty beliefs[a]	Student reported	Faculty expectations[b]	Faculty beliefs[c]	Student reported[d]
Physical science	6.7	3.5	4.2	18.1	9.3	16.8
Engineering	6.4	4.1	4.4	17.6	9.6	16.8
Biological science	6.4	2.9	4.2	17.4	9.3	15.4
Professional	6.1	3.4	4.1	17.1	8.6	14.2
Arts & humanities	5.8	3.1	3.9	16.3	11.0	17.5
Business	5.8	3.1	3.4	15.2	8.4	13.4
Social science	5.7	2.8	3.5	15.0	8.5	13.5
Other	5.5	3.1	3.4	14.1	9.5	14.5
Education	4.9	3.2	3.6	14.1	8.6	16.3
Undecided			3.3			13.2
All Disciplines	5.9	3.2	3.7	16.5	9.0	14.9

Note. Based on surveys of faculty and students. Source: National Survey of Student Engagement (2011a).

[a]Faculty estimates of the number of hours students prepared for their course outside of class.

[b]Faculty estimates of how much time a typical student should spend preparing for all courses during a week.

[c]Number of hours faculty believe the typical student spends preparing for all of their courses during a week.

[d]Number of hours students reported spending in preparation for all of their classes during a week.

Studies on homework and other out-of-class time use.

Another body of research has investigated how students spend out-of-class time, often focusing on extracurricular activities, part-time employment, or time spent at home working for school. In most cases, the researchers in these studies looked at the sociological consequences on the family or the psychological impact on the

learners. Nevertheless, they often included information about out-of-class time use among students.

Table 8. *Hours Per Week Spent Preparing for Class by U.S. University Students*

Carnegie Classification		Hours per week							
		0	1-5	6-10	11-15	16-20	21-25	26-30	30-
Research universities (very high research activity)	*n*	73	1,521	3,854	4,380	4,106	2,662	1,440	1,425
	%	0%	9%	20%	23%	21%	13%	70%	70%
Research universities (high research activity)	*n*	86	2,869	5,488	5,539	4,785	2,815	1,434	1,444
	%	8%	13%	24%	23%	19%	11%	5%	6%
Doctoral/ research universities	*n*	39	1,228	2,223	2,097	1,728	984	543	511
	%	1%	14%	24%	22%	18%	10%	5%	5%
Master's colleges and universities (larger programs)	*n*	192	5,973	9,776	8,522	6,682	3,642	1,778	1,545
	%	1%	17%	26%	22%	17%	9%	4%	4%
Master's colleges and universities (medium programs)	*n*	72	1,961	3,596	3,354	2,653	1,572	845	657
	%	1%	15%	26%	22%	17%	10%	5%	4%
Master's colleges and universities (smaller programs)	*n*	20	780	1,432	1,281	1,172	667	358	279
	%	1%	14%	25%	21%	19%	10%	5%	5%
Carnegie Classification		0	1-5	6-10	11-15	16-20	21-25	26-30	30-
Baccalaureate colleges—arts & sciences	*n*	53	1,663	3,780	4,238	3,964	2,697	1,468	1,129
	%	0%	11%	22%	22%	20%	13%	7%	5%
Baccalaureate colleges—diverse fields	*n*	56	1,509	2,509	2,168	1,732	1,027	462	462
	%	1%	17%	26%	21%	17%	10%	4%	4%
NSSE 2010	*n*	630	18,816	34,477	33,007	27,947	16,749	8,694	7,928
	%	0%	14%	24%	22%	18%	10%	5%	5%

Note. Preparation includes time spent studying, reading, writing, doing homework, doing lab work, analyzing data, rehearsing, and other academic activities. Frequency distributions are by Carnegie Classification. Source: National Survey of Student Engagement (2011c).

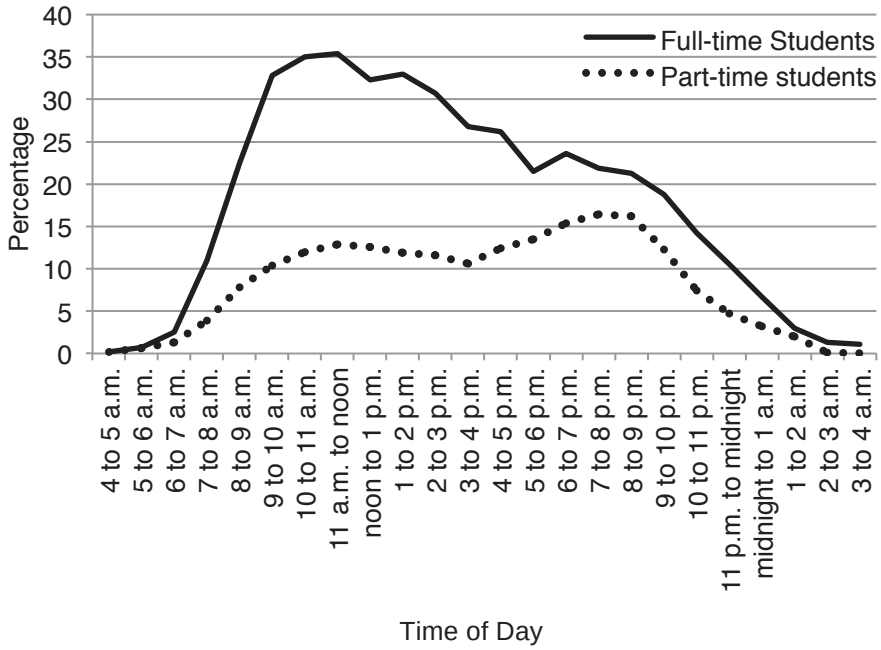

Figure 7. Percent of university and college students who did educational activities, by hour of day, on weekdays.

Note. Data include individuals, ages 15 to 49, who were enrolled at a university or college. Data include non-holiday weekdays and are averages for 2005-09. Source: Bureau of Labor Statistics (2011).

Learning occurred outside of formal classroom situations, in forms that ranged from homework (e.g., Bartrom, 2008), to self-directed study, and incidental foreign language contact during daily life. Arriving at a clearer understanding of out-of-class time allocated to study has become more imperative when we recognize, as has been pointed out by Adelman et al. (1996, see above), that time in school accounts for only nine percent of a child's time between birth and the age of 18. Studies have been conducted on the number of hours students engaged in schoolwork in a number of countries. Larson and Verma (1999) reviewed time use studies from a number of countries and concluded that there was a wide discrepancy in the amount of time allocated to schoolwork by adolescents, with those in Korea spending "nearly half of all their waking hours engaged in schoolwork, . . . Japanese adolescents and Italian

adolescents attending an elite high school [spending] about one-third of their waking hours engaged in study," and Americans spending "only about a quarter" of their time on schoolwork (p. 712). Zuzanek's (2009) compilation of data from several multinational time-use studies from the 1980s, 1990s, and early 2000s reported the time spent on homework on school days and number of minutes of homework averaged over a seven-day period. The least amount of time of .7 hours per day was for Finland in 1999/2000. The greatest amount of time of 1.7 hours was recorded by Belgium in 1999. The data from American high school students (*n* not reported) found that they spent 55 minutes on homework on school days, an amount he notes did "not appear particularly heavy" (p. 112).

In one time diary study of out-of-class time use by 15-year-old students (*n* = 824), Wagner, Schober, and Spiel (2008b) found an average of 11.7 hours per week spent outside of class for school purposes "doing homework, learning for short-term tests, learning for extensive exams, memorizing, preparing reports and other school-related activities" (p. 312), with females spending more time than males. Dotterer, McHale, and Crouter (2007, p. 396), in their study of 6th- through 9th-grade African American adolescents (*n* = 140) on the relationship between time use and school engagement, found the mean amount of out-of-class time devoted to homework to be 179.41 minutes per seven days (*SD* = 13.06), or just over 25 minutes per day.

In research on self-regulated learning that used time diaries (activity logs) to collect information on university student study sessions, Schmitz and Wiese (2006) collected data over a five-week period from engineering students (*n* = 40) that had been placed into two groups, with an experimental group (*n* = 21, male = 17, female

= 4) that received training in self-regulation, and a control group (*n* = 19, male = 15, female = 4) that did not. Their data showed "the average amount of learning took nearly four hours per day . . . but they did not study each day" (p. 89). Similarly, Admiraal, Wubbels, and Pilot (1999), in their study of university students (*n* = 1153) in a master's degree level law program in the Netherlands, asked participants in two courses (one a first-year course on constitutional law, and the other a second-year course on business and commerce law) to record information about their study time, including out-of-class time devoted to class preparation. They found student study times ranged from 2.7 to 3.3 hours per week spent on reading and between 1.7 and 2.6 hours out-of-class per week on assignments for each course (Admiraal et al., 1999), indicating a range of 4.4 to 5.9 hours of out-of-class time devoted to study.

Studies of the relationship between homework and achievement also have yielded data on time use by students. In a study that explored the relationship between homework (as measured by time estimates and with five different study time duration options) and achievement (as measured by course grades) for high school seniors (*n* = 20,364), Keith (1982) found that homework was second behind intellectual ability in predicting achievement. Kember et al. (1995), in a study of university-age mechanical engineering students in Hong Kong (*n* = 34, all male) which used an hourly logbook (a form of time diary or activity log), found participants in their study spent an average of 23.6 hours on independent study, which was "77% of expected time" (p. 334). Overall, they found that the "mean working week for the students was 43.8 hours," a figure far less than the "52 hours obtained by combining timetabled class hours with the independent study time estimated as necessary by the lecturers" (Kember et al., 1995, p. 340).

Links between homework and achievement have been found by others (e.g., Bempechat, 2004; Corno & Xu, 2004; Walberg, 1991; Walberg, Paschal, & Weinstein, 1985). These links also pointed to the importance of out-of-class time devoted to learning. Cooper, Robinson, and Patall (2006), noted "the relationship between the amount of homework students do and their achievement outcomes was found to be positive and statistically significant" in most of the studies they reviewed that included consideration of homework and achievement (p. 48). Their meta-analysis of homework studies built on the earlier meta-analysis of 120 homework studies conducted by Cooper (1989) which found 43 or the 50 studies that looked at the correlation between homework and achievement had a positive correlation between the two.

Time estimates, though not as reliable as other methods, are the most common method for collecting data about the amount of time on homework. Despite their poor reliability, these estimates frequently have been used to draw conclusions regarding the amount of time allocated to study. Therefore, statements such as "recent studies suggest that students tend to engage in out-of-class learning activities more frequently than their teachers know, often showing considerable creativity in situations where opportunities for out-of-class learning appear to be limited" (Benson, 2006, p. 26) need to be carefully considered.

As time can be viewed as a fixed amount—24 hours—it is essential to understand how students allocate this resource. "One of the more important and frequent resource allocation problems faced by decision makers in daily life is the allocation of time across competing activities or tasks" (Son & Sethi, 2006, p. 759). It is also essential to understand how decisions are made regarding the allocation of this

resource. This does not mean there have not been calls for research into the actual time use by students. Son and Kornell (2009) suggested use of "metacognitive procedures" such as open-ended or verbal protocols in order to obtain "a richer idea of why students make the decisions they do, which have the advantage of examining how people actually choose to study . . . as opposed to verbal reports of how they say they study" (p. 246). Furthermore, Son and Metcalf (2000) concluded that the actual motivation to study (see discussion of motivation below) and the decisions to allocate time to that study were more complex than previous research suggested based on their experiments on the allocation of time to study tasks of various interest and difficulty levels. "People's judgments of interest were positively related to study time. This last finding suggests that there may be some hedonic basis for time allocation" (p. 212).

The "Black Box" in Knowledge of Out-Of-Class Time Allocation to Study

Though time use and the amount of time actually spent on homework seem clearly related, "surprisingly little of this debate [concerning homework] has been informed by time-use research" (Zuzanek, 2009, p. 111). Studies looking into homework often have employed time estimates to collect data on the time use of participants. As Son and Kornell (2009) pointed out, "despite the importance of using spaced study schedules, and the seeming likelihood that people will fail to do so, very little is known about how people schedule their study" (p. 239). Though time and study are clearly linked issues, there has been a reliance on time estimates to obtain data about time use, when it is collected, in research into how people study, how they schedule their study, and how they actually spend time on study.

Only a few studies have specifically looked at time allocation by students toward second language acquisition. For several years, Trautwein and colleagues have been investigating the efficacy of homework for secondary students in Germany and Switzerland. In their studies, they used time estimates to gather data concerning the amount of time typically spent on homework assignments during a one-week period. These studies included those considering EFL and FFL (French as a foreign language) as one of the homework topics (in addition to other subjects such as history and mathematics) (e.g., Dettmers, Trautwein, Lüdtke, Kunter, & Baumert, 2010; Marsh, Köller, Trautwein, Lüdtke, & Baumert, 2005; Trautwein, Köller, Schmitz, & Baumert, 2002; Trautwein & Lüdtke, 2007, 2009; Trautwein, Lüdtke, Kastens, & Köller, 2006). One issue for these studies has been the relationship between effort and time on homework. Trautwein, Lüdtke, Kastens, and Köller (2006) suggested "that effort on homework—and not time on homework—be used as the major dependent variable in research on achievement-related behaviors and choices in the home setting" (p. 1108). Similarly, Trautwein and Lüdtke (2007), using time estimates to explore homework effects in six subjects, including EFL, for 511 (51.5 % 8th-grade, 48.5% 9th-grade; female = 53.0%; mean age = 14.7, *SD* = 0.76 years) German secondary school students, reported that "self-reported homework effort and self-reported homework time were only loosely associated" (p. 441) and suggested that "these two facets of homework behavior should be treated separately" (p. 443). Trautwein (2007) considered the amount of time spent by German 9th-grade students (*n* = 24,273; 50.9% female; mean age = 15.70 years, *SD* = .57) on homework over a one week period using time estimates and compared this data to PISA 2000 (OECD, 2001),

again suggesting the time studying was only one of the variables that should be considered.

In terms of studies directly related to learning a target language, Trautwein, Lüdtke, Schnyder, and Niggli (2006), again employing time estimates, collected data from 414 8th-grade students from 20 classes (female = 58.5%; mean age = 13.45, *SD* = 0.58) on the number of minutes spent on homework assignments for English (EFL) or mathematics in order to compare those results to the findings from the PISA 2000 (OECD, 2001). In addition to the item requesting estimates of the time spent each week completing homework assignments, they also solicited time estimates regarding the amount of voluntary additional learning time not directly connected to homework. They found differences in student homework behavior depended upon the specific study domains (e.g., mathematics vs. EFL) and called for more domain specific (e.g., EFL) research (p. 451) rather than reliance on the use of general measures of homework time such as are found on the PISA. None of these studies provided the amount of time spent by students; instead the researchers used hierarchical linear modeling to identify differences between groups.

Only Trautwein, Schnyder, Niggli, Neumann, & Lüdtke (2009), in a study of the benefits of homework for 8th-grade secondary school students studying French as a second language in Switzerland, reported the time spent on homework. This study of 1,299 students (female = 51.2%; mean age at time 1 = 13.84 years, *SD* = 0.56) and 63 teachers (male = 40, female = 23; mean teaching experience = 17.50 years, *SD* = 10.56) found the number of assignments over the two-week target period averaged 7.28 (*SD* = 2.5) assignments and the average number of minutes spent per assignment was 1.88 (*SD* = 0.86), where category 1 indicated 0-10 minutes and category 2

indicated 11-20 minutes per assignment. However, this included considerable variation, as "37.7% students reported typically spending up to 10 min on their assignments, 42.7% between 11 and 20 min, and 13.6% between 21 and 30 min. Only 5.9% reported typically spending more than 30 min on their assignments" (Trautwein, Schnyder et al., 2009, p. 81).

Clearly, there is much that we do not know about the ways in which students allocate out-of-class time to study. "What does emerge reasonably clearly is evidence of the complex inter-relationship between a number of variables including learning strategies, motive, study time, workload, assessment and learning outcomes" (Kember et al., 1995, p. 341). Regardless of the method used, questions about the allocation of out-of-class time to study remain unanswered. Knowledge of the actual time allocation is needed to clarify the decisions made by students to the allocation of time outside of class to a target language (English) by Japanese university students.

Longitudinal issues.

Although our daily time use patterns might not appear to change very much, there are nevertheless different cycles that occur throughout the year (Harvey, 1999). For students, the first full week of classes has to be seen as quite a bit different from weeks that contain holidays, which are, in turn, different from the weeks immediately preceding examinations. In addition, seasonal changes impact on the learner, as cold winter weather is replaced by more moderate spring weather and, later, the sultry summer. These seasonal differences, for example, might influence the place where a student chooses to study, which in turn might moderate the content or process of study. Of course, on the individual level there are numerous life changes as well that

have an impact on how students choose to use their time (e.g., Ushioda, 1996, 2001). Nevertheless, most studies that have looked at time use or homework have only focused on a narrow time span, often just a few days or a week or two. This includes all of the time diary and ESM studies discussed above.

A second issue with regards to the length of focal time span is the issue of sampling. Despite extending over a long time period, many studies framed as longitudinal have sampled participants only a few times over an extended period, as was the case with Freeman, Csikszentmihalyi, and Parson's (1986) study on affect and activation (as cited in Hektner et al., 2007, p. 119) where 27 adolescents were sampled at two points over a two-year period. Hektner et al. (2007, p. 119-121) went on to describe several different longitudinal studies that spanned more than a year, but all of which had similarly limited sampling rates (e.g., once a year). While this protocol might be appropriate when the object of sampling is a stable psychological trait, it might not be the best for phenomena that are perceived to change on a daily basis. Time use is one such phenomenon where events overtake the moment and the actual time use differs from what was intended or habitual.

For this reason, I felt it was necessary to extend daily sampling over a longer focal period. For a study with the aim of investigating out-of-class time use among students in an educational environment, I believed that the most appropriate unit of length would perhaps be the semester. The semester might also be appropriate as it forms a natural curricular boundary that is recognized not only by students, but also by both teachers and curriculum developers. Moreover, it has to be seen as an appropriate unit of length for gaining insights into the diurnal, hebdomadal, monthly, and even seasonal variations in time use, both between and within participants.

Questions Regarding Out-of-Class Time Use

Although there are some data concerning how much time students use outside of class, researchers have generally focused on secondary school students and, with few exceptions, gathered time use data on general homework or homework related to basic skills. Few studies have looked at time allocated to a specific subject, let alone the examination of time allocated to a foreign language outside the classroom. Moreover, most of the studies have used the least reliable of the three main methods for collecting temporal data, time estimates, and there has been wide variation in the time allocation figures derived from these studies. More robust temporal data collection methods have not been applied to the study of one broad skill area such as target language learning.

This leads to some basic questions about student out-of-class time use of the target language:

1. How much time do students allocate outside of class to English?
2. How much does the time allocation vary?
3. What are the different patterns of use during the day?
4. What day of the week does this allocation occur?
5. How much within-person variability exists?
6. How much between-person variability exists?
7. How long are the episodes?
8. What do students do during the allocated time?
9. What mode does it take? (Which of the four skills?)
10. What proportion of episodes relates directly to school and what proportion does not?

11. How do students feel about different episodes?
12. How much stress did they feel during these episodes?

Motivation Research

In addition to the temporal aspects of out-of-class time allocated to English (overall amount, frequency, and duration of episodes) and the ways in which that time is spent, there is one more important component, motivation. Zimmerman (2008), in his overview of motivation and self-regulation suggested that motivation must be what drives out-of-class time use. For us to understand students' experiences we need to consider how the motivational forces drive action.

Motivational Theories and the Temporal Component

The issue of motivation in language learning has been an important topic for many years. Several different families of motivational and behavioral theories (for an overview of SLA motivational theories, see Dörnyei, 2001b, p. 46-100; 2003) have been put forward (e.g., socio-educational theory, self-determination theory, goal theory, locus of control, autonomy, willingness to communicate, self-efficacy, the L2 motivational self system) in an attempt to account for different aspects of the L2 learning process, a process that often continues for several years and involves not only many different temporal stages in the incremental learning process (cf. Dörnyei & Ottó, 1998), but also often coincides with major changes in the learner due to maturation. Dörnyei and Ottó's (1998) process model (see Figure 8) described the different motivational characteristics depending upon the temporal relationship to the learning activity, from the motivational characteristics that precede action

(Preactional Phase), to the motivational characteristics that both trigger action (Crossing the Rubicon) and sustain that action, and finally the post-actional motivational characteristics that are necessary for evaluating progress and priming later action (Postactional Phase) in the L2 learning process. Although each of the theories has explanatory power over different parts of the process and different phenomena, each, too, has their limitations.

Recent Theory in Learning Motivation

Among the many different theories of motivation in learning, two have received most of the attention in the literature. The older is the socio-educational model and variations first put forth by Gardner and Lambert and colleagues (e.g., Gardner, 1988, 2006; Masgoret & Gardner, 2003; Tremblay & Gardner, 1995). In a gross simplification of this model, it can be said that the two primary motivational types are instrumental and integrative. Other researchers have criticized the model (e.g., Au, 1988), but it has been the backbone for much of the second language acquisition (SLA) motivational research from the 1970s through the 1990s.

A second major theory of motivation, self-determination theory, espoused largely by Deci and Ryan and colleagues (Deci & Ryan, 1985, 2002a, 2008; Deci, Ryan, & Williams, 1996), has been based upon the weight of the roles played respectively by the individual and by society. In Self-Determination Theory, motivation has been conceptualized as a cline with two motivational poles, one extrinsic and the other intrinsic. Self-determination theory has three central aspects, autonomy, competence, and relatedness, which Deci and Ryan (2008) indicated are tied to an individual's degree of motivation. Deci and Ryan and others have argued

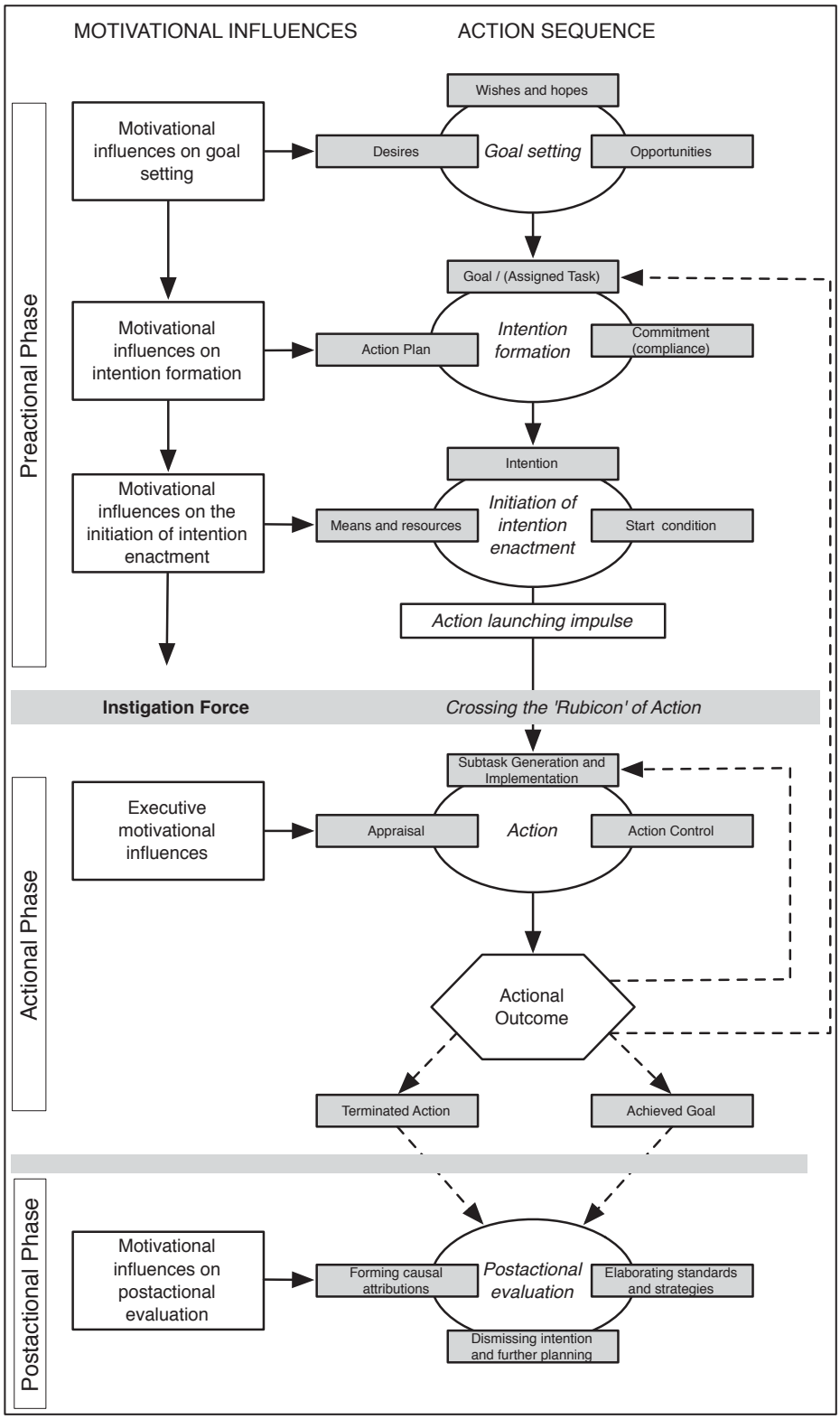

Figure 8. The process model of motivation from Dörnyei and Ottó. Adapted from "Motivation in Action: A Process Model of L2 Motivation," by Z. Dörnyei and I. Ottó, 1998, *Working Papers in Applied Linguistics,* Thames Valley University, 4, p. 48. Copyright 1998 by Zoltán Dörnyei & István Ottó. Adapted with permission.

that there are six stages along the cline between the two motivational poles, running a gamut from amotivation to extrinsic motivation (with four distinct subcategories) and further to intrinsic motivation.

A more recent conceptualization of SLA motivation, the L2 Motivational Self System, put forth by Dörnyei and colleagues (Dörnyei, 2000, 2009; Dörnyei & Ottó, 1998; Dörnyei & Ushioda, 2009a, 2009b), reframed the ideas from these two research traditions and linked them to another model from mainstream psychology that focuses on the role of the self. This newer hybrid model, the L2 motivational self system, placed the individual, and especially the individual as he or she interprets the world, as the central core of the theory. In the L2 Motivational Self System, the problematic concept of integrativeness (Au, 1988; Yashima, 2002) has been reinterpreted in light of the self system proposed by Markus and Nurius (1986) in such a way that "integrativeness might be better explained as an internal process of identification within the person's self-concept, rather than identification within an external reference group" (Dörnyei, 2005; 2009, p. 3). Markus and Nurius (1986) argued that the central issue is "the domain of possible selves" as this area that "pertains to how individuals think about their potential and about their future" (p. 954). Markus and Nurius suggested that these possible selves are important because first "they function as incentives for future behavior (i.e., they are selves to be approached or avoided), and second, because they provide an evaluative and interpretive context for the current view of self" (p. 955). Moreover, Markus and Nurius (1986) argue that our behaviors are influenced by our self-images, especially those that are projected into the future, and discuss these in terms of various *possible selves*. Two that figure prominently in their discussion are positive and negative selves. Positive selves are images of what

we would like to become. Negative selves are images of what we would like to avoid. Markus and Nurius investigate a number of different selves, including *ever considered*, *probable*, and *like-to-be selves* and their link to motivation and behavior. Higgins (1987) discusses two related selves: the *Ideal Self* and the *Ought Self*. For Higgins, the *Ideal* self "is your representation of the attributes that someone (yourself or another) would like you, ideally, to possess," while the *Ought* self "is your representation of the attributes that someone (yourself of another) believes you should or ought to possess," including sense of duty and responsibilities (p. 302-321). Higgins describes how these can function as self-guides and help us to work though the reduction of the discrepancy between our current state and a desired state by pushing us to engage in positive behaviors (see self-discrepancy theory, Higgins, 1987).

Working from the concept of selves, Dörnyei (2005, 2009) specifically argues for two selves: an *Ideal L2 Self* and an *Ought-to L2 Self*. The *Ideal L2 Self* motivates us to engage in behaviors that help us change from our present state into that positive future state. As such, Dörnyei associates them with “hopes, aspirations, advancements, growth and accomplishments” (Dörnyei, 2009, p. 28) The *Ought-to L2 Self* is similar in that it focuses on a future state. However, it differs from the *Ideal L2 Self* in that it focuses on obligations and duties. One type of obligation is socially based and includes adapting our behaviors to fit the expectations of others that we respect, such as family members and peers. A second type of obligation is to avoid unpleasant or undesirable outcomes, such as failing an important test or losing a job. "The ought-to self refers to the representation of attributes that one believes one ought to possess [i.e., representation of someone else's sense of duties, obligations or moral

responsibilities] and which therefore may bear little resemblance to one's own desires or wishes" (Dörnyei, 2009, p. 13). Dörnyei (2009) also assigns "a *prevention* focus" to the Ought-to Self that he considered to regulate "the absence or presence of negative outcomes, concerned with safety, responsibilities and obligations (i.e., avoidance of a feared end-state)" (p. 28). Furthermore, Dörnyei (2009) contends that there is a strong connection to *Intention to Learn* from both the *Ideal L2* and Ought-to *L2 Selves*. Research by Czizér and Kormos (2008, 2009) and Taguchi et al. (2009), among others, supports this claim, though they replace *Intention to Learn* with other terms (e.g., intention to engage in positive learning behaviors, criterion measures) and often include as indicators of *Intention to Learn* items that assess habitual or past action rather then forward-looking statements.

Dörnyei (2009) argued that the L2 motivational self system model (see Figure 9) provided a better explanation of L2 learner motivation than previous models in that it seems to resolve some of the inconsistencies with regards to Gardner's integrative motivation. A second advantage was that it links L2 motivation to more mainstream psychological research traditions.

In this system, three components, Ideal Selves, Ought to Selves, and the L2 Learning Experience, have been linked to other elements from alternate theories of motivation. Recently, several studies have tested this model in various situations (Dörnyei, 2009) and the results have appeared promising.

The missing links in current motivational models.

One point common to many of the models, both motivational models (Deci & Ryan, 2002b; Gardner, 2000), as well as off-shoots such as Yashima's (2000)

willingness to communicate model, has been a tendency to link motivation to outcomes while overlooking the mediating factor of goal-directed behaviors such as time use (see Figure 10). However, it cannot be said that L2 motivation acts directly upon proficiency; rather, motivation impacts upon behavior, which then might or might not result in learning. In fact, the connection between motivation and language learning as an outcome has to be seen as mediated by actual behaviors, including the amount of time that is allocated to the target language (see Figure 11).

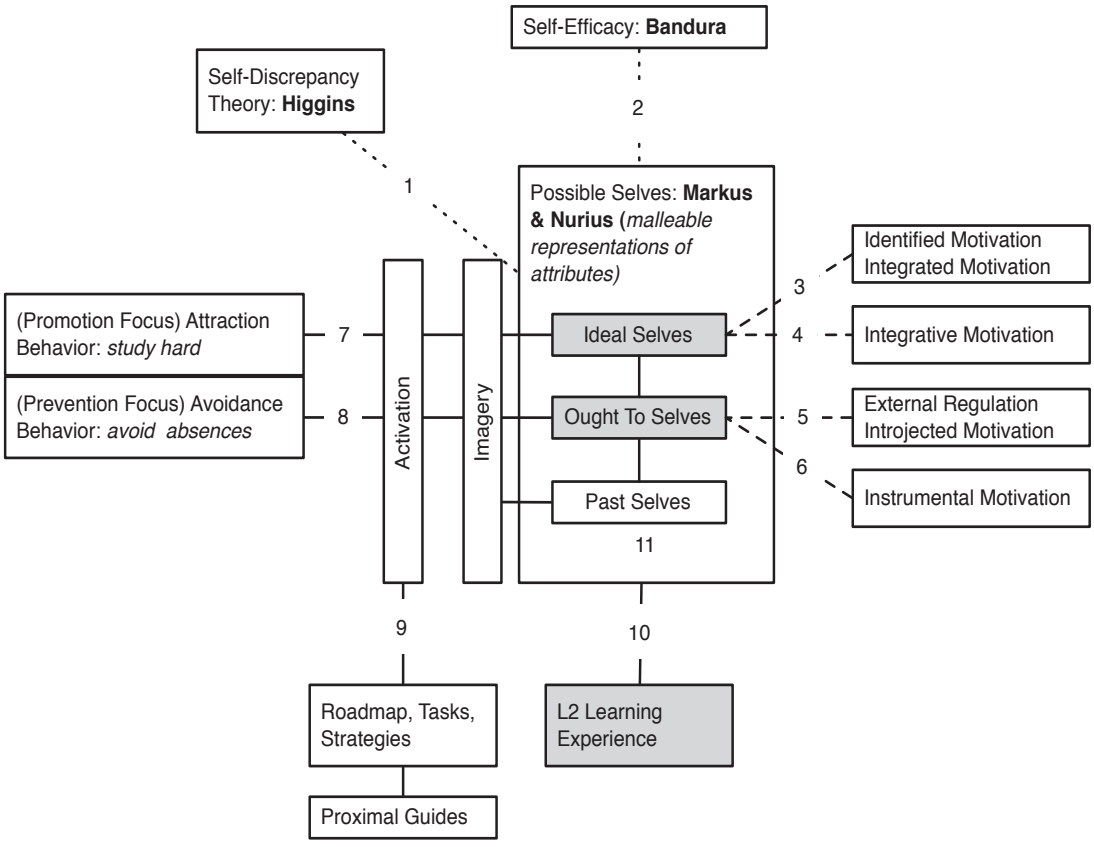

Figure 9. A graphic display of elements of Dörnyei's (2009) L2 motivational self system (shaded components) along with links to other motivational aspects and their proponents.

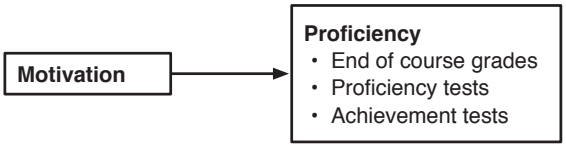

Figure 10. Simple model of motivation and proficiency.

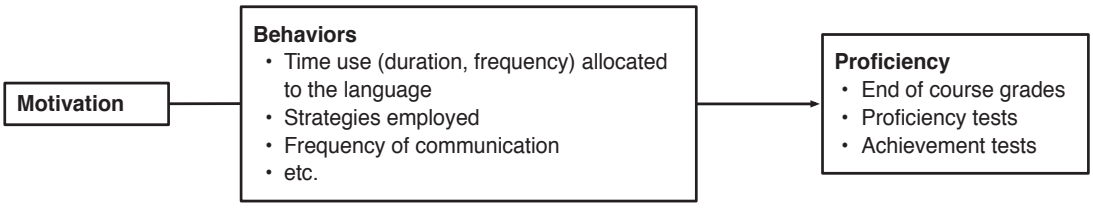

Figure 11. Simple model of the intervention of behavior, including time use, between motivation and proficiency.

This tendency to overlook the mediating variable of behavior has been especially true of those studies that have looked at the connection between motivation (as measured on a survey instrument) and L2 proficiency, such as that as measured by term-end grades or some objective measure of English ability. This can be illustrated by the tendency for researchers to produce motivational models that completely overlook the mediating variable (see Figures 12, 13, 14, & 15), despite the fact that even Gardner's (2000) basic model indicated that there needed to be a link between the *motivation* to action and the actual *behavior* as seen in the intervention of other factors between motivation and proficiency. In this model, the variable labeled *Attitudes Toward Learning Situation* is defined as "attitudes towards any aspect of the situation in which the language is learned. In the school context, these attitudes could be directed toward the teacher, the course in general, one's classmates, the course materials, extra-curricular activities associated with the course, and so forth" (p. 5) (see Figure 12).

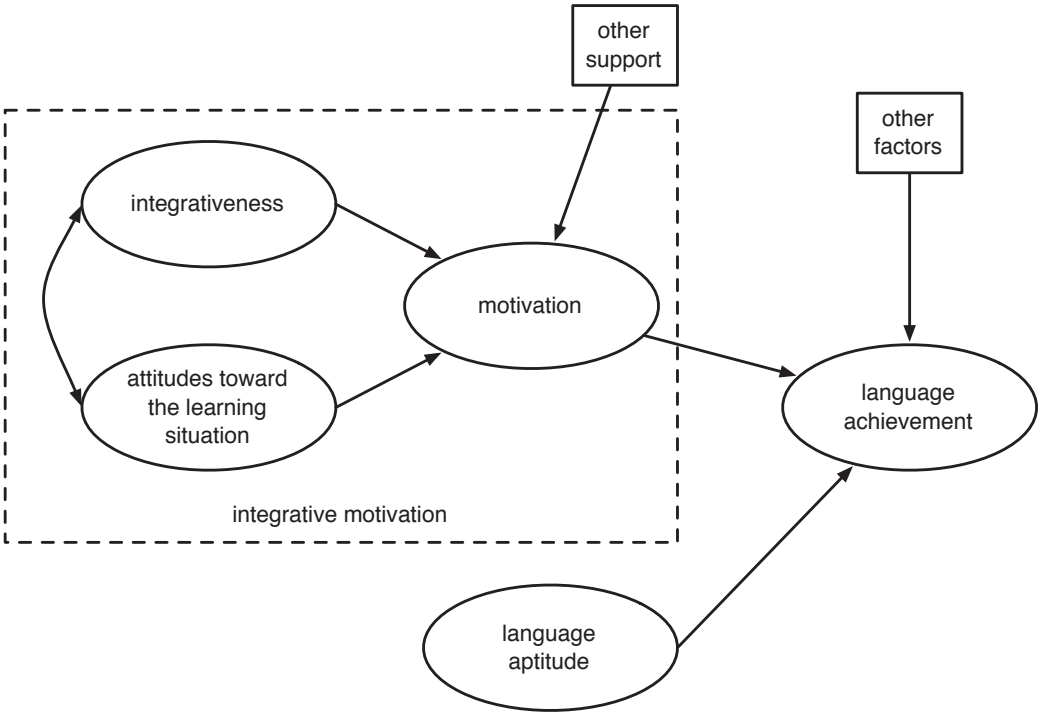

Figure 12. Gardner's basic model of the role of aptitude and motivation in second language acquisition. From "Correlation, Causation, Motivation, and Second Language Acquisition," by R. C Gardner, 2000, *Canadian Psychology*, 41(1), p. 17. Copyright 2000 by Canadian Psychological Association. Adapted with permission.

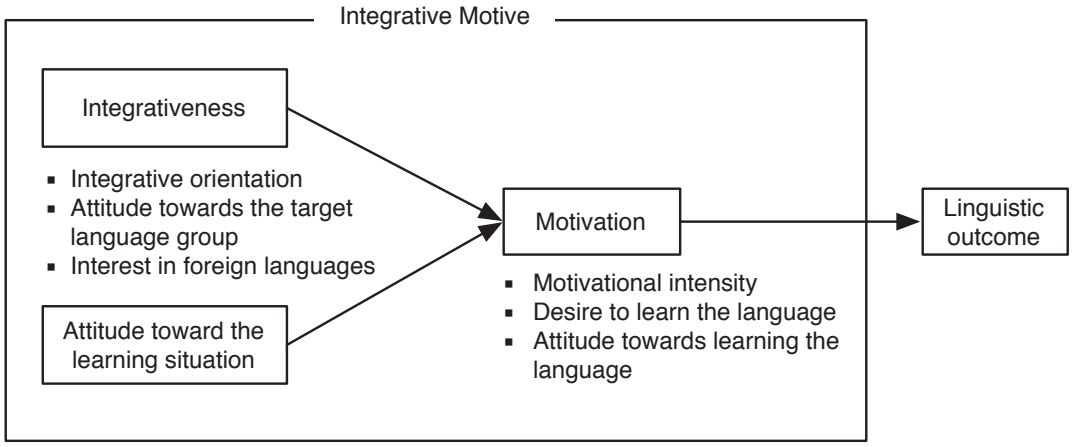

Figure 13. Yashima's formulation of Gardner's 1985 model linking motivation to linguistic outcome. Adapted from "Orientations and Motivation In Foreign Language Learning: A Study of Japanese College Students," by T. Yashima, 2000, *JACET Bulletin, 31,* p. 122. Copyright 2000 by Japan Association of College English Teachers. Adapted with permission.

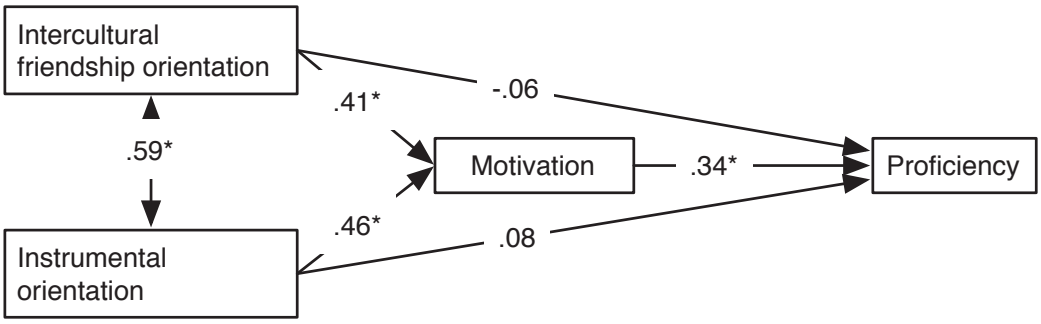

Figure 14. Yashima's 2000 model of the links between orientation, motivation, and L2 proficiency. Reprinted from "Orientations and Motivation in Foreign Language Learning: A Study of Japanese College Students," by T. Yashima, 2000, *JACET Bulletin, 31*, p. 130. Copyright 2000 by Japan Association of College English Teachers. Reprinted with permission.

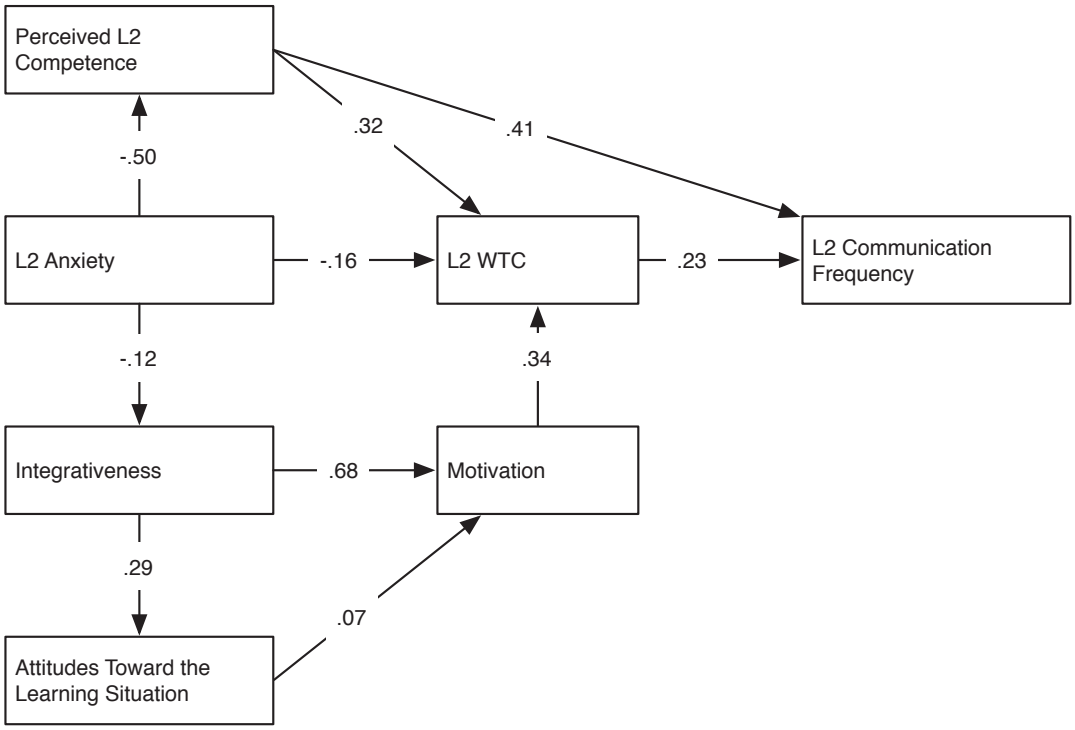

Figure 15. MacIntyre and Charos' 1996 model linking L2 competence, anxiety, aspects of motivation, to willingness to communicate and communication frequency. Reprinted from "Personality, Attitudes, and Affect as Predictors of Second Language Communication," by P. D. MacIntyre and C. Charos, 1996, *Journal of Language & Social Psychology,* 15(1), p. 12. Copyright 1996 by Sage Publications. Reprinted with permission.

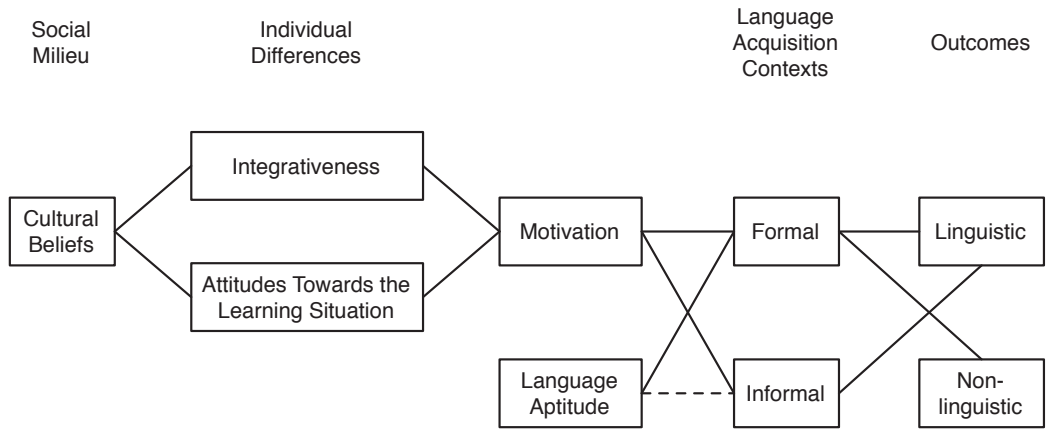

Figure 16. Gardner's 1983 socio-educational model of motivation and language learning. Reprinted from "Learning Another Language: A True Social Psychological Experiment," by R. C. Gardner, 1983, *Journal of Language and Social Psychology,* 2(2-3-4), p. 222. Copyright 1983 by Sage Publications. Reprinted with permission.

I do not mean to argue that researchers have overlooked mediating variables between motivation and proficiency (or learning outcomes). Gardener's socio-educational model (Gardner, Lalonde, & Pierson, 1983), for example, placed "informal learning" as a variable between "motivation" and "linguistic outcomes" (see Figure 16). However, it should be noted that their actual LISREL ("linear structural relations") causal model put the previous *Opportunities to Use French* (coded as OUF) and future *Intentions to Use French* (coded as IUF) as predictor variables for the latent variable, Integrativeness (p. 10). The items to assess OUF presented participants with eight contexts and asked them to assess whether they had or had not done each in the past year, such as "listening to French radio, reading French labels on cereal boxes" (Gardner et al., 1983, p. 6). The items for IUF asked participants to indicate their future intention to do the same eight activities. In both cases, these estimated rather than measured actual behavior.

Motivational models and the links between behavior and outcomes.

Self-determination theory (Deci & Ryan, 2002b), too, has included behavior as one of the outcomes ("consequences") of motivation. This is evident in Vallerand's hierarchical model (Vallerand & Ratelle, 2002, see Figure 17), which included three types of outcomes, depending upon the particular factors, (e.g., global, contextual, or situational). These consequences included global behavior, contextual behavior, and situational behavior. However, even in studies based on self-regulation and self-determination theories, the link often has been between the strategies (time management) and achievement (e.g., Garcia-Ros, Perez-Gonzalez, & Hinojosa, 2004), or between the allocation of a given amount of time to different tasks (e.g., Farmer & Seers, 2004), rather than the adjustment of the total amount of disposable time. Other research based on these theories reported on laboratory studies that looked at the connection between time and task difficulty (e.g., de Larios, Marín, & Murphy, 2001; Dufresne & Kobasigawa, 1989; Lockl & Schneider, 2004). What is missing is whether behaviors observed in laboratory conditions translate into behaviors during learners' daily activities. Also missing is the connection between motivational profile and actual time use for language learners. Within ESM studies, the issue of motivation also has been discussed. Csikszentmihalyi, Rathunde, and Whalen (1998) indicated that "time devoted to talent, however, was significantly related to all three kinds of motivation" with students showing strong intrinsic motivation, or strong materials or social motivation spending "significantly more time devoted to their talent domain" than those with diffuse motivational patterns (p. 140). The concern for motivation clearly must consider motivation as it *leads to action*, not just *intention of action*.

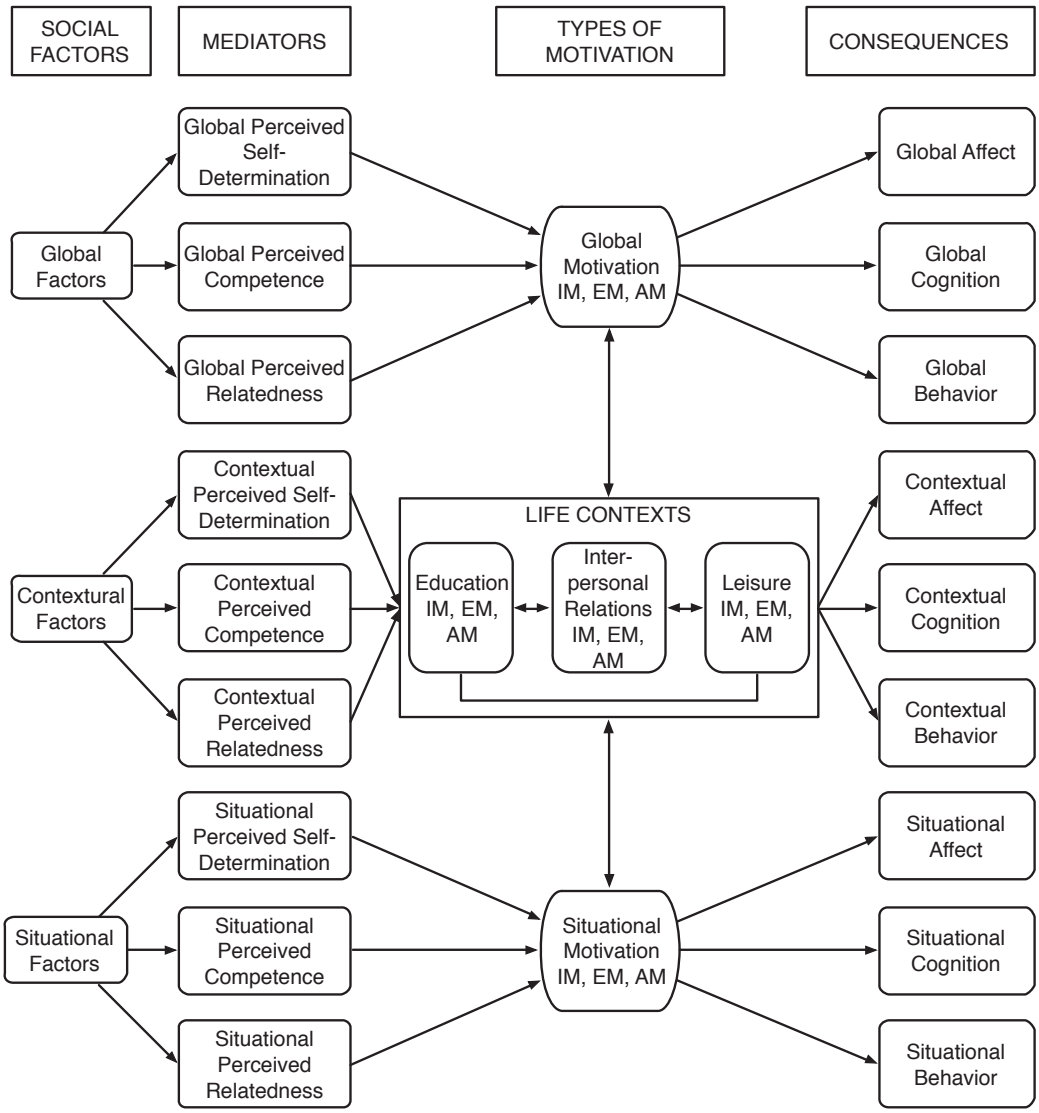

Figure 17. The hierarchical model of intrinsic and extrinsic motivation. Adapted from "Intrinsic and Extrinsic Motivation: A Hierarchal Model," by R. Vallerand & C. F. Ratelle, 2002, in E. L. Deci & R. M. Ryan (Eds.), *Handbook of Self-Determination Research*, (p. 41), Rochester, NY: University of Rochester Press. Copyright 2002 by Edward L. Deci and Richard M. Ryan. Adapted with permission.
Note. IM = intrinsic motivation; EM = extrinsic motivation; AM = amotivation.

Intention as a proxy for behavior. A second point common to many of the theories has been a tendency to measure *intended* behavior as a proxy of *actual* behavior, as elicited again through survey instruments. This has been common in studies into any phenomena that ask respondents to estimate (a) how much time they

generally spend on an activity, (b) how much time they plan to spend in the future on the activity during a specific time period (day, week, month, year), or (c) whether they had actually engaged in an activity during a specified time period, and then use these data as an indication of respondents intended actions.

Even when researchers purported to link motivation to behaviors, they often missed by assessing behavior with instruments that measured *intention to behave in particular ways* rather than *instances of the behavior itself*. Such is the case with Csizér and Kormos (2009) who used items in their survey to address motivated learning behavior, "defined as effort expended to achieve a goal, desire to learn the language, and importance attached to the task of learning the language" (p. 100). However, the last two clearly did not address behavior but tapped into personality traits. In fact, in their survey there were only two items that make specific references to behaviors (aside from the general statement "I will study hard"): "I am willing to work hard at learning English" and "If I could have access to English-speaking TV stations, I would try to watch them often." Unfortunately, neither of these behaviors was actually measured in their study. In short, the outcome indicators were clearly not indicators of motivated learning *behavior*.

This type of problem was not limited to their study. Below, for example, is a list of survey items that were used to measure "intended learning effort" from Ryan (2009):

- I am working hard at learning English.
- It is extremely important for me to learn English.
- If an English course were offered in the future, I would like to take it.

- When I hear an English song on the radio, I listen carefully and try to understand all the words.
- I can honestly say that I am really doing my best to learn English.
- If I could have access to English-speaking TV stations, I would try to watch them often.
- I am the kind of person who makes great effort to learn English.
- If I were not taught English in school, I would try to go to English classes somewhere else. (p. 143)

Of these items, those with the phrases "I would" or "If I could" targeted intended behavior. The items with the phrases "I am," "It is," "I can," and "When . . . I" targeted the respondents self-determination of their behavior without actually measuring this behavior.

Another example of similar measurement issues can be found in another study by Gardner et al. (1983, p. 6) which asked 140 university students enrolled in two types of first-year French language courses (*French in review* and intermediate French) to report whether they had or had not used French in eight different contexts (including whether they had read French on cereal boxes) over the preceding year. This yes/no question format sampled very limited and differing behaviors, completely ignored the issues of duration and any frequency above one time, and demanded that participants retrieve information retrospectively of often non-salient behaviors from an extended period of time. In the same study, they also employed "intentions to use French" as outcome indicators, limited the assay to the same eight contexts, and asked participants to predict their behaviors over the next year. As reported by Gardner et al., (1983), on two related items, "Opportunities to Use French (OUF)" and "Intentions to

Use French (IUF)," students were first provided with "eight contexts in which they could use French (e.g. listening to French radio, reading French labels on cereal boxes and asked to indicate whether or not they had done so in the past year" (OUF), with a maximum score of 8 (α = .60), then asked to rate the same eight contexts on a five-point Likert scale from never (1) to often (5) their intention to use French during the next year (α = .75) (Gardner et al., 1983, p. 6). Other studies that have used intentions include Dörnyei and Clément (2001), who looked at intended effort. Intention, however, clearly is not actual behavior and the two should not be conflated.

Often, even when researchers intended to measure behaviors, they chose to employ *estimates* of frequency or duration (e.g., Admiraal et al., 1999) of this behavior, rather than to measure *instances* of the actual behavior. One example of this is the study by MacIntyre and Charos (1996) into the relationship between Willingness to Communicate, personality traits, and frequency of communication. To measure frequency of communication, the researchers presented participants with 12 situations and asked how frequently they communicated in those situations. One problem with this as a measure was that the frequency of episodes had no bearing on the duration of communication, and so might be an unreliable indicator of actual communication. That is, one person might have many short episodes, while another might have fewer episodes, but these episodes might be much longer in length. A stronger measure would accurately measure both the frequency and duration of episodes.

A second problem with the study by MacIntyre and Charos (1996) was that it employed a weak method for measuring the frequency of communication: estimates of frequency. As with time use estimates, frequency estimates are by no means as

accurate as measures that involve observation or real-time episode logs. To their credit, the 12 items showed excellent reliability ($\alpha = .97$) and they did refer to an earlier study that purportedly looked at a link between Willingness to Communicate and observed behavior, an issue that they acknowledge. "Finally, it should be noted that the frequency of communication was measured using self-report" and indicated that "the link with overt behavior must be well established" (MacIntyre & Charos, 1996). This highlights another concern with studies that have attempted to link motivation to behavior. They have generally measured that behavior through retrospective estimates of that behavior, which, as in the case of time estimates, has been shown to be one of the least reliable methods.

The problem with using a theoretical model to explain behaviors was highlighted in a set of five studies conducted to establish "rationale for interventions to translate research findings into clinical practice" through an exploration of several theories of behavior (M. P. Eccles et al., 2012, p. 1). Though these five studies were established to examine the relationship between intention and health-related behaviors, their findings showed that all of the theories of behavior they examined "predicted intention better than they predicted simulated behavior and, in turn, simulated behavior better than objective measures of behavior" (p. 10). For all the theories they examined, they "explored the predictive value of theories in explaining variance in intention, behavioral simulation and behavior" and found that "the highest proportion of the variance explained was always for intention and the lowest was for behavior" (p. 1). Briefly, this means that intention, in these health studies, did not transfer into action as predicted by these theories of behavior that had been used to measure this intention. These findings have a clear implication for motivation studies in language

education as the assumption has been that intention will lead to action, as seen in various models of motivation (e.g. Csizér & Kormos, 2009; Gardner, 1983; Taguchi, Magid, & Papi, 2009; Yashima, 2000). M. P. Eccles et al. (2012) suggested prudence when using motivational data to predict behavior.

Problems with How Motivation Has Been Linked to Learning

That notwithstanding, many researchers who have looked at motivation and motivational proxies (e.g., Willingness to Communicate) have modeled the motivation-proficiency link as one that is direct. Consider the various studies conducted by Yashima and her colleagues (Yashima, 2000, 2002; Yashima & Zenuk-Nishide, 2008; Yashima, Zenuk-Nishide, & Shimizu, 2004). In these, Yashima presented a number of models of L2 proficiency, motivation, and Willingness to Communicate. Her 2002 model (see Figure 18) differed from her 2000 model (see Figure 14) in the repositioning of the elements as interacting in a more circular manner than in the linear flow of the 2000 model, with intercultural friendship orientation reconceptualized as international posture and linked directly to willingness to communicate and L2 learning motivation. What remains missing was any link between the elements and the actual behavior of L2 language users.

The work by some of Dörnyei's colleagues, Csizér and Kormos (2009), has provided a more complex view of the interactions between motivation and L2 learning with a model (see Figure 19) that they tested with both high school students and students in tertiary education. The high school students were second- and third-year students drawn from three high schools (two public and one religious) in Budapest (n = 202; male = 80, female = 122; mean age = 16.5), and the tertiary education students were

drawn from various majors at an unknown number of colleges (*n* = 124) and universities (*n* = 106). Of these participants, 157 were female and 73 were male, with a mean age of 21.5 years. The instrument they used included 65 Likert-type questionnaire items and 10 other items for eliciting background information. Items were either based upon previous research or newly developed for the project. No other information concerning the reliability of the instrument was provided. The two resulting structural equation models (one for the secondary school students and one for the tertiary school students) provided good fit to the data that they collected. However, as mentioned above, the output factor, motivated learning behavior, seemed to be designed to measure intended behavior rather than actual behavior. Until it has been shown that intended behavior can accurately be used as a proxy for actual behavior, the actual validity of the model cannot be assessed.

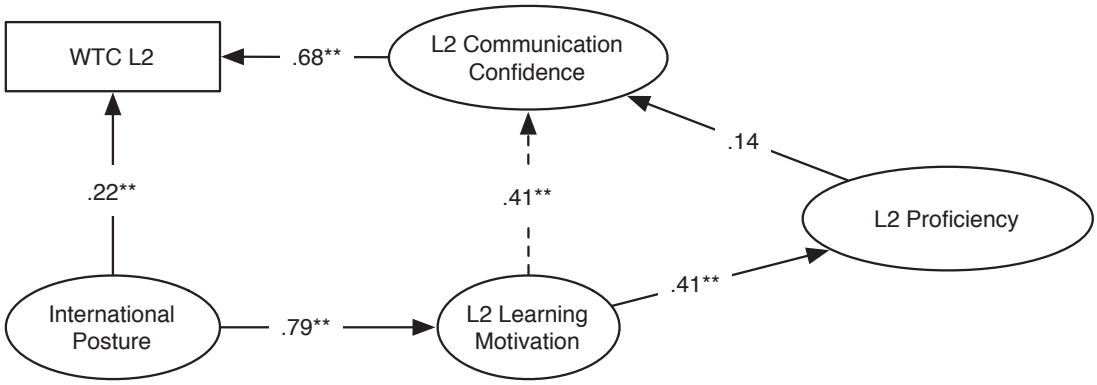

Figure 18. Yashima's 2002 model of the links between L2 proficiency, willingness to communicate. Adapted from "Willingness to Communicate in a Second Language: The Japanese EFL Context," by T. Yashima, 2002, *Modern Language Journal,* 86, p. 61. Copyright 2002 by The Modern Language Journal. Adapted with permission.
Note. WTC = Willingness to Communicate.

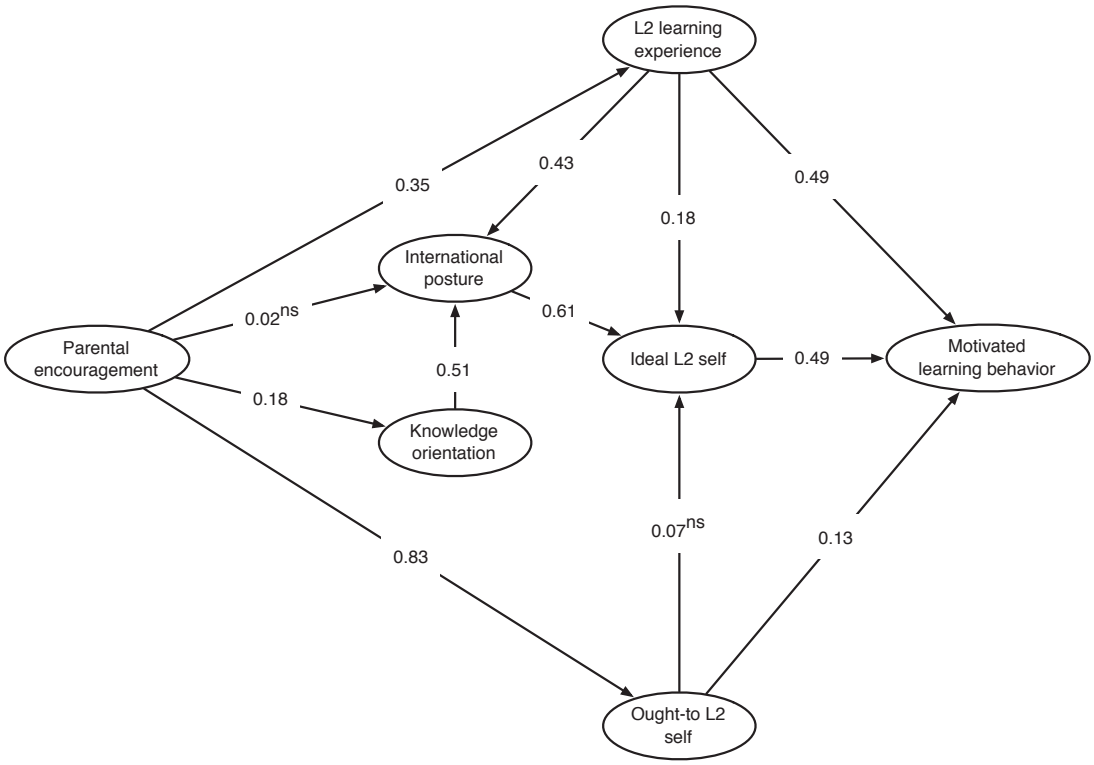

Figure 19. Csizér and Kormos (2009) model for university students' L2 learning and motivation. Reprinted from "The Relationship of Intercultural Contact and Language Learning Motivation among Hungarian Students of English and German," by K. Csizér and J. Kormos, 2009, *Journal of Multilingual & Multicultural Development,* 29(1), p. 100. Copyright 2009 by K. Csizér and J. Kormos. Reprinted with permission.

A similar structural equation model was tested by Taguchi, Magid, and Papi (2009) based upon a series of matched survey instruments developed by Dörnyei and Taguchi (2010b). Items were developed from previous research, piloted with Japanese university participants, revised, and then variant language forms with somewhat different items were developed for Chinese speakers and Iranian speakers. The survey instrument consisted of 67 Likert-type items divided into 16 subscales. Of the 16 subscales, only Ethnocentrism (.35) and Integrativeness (.64) had Cronbach Alphas below their target threshold of .70.

The participants for the Taguchi et al. (2009) study were drawn from three countries, Japan (*n* = 1,586; male = 678, female = 898; mean age = 19.1), China (*n* = 1,328; male = 458, female = 869; mean age = 21.1), and Iran (*n* = 2,029; male = 892, female = 1,137; mean age = 17.4). Most participants were students at universities (64.60%), but others came from middle schools (26.97%) or were working professions (3.50%). During their analyses they developed three measurement models before developing a full structural model. They reported significant chi-square tests for each of the ethnic groups (Japanese, Chinese, and Iranian), which they attributed to the large sample sizes. Their goodness of fit statistics were slightly below optimal, although they again argued that the similarities in the statistics between cultural groups supported their claim that the results were stable (see Table 9).

Table 9. *Significance and Fit Statistics for the Taguchi et al. (2009) Study*

	Japanese	Chinese	Iranian
Chi-square	$\chi^2(358) = 1777.47$, $p < .0001$	$\chi^2(284) = 1002.85$, $p < .0001$	$\chi^2(284) = 748.93$, $p < .0001$
GFI	.93	.93	.93
CFI	.94	.92	.93
RMSEA	.05	.05	.05

Note. GFI = Goodness-of-Fit Index; CFI = ***Confirmatory Fit Index***; RMSEA = Root Mean Square Error of Approximation.

According to Taguchi et al. (2009), this model (see Figure 20) confirmed "the validity of the entire tripartite L2 Motivational Self System" (p. 88), although only 29 of the 67 items were used in the solution. However, it shared with other models the same type of outcome factor—motivated intention toward learning—rather than actual L2 learning behavior.

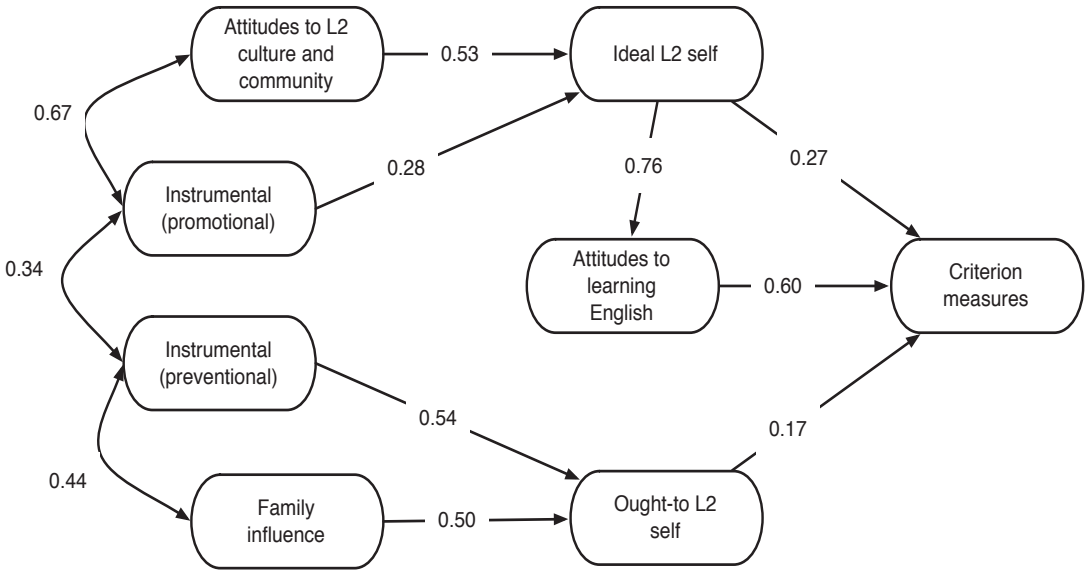

Figure 20. Final structural equation model of motivation with significant path coefficients for Japanese university students developed by Taguchi, Magid, & Papi (2009). Adapted from "The L2 Motivational Self System among Japanese, Chinese and Iranian Learners of English," by T. Taguchi, M. Magid, and M. Papi, in Z. Dörnyei and E. Ushioda (Eds.), *Motivation, Language Identity and the L2 Self* (p. 86), Bristol, UK: Multilingual Matters. Copyright 2009 by Multilingual Matters. Adapted with permission.

Often studies have focused on the connection between motivation and achievement as measured by grades, equating success in L2 acquisition with motivation by side-stepping the issue of the time devoted to the L2, or commenting on it in terms of hard work. Gardner (1988) commented that "the active learner hypothesis argues that integratively-motivated individuals are more successful at learning a second language because they work harder to do so" (p. 112). He acknowledged that the argument has become circular, writing "the argument is that the integrative motive facilitates second-language acquisition because individuals so motivated are more active in learning the language, and the data support this hypothesis" (p. 113). In essence, those who have high motivation to learn a second language work harder so we know that they have high motivation to learn the L2.

This simplifies Gardner's argument, though he also acknowledged that teacher effectiveness, the use of appropriate techniques, the relevance of drills, the need to include practice opportunities, the creation and maintenance of a "supportive environment" and "some learner characteristics" were some of these factors that have an impact upon second language acquisition and indicated that "it is, therefore, an oversimplification to propose that an integrative motive causes second-language proficiency" (p. 113). Though a simplification, these comments illustrate that the links in the cause-effect chain have not been established with current models assuming that the behavior exists but not, for the most part, including the issue of action in the model.

Many motivational studies, though by no means all, have used academic achievement as an outcome variable. For this study, however, the focus was on time use and beginning an exploration of the amount of time learners actually allocate to out-of-class English access and determining if there is any relation between this time use and their motivational profiles. As in the study by Taguchi et al. (2009), where they sought to extend research on the L2 motivational self to other countries (Japan, China, Iran) and did not use achievement as an outcome variable, this study was set up to determine the relation between intended behavior, as measured on motivational surveys, and actual time use. For the longitudinal studies, it was felt that having a testing component would cause participants to drop out of the study or influence their willingness to participate in interviews. For the cross-sectional study, there was no possibility of administering a test of English ability in addition to the motivational survey and obtaining participants willingness to complete the EATUS (see Chapter 3,

Methods). The focus of the study was on time use and motivation, and not on whether a particular type of time use related to achievement.

The need for a motivational model that considers action for classroom participation has been noted. Tremblay (2001) suggested a model could be proposed in which "individual differences in integrative motivation influence level of participation in the classroom which in turn influences achievement in the second language, [with the] level of participation in the classroom . . . considered a mediating variable since it mediates or explains the relationship between integrative motivation and achievement " (p. 250). Also missing from models has been the recognition that motivation to learn an L2 might be an insufficient condition, as other "aspects of individual experience which are not related to the L2 learning context, but which also compete for attention and priority within the individual's overall hierarchy of personal needs and motives" (Ushioda, 1996, p. 243). Ushioda further argued that "within the context of institutionalized learning especially, the common experience would seem to be motivational flux rather than stability . . ." (p. 240).

Behavior in Models of Motivation

One aspect MacIntyre, MacMaster, and Baker (2001) suggested be included in research in motivation was "measures of Action Motivation in predicting student participation in specific language activities, such as in an excursion program or initiating an assignment" (p. 484). They argued these are needed to fully understand the links between orientations to study an L2, individual motivations, and behavior, pointing out that the socio-educational model clearly defined motivation "as the interplay between desire to achieve a goal, effort expended, and the pleasure

associated with a task" (MacIntyre et al., 2001, p. 464). That there is an interplay has been accepted. Masgoret and Gardner's (2003) list of the characteristics of a motivated individual included "expends effort, is persistent and attentive to the task at hand, has goals, desires, and aspirations, enjoys the activity, experiences reinforcement from success and disappointment from failure, makes attributions concerning success and/or failure, is aroused, and makes use of strategies to aid in achieving goals" (p. 173). That is, motivated individuals evince behavior that has been seen to indicate their motivation. Moreover, Masgoret and Gardner (2003) indicated that "motivation refers to goal-directed behavior" (p. 128). In short, motivation is not behavior. Rather, motivation refers to the setting of goals that drive behavior.

The problem is that models of motivation have consistently equated motivation with behavior without measures of actual behavior. In the models of L2 motivation from Yashima (2002) (see Figure 18), Csizér and Kormos (2009) (see Figure 19), and Taguchi et al. (2009) (see Figure 20), L2 motivation has been connected to action. This problem has been acknowledged. "A major problem with goal-setting and motivation is that humans often fail to translate goals into appropriate behavior" (MacIntyre, MacKinnon, & Clément, 2009, p. 55). As Masgoret and Gardner (2003) suggested "one might profess an integrative orientation in language study but still may or may not be motivated to learn the language" (p. 175) through effort placed on the tasks of learning. The studies reported by M. P. Eccles et al. (2012) suggested caution when motivational surveys are used to predict behavior rather than measuring behavior as seen in their participants' actual health-related behavioral change.

Models of motivation do provide some indication of how important motivation to learn an L2 actually is in terms of actual language achievement. In their meta-analysis of motivation research, Masgoret and Gardner (2003) noted that based on the studies they reviewed, "it can be estimated that the correlation in the population between motivation and achievement in a second language varies from about .29 to .39 depending on the nature and type of measurement of achievement" (Masgoret & Gardner, 2003, p. 203). What has emerged from this is realization that models of motivation link motivation and behavior through the intention of behavior, but that there has not been any research that seeks to determine if there is a link between actual behavior and motivation.

Motivation Questions Related to Time Use by Language Learners

As outlined in the discussion above, we have research that has linked motivation and intended behavior but not research into the links between L2 motivation and the actual behavior in learning an L2 as measured by time allocated to learning. The paucity of studies that have actually looked at the connection between motivation and behavior, along with the complete absence of any that have specifically examined the impact of motivation on time use means this is an area which needs to be examined.

This points to the questions regarding the links between motivation and time use for this study:

1. How does motivation impact on English-related out-of-class time use?
2. How well do actual time use behaviors align with the time use intentions?

3. How does a student's motivation impact on their time use over an extended period?
4. How well does the L2 motivational self system account for student time use?

Gaps in Time Use and Motivation Research

The above review of the literature point to gaps in our knowledge of students' out-of-class time use in language learning and in what we actually know regarding the relationship between motivation and behavior in language learning. Very little is known about the ways in which university students actually spend time outside the classroom related to learning and using a target language. What we do know has been based primarily on time estimates, which are the least reliable of the time use data collection methods.

The first gap in our knowledge of time use is knowledge of amount of time that Japanese university students devote to out-of-class English access. Though MEXT (2002, 2009b) guidelines suggest a 2:1 ratio between time spent on study outside of class and class time for Japanese university students, we do not know how much time students are actually allocating to English studies beyond the confines of the classroom.

We also do not know how student time is actually divided into out-of-class English episodes nor do we know how frequently episodes occur or the distribution of these episodes. This gap can only be filled by actually measuring what students do outside of class related to English access, regardless of whether the episode is for a class or for personal reason.

We also are unaware of the basic characteristics of students' out-of-class English access time. This gap has left educators to make uninformed decisions regarding the amount of homework to require for a course and set activities that are more likely to be completed because they match the Japanese university students' preferences in terms of their contextual features.

Regarding motivation, the models that have been developed provide a valuable tool for assessing students' intention but have not been linked to actual behavior of language learners. As such, they remain incomplete. The gaps that exist in the literature point to the need for study of these areas in order to both understand how students allocate out-of-class time to language use and to begin research into the links between language learning motivation and actual time use behavior by language learners. This gap can only be addressed by actually examining students' actual behavior and linking this data to information about the students’ motivation to use the target language.

Review of the Purposes of the Study

The purposes of this study are to develop an understanding of the out-of-class time allocation to target language use by L2 English learners at Japanese universities and to determine if links can be drawn between the L2 motivational self system and students' out-of-class time allocation. This study uses qualitative and quantitative methods, applied over both longitudinal and short-term data collections, to explore the features of out-of-class time use of English and the characteristics of this time use. The study also examines the motivational profiles for the participants and determines

if links exist between the participants' time allocation to English and their motivational profiles.

To review, knowledge regarding the total amount of time allocated to out-of-class English by Japanese university students should allow educators and curriculum developers to better determine if students' out-of-class time allocation to English meet the curricular and regulatory requirements for credit bearing courses and make changes as needed. Awareness of what occurs beyond the confines of the class is needed if educators are expected to make informed decisions and establish an appropriate balance in their course requirements.

Knowledge of how students' time is divided into episodes, their frequency, and their distribution can assist educators in planning activities that take advantage of students' out-of-class time use patterns. This should allow educators to help students establish patterns of out-of-class English access early in a term that address any imbalance between regulatory requirements for course load and students' actual time allocation.

Moreover, by becoming aware of characteristics of students' time use (activity type, duration, location) educators can better determine which out-of-class target language activities match the students' preferences. Knowledge of these preferences can help educators determine which activities that students are more likely to complete, the time they are likely to allocate, and where out-of-class English access episodes are likely to occur.

Finally, knowledge of the motivational factors that influence time allocation address the call that Dörnyei (2000) made more than a decade ago to investigate the temporal aspects of language learning motivation and provide the information about

"specific *language behaviors* [emphasis added]" (Dörnyei, 2003, p. 23) that educators and researchers need to clearly understand the links between motivation and learner behavior.

Time Use-Related Research Questions

The basic questions about student out-of class time allocation to target language use (see above) point to a need to investigate this aspect of language learning. This study begins this exploration. The questions outlined above indicate a need to examine the temporal features of out-of-class English time use episodes (amount of time, length of episodes, distribution of episodes), the contextual characteristics of the episodes (affective features, locational features, social features, locus of control), the types of activities during episodes, the variations in the patterns of time use (by gender, program, temporal features, contextual features), and the week-by-week differences by individuals in their patterns of time use for the longitudinal participants on the temporal and contextual features. This, in turn, points to the specific research questions regarding the allocation of time by Japanese university students toward out-of-class use of English for this study. These are:

RQ1: What temporal patterns occur in the allocation of out-of-class time to English?

RQ2: What types of variability exist between participants in the temporal features of out-of-class time use allocated to English?

RQ3: What are the contextual characteristics of English-related episodes?

RQ4: What type of activities do participants engage in during the episodes?

RQ5: What types of variability are evident in the time use patterns according to gender, types of activities, and contextual characteristics of the episodes?

RQ6: To what extent do participant interviews corroborate their time use data?

RQ7: What feelings about uses of time are salient in participant interviews?

Linking Motivation and Time Use by Language Learners

As the review of the literature on motivation and the current models of motivation shows, we have had calls for research to connect motivation and behavior but not the research. The absence of studies linking actual behavior, as measured by out-of-class time use, and language-learning motivation points to a number of questions (see above) regarding the links between these two aspects of language learning.

Motivation-related research questions.

The specific research questions regarding the motivational model and actual behavior as measured by the time use data for this study are:

RQ8: What are the causal relationships among attitudinal and motivational factors that compose the L2 motivational self system and L2 learning behaviors?

RQ9: How are these relationships different when intended learning actions are replaced by actual time use behavior?

CHAPTER 3

METHODS

This chapter first provides an overview of the entire project before discussing the data collection methods that I employed in this study. Following a brief overview of the time use data collection instrument, I discuss the development of the motivational survey used with this project. First, I discuss the development of definitions of the postulated constructs and the writing and translation procedures used for the pilot study of the survey instrument. Following this, I discuss the piloting of the instrument and the construction of the final motivational instrument for this project. Next, I provide information on the semi-structured interviews. Following this, I provide an overview of the methodological advantages of this study compared with other recent research on motivation.

In the next section of this chapter I give an overview of the participants in Longitudinal Study 1 and Longitudinal Study 2 and provide a justification for the use of participants from two private universities in western Japan for the longitudinal portions of this study. I then provide information on the cross-sectional study participants. In the third section of this chapter I discuss the instruments used in this study. These are an activity log for collecting time use data from longitudinal and cross-sectional study participants, the final form of the motivational survey, and the semi-structured interview procedures. Following this, I evaluate intention and behavior in models of motivation, examine the key factors in models of motivation, and explore the posited connection made by researchers of motivation and behavior with attention given to the relationship between intention and actual time use. I then

discuss two models of motivation that are explored in this study. In the next section of this chapter, I outline the procedures I used in this study. Following this, I provide the data analysis procedures and summarize how these address the research questions.

Project Overview

The overall project consisted of two longitudinal studies and a cross-sectional study. I used three intersecting data collection methods, applying both survey and interview methods from quantitative and qualitative research traditions, in order to arrive at a clearer understanding of the out-of-class time use of the target language (English) by Japanese university students.

I conducted two longitudinal studies. Each of the longitudinal studies were one semester investigations into the English-related out-of-class time use of small groups of Japanese university students using three data collection methods: an event-triggered daily activity log, the English-Access Time Use Survey (EATUS) (see explanation of Instruments below and Appendix A); one version of the Motivational Factors Questionnaire (see explanation of Instruments below and Appendix B); and semi-structured interviews (see explanation below). I held one interview with Longitudinal Study 1 participants and two interviews with Longitudinal Study 2 participants. Longitudinal Study 1 served two central purposes: (a) to test the data collection procedures and (b) to provide a baseline regarding out-of-class English time use. Regarding the first of these purposes, Longitudinal Study 1 provided information concerning the amount of burden completion of the EATUS form placed on the participants and a baseline on the amount of attrition to expect during the study period, which helped determine the practicality of the term-long collection. Moreover,

it also identified an issue with the EATUS form regarding the contextual variables. The form initially had four contextual variables (enjoyment, anxiety, consistency of concentration, and degree of effort). However, due to inconsistent interpretation by participants, I eliminated two (consistency of concentration and degree of effort) from the EATUS form following the Longitudinal Study 1 interviews and removed these items from any data analyses. Longitudinal study 1 also provided baseline data (hours per day, hours per week, weeks of data) regarding out-of-class English time use by Japanese university students. These data could then be used to compare the two data collection periods. Longitudinal study 2 was necessary to confirm the time use patterns identified during Longitudinal Study 1 and, through the two interviews, to explore participants' awareness of time use patterns and the aspects of the L2 Motivational Self System.

The cross-sectional study was a short-term (approximately 1-week) investigation into the relationship between a larger group of participants' L2 Motivational Selves (as assessed by the Motivational Factors Questionnaire) and English related out-of-class time use (as measured by the EATUS). The cross-sectional study was necessary to more directly link out-of-class time use to the L2 motivational self system and to determine if the structure of Taguchi et al.'s (2009) L2 motivational self system was confirmed by actual out-of-class time use.

Participants

All participants were students enrolled in Japanese universities and, as such, share certain common characteristics, such as similar ages and educational background, including the decision to pursue a university education.

Before addressing the characteristics of participants for this study, general information about the Japanese university system is warranted. The general educational environment in Japan at the tertiary level has been characterized in terms ranging from "shallow and uninspired" (Rohlen, 1983, p. 320) to that of a space of "respite from the official gaze" (McVeigh, 2005, p. 180; see also McVeigh, 2004), which leads to an atmosphere of play rather than study. Others have pointed out the lack of public trust of Japanese universities and the pressures from various stakeholders (Yonezawa, 2003, 2008) and the public's dissatisfaction with reforms to the education system (Amano & Poole, 2005). Part of this might be related to the general view that students should graduate within four years. Latchem, Jung, Aoki, and Ozkul (2008) pointed out the ease of graduation from Japanese universities, with 91 percent of students graduating in four years, and its relatively low rank on the Institute of Management and Development in terms of international competiveness (30th out of 49 countries). Moreover, many Japanese universities do not have a system that permits withdrawal from courses that a student is not truly interested in completing. Therefore, many students enroll in extra classes and decide after the first few weeks which courses they will actually study in and which they will not. Japanese universities generally allow students to be absent from 1/3 of classes without penalty. Most universities only list classes completed on the official transcripts. Most do not list classes for which a failing grade is reported if a student takes the course again and achieves a higher score. Many schools have no GPA system. Most classes meet only 90 minutes, once a week, for 15 weeks in a semester. All of these contribute to the perceived shallowness of university education in Japan and to the pool from which participants in this study were selected.

Longitudinal Study 1 and Longitudinal Study 2 Participants

Participants for both longitudinal studies were drawn from three universities in western Japan. The first group of participants in this study consisted of first- and second-year students enrolled in a two-year intensive English program (IEP) offered through a faculty of international communication at a mid-sized (enrollment = approximately 4,300) coeducational university in a suburban area of western Japan (hereafter Site 1) who volunteered to participate in the study. Site 1 is considered a low to mid-level university by various Japanese university evaluation metrics (*hensachi*) (Keisetsu Jidai, 2013). The second group of participants consisted of first-year students enrolled in an English and international studies department that specializes in the use of English-language content-based instruction at a small-sized (enrollment = approximately 800) women's university in an urban area of western Japan (hereafter Site 2) who volunteered to participate. The university generally viewed as somewhat more competitive than Site 1 according to Japanese university metrics, is ranked as a lower mid-level university (Keisetsu Jidai, 2013). The third group came from a large-sized private coeducational university with a total enrollment of more than 27,000 students (hereafter Site 3). Site 3 participants were all majoring in business, management, or law. For Longitudinal Study 1, all Site 3 participants were minoring in education. The university, a mid-level ranked university, is generally viewed as somewhat competitive, though it is much more so for its science-related departments than for its business or social science departments (Keisetsu Jidai, 2013). As anticipated, most of the participants at Site 1 were women, as were all Site 2 participants. Site 3 participants, who only participated in

Longitudinal Study 1 and were not interviewed, were a mix of male and female students. Sites 1, 2, and 3 were also sites for the cross-sectional study (see below).

Characteristics of Site 1 participants.

The characteristics of the learner groups were slightly different. For Site 1, these were male and female, first- and second-year students (18 to 20 years old) enrolled in an intensive English program (IEP), majoring in international communication. These learners have a high motivation to learn English, as evidenced by their decision to apply to enter the intensive English program in their major, international communication. Students apply to the program either at the time of their application to the university or during an additional intake immediately prior to the beginning of the first term of study. All applicants are screened for entry-level English ability. The English proficiency level for these students varies from lower intermediate to intermediate as measured by modified CELT (Comprehensive English Language Test) results administered upon entry. The curriculum of the IEP consists of 21 hours a week of English during the first year plus a 90-minute seminar once a week where they are mixed with non-IEP students and where the teacher might or might not use English. Second-year students in the IEP have 14 hours of English in the program each week. In addition, second-year students have the same type of weekly seminar as the first-year students, but they are also permitted to enroll in a limited number of other courses, including elective English courses such as Homestay English.

Upon entry into the program, students are placed into one of two cohorts, based upon placement test scores, a sample of their English writing ability rated

holistically, and interviews in English. Each cohort has a maximum of 20 students. Students study together in the same cohort during the full two-year period. There are seven teachers in the program who cover all of the classes, which are coordinated between cohorts and years. This course of study can be seen as more rigorous than other courses at the institution as it has enforced attendance requirements (80%), required completion of assignments, and a more demanding set of expectations for students.

The students who enter the IEP generally have more motivation to learn English than non-IEP students at the same university and generally have better English skills upon entry, as measured by an English-language placement test given to all students entering the university. (Representative scores are given in Table 10). Students in the IEP shared many other background characteristics (age, English proficiency, English study background, motivation to study, and gender balance). More than half of the students in any class are women. Based on previous years students, participants had an intermediate level of proficiency in English, as evidenced by the CELT scores for similar students. As expected, second-year students had a higher level of English proficiency. Participants in the study mirrored the overall composition of the program.

Site 1 participants. For the participants from Site 1, the total pool of candidates was limited to the total enrollment in the IEP, which had 40 first-year students and 33 second-year students (after attrition and failure to pass into the second year of the program). All students in the IEP were invited to participate.

Table 10. *Descriptive Test Statistics by Group and Gender for Previous Groups of IEP Students at Site 1*

Group	*N*	*n*	*M*	95% CI LL	95% CI UL	*SD*	Skewness	*SES*	Kurtosis	*SEK*
						CELT[a]				
2007-A	20	20	49.01	40.70	57.32	15.00	.36	.58	-.76	1.12
2008-A	17	16	48.99	41.05	56.94	11.83	-.57	.66	-1.10	1.28
2008-B	17	16	50.07	43.61	56.53	11.66	-.86	.58	1.61	1.12
Male	22	21	52.13	44.73	59.53	13.89	-.43	.56	.79	1.09
Female	33	17	47.64	42.75	52.54	11.86	-.06	.46	-1.11	.90
						Vocabulary[b]				
2007-A	20	16	54.73	52.80	56.67	3.49	-0.75	.58	-.07	1.12
2008-A	17	12	50.18	46.38	53.98	5.65	-2.16	.66	5.66	1.28
2008-B	17	16	52.53	50.87	54.19	3.00	.60	.58	-.02	1.12
Male	22	31	53.06	51.38	54.74	3.15	.81	.56	-.40	1.09
Female	33	27	52.48	50.42	54.54	4.98	-1.82	.46	5.27	.90

Note. IEP = intensive English program; CI = confidence interval; LL = lower limit; UL = upper limit; *SES* = standard error of skewness; *SEK* = standard error of kurtosis; CELT = Comprehensive English Language Test.

[a]Scores for the CELT test were from April of 2007 for the 2007-A cohort, and April 2008 for the 2008-A and 2008-B Cohorts.

[b]Scores on the vocabulary test were collected in October 2008.

Characteristics of Site 2 participants.

For Site 2, participants were female, first-year students (18 to 19 years old) majoring in English and international studies. All participants had a high motivation to learn English, as evidenced by their decision to enter a demanding English and international studies program, and are at the upper intermediate level in English proficiency. (TOEIC scores for similar classes ranged from 570 to 670.) Students have 14-hours a week of required English classes in the first year, but are also encouraged to select other English classes as electives. During their second year, students have six hours a week of required English classes and four hours of selected-requirements (i.e., English classes covering concepts in their major study

areas). Third-year students have two-hours of week of required English classes and take at least six hours of classes in their major study areas (business, communication, development) taught in English (content-based instruction). Fourth-year students also take at least six hours of classes in their major study areas and two hours of class a week working on an English-language graduation thesis. Students are also encouraged to enroll in non-credit courses in English for specific skills as needed. The characteristics of the interview participants matched the overall profile of all participants in the Longitudinal Study 1 and Longitudinal Study 2 data collection.

Participants from Site 2 were limited to the total enrollment in the first year (approximately 140) for both Longitudinal Study 1 and Longitudinal Study 2. Site 2 study participants also were similar to previous students (age, English proficiency, English study background, and motivation to study). Students at Site 2 are placed into their classes through the use of an internal placement test, with the same test administered to each group of incoming students. The construction of this test has been discussed (Chihara, Swenson, & Cornwell, 2001). Students enrolled in the university have a high motivation to learn English, as evidenced by their entry into the English and international studies course. Their English proficiency is generally at the intermediate to upper intermediate level, as evidenced by their average TOEIC scores. Their other required courses are in Japanese or a second foreign language. The institution also maintains an electronic attendance tracking system that it uses to monitor attendance and contact students in all sections when they are absent from courses.

Characteristics of Site 3 participants.

The Site 3 participants, who only participated in Longitudinal Study 1, were second to fourth year students at a large size (enrollment 27,000) co-educational institution in western Japan. Participants from Site 3 were majoring in several different departments, but all were minoring in education and recruited from courses within this department. These participants only supplied time use data and were not available for interviews.

Selection of Longitudinal Study 1 and 2 participants.

Participants for Longitudinal Study 1 (n = 66; interviewed n = 15) were convenience samples drawn from all three of these sites (see Chapter 4, Longitudinal Study 1, below). All Longitudinal Study 1 participants from Site 1 and Site 2 were asked to sit for one interview. Fifteen participants from these two sites agreed to be interviewed. (These participants were assigned the code designation PS-, "preliminary study," for their participant numbers.) (See Chapter 4.)

Participants for the Longitudinal Study 2 data collection (n = 40; interviewed participants n = 25) were drawn from convenience samples of students at Site 1 and Site 2 (see Chapter 5, Longitudinal Study 2, below). All Longitudinal Study 2 participants from Sites 1 and 2 were asked to participate in interviews at two points during the data collection, once about half-way through the semester collection of the weekly out-of-class time use data and once at the end of the data collection. Twenty-five participants sat for both interviews. (These participants were assigned the code designation MS-, "main study," for their participant numbers.) (See Chapter 5.)

Recruitment from Sites 1 and 2. During recruitment for Longitudinal Study 1 and Longitudinal Study 2, preference was given to students from Site 1 over those at Site 2. For Longitudinal Study 2, all participants who maintained the EATUS form for the semester and completed both interviews were provided a small monetary award of ¥5,000 yen (about U.S. $50). This was informed by the Longitudinal Study 1 collection, conducted between September 2010 and February 2011, where, despite an offer of a monetary award of ¥5,000 for participating for the entire semester, only four out of 28 students at Site 1 submitted data for more than two weeks and only 11 of the 20 students at Site 2 submitted data for more than eight weeks.

Justification for mixing participants.

Although there were undeniably important differences between participants from each site and each year (proficiency, learning background, current learning environment, major, etc.), the high rate of attrition due to the burden of participation necessitates starting with a larger group of participants than can be recruited at one institution. The main rationale for recruiting volunteers from two sites was to ensure a sufficient number of participants completed a one-semester data set and sat for the interviews. Moreover, the students still had a number of characteristics in common, including age (18-20), previous study experiences, the number of hours each week in English-related courses, and, most importantly, a keen interest in learning English. Finally, given that the purpose of this component was exploratory in nature, the emphasis was less upon generalizing results to a wider population and more upon gaining initial insights into an area that had hitherto been overlooked.

Cross-Sectional Study Participants

Participants for the cross-sectional data collection (n = 1,399) consist of convenience samples drawn from intact classes at various four-year universities in Japan. (These participants were assigned the designation XS for their participant code numbers.) Efforts were made to include participants who vary considerably in a number of different characteristics, including: age, interests, language learning motivation, major department, personal background, English learning history, and English proficiency. The institutions themselves differed in degree of selectivity, size, types of specialization offered, and location. Though this sample was not a true representative sampling of Japanese university students (e.g., no random selection), inclusion of participants from a wide range of learning situations extends the generalizability of the results.

Summary of Participants' Courses of Study

In summary, the participants for the longitudinal studies at Sites 1 and 2 consisted of first- and second-year students. During their third and fourth years, students at Sites 1 and 2 are expected to continue to study and use English. At Site 1, special advanced sections of third-year English courses are opened for the participants who complete the intensive English program. Moreover, participants who completed this program were expected to apply their English knowledge to their graduate thesis during their third and fourth years. At Site 2, participants are required to take third-year English courses in writing academic English and public speaking. They also take courses in their major taught in English during their third and fourth years. They can also take English electives. Moreover, they are required to submit a

graduation thesis written in academic English and exceeding 20 pages in length, excluding references and appendices. Site 2 also had a curriculum focused on creating an awareness of issues of social justice and preparing students for careers with organizations such as the Japan International Cooperation Agency (JICA). (See Chapters 4 and 5 for further details.)

Regarding participants in the cross-sectional study, the range of majors was more diverse. Nevertheless, 41% were studying in English-related programs and 39% in business-related programs that expect graduates to be able to use English in their future jobs. Furthermore, 67% were first-year students and 29% second-year students and could be expected to continue to study some English in the near future (e.g., third and fourth years). (See Chapter 6 for further details.)

Instruments

English-Access Time Use Survey (EATUS)

The first data collection instrument was an event-triggered daily activity log, the EATUS (see Appendix B for English & Japanese versions of the EATUS). The English-Access Time Use Survey form was developed over the course of a number of years. This instrument focused primarily upon *temporal characteristics* (length, distribution, sequencing, and frequency of episodes), and secondarily upon *typological characteristics* (what activities occurred), *ecological characteristics* (where and with whom did the episode occur), *locus of orientation* (the reason for using the time), and *affective characteristics* (how students felt about the episodes). The purpose of this instrument was to investigate the research questions directly

related to the temporal aspects, episodic aspects, and psychological aspects of episodes of the participants' out-of-class time use devoted to English.

The EATUS form I developed for this study reflected changes and suggestions from participants during various pilot studies of possible forms. The EATUS has space for participants to indicate their name (or code number for the cross-sectional study), the day and time of an episode, space to briefly describe the episode, and then columns to indicate the various characteristics of the episodes. This includes three sections where the participants checked the appropriate column to indicate the purpose, location, and social environment (persons present) of the episodes:

- Social environment (persons present): To indicate whom the participant was with during the episode (alone, with friends, other).
- Purpose: To indicate purpose of the episode (school work, part-time job, self-study not directly related to school, enjoyment).
- Location: To indicate where the episode took place (at home, at a special study place on campus such as a writing center, at some other location on campus, at work, while commuting, other).

Participants were also asked to provide information about two affective features for each episode on a five-level scale, where 1 equals low and 5 equals high, by writing an appropriate number in the column. The affective features are:

- enjoyment of the episode; and
- anxiety about the episode.

I decided to use a 5-point scale for the affective items without providing a specific definition for each level as this is typical for the type of scales that participants had seen on other surveys asking them to indicate a level of enjoyment or difficulty with

classes or particular skills to which they had been exposed. (See discussion of interview data in Chapters 4 and 5 for participants' reactions to this 5-point scale.)

I developed the EATUS format with reference to time diary forms (cf., Harvey, 1993, 1999; Michelson, 2005) and ESM forms (cf., Hektner et al., 2007) that are designed to capture episodes together with a number of allied features, including place, others present, and affective features of the episodes. I developed the particular form used in this study in late 2009 and spring 2010 and then used it during the Longitudinal Study 1 data collection from September 2010 to February 2011, the Longitudinal Study 2 data collection from April to September 2011, and the cross-sectional study in November and December 2011.

It is difficult to estimate the reliability of the instrument given the number of possible threats. These threats include failure to complete the diary on a daily basis, haphazard or incomplete data entry, and entering times that are too cardinal to be plausible (e.g., recording episodes to the nearest hour rather than the nearest quarter hour or minute). This becomes a more serious threat with longitudinal data collection where there is a possibility of response habituation. With response habituation, the participant completes categories in a habitual manner rather than accurately attempting to report each individual episode. To better gauge the reliability of the instrument during the data collection, I took a number of steps that have been recommended, including asking the participants about their compliance, checking logs for unusual entries (e.g., time allocations occurring when classes are likely held), collecting logs on a regular basis, and asking about episodes during the interviews with longitudinal study participants.

Semi-Structured Interviews with Longitudinal Study Participants

Longitudinal study 1 participants sat for one semi-structured interview. I held two semi-structured interviews with Longitudinal Study 2 participants. This allowed me to further examine the types of motivational forces that impact on participant time use decisions and, more generally, that have shaped their personal learning experience. The instrument, therefore, involved the structure of the two semi-structured interviews (Marshall & Rossman, 1995; Ritchie & Lewis, 2003; Spradley, 1979) with the overall aim of determining the connection between the participants' L2 learning motivation and time use. The interview component of the data collection serves to deepen our understanding of motivated time use through consideration of several actual cases.

For Longitudinal Study 1, the interviews took place in December and November, 2010, after the first eight weeks of data collection. For Longitudinal Study 2, the first interviews took place in mid June, 2011. The second interviews with Longitudinal Study 2 participants were scheduled in either early August, for those completing their participation at the end of the term, or in September, at the beginning of fall term, for participants who agreed to maintain the EATUS during summer break.

The interviews with the Longitudinal Study 1 participants (conducted in weeks eight to 15 of the study) served as the model for the first interview with Longitudinal Study 2 participants, which I conducted after students had submitted approximately seven to nine weeks of time use data (see Chapters 4 and Chapters 5, Interview Procedures). I structured this set of interviews around three aims: (a) to verify how well the EATUS form worked for the participants and estimate to what degree the

participants are faithfully complied with the data entry protocols; (b) to investigate the different determinants of participant time use and how participants decide on their English-related time use allocations; and, (c) to gather information about each participant's language learning motivation, with a focus on the main elements from the L2 motivational self system (Dörnyei, 2009) in a flexible framework with follow-up questions based upon initial student responses and allowing for students to nominate motivation-related topics.

I structured the second interview (conducted at the end of the time use data collection with the Longitudinal Study 2 participants) around the following three aims: (a) to focus on issues of change with regards to time use and motivation; (b) to follow up on any issues or ideas that arose through the first round of interviews; and, (c) to investigate students' perceptions about their time use patterns. I provided participants interim compilations of their time use before the interviews and referred to these compilations during the interviews.

Interviews were between 25 and 30 minutes in length, depending upon the flow and the participants' willingness to continue. I conducted the interviews in Japanese, though participants were able to use English during the interviews if they choose to do so.

I interpreted the interview data through the L2 Motivational Self System. This allowed me to investigate the research questions directly related to the temporal aspects, episodic aspects, and psychological aspects of episodes of the participants' out-of-class time use devoted to English. Moreover, it allowed for investigation into both the temporal and motivational aspects and enables a clearer determination of any links between them.

Motivational Survey Instrument

The third data collection instrument I used for this study was a questionnaire targeting motivation (see Appendices C and D). Both longitudinal study participants and cross-sectional study participants completed this questionnaire. Results for all studies are analyzed together (see Chapter 6). I developed this survey instrument from the survey used by Taguchi et al. (2009) and retained the 29 items that fit their final model for the L2 motivational self system to allow for comparison between this study and their study. Second, it incorporated additional items for assessing intention to learn. In total, 63 items were used on this survey instrument (of the 65 items on pilot study of this instrument, see "Piloting and construction of final motivational survey instrument" below).

The rationale for modeling the motivational survey instrument for this study on that developed by Taguchi et al. (2009) is clear. First of all, within the vast body of motivational instruments, those developed to assess the L2 motivational self system, (e.g., Csizér & Kormos, 2009; Ryan, 2009) have a number of good psychometric properties. Of these, the survey developed by Taguchi et al. (2009) was designed to confirm the L2 motivational self system and incorporated motivational elements from other theories. Moreover, the survey instrument was piloted with Japanese students (n = 1,586), as well as with students from China (n = 1,328) and Iran (n = 2,029). Finally, it shared with other motivational surveys the measurement of intended behavior.

Motivational survey instrument development.

The final motivational instrument consisted of 63 items designed to measure different proposed constructs within the L2 motivational self system together with 10 items for measuring the demographic and language learning circumstances of the participants. I developed a total of 65 items for the pilot study of the instrument and 63 retained for the final instrument (see Chapter 6). The items targeted different constructs of the L2 motivational self system and the participants' learning intention. As a first step, I developed clear working definitions for each of the postulated constructs: Ideal L2 Self, Attitude to Learning English, Ought-to L2 Self, Attitudes to L2 Culture and Community, Instrumental Promotion, Instrumental Prevention, Family Influence, and Language Learning Intention. These definitions (see Table 11) were developed by reexamining the explanation of the L2 motivational self system (Dörnyei, 2009) in conjunction with a review of several articles dealing with the self system (Cameron, 1999; Hoyle & Sherrill, 2006; Markus & Nurius, 1986; Norman & Aron, 2003; Zimmerman, 2008).

Intention is generally seen as preceding time use. However, for language learners, intention needs to be seen as both preceding initial moves toward L2 study and a driver of future intentions. That is, an intention to learn an L2 must precede the study of the L2. Moreover, although it might seem that hopes, dreams, and aspirations are less deeply engrained into personality than self-concept, which forms the foundation of the Ideal Self, there is recognition in language motivation research that these concepts provide a foundation for creating a positive Ideal L2 Self image. Dörnyei (2008a, 2009) outlined six steps for encouraging learners to create an attractive vision of their Ideal L2 Self. He indicated that the first step in this involves

Table 11. *Definition of Constructs for the L2 Motivational Self System*

Construct	Definition
Intention to Learn English (IL)	An intention to learn is operationalized as a statement regarding future, projected actions. The future action in question is related to a general statement of purpose, the study of the language, or the application of the language in an ancillary role to support other purposes. In Taguchi et al. (2009), these are the "*Criterion Measures* [emphasis original] assessing the learners' intended effort toward learning English" (p. 74).
Ideal L2 Self (IS)	The ideal self consists of the dreams, "hopes, aspirations and wishes" a person has for the future (Dörnyei, 2009, p. 13), that is, "the person that we would like to become (p. 29). These involve the L2 as well as issues of experiences, abilities, and character. The key locus is the self, so the focus should not be on something external to the person. Things that are external to the person—not attributes—would be more instrumental in nature. Dörnyei (2008a, 2009) outlined six steps to guide learners in selecting from their "aspirations, dreams, desires" in order to create a positive Ideal L2 Self (2008a, p. 3).
Attitudes toward Learning English (L2E)	This "concerns situated, 'executive' motives related to the immediate learning environment and experience (e.g. the impact of the teacher, the curriculum, the peer group, the experience of success)" (Dörnyei, 2009, p. 29). As such, attitude toward learning the L2 is related to the learner's experiences, both past and present, that might have an impact upon L2 learning.
Ought-to Self (OS)	The ought-to self "concerns the attributes that one believes that one *ought to* [emphasis original] possess to meet expectations and to *avoid* [emphasis original] possible negative outcomes" that correspond to "less internalized" aspects of instrumental motivation (Dörnyei, 2009 p. 29). In other words, the ought-to self is the image of one's self as seen from the eyes of significant others (peers, family) or that is attuned with behavior deemed by the person to be appropriate based on societal norms or an attribute that is deemed to be desirable. This self develops through our understanding of what is expected of or wanted from us and includes an image of the negative consequences of failure to do what one is ought to do. One example is language as a necessary evil to achieve some desired outcome. The focus should be on the self and who the learner "ought to be."
Attitudes toward the English Language Community and Culture[a] (AL2)	This includes the use of English as a multi-cultural international language for consumption of English-language information produced by both native and non-native speakers. As such, it includes the concept of "international posture" (Yashima, 2002). This construct includes the idea of English as a lingua franca in addition to its role in communication with native English-speakers. Taguchi et al. (2009) see it as the "learners' attitudes toward the community of the target language" (p. 75). My definition is broader as it allows for

Table 11 (Continued). *Definition of Constructs for the L2 Motivational Self System*

Construct	Definition
	a wider consideration of learners' attitudes toward the language community.
Instrumentality Promotion (IProm)	This looks at the reasons for the attraction to foreign language study. This would include instrumental goals that would help the person achieve their ideal self. The focus should be on something external to the individual that would impact on something internal (self) to the individual. It relates to "the regulation of personal goals" (Taguchi et al., 2009).
Instrumentality Prevention (IPrev)	The focus here is on some external (not self) condition that if not met will directly undermine the ought-to self. Failure to meet the condition will result in failure to meet one's "duties and obligations" (Taguchi et al., 2009, p. 75) to self or significant others, which will indirectly have a negative impact on the ought-to self.
Influence of Significant Others (ISO)	The focus here should be on significant others rather than the self. This should include how others support, direct, or motivate the person. The influence of significant others considers the "ought to do" rather than the personalized "ought to be (self)." That is, influence of significant others is what people have suggested "you do," rather than what "you think they think they want you to be." For Taguchi et al. (2009), this is labeled "Family influence."

Note. [a]In Taguchi et al.'s (2009) survey instrument these items were formulated as questions rather than statements.

"awareness raising about and guided selection from the [students'] multiple aspirations, dreams, desires, . . . [thus] presenting some powerful role models to illustrate potential future selves" (2008a, p. 3). Dörnyei also suggested that language educators should look at psychological, general educational, and sports research for possible tools for guiding students toward a positive Ideal L2 Self and called for research in applied linguistics to determine the potential of the "imagery enhancement techniques utilized in other fields . . . to promoting L2 motivation" (pp. 3-4). Similarly, MacIntyre and Gregersen (2012) indicated creating among learners a view of an Ideal L2 Self "entails intensifying the learners' consciousness about the importance of ideal selves, asking them to revisit the possible selves they have

imagined in the past, and acting as influential models" (p. 202). In other words, an Ideal L2 Self can be created through guided focus on the qualities that the learner values. (See "Key Factors in Models of Motivation" below for further discussion.)

Next, I adapted a number of items from previously used surveys and assigned them to the appropriate construct with the aim of including at least six items for each construct. All 29 items that fit the final solution from Taguchi et al. (2009) were initially adapted for this instrument (see Appendix E). Several points justified this decision. First, the survey developed by Taguchi et al. was designed to confirm the L2 motivational self system and incorporates motivational elements from other theories. Moreover, the survey instrument was piloted with Japanese students (n = 1,586), as well as with students from China (n = 1,328) and Iran (n = 2,029), and, therefore, a Japanese-language version was available (see Taguchi et al., 2009, for the English version or Dörnyei & Taguchi, 2010b, for the Japanese and English versions). Furthermore, clear information was available about how the instrument was developed (Dörnyei & Taguchi, 2010b), and it appeared to have been thoroughly vetted (Dörnyei & Taguchi, 2010b; Taguchi et al., 2009). Moreover, the survey subscale items appeared to have good psychometric properties (e.g., subscale reliabilities appear satisfactory with α's ranging from .64 for integrativeness, a construct which is not used in this study, to .90 for attitudes to learning English). Finally, the instrument from Taguchi et al. (2009) shared with other motivational surveys the measurement of intended behavior and is typical to other motivational surveys currently in use. Items from Taguchi et al. were then assigned to the appropriate constructs. None of the constructs had at least six items. This necessitated the decision to adapt 10 of the items that were not retained by Taguchi et al. Though

Taguchi et al. dropped items that did not fit their final model, these 10 items were initially included in the factors they retained. Therefore, as these factors were the focus for this study, they were included on the survey instrument. None of the items for factors not retained by Taguchi et al. in their final model were included in this study. These items were also added to the appropriate constructs. (See Appendix E for the factor area and SEM trait loading for the survey Taguchi et al. used with Japanese participants.)

The wording of the items was then examined. Advice on survey development suggests researchers pay close attention to item wording and recommend using simple, clear expressions (Brown, 2001). Repeated use of the same wording patterns can improve the consistency of responses and raise internal consistency. However, the repetition of phrasing can also lead to nonattending respondents. Nonattending respondents do not focus deeply while answering the survey questions. This tends to lower the validity of the survey results, though varying has resulted in fewer monotonic response patterns (Stratton, Witzke, Jacob, Sauer, & Murphy-Spencers, 2002). Furthermore, there are a limited number of ways in which a particular semantic meaning can be conveyed. Questions about volitional actions occurring in the future will generally involve items such as "intend," plan", "will," "aim to," "would like to" and so forth. This limits the amount of variation that is possible in the individual survey items. These factors were considered during the development of the survey for this study. In most cases, the wording used by Taguchi et al. (2009) was retained. However, minor changes in wording were made to some items to make them conform more closely to the working definitions. One example of a change in wording was item 19, "My family has encouraged me to study English," which was originally "My

parents encourage me to study English" (Dörnyei & Taguchi, 2010b, p. 150). In some cases, the items in Taguchi et al.'s (2009) survey were reformulated as questions rather than statements, as in item 32, "If they are at my level, I like magazines, newspapers, or books in English." This was originally worded "Do you like English magazines, newspapers or books?" (Dörnyei & Taguchi, 2010b, p. 152). These items were reformulated as statements in order to make the response format consistent. For example, the Intention to Learn construct was expressed in terms of wishes, hopes, and plans in Japanese, using phrases such as *-tai* "I would like," *–tsumori da* "I am going to," and *mezashite iru* "I aim to." (See Appendices F and G for the English and Japanese wording the survey items for this study and those used by Taguchi et al.)

To increase reliability of the survey instrument, I wrote additional items so that there were at least six items for each of the constructs, a number considered necessary to provide sufficient items to ensure the reliability of the construct, with eight preferred. This necessitated development of other items when the original constructs developed by Taguchi et al. did not have at least six items. Even with the 10 additional items from Taguchi et al. (2009), only one of the constructs, Attitudes toward English Language and Culture (AL2) had at least six items. Other items were adapted from surveys that have targeted the L2 motivational self system (Csizér & Kormos, 2009; Dörnyei & Taguchi, 2010b; Ryan, 2009). These, in turn, were assigned to the appropriate constructs. I attempted to cover as wide a range of the domain within the construct specification as possible while still maintaining high reliability. In total, I prepared 67 survey items, with at least six items for each construct.

Following the completion of an English version of the survey instrument, I asked two language education specialists, both with doctoral degrees, to critique the items. I then made revisions and prepared Japanese versions using a translation/back translation process with the assistance of a native-speaking Japanese researcher with a doctorate in education and through comparison to the Japanese version of the instrument used by Taguchi et al. (2009), retaining their Japanese wording as appropriate. A professional Japanese to English translator of academic texts, who is a native speaker of English, then back checked the translation of the instrument, making changes to the English so that it accurately followed the Japanese text. Following this, three experienced native-speaking Japanese teachers of English/researchers from Japanese universities then checked the resulting Japanese survey instrument. I asked these researchers to ensure the clarity of each item and to keep in mind the L1 ability of Japanese university students. These researchers suggested a few changes to the instrument. The first was to combine two items, both from Taguchi et al. (2009), as students would not differentiate between watching TV programs from English-speaking countries and English films shown on TV, which became into AL2, item 1. Second, they saw no clear distinction between Taguchi et al.'s items "My parents encourage me to study English" and "My parents encourage me to study English in my free time" and these were combined into ISO, item 1, "My family has encouraged me to study English." This reduced the number of items to 65 for the pilot study of the survey instrument (see Table 12). Of the retained items, two might seem to target a small set of the participants. Of these, one (Studying English can be important for me because I think I'll need it for further studies on my major) is from Taguchi et al.'s study. The other (Studying English is important to me because I

Table 12. *Motivational Survey Items by Construct*

#	Item
Intention to Learn English (IL)[a]	
1[b]	I aim to become good at English.
2[c]	I plan to take English classes in the future if I have the opportunity, either at my university, a conversation school, or my future company.
3[b]	I would like to have more opportunities to practice using English.
4	I would like to have more free time to watch TV programs or films in English.
5	If a foreigner came to the place I work I would try to use English with them.
6[b]	I am going to study harder to improve my scores on standardized tests (TOEIC, Eiken, etc.).[d]
7	If possible, I would really like to study English overseas in the future.
8	I would like to be able to use English to communicate with people from other countries.
Ideal L2 Self (IS)	
1	The better I become at English, the more satisfied I am.
2[b]	I imagine myself as someone who is able to speak English.
3[b]	I can imagine situations where I speak English with foreigners.
4[b]	I can imagine myself as someone who lives abroad and uses English for my daily life.
5	Studying English will make me an international person.
6	Knowledge of English will help me have a broader horizon.
7[b]	When I think of my future career, I imagine myself using English.
8[c]	I feel that English will become a true part of who I am.
Ought-to Self (OS)	
1	For me to be an educated person I should be able to speak English.
2	In Japan, it's important that everyone learns English.
3	Knowledge of English is very important for university students.
4	English ability is important for becoming an internationally minded person.
5[b]	Learning English is necessary because people around me expect me to do so.
6	Without English ability, it will be very difficult to help Japan in the future.
7	I don't want to be known as someone who can't use English.
8[b]	I study English because people around me think it is important.
9	Learning English is necessary because it is an international language.
Attitudes Toward Learning English (L2E)	
1[b]	I always look forward to English classes.
2[b]	I find learning English really interesting.
3[b]	I like the atmosphere of English classes.
4[b]	I really enjoy learning English.
5	English classes are stimulating.
6[d]	Studying English has broadened my horizons.[d]
7	I think my English classes have been valuable.
8[e]	I get nervous when I am speaking in English class.
Influence of Significant Others (ISO)[f]	
1[b]	My family has encouraged me to study English.
2[b]	My parents have encouraged me to attend additional English classes, such as at English Conversation schools.
3[b]	My family encourages me to use English (e.g., speaking and reading).
4[b]	My parents believe that I must study English to be an educated person.
5	Some of my friends are good at English, so I want to be good, too.
6	I study English because my close friends have said it is important.
7	My friends say that it is important to be able to speak English.
8	A teacher I respect advised me to study English hard.
9	People close to me have said that I need to speak English because it is an essential skill.
Attitude toward the English Language Community and Culture (AL2)[g]	
1[b]	If they are at my level, I enjoy watching TV programs or movies in English.[h]
2[c]	If they are at my level, I like magazines, newspapers, or books in English.
3c	I enjoy songs from English-speaking countries (e.g., pop music).

Table 12 (Continued). *Motivational Survey Items by Construct*

#	Item
4[b]	I like talking in English with people from other countries.
5	English allows me to participate in global culture.
6[c]	I would like to know more about people from English-speaking countries.[i]
7[b]	I enjoy travelling to English-speaking countries.
8[e]	English is the language of global culture.[i]
Instrumentality Promotion (IPROM)	
1[b]	Studying English can be important for me because I think I'll need it for further studies on my major.
2[b]	I think studying English will help me get a good job in the future.
3[b]	Studying English is important to me because with English I can work globally.
4[b]	Studying English is important to me because I would like to visit other countries.
5	Studying English is important to me because without English I won't be able to travel a lot.
6	I need English to travel to English-speaking countries.
7[c]	Studying English is important to me because I would like to study in another country.
8	Studying English is important to me because I would like to do volunteer work in other countries.[j]
9[c]	By studying English I will get a good score on standardized English tests (TOEIC, Eiken).
Instrumentality Prevention (IPREV)	
1[b]	Studying English is important to me because, if I don't have knowledge of English, I'll be considered a weak learner.
2[b]	Studying English is necessary for me because I don't want to be held back by a poor score on English proficiency tests.
3[b]	I have to study English because I don't want to get bad marks in it at university.
4[c]	It will be hard to get a good job in the future if I cannot speak English.
5[c]	I have to study English; otherwise, I am unlikely to be successful in my future career.
6[c]	I have to learn English because without passing my English courses I cannot graduate.

Note. [a]The Criterion Measures construct items from Taguchi et al. ("I am working hard . . . ", "I am prepared . . . ", and "I think I am . . .)" reworded to indicate the intention for future action.
[b]Items retained from Taguchi et al. (2009) for these constructs in their final model.
[c]Items not retained by Taguchi et al. in their final model but included for this study.
[d]The item L2E_6 is an accurate translation of the Japanese wording but not a literal one. The Japanese text reads "*Eigo wo gakushuu suru koto ha watashi no shiya wo hirogeru*" (see Appendices D and G). This literally can be translated as "Studying English broadens my horizons." The wording "Studying English ahs broadened my horizons" is used for the English version of the instrument because it more precisely captures the meaning of the Japanese text according to a professional translator I consulted for this project.
[e]Items removed following piloting of instrument.
[f]Construct labeled Family Influence by Taguchi et al.
[g]Construct items with "Do you" questions from Taguchi et al. reworded as statements.
[h]The items from Taguchi et al. "Do you like English films?" and "Do you like TV programs made in English-speaking countries?" were combined to reflect the common use of films made in English-speaking countries on Japanese TV.
[i]The idea of English as a language belong to one specific group or country has long been questioned (see, among others, Kachru, 1990; Matusda, 2002; Seidlhofer, 2009), hence inclusion of item AL2_8, but there remains in Japan the identification of English as a language to use with native speakers of the language (AL2_6).
[j]Items IProm_1 and IProm_8 appear to be applicable only to a small number of students but were retained because they were either an item used by Taguchi et al. (IProm_1) or provided a previously unexplored dimension with relevance to Site 1 and Site 2 participants (IProm_8).

would like to do volunteer work in other countries) might be seen as having a narrow focus on one group of Japanese university students. However, recent events (i.e. the March 11, 2011 earthquake and tsunami) indicate that this has a broad appeal. (See Appendix F for an English version of the constructs and items in Taguchi et al.'s instrument and the instrument used in this study. Appendix G compares the Japanese wording for this instrument with the wording used by Taguchi et al. Note: The Japanese text has a much narrower range of wordings that found in the English version of the instruments.)

Following this, I then randomly sorted the survey's 65 items into the final version of the instrument for the pilot study. This order that was retained for the final survey instrument, minus two items whose removal improved the reliability of the construct (see discussion of instrument piloting below and Appendices C, D, F and G). Items for obtaining demographic data about the participants were developed and evaluated in the same manner.

Demographic information for cross-sectional participants. I obtained the characteristics of the cross-sectional data collection participants, who completed the motivational questionnaire and maintained the EATUS diary log for one-week, by including questions to elicit information about the participants' personal background on the motivational survey. In addition to the motivational survey items, I asked cross-sectional participants to submit demographic data, including their age, gender, major department, years of English study, number of hours of English-related courses currently enrolled in, scores on standardized exams, and self-estimates of English

proficiency. This information helps extend the generalizability of the results (see Table 13). (See also Appendices C and D.)

Table 13. *Demographic Items on Motivational Survey for This Study*

	Demographic items
1	How many 90-minute[a] English classes do you have at university or junior college each week? _____ classes[b] "English classes" includes English reading, conversation; seminar classes where you read things in English, classes where you study about English (e.g., English Linguistics) and classes with English materials, such as classes where you study about environmental issues or foreign culture using English materials.
2	How many hours do you study English outside of the university, such as at English conversation schools? ____ hr. ____min.
3	Age: _____ years old
4	Major: _____ department
5	Gender: Male Female
6	Year in School: 1st 2nd 3rd 4th Other
7	Native language： JapaneseOther
8	Are you currently studying or have you studied other foreign languages besides English? Yes No
9	When did you first start studying English? _____ years old
10	Have you ever stayed longer than 3 months in an English-speaking country for travel or study? Yes No

Note. hr. = hour; min. = min.

[a]Site 2 classes were 50 minutes and the question wording was changed to reflect this.

[b]All data was converted to actual numbers of minutes of English class each week.

Piloting and construction of final motivational survey instrument.

Following completion of the survey instrument, I randomized the items and piloted the instrument administering it to a small convenience sample (n = 194) drawn from students at Site 1 and Site 2, the sites used for the longitudinal components for this project (see discussion of Participants above). These participants can be considered quite similar to the longitudinal study participants in that they are from the same sites, have studied under the same curricula and are highly motivated. However, they differed somewhat from the cross-sectional component students who were drawn from various programs at various universities. The primary difference was that the

Site 2 participants for the pilot study of the motivational instrument were all English and international studies majors. The Site 1 pilot study students represented a wider cross section as they were drawn from programs in sports management, psychology, and international communication studies.

I then compiled the responses and analyzed the item reliability. Each of the subsets demonstrated good reliability (Cronbach alpha's ranged from .75 to .90). Factorial analysis of the pilot study results indicated two items with heavy cross loadings. One item targeted *Attitude toward the English Language Community and Culture* (AL2, item 8), "English is the language of global culture." Removal of that item increased the reliability from .87 to .89. The second item targeted *Attitudes toward Learning English* (L2E, item 8), "I get nervous when I am speaking in English classes." Again, removal of this item increased reliability, from .88 to .91. I retained the 63 items with good reliability and randomized them for the final survey (see Appendices C & D for English and Japanese versions of the final survey instrument).

The final motivational survey instrument for this study consisted of 63 items, of which 27 were those retained by Taguchi et al. (2009) in their final structural equation model (see Figure 20). These 27 items included those that loaded on their Criterion Measures (i.e., intended behavior), the Ideal L2 Self, the Ought-to L2 Self, Parental Encouragement/Family Influence, Instrumentality—Promotion, Instrumentality—Prevention, Attitudes Toward Learning English, Cultural Interest, and Attitudes Toward L2 Community. Two items from the final model used by Taguchi et al. were removed following the advice of Japanese researchers (see Motivational Survey Instrument discussion in Chapter 6 below). Ten items used by

Taguchi et al. but not retained for their final model were included in order to have at least six items for each construct.

The motivational survey instrument I developed for this study, therefore, allows for this study to confirm the model by Taguchi et al. (2009), refered to as the intention to learn model, and verify whether replacement of Criterion Measure of intended behavior, Intention to Learn items in this survey, with actual time use in minutes fits the same model, referred to below as the time use model (TUM). These two models are discussed in the section "Intentional and behavior in models of motivation" below.

Intention and Behavior in Models of Motivation

In this section, I first evaluate two related models: the intention to learn model (ILM) and the time use model (TUM). Both models include eight of nine possible factors. Both models include the following seven factors: *Ideal L2 Self* [IS], *Attitudes toward Learning English* [L2E], *Ought-to L2 Self* [OS], *Attitudes towards the English Language Community and Culture* [AT], *Instrumentality Promotion* [PRO], *Instrumentality Prevention* [PRE], and *Influence of Significant Others* [ISO]. Each model also includes an outcome, either the latent outcome factor, *Intention to Learn English* [IL], or the behavioral outcome variable, *English-related Out-of-class Time Use* [TU]. These models are all patterned after the final solution presented by Taguchi et al. (2009), which was originally based upon Dörnyei's (2005, 2009) L2 Motivational Self System.

It is my contention that intended behaviors might not accurately reflect the actual behaviors of participants. Maintaining the items from the motivational survey

instrument developed by Taguchi et al. (2009) within the motivational survey instrument developed for this study allowed me to test the validity of my argument by comparing my models (see discussion below) with Taguchi et al.'s original model (see Figure 20), which places *intended behavior* as the outcome factor *Criterion Measures* (see Figure 21).

In my judgment, the model proposed by Taguchi et al. (2009) has sound theoretical underpinnings and accurately represents Dörnyei's (2005, 2009) model of the L2 motivational self system. Furthermore, they developed the model based on a population similar to my population (Japanese college students) and tested it with a very large sample size. Therefore, I feel it provided a good starting point for this research project. However, three distinctions must be made. First, the indicators Taguchi et al. used to measure the construct *Criterion Measures* (i.e., intended efforts toward learning English) consisted of both forward looking statements and statements of habitual action. Therefore, they might not have accurately measured intention to learn. In order to more accurately target this construct, all of the indicators I have selected for this construct specifically refer to the future and to stated intentions. In addition, as intended behaviors might not conform to actual behaviors, I want to confirm whether replacement of intended behaviors with actual behavioral measurements, in the form of *English-Related Out-of-Class Time*, results in the same solution. Finally, in my survey I expanded the construct of *Parental Influence* to include significant others besides parents (i.e., peers, siblings) which might justify additional paths that are not included in Taguchi et al.'s model.

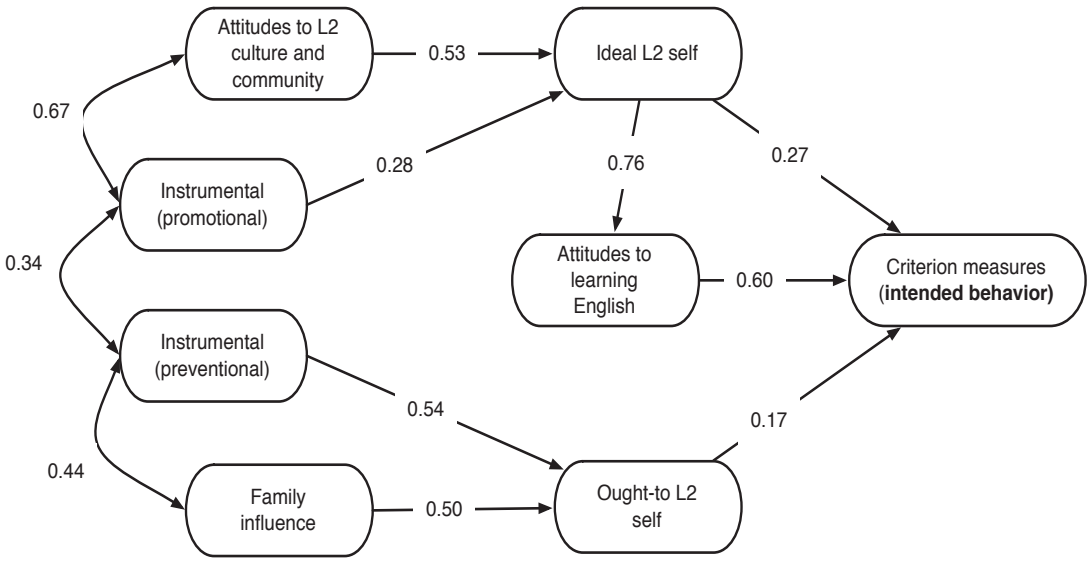

Figure 21. Modification to the structural equation model developed by Taguchi et al. (2009) with "criterion measures" indicating "intended behavior. From "The L2 Motivational Self System among Japanese, Chinese and Iranian Learners of English," by T. Taguchi, M. Magid, and M. Papi, in Z. Dörnyei and E. Ushioda (Eds.), *Motivation, Language Identity and the L2 Self* (p. 86), Bristol, UK: Multilingual Matters. Copyright 2009 by Multilingual Matters. Adapted with permission.

Key Factors in Models of Motivation

Three of the factors are specifically mentioned as central to the L2 Motivational Self System: the *Ideal L2 Self*, the *Ought-to L2 Self*, and the *Attitudes toward Learning English* (Dörnyei, 2005, 2009; Dörnyei & Taguchi, 2010a; Taguchi et al., 2009). The *Ideal L2* and *Ought-to L2 Selves* are outgrowths from the work of Markus and Nurius (1986) and Higgins (1987). Markus and Nurius (1986) suggested that our behaviors are influenced by our self-images, especially those self-images projected into the future, in their discussion of *possible selves.* Higgins (1987) posited the *Ideal* and the *Ought-to* selves serve as guides and, in order to move from our current state to a desired state, push us to engage in positive behaviors. Dörnyei (2005, 2009), working from these concepts of the selves, argued for two selves, the *Ideal L2 Self* and the *Ought-to L2 Self*. Dörnyei has associated the *Ideal L2 Self* with “hopes,

aspirations, advancements, growth and accomplishments" (Dörnyei, 2009, p. 28) The *Ought-to L2 Self* is similar in that it focuses on a future state. However, it differs from the *Ideal L2 Self* in that it focuses on obligations and duties. "The ought-to self refers to the representation of attributes that one believes one ought to possess [i.e., representation of someone else's sense of duties, obligations or moral responsibilities] and which therefore may bear little resemblance to one's own desires or wishes" (Dörnyei, 2009, p. 13). Dörnyei also assigns "a *prevention* focus" to the Ought-to Self which he considered to regulated "the absence or presence of negative outcomes, concerned with safety, responsibilities and obligations (i.e., avoidance of a feared end-state)" (Dörnyei, 2009). Furthermore, Dörnyei (2009) argued that there is a strong connection to *Intention to Learn* and these two views of the L2 self. This claim has been supported by Czizér and Kormos (2008, 2009) and Taguchi et al. (2009), among others, though they replace *Intention to Learn* with other terms (e.g., intention to engage in positive learning behaviors, criterion measures) and often include as indicators of *Intention to Learn* items that assess habitual or past action rather then forward-looking statements. Based on my reading of the research, I hypothesize that there are direct links to the outcome factor (*Intention to Learn English*) or the outcome variable (*English-related out-of-class Time Use*) from both the *Ideal L2* and *Ought-to L2 Selves*.

The outcome variables Intention to Learn English and English-Related Out-of-class Time Use.

Future projected behavior must be considered as intention that has not yet translated into action. The construct Intention to Learn English is expressed as

forward-looking statements (see Table 12) with wordings such as "I am to," "I plan to," and "I would like/try to." Within the model of the L2 motivational self system proposed by Taguchi et al. (2009), these forward-looking statements are placed into the final outcome variable as "Criterion Measures," flowing from *Ideal L2 Self, Ought-to L2 Self,* and *Attitudes to Learning English.* I posited that these forward-looking statements indicate an *Intention to Learn,* that might then be replaced by *Time Allocated to Target Language,* that is the actual behavior not just intention toward a behavior.

Intentions that are carried out are observable behaviors (e.g., MacIntyre, Baker, Clément, & Conrod, 2001; Ouelette & Wood, 1998). The actual amount of time devoted to learning something provides a clearer indication of learner motivation than statements of intention to learn. For L2 learners, English-related out-of-class time use should be considered observable behavior and, therefore, provide a clearer understanding of the motivation of the learner.

Attitudes toward Learning English. In addition to shaping our self-images, the importance of our learning experiences also influences how we approach the task of learning a foreign language. Past experiences form the basis of our self-efficacy and establish our attitudes. They might also be reflected in that to which we attribute our performance and shape our expectancy of success or failure. The importance of L2 learning experiences has been recognized in previous motivational models (see discussion above). Moreover, it is plausible that learners' most recent L2 learning experiences have a greater impact than previous experiences. Students who currently enjoy their English learning experiences are more likely to evince stronger motivation

to learn and indicate a more positive outlook, a connection Gardner (1988, 2006) proposed in his socio-educational model that has been supported by research by Noels, Pelletier, Clément, and Vallerand (2000), among others. This is also supported logically by expectancy-value theory (e.g., J. S. Eccles & Wigfield, 2002; Wigfield, 1994; Wigfield & Eccles, 2000) and attribution theory (e.g., Jaspars, Hewstone, & Fincham, 1983; Weiner, 1985). This relationship has also been noted. The term "L2 learning experience" is used by Dörnyei (2009) to discuss this concept, with the concept labeled *Attitudes to Learning English* by Taguchi et al. (2009). Dörnyei (2009) also has used the term "language learning experience" and has suggested it plays a larger role than an ideal L2 self image with secondary school L2 learners than it does with university learners, where the two concepts are equally important (p. 108). For this study, I adopted the term Attitudes toward Learning English (L2E) to encompass the language learning experience and the environment of learning.

Given this, I posited that there is a strong and direct connection between *Attitude toward English Language Learning* and either the outcome factor *Intention to Learn English* or the outcome factor *English-related out-of-class Time Use*.

Attitudes Toward the English Language Community and Culture. The attitudes that learners have towards the target language community and culture have a profound effect on their ultimate attainment. In the socio-educational model of language learning motivation, for example, Gardner (2001, 2006) has argued that integrative motivation—the desire to become a member of the target group—plays a greater role in achievement than many other factors. Dörnyei (2005, 2009) pointed out that members of the L2 community are exemplars of the idealization of the L2 self

and, therefore, suggested that our ideal L2 self has to include some consideration of our feelings toward the L2 community.

Given this, I posited that there should be a direct path between the *Attitudes towards the English Learning Community and Culture* and the *Ideal L2 Self*.

Influence of Significant Others. People exist within a social community. They form their selves mostly from interacting with the community and much of the development of their own self images occurs through comparisons to others in the community (e.g., Lave & Wenger, 1991; Markus & Nurius, 1986; Norton, 2000, 2003, 2010; Pavlenko & Norton, 2007; Wenger, 1998). However, not all members exert the same influence. The most important members of this community are family members and close friends. They exert great influence over our behavior. We respect those people and, therefore, we respect their values and generally try to conform to their expectations. We internalize their expectations into our self image, primarily in the form of the *Ought-to Self*. One insight into this comes from self-regulation theory (Deci & Ryan, 1985, 2000, 2002a, 2008). In self-regulation theory, Deci & Ryan hypothesize that there are several different levels of motivation that span from amotivation through extrinsic motivation to international motivation, including also intrinsic motivation, identified motivation, and integrated motivation. Dörnyei (2005, 2009) argues that intrinsic, identified, and integrated motivations are all related to the *Ideal L2 Self* as these three types of motivation require the learner to have largely transformed these externally imposed motivations into semi-internal ones.

Given that the *Ought-to L2 Self* embodies the learner's interpretation of what other people expect, I hypothesize that the *Influence of Significant Others* should

impact primarily upon the *Ought-to L2 Self.* Williams and Burden (1997) indicate that students in high school and university are strongly influenced by their peers (p. 98). Given this, I have expanded the construct from the narrow focus on parental influence to the influence of significant others which includes peers and siblings. My revised survey based on that by Taguchi et al. (2009) included items that expanded the factor "Family influence" to include the influence of significant others.

The issue of instrumentality.

Instrumental motivation is a key component in Gardner's (1988) socio-educational model of motivation. Instrumental motivation promotes engagement in an action not because one enjoys spending time performing that action, but in order to achieve some end result that can only occur by engaging in that action. This involves regulating one's behavior. For Gardner, any number of actions could be evidence of instrumental motivation. Dörnyei (2009), on the other hand, borrows from Higgins (1987, 1998) to refine Gardner's concept of instrumental motivation by focusing on points of reference and directionality and argues that if the end result helps a person become closer to their ideal self it works in a positive way by tapping in to dreams, aspirations, hopes, growth, etc. (Dörnyei, 2009). In this case, the point of reference is the ideal self and the instrumentality serves an approach function (Higgins, 1987). Alternatively, it might also serve in a negative way if the end result keeps the person from moving further away from their ideal L2 self. According to Dörnyei (2009), in this case, the point of reference is not the ideal self, but the ought-to self and the instrumentality serves an avoidance function. The term

avoidance derives from Higgins (1987) who argued it involves regulating against negative outcomes.

Given this distinction, I argue that there should be a direct path from instrumental motivation that serves an approach function (*Instrumental Promotion*) to the *Ideal L2 Self*. In addition, I argue that there should be a similar direct path from instrumental motivation that serves an avoidance function (*Instrumental Prevention*) to the *Ought-to L2 Self*.

Two Models of Motivation

The rationale presented above points toward two models of motivation. In the first, the intention to learn model (ILM), the outcome factor *Criterion Measures* from Taguchi et al.'s (2009) model (see Figure 21) is replaced by the factor *Intention to Learn English* (see Figure 22). In the second, the time use model (TUM), the factor *Intention to Learn English* from is replaced by the factor *English-Related Out-of-Class Time* (see Figure 23).

Each of these models retains the co-variance paths identified by Taguchi et al. (2009). Their model found co-variances between the factors labeled *Attitudes toward the L2 Community and Culture, Instrumental (promotional), Instrumental (preventional),* and *Family Influence.* Following this, I anticipated similar co-variances would be found between the factors *Attitudes toward the L2 Community and Culture, Instrumental (promotional), Instrumental (preventional),* and *Influence of Significant Others.*

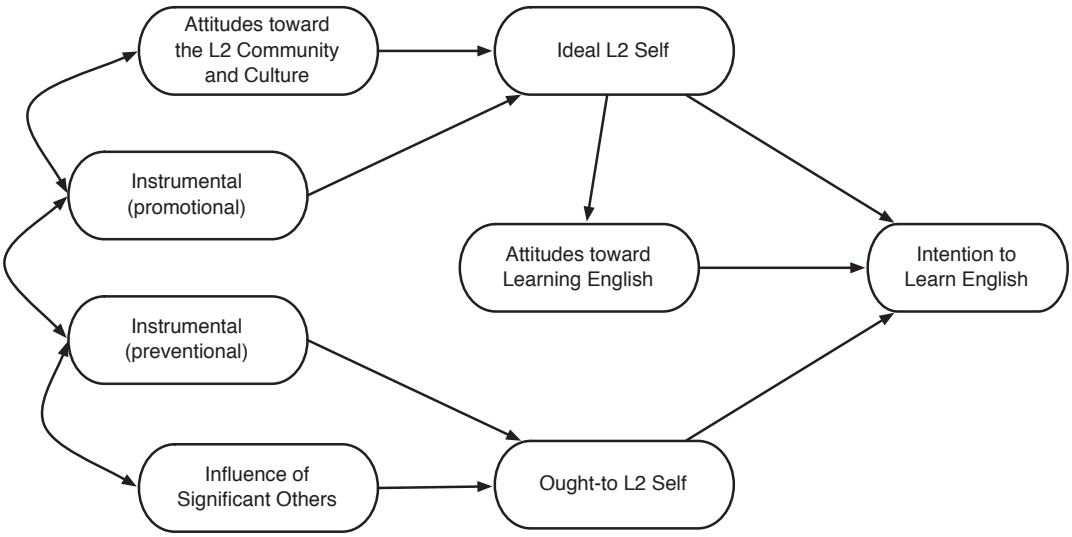

Figure 22. Taguchi et al.'s (2009) model, intention to learn model (ILM), with the outcome factor Intention to Learn English.

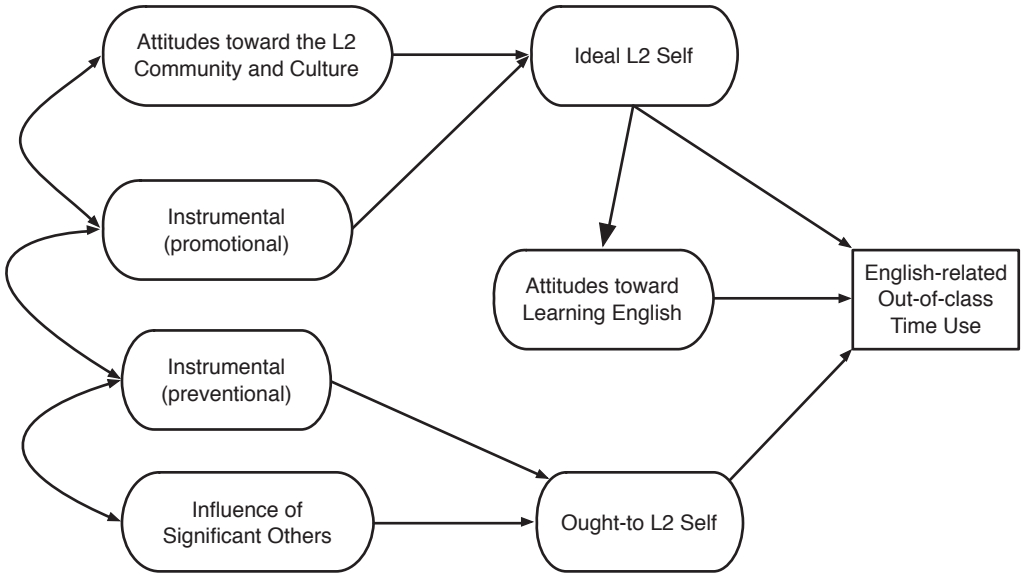

Figure 23. Modified structural time use model (TUM) which replaces the outcome factor Intention to Learn English with the actual measure of behavior, the outcome variable English-Related Out-of-Class Time.

Methodological Advantages

This study has several methodological advantages in comparison to other recent studies on motivation. Many studies rely upon one type of data, such as survey responses. In contrast, this study uses multiple methods for data collection, including survey, behavioral sampling, and interviews. This multi-method approach provides a clearer understanding of the relationship between motivation and behavior in language learning than the mono-methodological approaches that are used in many studies. Moreover, the use of behavioral sampling provides unique information concerning both the amounts and patterns of out-of-class time use by participants.

Unlike many studies where only written attitudinal survey responses have been used to evaluate models of L2 learning motivation, this study combines responses to attitudinal items with actual records of behavior (English-related out-of-class time) by participants. This enables a more robust understanding of the connection between the hypothesized constructs and participant action. More importantly, this study incorporates a longitudinal element tracking language learner behavior over a one-semester period. Longitudinal data collection can provide a more precise understanding of phenomena that vary over time and more frequent sampling provides much higher reliability and validity (van Belle, 2002). In this study, the time use sampling for the longitudinal element was on a daily basis. Finally, the use of semi-structured interviews broadens understanding of L2 learning motivation as the participant reports it and not solely as the researcher envisions it.

Procedures

Longitudinal Study Procedures

At the start of the semester, I visited the four different cohorts of students at Site 1 and invited them to participate in the Longitudinal Study 1 portion of this research project. I explained in Japanese the purpose of the study, discussed the data collection methods, explained the steps that I would take to preserve the privacy of the participant information, and explained about the small monetary reward for participants who submit complete datasets. I also emphasized to the students that their decision to participate or refrain would have no bearing on their course grades. I provided each student with a copy of the consent form with a clear explanation of all the aspects of the project and an informed consent form with an agreement portion to participate to be signed and returned to me for a permanent record. Then, I distributed copies of the EATUS. Regarding Site 2, I relied upon a proxy for explanation of the project and distribution of forms. The procedures followed by my proxy followed those used at Site 1, informing students of the nature of the project, providing them with a consent form agreement, and distributing copies of the EATUS.

EATUS and motivational survey procedures.

Briefly, the students at Sites 1 and 2 were told what the aim of the project is, the amount of time it takes to complete the EATUS form, and given instructions on how to complete the form. They were asked to complete the EATUS as soon as they can after each episode, but if this is not possible to complete the form at the end of each day.

One week later I visited the cohorts at Site 1 to collect initial data from the students who have chosen to participate. I also informed any interested students who had forgotten to record data or had not yet decided on participation that I would welcome their participation starting from the second week. I continued to visit each cohort once each week to collect data and answer any participant questions. Again, I relied upon a proxy to fulfill these functions at Site 2. Weekly data collection at both sites continued in a similar manner until the end of the semester.

Interviews.

For both Longitudinal Study 1 and Longitudinal Study 2, I visited the four cohorts at Site 1 and arranged interviews with participants who agreed to be interviewed. I scheduled interviews at times and places that were most convenient for the participants. As a consequence, interviews extended over a three-week period. I conducted the Site 1 interviews for Longitudinal Study 1 (see Chapter 4) and Longitudinal Study 2 (see Chapter 5) in my office. For Site 2, I relied upon my proxy to arrange the interview schedules, again to the convenience of the participants. One interview was held with Longitudinal Study 1 participants who agreed to be interviewed. Two interviews were held with the Longitudinal Study 2 participants who agreed to be interviewed. (Details of Longitudinal Study 1 appear in Chapter 4 and details of Longitudinal Study 2 are in Chapter 5.)

All interviews were conducted in Japanese unless the participant specifically wanted to speak in English. (During Longitudinal Study 1 for this project, one Chinese student felt more comfortable being interviewed in English. During

Longitudinal Study 2, one participant mainly used English during the second interview.) These interviews were recorded and transcribed.

Although the particular framing of the initial interview questions was influenced by the content of the participants' responses and the resulting transcripts were essentially dialogues constructed between researcher and participant, during the analysis phase I focused on the actual comments from the interviewees and let the analysis be driven by the data rather than by my particular research agenda. For example, I tried to develop analytical categories in a recursive manner based on the actual comments of the students, with possible categories being identified in one set of transcripts, applied to a second set of transcripts, refined, and then reapplied to other (previous and new) transcripts until all have been coded (Csizér, Kormos, & Sarkadi, 2010; Kormos, Csizer, Menyhart, & Torok, 2008). In order to reduce researcher and order bias, I actively pursued alternative interpretations, which I then confirmed through reanalysis of transcripts. Finally, I interpreted how the ensuing results agree with the propositions of the L2 motivational self system.

Cross-Sectional Data Collection Procedures

I contacted teachers at universities in Japan to solicit their assistance in collecting survey and time use data from their students. I sent a complete set of materials (project information, consent forms, motivational questionnaires, EATUS forms, and instructions for administration) along with pre-paid envelops for the return of data to the teachers willing to assist. Directions to teachers were in English and Japanese. Directions for the study participants were provided in Japanese. I established procedures for individual participants to create a unique code to place on

the motivational survey and the EATUS form in order to connect survey and time use data while maintaining privacy.

Data collection was scheduled for November through December, as decided by the individual teachers who agreed to ask their students to participate in this study. To improve the reliability and validity of the data collection, I arranged to have data collected only over a normal school week with no holidays, unusual events, or tests. As each of the teachers had their own particular schedule, this data collection ran for several weeks. Delays by participants in returning the EATUS form meant that some participants supplied more than one week of episodes for the cross-sectional portion of the study (see Chapter 6).

Informed Consent and Data Security

All participants were informed verbally and in writing about the nature and scope of the project. This included a clear explanation in Japanese of rights as participants, including the right to withdraw from the study at any time without prejudice. (See Appendix H) for an English translation of the informed consent explanation for Site 1 and 2 participants.) In addition, information about how the data would be used, who would have access to the data, and measures that I would take in order to protect participant privacy were covered. Participants were informed of the people they could contact if they have questions about the project and who to contact if there is a complaint. For Site 1, this was the Principal Investigator (PI) and the program supervisor for the IEP. For Site 2 participants, this was the PI, a full-time faculty member of the institution (my proxy), and the head of relevant research supervisory committee (the institution's equivalent of the Human Research

Committee). For Site 3, this was the PI, an adjunct instructor (my proxy), and the course supervisor. Participants at Sites 1 and 2 were also provided with their time use data and given the opportunity to review the transcripts of their interviews with the PI and amend their comments if desired.

Raw data from Site 1, Site 2, and Site 3 EATUS were only seen by the PI, instructors at who collected the data, and teachers from sites who agreed to assist in data entry. Interviews, which were conducted by the PI in Japanese, were digitally recorded and these transcribed by the PI and a native speaker of Japanese. The transcribers were asked to maintain the privacy of the participants' data. The PI translated relevant portions of the transcription into English, but checked any interpretations of the Japanese transcriptions with a native speaker of Japanese. This helped ensure the accuracy of the transcription and the translations into English. When the recorded data could not be clearly understood by the PI, who is not a native speaker of Japanese, a native speaker of Japanese was asked to review the digital recording but was not provided personal information about the interview participants.

For participants in the cross-sectional portion for this project, the informed consent information was distributed with the motivational survey and copies of the EATUS form. The informed consent form provided the information about the project's purposes and asked those willing to participate to create a unique code (see discussion below) and return the survey after completion and the EATUS form one week later. The raw data was seen by the PI and course instructors who agreed to ask students to participate in the study and provided them with copies of the motivational survey, which was collected on that day, and request that those willing to participate maintain the EATUS for one week.

In order to maintain confidentiality, participants were asked to create a unique code made up of a number of elements extracted from pre-existing data for the student (e.g., 2-digit birth month, last 2 digits of their phone number, first two digits of their address, number of siblings, etc.) rather than supply a name or student number on the motivational survey and the EATUS; this type of code has the advantage of being easily regenerated by the participant but not easily traceable to a single individual. (For example, a participant at institution A in course B whose birthday is July 6, whose phone number ends with 1234, whose address begins with the number 65, and who has two siblings would write the code AB070634652.) Data from those who submitted the motivation survey and EATUS were included in the study.

Analyses

Longitudinal Study Data Analysis

The procedures for the longitudinal study participant interviews required the data of their individual time use, necessitating rapid processing of their EATUS forms and the motivational survey instruments. Therefore, I arranged for another teacher, my Site 2 proxy, to assist in the entry of time use data.

I did the transcription of the interview data, but I asked for assistance from a Japanese native speaking colleague (see above) if there were interpretations as to what was said. During this stage, I redacted the transcripts by removing any identifying information in order to preserve the confidentiality of the data.

Once all the data for the longitudinal study participants (time use, motivation, interviews) were assembled, I prepared time use and motivational profiles. These served two functions. The first was to allow a deeper exploration into the validity of

the L2 Motivational Self System. The second was to provide a fuller picture of the time use and motivational patterns of actual students rather than an abstraction generated from a group of mixed individuals.

I also started the recursive process of coding the activities in order to identify pertinent analytic categories using techniques drawn from a qualitative research tradition. First, possible candidate categories were identified from carefully reading a subset of the data. Following this, I applied those categories to a second subset of the data in order to gauge their applicability, paying close attention to those activities that do not fit easily into the nominated categories, and refining categories as appropriate. The revised categories were then reverse checked against the initial subset of data to assess whether they were more or less robust than the initial set of categories. During this process I also proactively considered alternative codes and use a progressively larger subset of the data until I had coded all of the episodes.

Cross-Sectional Study Data Analysis

Responses from the motivational survey were used to investigate the relationship between constructs in the participants' L2 motivational self system and English-related out-of-class time use. First, the data were used to evaluate the motivational model proposed by Taguchi et al. (2009) (see Figure 20) with Japanese university students. Second, the data were used to check to what degree measures of *intended behavior* match *actual reported behaviors* (see discussion of models below). This enabled us to begin to establish how action, not just intention to action, can be placed within current motivational models.

After the cross-sectional EATUS and motivational survey data were returned, I checked the data and applied appropriate analytical techniques. For the most part, the data analyses proceeded as outlined above for Longitudinal Study 1 and Longitudinal Study 2, excluding all data related to the interviews of variation over time. First, I prepared the descriptive statistics for all of the demographic, time use, and motivational data. Analyses of variances were used to check for significant differences in time use by demographic categories. Then, I performed a confirmatory factor analysis of the motivational survey data to identify whether the proposed factor structure in this dataset corresponds to that found by Taguchi et al. (2009). Finally, I conducted structural equation modeling on the data set to confirm to what degree my model (TUM), which replaces language learning intent with actual time use data, accords with the final solution proposed by Taguchi et al. (2009) (ILM).

Addressing the Research Questions

Each of the Research Questions is addressed by the data analyses as described below. To review, the Research Questions are:

RQ1: What temporal patterns occur in the allocation of out-of-class time to English?

RQ2: What types of variability exist between participants in the temporal features of out-of-class time use allocated to English?

RQ3: What are the contextual characteristics of English-related episodes?

RQ4: What type of activities do participants engage in during the episodes?

RQ5: What types of variability are evident in the time use patterns according to gender, types of activities, and contextual characteristics of the episodes?

RQ6: To what extent do participant interviews corroborate their time use data?

RQ7: What feelings about uses of time are salient in participant interviews?

RQ8: What are the causal relationships among attitudinal and motivational factors that compose the L2 Self System and L2 learning actions?

RQ9: How are these relationships different when intended learning actions are replaced by actual time use behavior?

Research Question 1: This question is answered using the Longitudinal Study 1, Longitudinal Study 2, and cross-sectional EATUS data. This answer concerns the weekly distribution of episodes, including the day and hour of the week in which the episode occurred. This answer also considers the distribution between weekday and weekend out-of-class time allocation to English. Analyses of the quantitative data produced descriptive statistics that are used in the construction of group and individual profiles of out-of-class time use of English. This question is also be partly answered from the interview data by constructing individual profiles.

Research Question 2: This question is answered using the Longitudinal Study 1, Longitudinal Study 2, and cross-sectional EATUS data. Similar to RQ1, this question concerns differences between participants in Longitudinal Study 1 and Longitudinal Study 2. This research question also addresses the limitations of RQ1. The data is distilled to provide exemplars of individuals for each pattern. As the *n*-size

is sufficient, cluster analyses were applied to the cross-sectional and longitudinal data to ascertain the types of variability between participants.

Research Question 3: This question is answered using the Longitudinal Study 1, Longitudinal Study 2, and cross-sectional EATUS data to determine the contextual characteristics of English-related out-of-class time use. The focus for this is on the purpose of the episodes, where the episodes occurred, who participants were with, and how the participants felt about the. This question is also partly answered from the interview data by constructing individual profiles regarding the contextual features.

Research Question 4: This question is answered by analyzing the Longitudinal Study 1 Longitudinal Study 2, and cross-sectional EATUS data. Activities are coded into activity types, such as listening to music and doing homework for discussion class, and examined to develop profiles of the participants' activities.

Research Question 5: This question is answered using descriptive statistics from the Longitudinal Study 1, Longitudinal Study 2, and cross-sectional EATUS data. After identifying the patterns in RQ1, RQ2, and RQ4, the data was examined to determine the variability in the patterns of time use for gender, site, and activity types. The contextual issues here were related to RQ3 and were answered after identifying these aspects of the data.

Research Question 6: This question is answered using the interview data from Longitudinal Study 1 and Longitudinal Study 2 interview data. During interviews, participants were provided with a copy of their time use records and asked to comment on the features of this time use and corroborate the record they kept regarding their time use. This served to both confirm the EATUS record and elicit further details regarding their out-of-class time use devoted to English.

Research Question 7: This question is answered from Longitudinal Study 1 and Longitudinal Study 2 interview data and the EATUS data. Participants were provided with a copy of their time use records and asked to comment on their reasons for engaging in certain activities (e.g., I do it because I enjoy it) and their feelings regarding this time use in terms of the affective factors. The semi-structured interview data also allowed for exploration of the participants' *Ideal L2* and *Ought-to L2 Selves* through questions that probe for these concepts.

Research Question 8: This question is answered by applying structural modeling to the cross-sectional motivational survey data to confirm the model for the L2 motivational self system found by Taguchi et al. (2009) and through considerations of how the Criterion measure from the model from Taguchi et al., which indicates intention to learn, can be replaced by actual behaviors on learned, as measured by time use (see discussion of models above).

Research Question 9: This question is answered by applying structural modeling to the cross-sectional EATUS and motivational survey data. This tests the applicability of the proposed models derived from this study (see discussion above).

Summary of Analyses

The process of data analyses for Longitudinal Study 1 and Longitudinal Study 2 and cross-sectional study help address the missing element in motivational research—the need to link motivation to learn a second language to actual behavior in using the target language outside the classroom. Consideration of the connections between actual behaviors by language learners, not just intended behaviors as it appears in models of motivation to learn a second language, begins to address a major

issue in language education. This is, this study considers if intention translates into action.

General Project Schedule

For the longitudinal studies, two data collection periods were set up in order to cover the complete Japanese academic year. At the start of the term for the longitudinal studies, orientation sessions were held at each site in order to explain the parameters of the study and solicit participants. Students were informed both verbally and in written form about their rights as participants and how I would manage the data to ensure their privacy (see discussion above). Longitudinal Study 1 was conducted in fall of 2010, with participants interviewed in January and February 2011. Longitudinal Study 2 data collection ran from April 2011 through September 2011, with participants interviewed twice. The first set of interviews was held in June and July and the second set was held in September and October. (See Chapter 4, Longitudinal Study 1, and Chapter 5, Longitudinal Study 2.)

The cross-sectional data collection was conducted in November and December 2011, according to the convenience of the course instructors who agreed to administer the survey and request their students to maintain the EATUS data collection form for one-week. All participants were provided the same assurance of data privacy (see Informed Consent and Data Security above) as both sets of longitudinal study participants. The Informed Consent form informed participants of the purposes of the project in Japanese. This information made it clear that participation was voluntary and unrelated to the course. (See Chapter 6, Cross-Sectional Study.)

CHAPTER 4

LONGITUDINAL STUDY 1

This chapter discusses Longitudinal Study 1 and its application of the time use data collection protocols involving the EATUS form and the interviews conducted with a small group of participants using the initial semi-structured interview procedures. The chapter first discusses Longitudinal Study 1 participant recruitment. This is followed by a discussion of the procedures employed for Longitudinal Study 1 data collection and analysis for the EATUS form. Next is a discussion of the EATUS data processing. After this, I provide information about the interview procedures before discussing the results of Longitudinal Study 1. The results are discussed in two sections. The first focuses on the data collected using the EATUS. Then the results of the interviews with Longitudinal Study 1 participants are presented.

Longitudinal Study 1 Participant Recruitment

Participants for Longitudinal Study 1 were first recruited to participate from a pool of students enrolled in six intact classes at three universities (Site 1 = 4 classes, Site 2 = 3 classes, Site 3 = 1 class). All students in several classes at the three sites were invited to participate in Longitudinal Study 1. Site 1 had 40 first-year & 33 second-year students in four classes. Site 2 had three classes, a first-year class with 21 students, and two second-year classes with 18, and 19 students respectively. Site 3, which was only used in the testing of the EATUS form, had one class of 11 students from the second to fourth year. The researcher was the instructor for one class, and colleagues taught the other classes. The enrolled number of students at the onset of

the study (maximum potential participants) was 141. Potential participants were informed as to the aim and scope of the study, and briefed on the types of data that would be collected, the length of the data collection period, and the general timing and contents of the interview. Japanese copies of the EATUS form, along with the Japanese version of the informed consent release form (see Appendix H for the English translation of this form) were distributed and interested students were asked to submit the release form when they turned in the first copy of the EATUS. Initially, more than 70 of those enrolled in the classes agreed to participate and submitted an informed consent form. Those who agreed to participate were asked to submit data using the EATUS form throughout the semester. However, of the initial pool of potential participants only 66 submitted data using the EATUS form. EATUS data forms were collected weekly by a designated representative of the researcher at each site.

The EATUS forms were collected on a weekly basis, but absences and forgetfulness on the part of the participants resulted in staggered collection. The EATUS form used in Longitudinal Study 1 had space for 44 episodes, which was found to be sufficient for recording several weeks' worth of episodes for the average participant. All Longitudinal Study 1 participants were asked to participate in interviews during the initial recruitment session at the beginning of the data collection period, and the interviews were conducted during the middle of the EATUS data collection period (see discussion of Longitudinal Study 1 Interview Procedures below).

Participants in Longitudinal Study 1

Of those in the initial recruitment pool of participants from the three universities in western Japan, 66 agreed to participate in the study and submitted at least one week of data using the EATUS form. Of these, 46 (first-year) participants were from an English and international studies department of a small private women's university (Site 2), 13 (second-year) participants were from an intensive English program at a mid-sized private coeducational university (Site 1), and seven (second- to fourth-year) participants were from a department of education at a large private coeducational university (Site 3). The researcher taught only eight of the participants in the intensive English program and none of the other participants. No other descriptive characteristics of the participants in these convenience samples were recorded. Although these samples make generalization to a broader population highly tentative, the exploratory nature of this stage of the project, combined with the difficulty of securing participants for longitudinal studies, makes that compromise unavoidable. Nevertheless, given that no other detailed data are available on target-language related out-of-class time use, this Longitudinal Study 1 provides a starting point for future research.

Participant retention and duration in Longitudinal Study 1.

Out of the initial pool of 141 potential participants, 66 participants (46.8 percent) submitted at least one copy of the EATUS, covering a minimum period of one week (see Figure 24) and the informed consent release form. A few participants continued to submit EATUS data about their out-of-class time use throughout the semester, up to 19 weeks for participants who continued during holiday periods, but

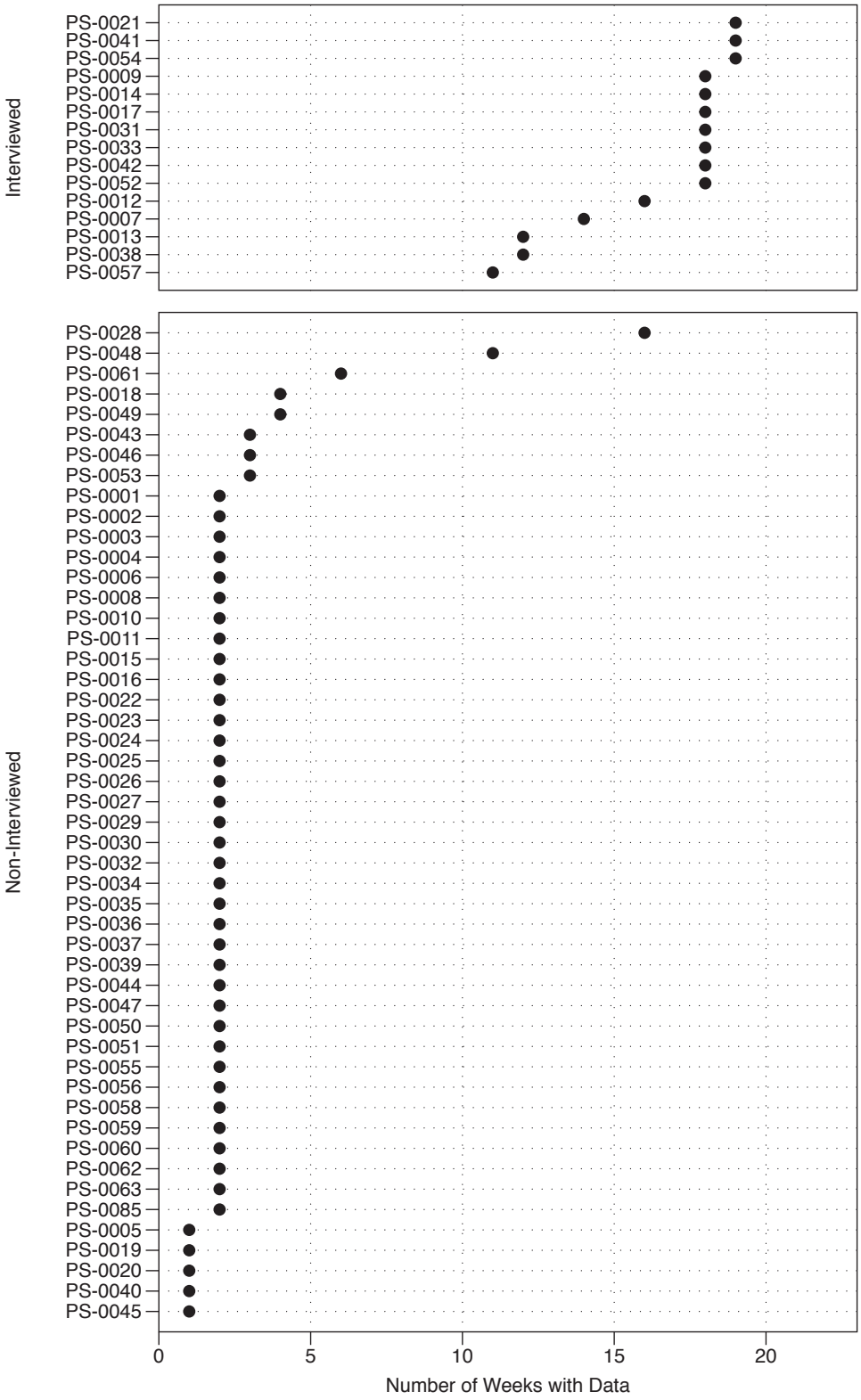

Figure 24. Number of weeks of data for interviewed and non-interviewed Longitudinal Study 1 participants.

Note*. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project.*

many submitted only a few weeks of data. Of the 66 participants that submitted data using the EATUS, 64 provided the duration data (date of episode and start and end times) using the EATUS form. Two participants did not include duration data for the episodes. From these participants (n = 66), data concerning 2,530 episodes were collected (see Table 14). Durations were essential as the length of the episode, determined by the start and end times, provided information critical to understanding the amount of time participants devoted to out-of-class English access, the day of week, and the time of day of episodes. Data episodes without durations are excluded from the time analyses. Given that durations were recorded for most participants for the data that they submitted, the EATUS form was judged to be appropriate for collecting data regarding out-of-class English access time for Japanese university students. The time use data were then compiled into two main datasets. The first dataset consists of summative data for each of the participants. The second dataset consists of amalgamated episode data. The analysis of these datasets was conducted separately (see section on Longitudinal Study 1 EATUS Results below).

Table 14. *Longitudinal Study 1 Participant and Episode Datasets by Site*

	Participants (n = 66)									Episodes (k = 2,530)		
	Gender		Year in School				Durations[a]			Durations[b]	
Site	n	F	M	1	2	3	4	With	Without	k	With	Without
1	13	9	4	1	8			13	0	661	661	0
2	46	46	0	46				44	2	1,819	1816	3
3	7	3	4	0	3	2	1	7	0	49	49	0
Total	66	58	8	47	11	2	1	64	2	2,530	2,527	3

Note. F = female, M = male, k = number of episodes. [a]Participants who submitted data with and without duration information. [b]Episodes with and without duration information.

Longitudinal Study 1 Data Collection and Analysis Procedures

The data in Longitudinal Study 1 were collected through the time diary (English Access Time Use Form) and interviews (semi-structured). Participants used the EATUS to report out-of-class episodes that were related to English. Episodes can be collected and compiled on a daily, weekly, monthly, or semester basis.

As discussed in Chapter 3, Methods, the EATUS data collection form has space for participants to enter a short description of contents for each episode. Participants were free to enter any description they felt was most appropriate. However, the EATUS form included a variety of prototypical examples drawn from responses to previously administered developmental forms. The examples included short phrases using kanji, hiragana, katakana, English, and abbreviations (see Table 15).

Table 15. *Sample Descriptions Provided in EATUS*

Text Provided on EATUS	Romanized Text	English Translation
TOEIC のリスニング訓練	*TOEIC no risuninngu rennshuu*	TOEIC listening practice
英語の音楽を聴く	*eigo no ongaku o kiku*	Listened to English music
バイトで英語を教える	*baito de eigo o oshieru*	Taught English at part-time job
Grammar の H.W.	*grammar no H.W,*	Grammar homework
海外ドラマを見る	*gaikoku dorama o miru*	Watched an overseas drama
phonetics のビデオと発音練習	*phonetics no bideo to hatsuon rennshuu*	Practiced pronunciation with phonetics video
Skyped with 外国の友達	*Skyped with gaikoku no tomodachi*	Skyped with foreign friend
リーディングの宿題	*ri-dinngu no shukudai*	Reading homework
writing (作文の文法)	*writing (sakubun no bunpou)*	Writing (composition grammar)
外国の客様の注文を取った（約２組/時間）	*gaikoku not kyakusama no chuumon o totta (yaku 2 gumi/ji kan)*	Took orders from foreign customers (about 2 groups per hour)

Note. H.W. = homework

EATUS Data Processing for Longitudinal Study 1

Data provided by participants in Longitudinal Study 1 vary widely, from one week to one semester. Participants used the EATUS form to report out-of-class episodes that were related to English. Episodes could then be compiled on a daily, weekly, monthly, or semester basis. The greatest common denominator for comparative purposes is data compiled on a weekly basis. For participants with a full data set, with episodes on each day and a data collection span in round weeks, the calculation of the number of weeks and summarization of that data is straightforward. However, for most participants, not every day includes episodes. There are two possible reasons for days without episodes: episodes either did not occur (valid data) or they did occur but were not recorded (missing data). Days without episodes (DWE) should be included when compiling and amalgamating data, such as when calculating the number of episodes per day or the number of weeks of data. Conversely, days with unreported episodes (DWUE) should be excluded when compiling and amalgamating data. Unfortunately, participants were not asked explicitly to report days without episodes.

Rather than treating all lacunae as missing data, I examined individual data records for evidence that would indicate whether a multi-day lacuna was a gap in data reporting (DWE) or a period of unreported episodes (DWUE). For example, for a given multi-day lacuna occurring in a longitudinal dataset, I visually inspected the EATUS form to verify whether the dates for that lacuna fell between two other sequentially recorded and valid episodes.

Case 1. If an EATUS had one episode reported for June 15th, followed on the next line of the data entry by an episode reported for June 21st, I

determined that the five days between the two episodes were days without episodes (DWE).

Case 2. If an EATUS form had one episode reported for June 15th, and the next episode occurred several days later (e.g., June 21st) and was reported on a separate form, I would check the participant's overall reporting pattern for instances of days without episodes (DWE). If the participant had multiple DWE instances, I would categorize that instance as days without episodes (DWE).

Case 3. If an EATUS form had one episode reported for June 15th, and the next episode occurred several days later (e.g., June 21st) and was reported on a separate form, I would check the participant's overall reporting pattern for instances of days without episodes (DWE). If the participant had none or very few DWE instances, I would categorize that instance as days with unreported episodes (DWUE).

After processing the data, I then calculated the number of reference weeks by counting the number of days inclusive between the earliest and latest record, subtracting the number of days missing data, i.e., days with unreported episodes (DWUE), and then dividing by seven to arrive at the number of reference weeks. This number was later used for further compilation and analysis of the data.

Definitions applied to EATUS data prior to analysis.

The data collected on the EATUS for Longitudinal Study 1 requires definitions of several terms prior to the discussion of the analyses. These terms are:

Minutes per episode day is the total number of minutes recorded divided by the number of days within the collection period with episodes reported.

Minutes per day is the total number of minutes recorded divided by the total number of days between the initial and final episode dates.

Minutes per week is the total number of minutes recorded in a week. While this works well if data sets consist of complete, Monday to Sunday data collection periods, for many participants the data collection ran for more than one week. Some participants began the one-week data collection in the middle of the week, reflecting the day they received the EATUS forms. For other participants, the initial episode and final episodes extended beyond one week. This required an adjustment to the data to facilitate comparison of participants, sites, and episodes.

Minutes per adjusted week is an adjusted number of minutes based upon the data participants recorded for spans longer than one week but less than two weeks.

Many participants recorded data for partial weeks. For comparative purposes, there are several different methods for handling such cases for minutes per adjusted week. These are:

less than 7 consecutive days = count as one week (Monday to Sunday)

7 consecutive days = count as one week (Monday to Sunday)

8 consecutive days = count as one week (Monday to Monday, inclusive)

9 consecutive days = count as one week and 2/7th weeks

Definitions for two terms apply to both the longitudinal studies and the cross-sectional study data and are discussed in the chapters on the Longitudinal Study 2 and cross-sectional studies:

Minutes per month is the total minutes recorded by longitudinal study participants in a one month period.

Reference weeks is the total number of weeks of data obtained from longitudinal study participants (Longitudinal Study 1 and Longitudinal Study 2).

EATUS episode description processing.

On the EATUS form, participants were asked to record short descriptions for the content of each episode using their own words and given example texts on the form (see discussion above). A number of participants wrote episode descriptions in English, but many used a combination of English and Japanese or only Japanese. All episode descriptions from the EATUS forms submitted by participants (n = 66) are included in the general analysis of the content of episodes. Only data from participants with duration (n = 64) are included in any time analysis linked to the episode descriptions.

The episode descriptions were typed in exactly as they appeared on the EATUS forms. Approximately 20% of the words in the descriptions were in the Roman alphabet, including both English and Japanese words written in the Roman script. The bulk of the words on the EATUS forms were written using the three Japanese scripts (hiragana, katakana, and kanji) in a variety of combinations. Many of the descriptions contained elements from both languages. Words written in Roman characters were often misspelled. Punctuation did not follow conventional rules for either Japanese or English. As in the examples provided on the EATUS form, entries were generally short and usually consisted of a few words. Following Japanese writing conventions, the subject was normally not given. Moreover, participants used both the present and past tenses to describe episodes, presumably depending upon

whether they, upon reflection, viewed the episode as a completed action (past tense) or whether they focused on the activity that was transpiring during a particular time span (present continuous or simple present). For example, participants wrote, often on the same form, descriptions similar to the following:

洋楽を聴いた *yogaku wo kiita* [I] listened to western music

英語の音楽をきく *eigo no ongaku wo kiku* [I was] listening to English music

To enable lexical analysis and activity coding, I edited the episode descriptions. For information that had been originally written in Roman letters, I corrected misspellings. For entries in Japanese, I translated the descriptions into English. During the translation process, I used the *sort, find,* and *replace* functions in an Excel (Microsoft Excel for Mac 2011) spreadsheet to maintain consistency. As my main purpose was to identify *what* had occurred during the episodes, I made no distinction between tenses and aspects. I also made no distinction between different kanji used that identify the same type of episode. For example, this meant that the kanji 聴く and 聞く, and the hiragana きく, which are all read as *kiku*, were translated as "listen" in the episode descriptions. Furthermore, to maintain confidentiality, proper names of students, teachers, and institutions were deleted prior to text analysis. Also eliminated were the names of textbooks as these were considered to indicate a general textbook for that particular course. For instance, the name of a text used in a reading class was changed to a more general "reading textbook" when it appeared in the EATUS descriptions. A similar change was made for course names, with these also give a generic term for a course, such as "grammar," "phonetics," or "discussion" rather than the institutional names.

In order to identify trends in the episodes, I conducted lexical analysis of the English versions of the episode descriptions using the Range program (BNC 25) developed by Heatley, Nation, and Coxhead (2002). As the focus was on the types of activities participants engaged in, I focused on word families rather than on types or tokens. My aim was to identify the types of episodes and the patterns in episode content.

To aid in effective processing, I drew up a stop list of common function words and abbreviations that offered little substantive information about the episodic content (see Table 16). During the process, I referred to a variety of lexical resources and my own assessment. The final list reflects my determination of the words from the EATUS form that provided no information about the episode's content.

Lexical items not excluded by this stop list were considered to provide information about the content of episodes. These were then analyzed in more depth. The results of this analysis appear below. See Appendix I for a copy of the code book.

Longitudinal Study 1 Interview Procedures

Longitudinal Study 1 Interview Recruitment

All participants were asked to sit for interviews at the beginning of the data collection period. During the data collection period, interviews were specifically sought with the participants who had consistently completed the EATUS and submitted the data sheets. Seventeen participants had consistently turned in EATUS forms during the first eight weeks of Longitudinal Study 1. Each of these 17 participants had submitted more than eight weeks of data (see Figure 24). Of these, 15

Table 16. *List of Words Excluded from Lexical Analyses (Stop List)*

a	but	here	no	some	very
about	by	hers	nor	such	was
above	cannot	herself	not	than	we
after	could	him	of	that	were
again	did	himself	off	the	what
against	do	his	on	their	when
all	does	how	once	theirs	where
am	doing	I	only	them	which
an	down	if	or	themselves	while
and	during	ii	other	then	who
any	each	in	ought	there	whom
are	etc.	into	our	these	why
as	few	IP	ours	they	with
at	for	is	ourselves	this	would
be	from	it	out	those	X
because	further	its	over	through	you
been	had	itself	own	to	your
before	has	me	same	too	yours
being	have	more	SC	under	yourself
below	having	most	she	until	yourselves
between	he	my	should	up	
both	her	myself	so	V2	

Table 17. *Interviewed Longitudinal Study 1 Participants with Assigned Code Number and Gender**

Site 1	Gender	Site 2	Gender
PS-0038	F	PS-0009	F
PS-0007	M	PS-0012	F
PS-0013	M	PS-0014	F
PS-0054	M	PS-0017	F
		PS-0021	F
		PS-0031	F
		PS-0033	F
		PS-0041	F
		PS-0042	F
		PS-0052	F
		PS-0057	F

Note. PS- = a participant in Longitudinal Study 1, the "preliminary study" for this project; F = female; M = male.

agreed to be interviewed. Of the 15 interviewed Longitudinal Study 1 participants, four were participants at Site 1 and 11 were participants at Site 2 (see Table 17). None

of the participants from Site 3 were interviewed. Interview participants were asked about their out-of-class time use and the use of the EATUS form. (See Interview Procedures below.) All the interviews were recorded using a digital voice recorder and later transcribed for analysis.

Figure 25 (following two pages) displays the total number of weeks of data received from each of the interviewed participants during the entire study period, with wider bands indicating more episodes for that day. Shaded bands indicate Saturday and Sunday. Days without reported episodes are empty. Interviews with these participants were arranged according their availability. These participants were asked to sit for 15-20 minute interviews during the data collection for Longitudinal Study 1.

As is clear from these figures, there is wide variation in the patterns of out-of-class English access by Longitudinal Study 1 participants. Some (at Site 1: PS-0007, PS-0013, PS-0038; at Site 2: PS-0009, PS-0033, PS-0022) show generally consistent patterns of time use as determined by the number of episodes recorded on a daily and weekly basis. Others have much wider daily and weekly variation, including PS-0054 (Site 1), PS-0012, PS-0021, and PS-0041 (Site 2). There are also periods without data submitted for a number of participants. These gaps represent either lacunae in the data (periods where the participant did not submit EATUS forms) or days without episodes. (See section on EATUS Data Processing for Longitudinal Study 1 above.) Participants PS-0013 and PS-0057 stopped submitting data just before the holiday break in December. Most participants continued through the end of the class period at both Site 1 and Site 2. A few continued to submit EATUS data during term exams, held at Site 1 form January 24 to 30 (PS-0054) and at Site 2 from

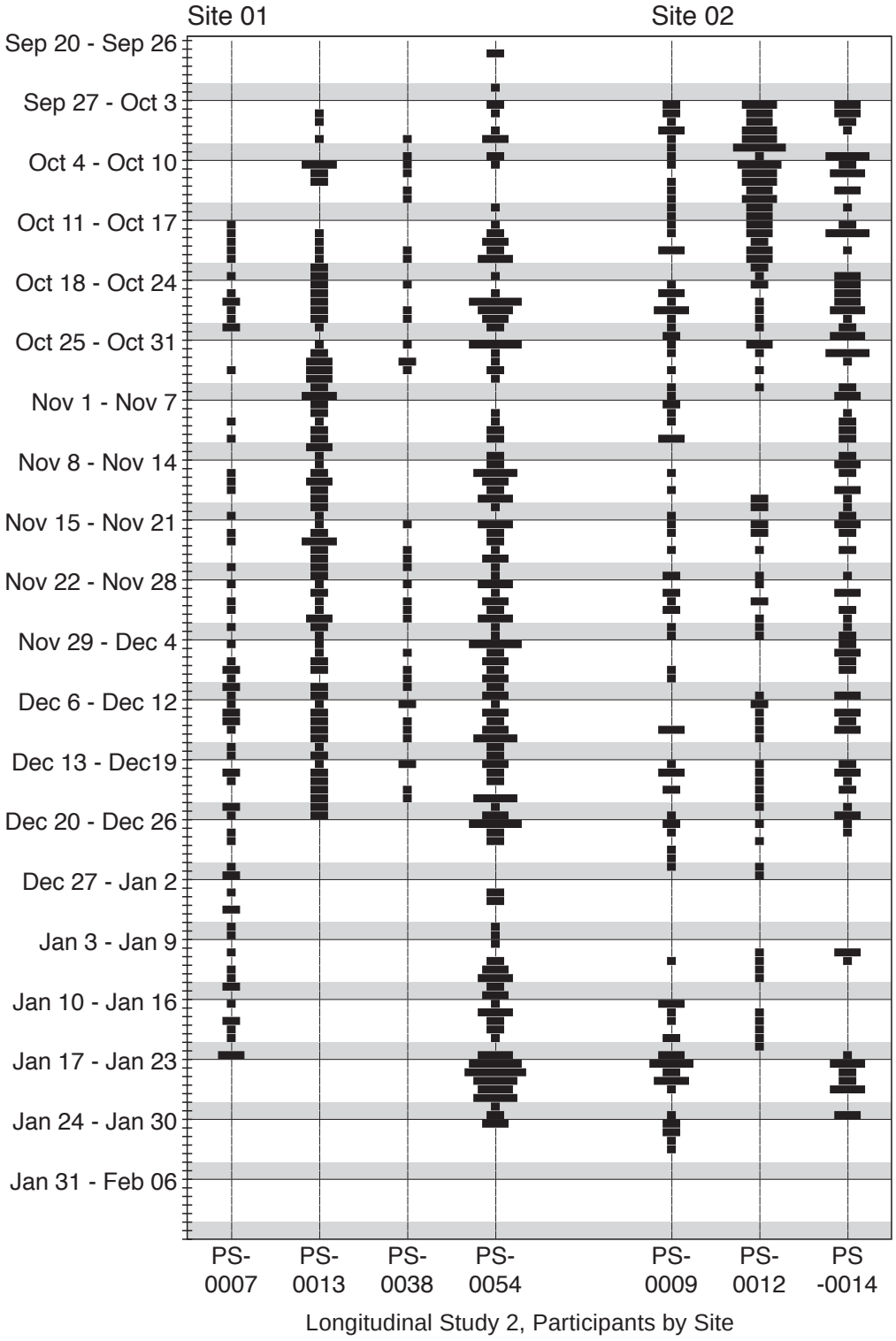

Figure 25. Heat map showing weeks of data submitted by Longitudinal Study 1 interviewed participants (n = 15) with width indicating the number of out-of-class English access episodes recorded. Gray bands indicate Saturday and Sunday.
Note. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project.

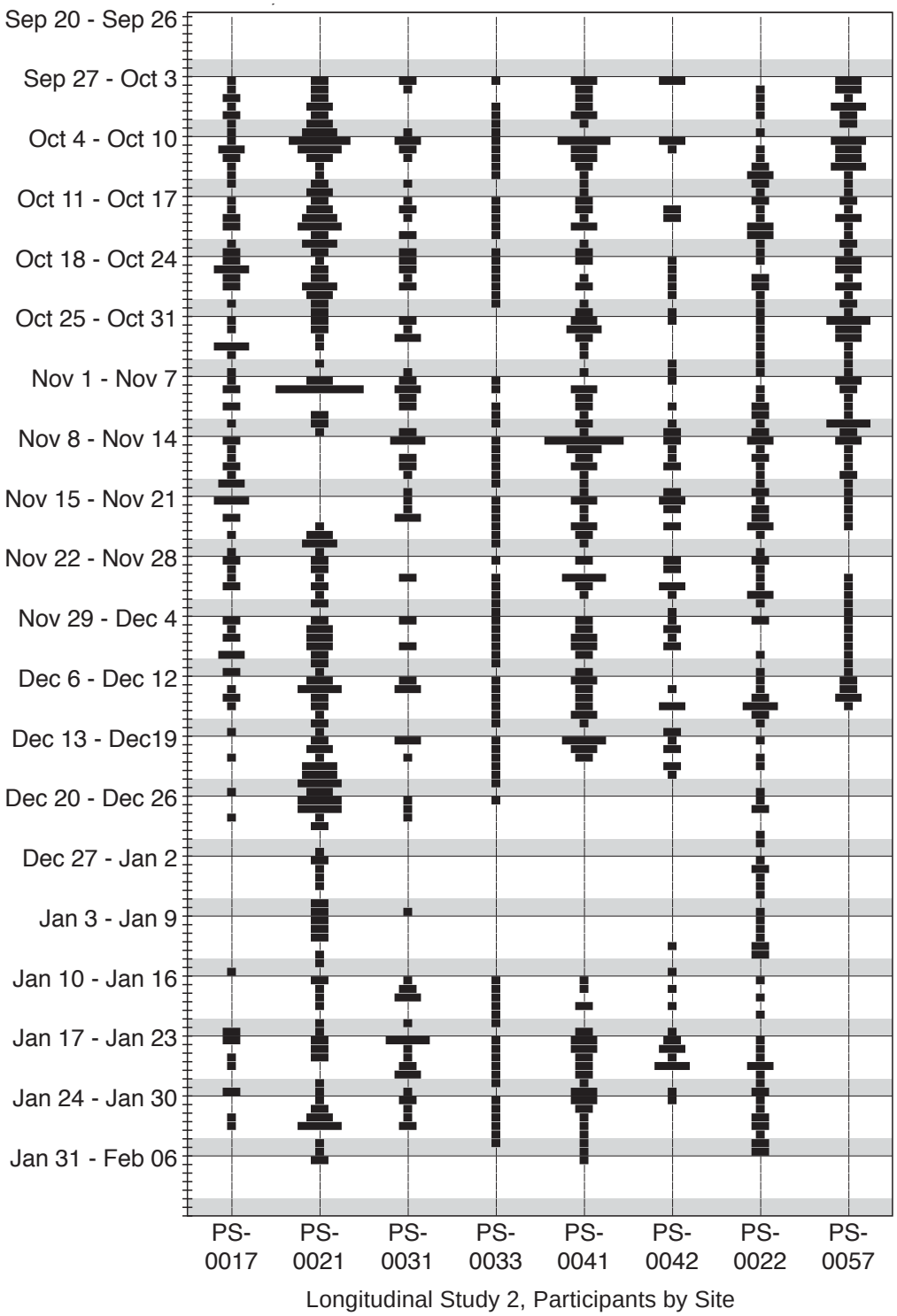

Figure 25 (continued). Heat map showing weeks of data submitted by Longitudinal Study 1 interviewed (n = 15) with width indicating the number of out-of-class English access episodes recorded. Gray bands indicate Saturday and Sunday.

Note. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project.

January 31 to February 6 (PS-0009, PS-0041). The number of episodes for most participants who continued to submit data through the final weeks of Longitudinal Study 1 shows an increase in the number of out-of-class English access episodes during the last two weeks of the term at both sites.

Interviews were held during November and December and arranged to suit the participants' and the researcher's schedules. Therefore, it took several weeks to complete the interviews with all 15 participants.

Interview Procedures

For the interviews, I prepared a list of topic areas that I wanted to target based upon targeted temporal behaviors, the L2 motivation self system from Dörnyei (2009), and SEM models from Csizér and Kormos (2009) and Dörnyei and Taguchi (2010a, 2010b), Taguchi et al. (2009) (see Figure 26 for interview protocol flow). As explained above, interviews were solicited from participants who had consistently submitted EATUS forms in the first eight weeks of Longitudinal Study 1. The interviews took place from the ninth week of the beginning of data collection (November and December, 2010). I conducted 13 interviews with the 15 participants (see discussion of Longitudinal Study 1 Interviews below). Two participants were nervous about being interviewed individually, so they each joined another student for their interviews, resulting in two interviews consisting of pairs, for a total of 13 interviews. Eleven of these 13 interviews were conducted in Japanese; one Chinese participant felt more confident speaking in English rather than in Japanese and one Japanese participant wanted to speak predominantly, but not exclusively, in English. Part of the interviews explored out-of-class time use and part focused on more general

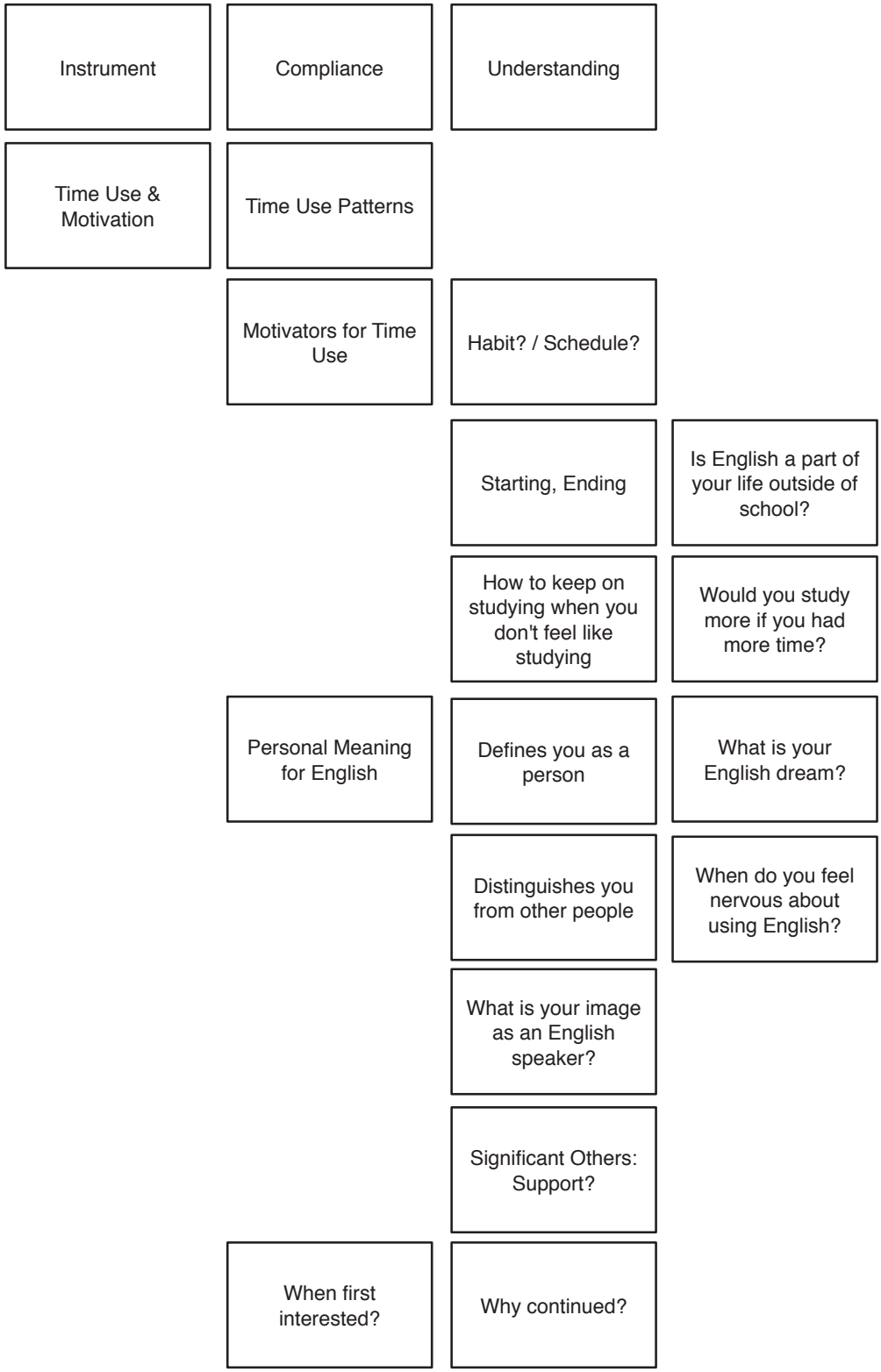

Figure 26. Interview question protocol flow for interviews with Longitudinal Study 1 participants, with topics flowing from right to left.

Note. This protocol was also used with Longitudinal Study 2 participants, Time 1 interview (see Chapter 5).

issues, including learner experiences, influence of others, and ease of use of the EATUS data collection form. In order to give feedback to the participants and to be able to target questions about particular student behaviors, I compiled an individual record of each participant's English-related out-of-class time use before the interviews and referred to this. I also prepared a copy of that information for each of the participants for them to keep and to provide a reference point for them during the interviews.

Longitudinal Study 1 Interview Transcription.

The interviews were transcribed native speakers of Japanese, for those conducted in Japanese, and by native speakers of English, for those conducted in English. As this project was seeking to understand how participants describe their out-of-class English time use experiences, transcription procedures were kept to a minimum. Transcribers used standard language and orthography for the English and Japanese transcriptions.

I then checked all transcripts. At this stage, transcripts were confirmed and changes made as necessary. This included adding texts for sections when the transcribers indicated they could not decide exactly what was said, either because a section of a Japanese interview was in English or there was noise or distortion in the recordings, and making corrections to the text. The resulting transcripts were reviewed by a colleague to ensure the highest degree of accuracy possible. Any errors in transcription are my own.

I then examined the interview transcripts to determine the major themes in the texts following procedures outlined by Creswell (2003) regarding the analysis of

interview data. This included reading and re-reading the transcripts and revising the codes in a recursive process. To maintain the participants' intentions, this was done using the language of the interviews. During this recursive process, quotes that illustrated specific points found to be representative of the various points under consideration were marked. Some of these appear in the discussion of the interviews below. Selected quotes are provided in the language of the interview. For interviews in Japanese, the Japanese text is transliterated into Roman script and translated into English. All translations are mine. (Note: As the Longitudinal Study 1 transcripts total 126 pages in Japanese, and the same length for both the Roman script and English versions, they are not provided in their entirety in the appendices. All line numbers indicate the line number in the participant's original transcript, in most cases the Japanese text. When a quote from a participant using English is selected, it appears only in English. Selected quotes using English and Japanese are transliterated into Roman script and the Japanese portions translated into English.)

Longitudinal Study 1 EATUS Results

To review, the EATUS form includes places for participants to record a number of different points regarding each episode. In addition to the date, time, and open-ended brief description of the episode, participants indicate a level of anxiety and enjoyment (by writing a number from 1 to 5 in the space provided), then select the purpose of the episode, the location of the episode, and the people present during the episode (see discussion of the EATUS construction in Chapter 3, Methods). Each of these provides information about the characteristics of the participants' out-of-class English access episode. In the discussion that follows, I first provide the time and day

data, as calculated from the date, start, and end times provided by the participants for the episodes. Then, I provide general data for the purpose, location, and person with during the episodes, as indicated by participants on the EATUS form. Following this, I provide the episode description data obtained from Longitudinal Study 1 participants. Unless otherwise indicated, the data is for all Longitudinal Study 1 participants (n = 66), regardless of the total number of weeks of data provided on the EATUS form. Data involving the time of an episode or its length are from only those participants who provided duration data (n = 64).

Longitudinal Study 1 Temporal Data

Longitudinal Study 1 for day of week data.

For Longitudinal Study 1, there was a clear distinction between the proportions of episodes occurring on weekdays and those occurring on weekends (see Figure 27). This was in line with other time use research (see Chapter 2, Literature Review). As can be seen, there is generally even distribution of the episodes during the week, with a lower percent of episodes occurring on Saturdays and Sundays for interviewed and non-interviewed participants. However, the distribution of episodes differs between the interviewed and non-interviewed participants, with those interviewed (n = 15) recording more than 19% of the episodes on Monday and nearly 17.5% on Tuesday, and a lower percentage of episodes on Friday, Saturday and Sunday. In contrast, data from the non-interviewed participants who provided duration information (n = 49) showed more even distribution of episodes during the weekday and a smaller drop in the percent of episodes for weekends.

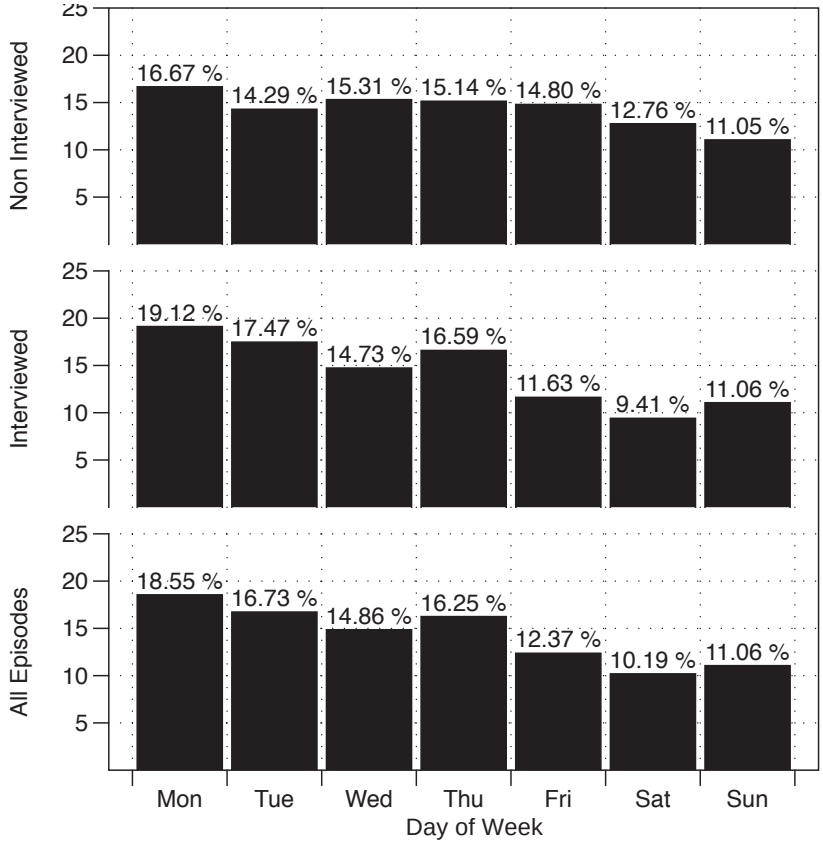

Figure 27. Distribution of episodes by day of week for Longitudinal Study 1 for interviewed participants (*n* = 15) and non-interviewed participants (*n* = 49) for all episodes with duration data.

Note. Based upon amalgamated minutes. As episode length can vary widely, minutes should not be seen to equal episodes.

A similar pattern is seen in the distribution of the proportion of minutes in percent per day of week for interviewed (*n* = 15) and non-interviewed participants (*n* = 49) (see Figure 28). (Note: As episode length can vary widely, minutes should not be seen to equal episodes.) A box plot for the proportion of total minutes by day of week for episodes appears in Figure 29. It shows that the proportion of minutes for non-interviewed participants, interviewed participants, and all episodes. These show peaks on Monday and Thursday, with Friday having the lowest proportion of minutes for the Longitudinal Study 1 participants.

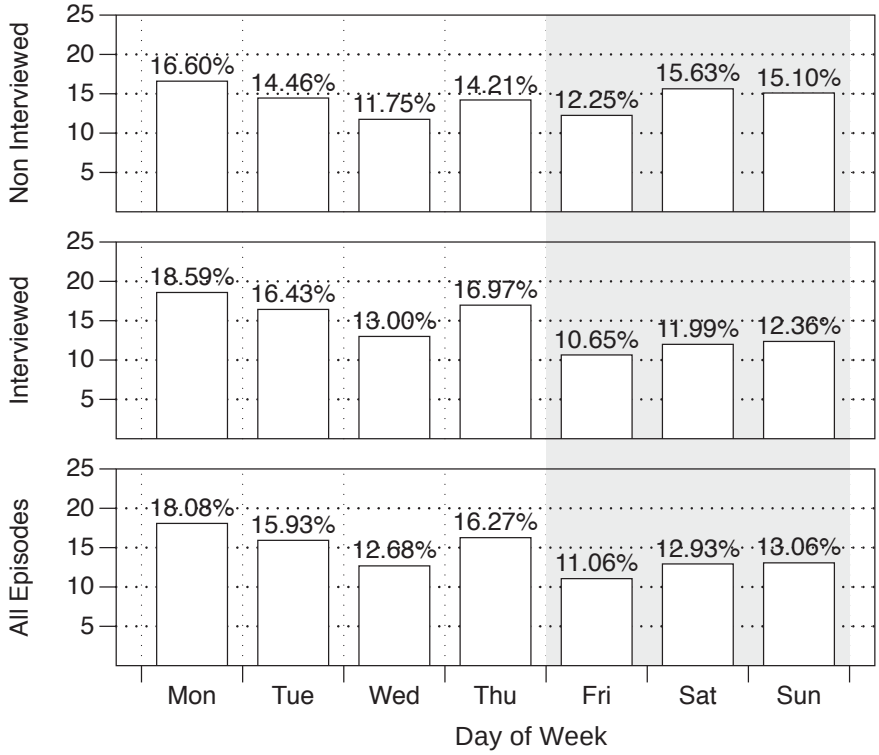

Figure 28. Distribution of minutes by day of week for Longitudinal Study 1 for interviewed participants (*n* = 15) and non-interviewed participants (*n* = 49) for all episodes.

Note. Based upon amalgamated minutes. As episode length can vary widely, minutes should not be seen to equal episodes.

The proportion of total minutes for weekday versus weekend was also examined for two patterns. In one pattern, the weekdays are Monday to Friday and the weekend is Saturday and Sunday. In the other, the weekdays are Monday to Thursday, and the weekend includes Friday, Saturday, and Sunday. There is some distinction between the Monday to Friday and Monday to Thursday weekday patterns, as can be seen from the box plots shown in Figures 29 and 30. As the comparison of the two patterns for weekday/weekends indicates, the Monday to Friday pattern for weekdays (left side) has a wider range for the proportion of the episodes that lie within one standard deviation from the mean. Also, the shift to a Monday to Thursday pattern

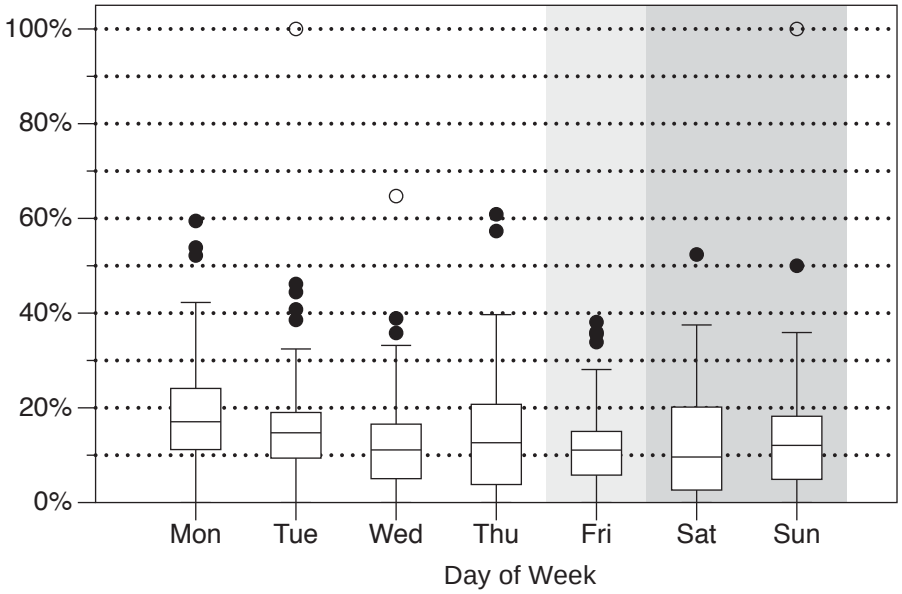

Figure 29. Proportion of total minutes by day of week for Longitudinal Study 1 participants (*n* = 64).

Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal line indicates the median, points indicate outliers, and hollow circles indicate extreme outliers (3 X IRQ).

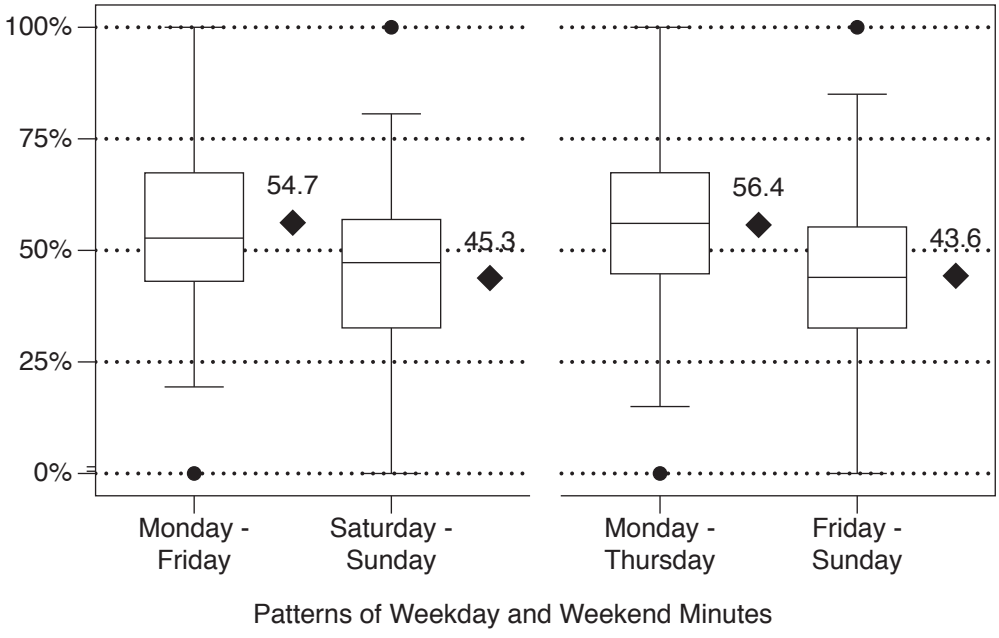

Figure 30. Proportion of total minutes by weekday vs. weekend episodes for two patterns of weekends (Saturday-Sunday and Friday-Sunday) for Longitudinal Study 1.

Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal lines indicate medians, points indicate outliers, hollow circles indicate extreme outliers (3 X IRQ), and diamonds indicate means.

(right side) places the outliers (black circle) during the weekday period. Although these show slightly different patterns, the differences are not significant.

Longitudinal Study 1 longitudinal patterns.

The longitudinal patterns for episodes and minutes were also examined. Figure 31 shows the duration of episodes from most frequent episode length in percent of occurrences in the data to the least frequent. The most frequent episode length was one hour (19.0%), followed by episodes of 30 minutes (14.6%). The next five most frequent durations in descending order from this were episodes 2 hours (6.7%), 20 minutes (6.4%), 1 hour 30 minutes (5.9%), 40 minutes (4.4%), and 15 minutes (3.2%).

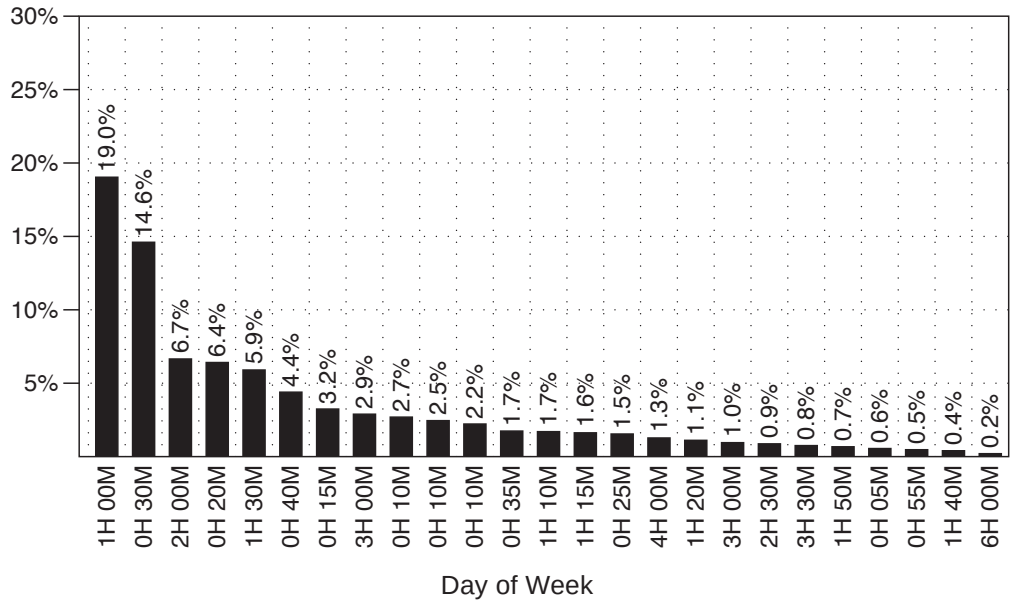

Figure 31. Episode duration frequencies by length, in order of percent, for Longitudinal Study 1 participants.
Note. H = hour; M = minutes.

Also of interest is when episodes begin and end, as this is an indication of how consistently participants filled in the EATUS form. As can be seen in Figure 32, most episodes began and ended on the hour and at 30 minutes into an hour (00 and 30).

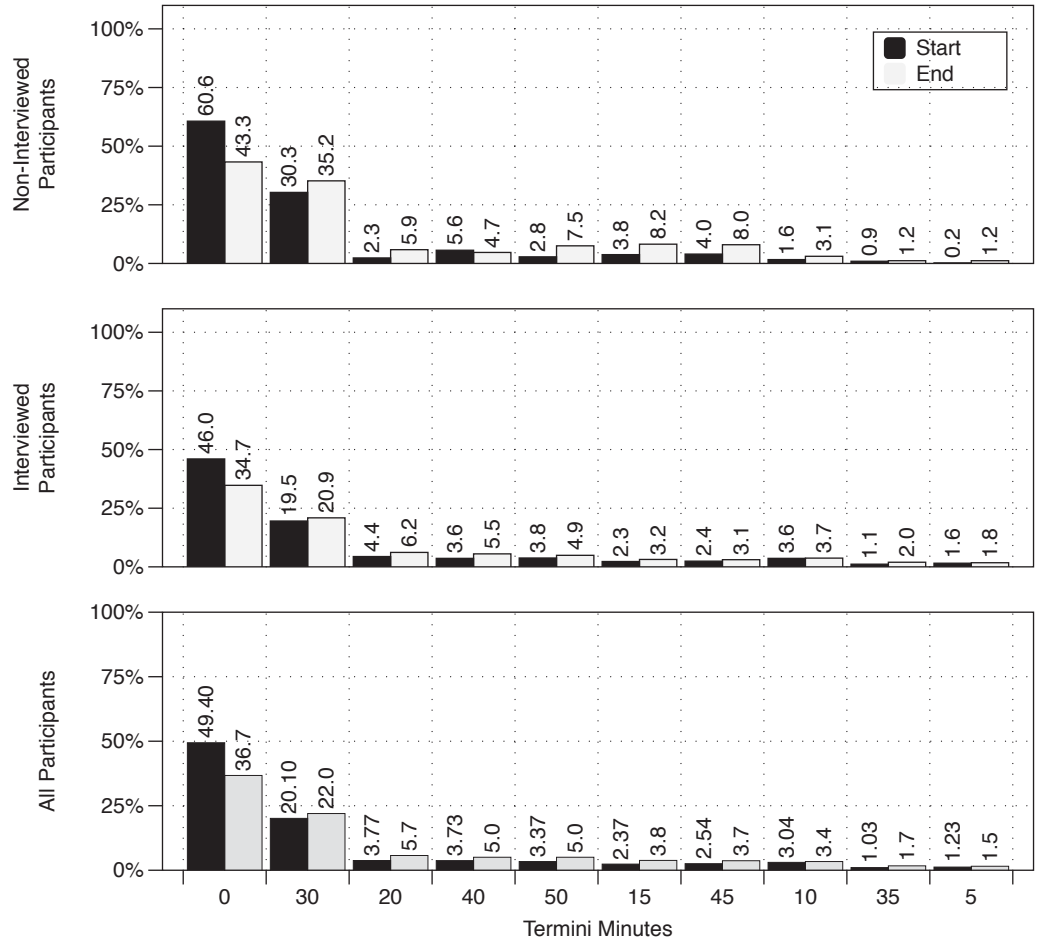

Figure 32. The most common episode termini minute frequencies for Longitudinal Study 1 for non-interviewed, interviewed, and all participants.

The cumulative minutes per day for interviewed participants (n = 15) in Longitudinal Study 1 varied widely, as can be seen in Table 18, which provides general information about these participants' days in period, days with reported data, percent of days with episodes, total time in minutes, total time in hours and minutes,

and averages minutes per day of out-of-class English access for all days in study and days with reported episodes. The cumulative minutes per day appear in Figure 33 for these participants. The line slopes for individual participants were calculated by determining the time in minutes per week and the cumulative minutes for these participants. When a participant did not turn in EATUS forms for a period but then resumed submission of the forms, the week was treated as a data gap and did not add cumulative minutes to the total. These gaps appear as bold lines on the graphs. Though the lines appear to go up, this does not indicate an increase in minutes for that period. Rather, it was an unavoidable artifact of the graphing software used to display this longitudinal data. No actual time was added to the participants cumulative minutes spent on out-of-class English access during these periods. The slopes indicate how many minutes per week Longitudinal Study 1 participants were spending on out-of-class English access and how their time allocation varied from other in the study.

Examination of the graph shows that there were outliers at Site 1 and Site 2. These outliers had considerably more minutes of reported out-of-class English access episodes than other participants in Longitudinal Study 1 at these sites. This is particularly clear for participant PS-0021 at Site 2. This participant had a total of 33,800 minutes during the period, more than twice the amount of time spent on out-of-class English access than the next Site 2 participant, PS-0052, who accumulated 13,668 total minutes during the period, the next highest number of cumulative minutes. At Site 1, PS-0013, a participant who stopped submitting EATUS data sheets in December, was accumulating more minutes per week than any of the other longitudinal participants at this site (12,189 minutes). Other participants

from both sites were clustered between 4,000 and 9,000 minutes of total out-of-class English access time during the study period. The average cumulative minutes for the interviewed participants for days in the study period was 9,069 minutes. When gaps in the dataset occurred they were examined according to the procedures described regarding the procedures followed for the treatment of missing data (see EATUS Data Processing for Longitudinal Study 1 above).

Table 18. *Days in Period, Days with Reported Data, Percent of Days with Episodes, Total Time, and Averages for Interviewed Longitudinal Study 1 Participants (n = 15)*

Standard code	First record	Last record	Gender	Site code	Days in period	Days reported	Percent days with episodes	Total minutes	Total, hours & minutes (h, m)	*M* minutes per day	*M* minutes for days with episodes
PS-0007	11-Oct-10	16-Jan-11	M	1	98	58	59%	4,465	74h 25m	46	77
PS-0009	27-Sep-10	27-Jan-11	F	2	123	72	59%	6,635	110h 35m	54	92
PS-0012	27-Sep-10	15-Jan-11	F	2	111	66	59%	5,972	99h 32m	54	90
PS-0013	28-Sep-10	19-Dec-10	M	1	83	73	88%	12,189	203h 9m	147	167
PS-0014	27-Sep-10	26-Jan-11	F	2	122	69	57%	8,250	137h 30m	68	120
PS-0017	27-Sep-10	27-Jan-11	F	2	123	67	54%	5,253	87h 33m	43	78
PS-0021	27-Sep-10	31-Jan-11	F	2	127	103	81%	33,800	563h 20h	266	328
PS-0031	27-Sep-10	27-Jan-11	F	2	123	58	47%	7,531	125h 31m	61	130
PS-0033	27-Sep-10	29-Jan-11	F	2	125	82	66%	8,300	138h 20m	66	101
PS-0038	1-Oct-10	17-Dec-10	F	1	78	33	42%	4,250	70h 50m	54	129
PS-0041	27-Sep-10	31-Jan-11	F	2	127	87	69%	8,330	138h 50m	66	96
PS-0042	27-Sep-10	24-Jan-11	F	2	120	53	44%	4,135	68h 55m	34	78
PS-0052	28-Sep-10	30-Jan-11	F	2	125	101	81%	13,668	227h 48m	109	135
PS-0054	21-Sep-10	24-Jan-11	M	1	126	97	77%	8,194	136h 34m	65	84
PS-0057	27-Sep-10	9-Dec-10	F	2	74	68	92%	5,058	84h 18m	68	74
			Min.		74	33	42%	4,135	68h 55m	34	74
			Max.		127	103	92%	33,800	563h 20m	266	328
			M		112	72	65%	9,069	151h 8m	80	119
			SD		19	19	16%	7,379	122h 59m	58	64

Note. F = female; M = male; h = hours; m = minutes; PS- = participant in Longitudinal Study 1, the "preliminary study" for this project.

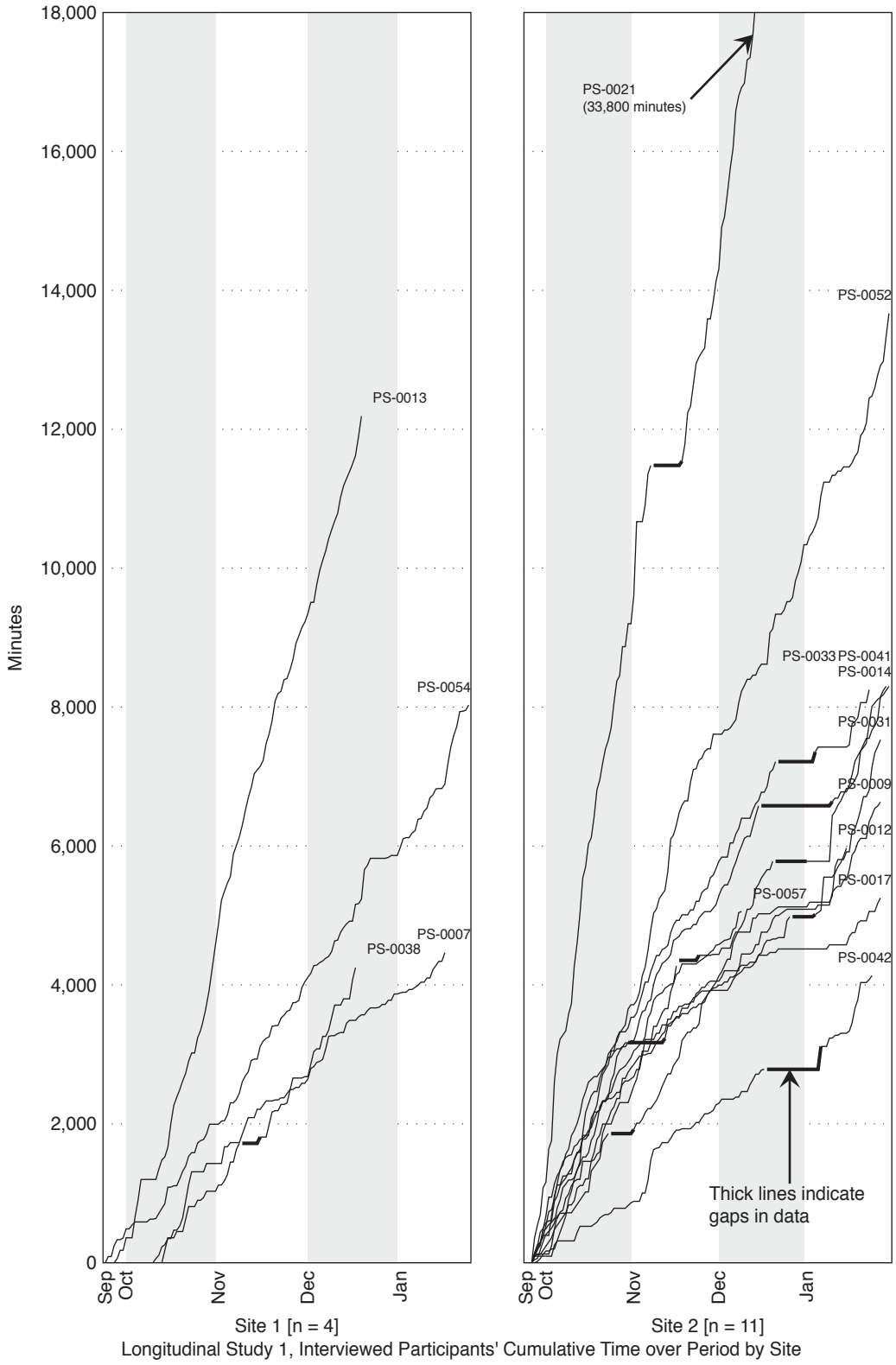

Figure 33. Cumulative minutes per day for interviewed participants in Longitudinal Study 1 by site. Bold lines indicate gaps in the dataset.

Note. PS- = participant designation for Longitudinal Study 1, preliminary study.

Episode time of day for Longitudinal Study 1.

The time of day of the episodes were analyzed by first addressing differences in participants' reporting patterns. In order to unify the data for comparison and address these between participant differences, the episodes were divided into 5-minute intervals. Figure 34 shows the average number of episodes per 5-minute interval by weekday (Monday - Friday) versus weekend day (Saturday - Sunday) for Longitudinal Study 1 participants. The total number of episodes during a five-day period were divided by five, and the total number of episodes during the two-day period were divided by two to obtain single day averages for comparison. This 5:2 ratio was used in all three components of this project for the calculation of the average episodes per day for a five-day week. Horizontal bars indicate the average per day number of episodes occurring during each 5-minute interval. The shaded region highlights the approximate period during which courses were held. It is important to keep in mind that the three sites for Longitudinal Study 1 had different class schedules, which impacts when out-of-class episodes occur, and different scheduling patterns for their courses. At Site 1, courses were 90-minutes long, Monday through Friday, with five course periods per day from 09:00 to 17:50 and 50-minute lunch break from 12:10 to 13:00. At Site 2, the courses were 50-minutes long, with eight periods on Monday through Friday, with classes from 09:00 to 17:50. Site 2 had two break periods during the day, a 30-minute break from 11:00 to 11:30 and a 40-minute lunch period from 13:20 to 14:00. In addition, Site 2 had four class periods on Saturday morning, from 09:00 to 13:20. Site 3 had classes in eight periods a day, from 09:00 to 21:20, and Saturday morning classes from 09:00 to 12:10. A 60-minute lunch break was scheduled from 12:10 to 13:10 on weekdays. Site 3 schedules major

courses primarily in course periods one to four, and courses in the students' minor from five to eight. Participants at this site were drawn from the department of education, a minor course of study.

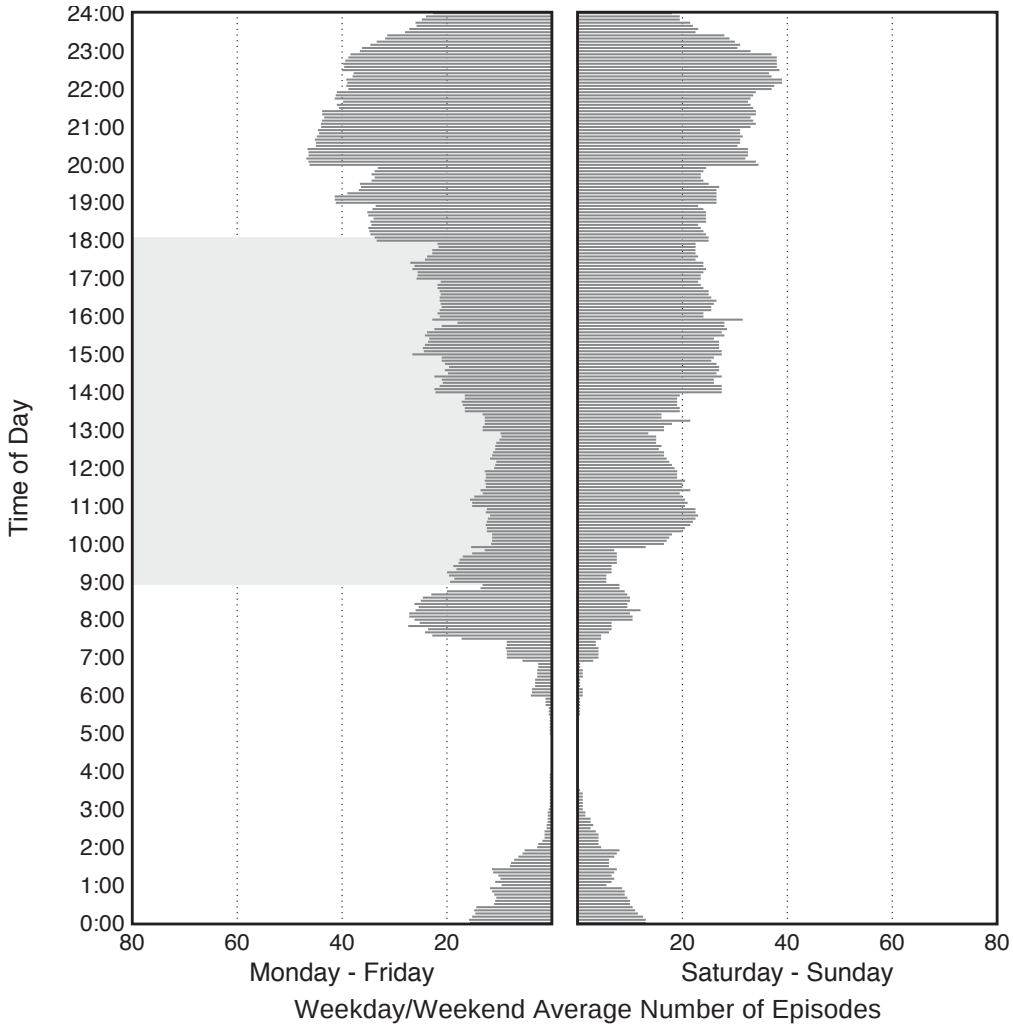

Figure 34. Time of day for episodes in five-minute intervals following a Monday to Friday weekday and Saturday to Sunday weekend for Longitudinal Study 1 participants. Shaded area refers to the period when the bulk of classes for sites 1, 2, and 3 are scheduled.

As is clear from this figure, the bulk of episodes using the Monday to Friday (weekdays) and Saturday and Sunday (weekend) pattern occur in the evenings. More than 40 episodes were recorded as occurring during each of the 5-minute periods

between 20:00 and 21:30 on weekdays. Furthermore, at least 20 episodes occurred during each of the 5-minute periods from 18:00 to 24:00 on weekdays. There is also a peak in out-of-class English access episodes in the morning during the weekdays, from 07:00 to 10:00, that is absent on the weekend. This reflects the morning commute, as examination of the data on the location of the episodes indicates. Daytime out-of-class English access episodes vary widely, but there are episodes recorded at all times during this period. The two days on the weekend show episodes at all periods during the day, with the bulk appear in the afternoon, from about 14:00, and peaking between 22:00 and 23:00. Episodes between midnight and 02:00 decline steadily, and very few episodes take place during the early morning hours, though episodes were recorded at all hours of the day by Longitudinal Study 1 participants.

Further consideration of the differences in the patterns of out-of-class English access also prompted me to consider an alternative pattern of a 4-day week (Monday to Thursday) and a 3-day weekend (Friday to Sunday), which reflects differences noted in the patterns of out-of-class English access for Longitudinal Study 1 participants, shows similar differences for episodes. The total number of episodes during a four-day period were divided by four, and the total number of episodes during the three-day weekend period were divided by three to obtain single day averages for comparison. This 4:3 ratio was used in all three components of this project for the calculation of the average episodes per day for a four-day week, three-day weekend. Figure 35 shows the average number of episodes per 5-minute interval on this alternate 4-day weekday (Monday to Thursday) versus 3-day weekend (Friday to Sunday) pattern for Longitudinal Study 1 participants.

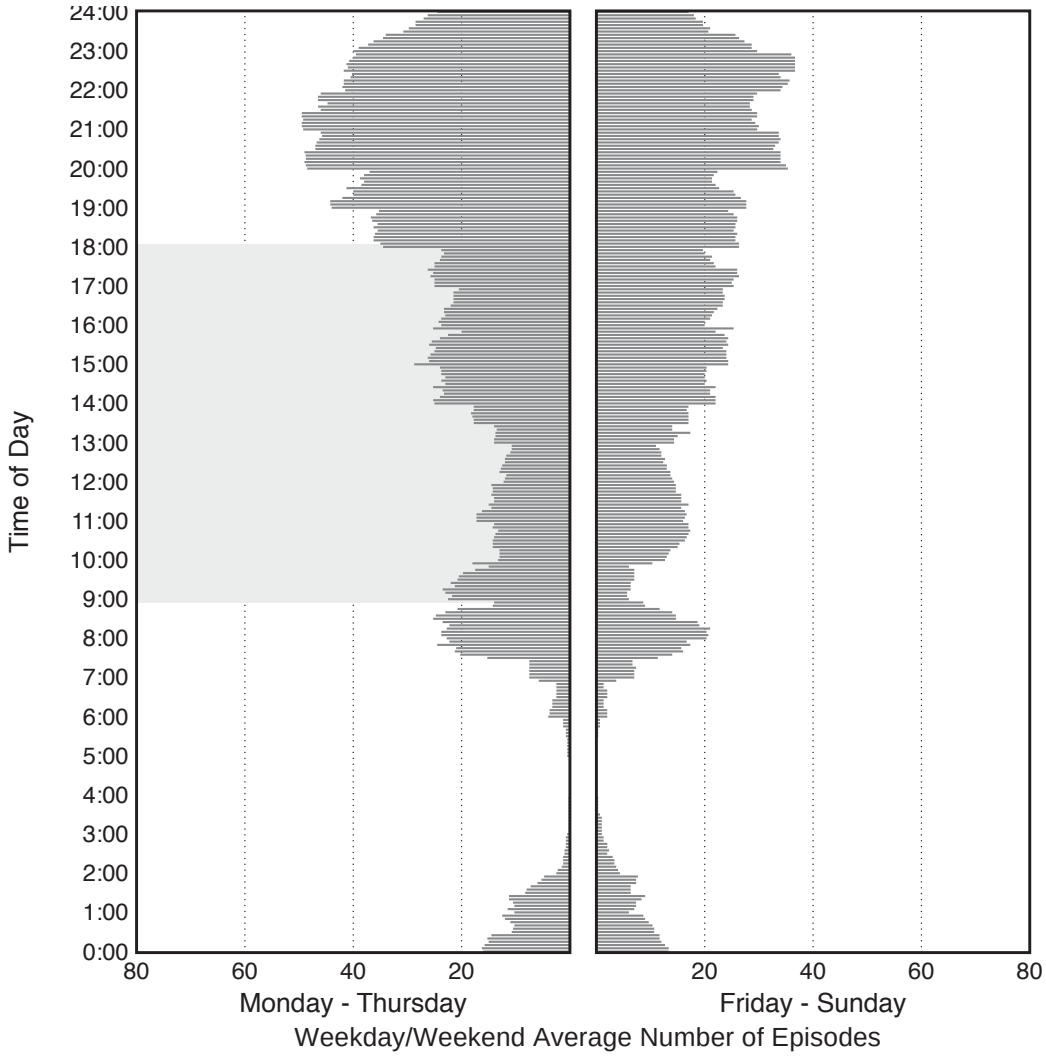

Figure 35. Time of day for episodes in five-minute intervals following a Monday to Thursday weekday and Friday to Sunday weekend for Longitudinal Study 1 participants. The shaded area refers to the period when the bulk of classes for sites 1, 2, and 3 are scheduled.

The alternate pattern shown here indicates that the bulk of episodes occur during the four weekdays from 20:00 to 22:00, but with less consistency. There is also an increase in the morning episodes, which can be seen to correspond to the Friday morning commute shifted from weekdays (Monday to Friday) to the weekend (Friday to Sunday). The Saturday morning commute by Site 2 participants also has to be considered as they made up the bulk of the participants in Longitudinal Study 1. Site

3 participants also had Saturday morning classes, but these participants provided few of the episodes under consideration for this aspect of Longitudinal Study 1.

A comparison of the two views of the episodes over 5-minute intervals is informative of the general pattern of episodes for the Longitudinal Study 1 participants. The five-day weekday view and the four-day weekday view show consistency in the number of episodes on the weekday and the weekend, regardless of whether these are 2-day or 3-day weekends. This suggests a certain consistency in participants' out-of-class English access episodes.

A closer breakdown of the episodes by day of week provides a further understanding of the time of day for the episodes (see Figure 36). This figure shows the frequency of episodes for each of the 288 five-minute segments of the day for each day of the week, from Sunday to Saturday on a 24-hour clock that begins and ends at midnight. Previous time-use research has noted a common difference between weekday sequences and weekend sequences (see Chapter 2, Literature Review). The daily pattern of time use shows peaks during the time that would correspond with morning commutes on Monday to Wednesday and Friday. This peak is missing on Thursday, Saturday and Sunday. Thursday shows a consistent rise in the number of episodes during the morning and afternoon, though it misses the peak that occurs on Wednesday afternoon. However, outside the morning commute, Thursday shows more even and generally higher distribution of episodes recorded during each of the five-minute segments, with only a dip near the 17:00. Of note is that at Site 2, where most Longitudinal Study 1 participants were from, no English classes are scheduled on Thursday. Participants from Site 2 provides the bulk of the data under consideration for Longitudinal Study 1, and the lack of out-of-class English access

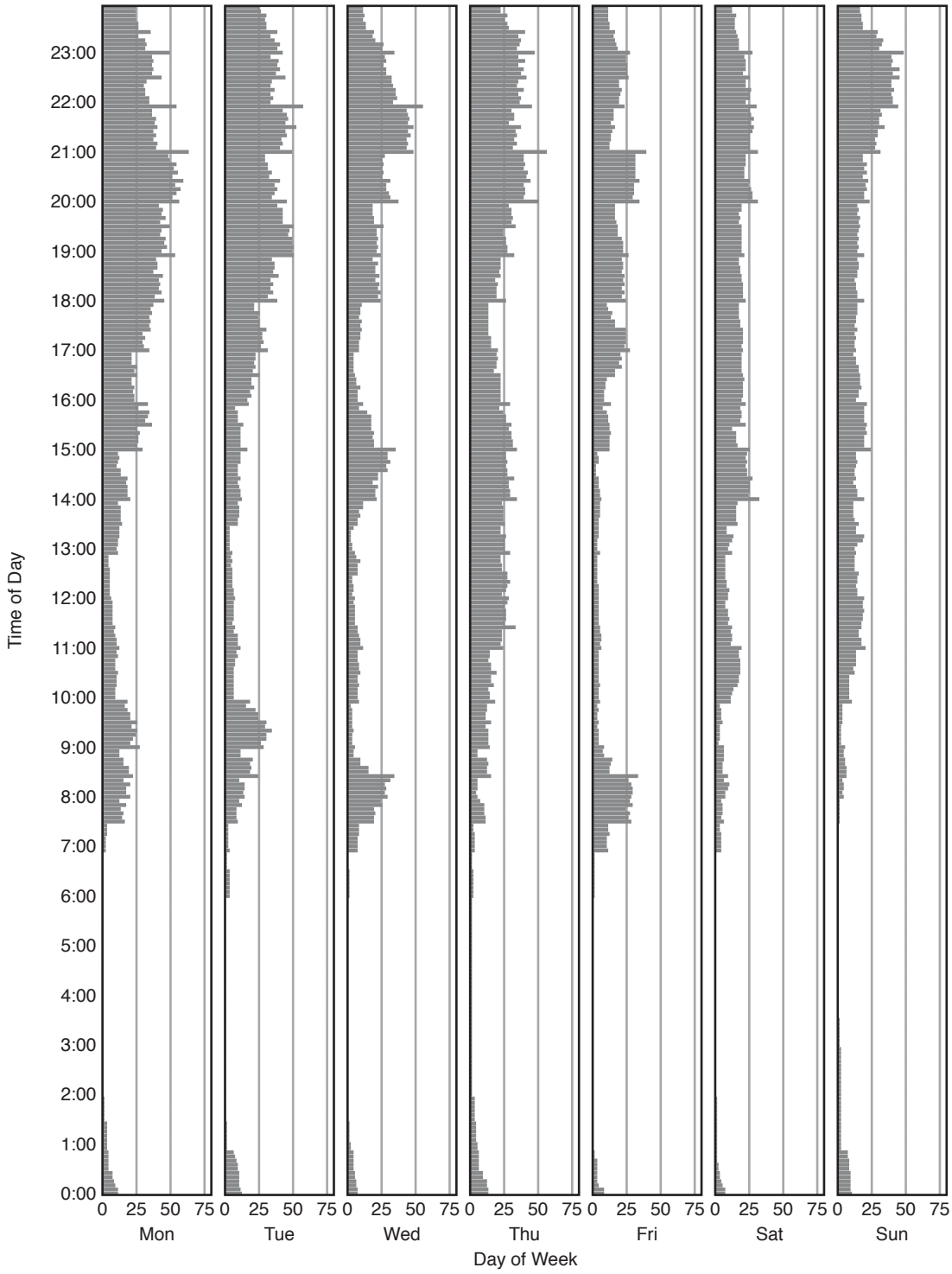

Figure 36. Count of episodes reported during each of the 288 five-minute segments of the day for each day of the week, from Monday to Sunday on a 24-hour clock that begins and ends at midnight (0:00 to 24:00).

episodes during the morning commute time might be related to the class patterns for these participants.

The patterns of time access on Monday to Wednesday show the most consistency, with the exception of a peak on Wednesday afternoon that is missing on the other two days. Saturday has the lowest overall number of episodes at any given five-minute segment. Sunday's time use pattern is similar to that of Saturday, being relatively consistent from about 10:00. However, during Sunday evening, the pattern more closely resembles the out-of-class English access episode pattern displayed on Monday to Thursday.

Longitudinal Study 1 Data and Contextual Features.

Episode by purpose data, Longitudinal Study 1.

The purpose of the episodes was one of the data points with categories for participants to select from on the EATUS form. Table 19 displays the average number of minutes per episode by purpose for the Longitudinal Study 1 participants. Figure 37 provides a visual display of the number of episodes and the percent of total episodes for each of the purposes provided on the EATUS for Longitudinal Study 1. As can be seen from this information, of the total number of episodes (k = 2,529), 62% of the episodes (k = 1,571) were for school. This was followed by enjoyment (17%, k = 429), self-improvement (12%, k = 304), and part-time jobs (7%, k = 166). There were a small number of episodes that did not have a code selected (1%, k = 35) or multiple codes selected (1%, k = 24).

The number of episodes by purpose provides one dimension of information about the out-of-class English access time for the Longitudinal Study 1 participants concerning

their time use. Also important is the amount of time spent on the episode. The average length of episodes was 1 hour and 13 minutes. Though episodes for school were the most frequent, the longest episodes were those for part-time jobs (see Table 20).

Table 19. *Average Number of Minutes per Episode by Purpose of Episode for Longitudinal Study 1 (k = 2,529)*

Purpose	*M*	*SD*	*k*	*%*
None given	1h 17m	1h 14m	35	1%
For school	1h 03m	0h 59m	1,571	62%
Part-time job	2h 52m	2h 21m	164	7%
Self-improvement	1h 22m	0h 59m	304	12%
Enjoyment	1h 02m	0h 58m	429	17%
Multiple given	1h 00m	0h 37m	24	1%
All episodes	1h 13m	1h 13m	2,527	100%

Note. *k* = number of episodes.

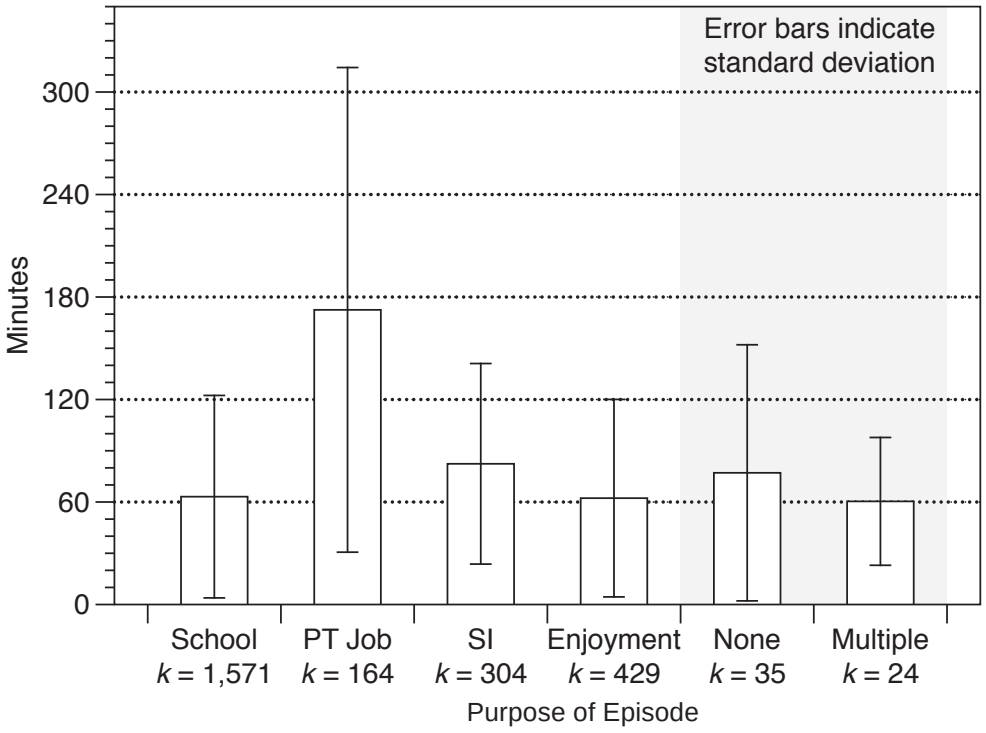

Figure 37. Mean episode length by purpose of the occurrence for the Longitudinal Study 1.

Note. *k* = number of episodes; PT Job = part-time job.

As can be seen in Figure 37, episodes for part-time jobs had the longest average time, but also had the greatest standard deviation). Episodes involving activities related to self-improvement averaged the second longest at 1 hour and 22 minutes. Episodes involving activities related to school (e.g., homework, studying for tests) averaged 1 hour 03 minutes. Episodes for school were also the most consistent in length for the four categories provided on the EATUS form. The error bars indicate the standard deviation in length for each type of episode by purpose. Unshaded areas represent the categories on the EATUS form.

As is clear from the data presented above, episodes for part-time jobs were the longest, with a mean time of 2 hours 52 minutes, but the least frequent (7%, k = 166) of the four categories participants were asked to select from for the purpose of the out-of-class English access. School activities made up the bulk of all out-of-class English access by the Longitudinal Study 1 participants (k = 1,571). The mean time spent on activities for enjoyment (17%, k = 429) and self-improvement (12%, k = 204) were 1 hour 2 minutes and 1 hour 22 minutes in mean length of time respectively with similar standard deviations from the mean.

A clearer idea of how the minutes are distributed among the participants is shown in Table 20, which displays the number of minutes by purpose for the interviewed Longitudinal Study 1 participants, as well as the minimum, maximum, mean, and standard deviation for the Longitudinal Study 1 participants by purpose of the episode. Blanks indicate that the participant did not record any episodes for this purpose. As can be seen, there is considerable variation in the amount of time allocated to out-of-class English access by purpose. Minutes spent for school show surprisingly wide variation. PS-0013 (PS13 in the discussion of the interviews below)

Table 20. *Number of Minutes by Purpose for Interviewed Participants, Longitudinal Study 1*

Standard code	Site	School	Part-time job	Self-Improvement	Enjoyment	None	Multiple codes	Total
PS-0007	1	1,710	260	590	1,560	165	180	4,465
PS-0013	1	42		11,431	356	360		12,189
PS-0038	1	290	3,600		360			4,250
PS-0054	1	7,048	15	311	206		614	8,194
PS-0009	2	6,055		60	520			6,635
PS-0012	2	2,405		1,110	2,457			5,972
PS-0014	2	8,170		80				8,250
PS-0017	2	4,805		175	273			5,253
PS-0021	2	16,405	16,230	120	495	550		33,800
PS-0031	2	7,041		86	311	93		7,531
PS-0033	2	6,440		180	1,380	300		8,300
PS-0041	2	6,529	120	60	1,581	40		8,330
PS-0042	2	3,515		20	600			4,135
PS-0052	2	6,075	3,603	300	3,690			13,668
PS-0057	2	3,348			1,660	50		5,058
Min.		42	15	20	206	40	180	4,135
Max.		16,405	16,230	11,431	3,690	550	614	33,800
M		5,325.20	3,971.33	1,117.15	1,103.50	222.57	397.00	9,068.67
SD		3,989.92	6,241.92	3,113.27	1,020.69	189.43	306.88	7,379.39

Note. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project.

had only 42 minutes for school (0.3% of the participants' total time), but more than 11,000 for self-improvement (93%). The examination of the episodes for this participant showed most of these episodes were study for the TOEIC or other qualifying exams. This participant was also asked about this in the interviews (see Longitudinal Study 1 Interview Results below). In contrast, the pattern for other students shows far more time for school than for self-enjoyment, with only participant PS-0012 also spending more than 1,100 minutes on self-improvement. PS-0013 spent

1,110 minutes on self-improvement (19% of total time) and 2,405 minutes for the purpose of school (40%). The presence of one outlier in Longitudinal Study 1 is also clear from the table. PS-0021 recorded more than 33,000 minutes of out-of-class English episodes during the period. The average number of total minutes for the Longitudinal Study 1 participants was 9,068.67 and the standard deviation from this was 7,379.39 minutes. These data are displayed by percent of total time by purpose in Table 21.

Table 21. *Percent of Minutes by Purpose for Interviewed Participants, Longitudinal Study 1*

Standard code	Site	School	Part-time job	Self-improvement	Enjoyment	None	Multiple codes
PS-0007	1	38.30%	5.82%	13.21%	34.94%	3.70%	4.03%
PS-0013	1	.34%		93.78%	2.92%	2.95%	
PS-0038	1	6.82%	84.71%		8.47%		
PS-0054	1	86.01%	0.18%	3.80%	2.51%		7.49%
PS-0009	2	91.26%		0.90%	7.84%		
PS-0012	2	40.27%		18.59%	41.14%		
PS-0014	2	99.03%		.97%			
PS-0017	2	91.47%		3.33%	5.20%		
PS-0021	2	48.54%	48.02%	.36%	1.46%	1.63%	
PS-0031	2	93.49%		1.14%	4.13%	1.23%	
PS-0033	2	77.59%		2.17%	16.63%	3.61%	
PS-0041	2	78.38%	1.44%	.72%	18.98%	.48%	
PS-0042	2	85.01%		.48%	14.51%		
PS-0052	2	44.45%	26.36%	2.19%	27.00%		
PS-0057	2	66.19%			32.82%	.99%	
Min		.34%	.18%	.36%	1.46%	.48%	4.03%
Max		99.03%	84.71%	93.78%	41.14%	3.70%	7.49%
M		63.14%	27.76%	10.90%	15.61%	2.08%	5.76%
SD		31.70%	33.44%	25.51%	13.44%	1.32%	2.45%

Note. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project. Empty cells had no reported episodes.

Episode by location data, Longitudinal Study 1.

The EATUS form included a place for participants to indicate the location of the episode, with six categories provided. These were at home (home), at school in a special location for language study (school, special), at school in another location (school, regular), at a part-time job (PT job), while commuting (commuting), or another location (other). Participants were instructed to select one, but in some cases selected none of these locations or multiple locations on the EATUS forms submitted. The number of episodes and the percent for each location appear in Table 22. This table also provides the mean and standard deviation in hours and minutes for locationof the episode in Longitudinal Study 1. Figure 38 shows the average number of minutes per episode by location of occurrence for Longitudinal Study 1. As can be seen in the figure, which displays this information in a bar graph, episodes at home comprised 53% (k =1,349). Unshaded areas represent the categories on the EATUS form. For each category there is a large standard deviation in episode length. The longest episodes by location were associated with part-time jobs, which had an average length of 2 hours and 38 minutes. The part-time jobs category includes activities such as tutoring younger students in English and waiting on tables in a restaurant. Times represent the total amount of time spent at work rather than the total amount of time actively engaged with English during the work period (see discussion of Longitudinal Study 1 interviews below).

As is clear from the information above regarding the location of episodes in Longitudinal Study 1, most occurred at home (k = 1,349) and had an average duration of 1 hour and 12 minutes. The second most frequent location was commuting (k = 433), with a mean duration of 48 minutes. The category "Other" included such places

Table 22. *Average Number of Minutes Per Episode, SD, Episodes, and Percent by Location for Longitudinal Study 1 (*k = *2,527)*

Location	*M*	*SD*		*k*	*%*
Home	1h 12m	1h 03m		1,349	53
School, special	1h 02m	0h 53m		237	10
School, other	1h 10m	1h 08m		271	11
Part-time job	2h 38m	2h 24m		172	7
Commuting	0h 48m	0h 38m		433	17
Other	0h 33m	0h 17m		14	0.5
None selected	1h 16m	1h 20m		6	0.2
Multiple	1h 03m	0h 35m		45	2
Average	1h 13m	1h 13m	Total	2,527	100%

Note. *k* = number of episodes; h = hours; m = minutes. School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use.

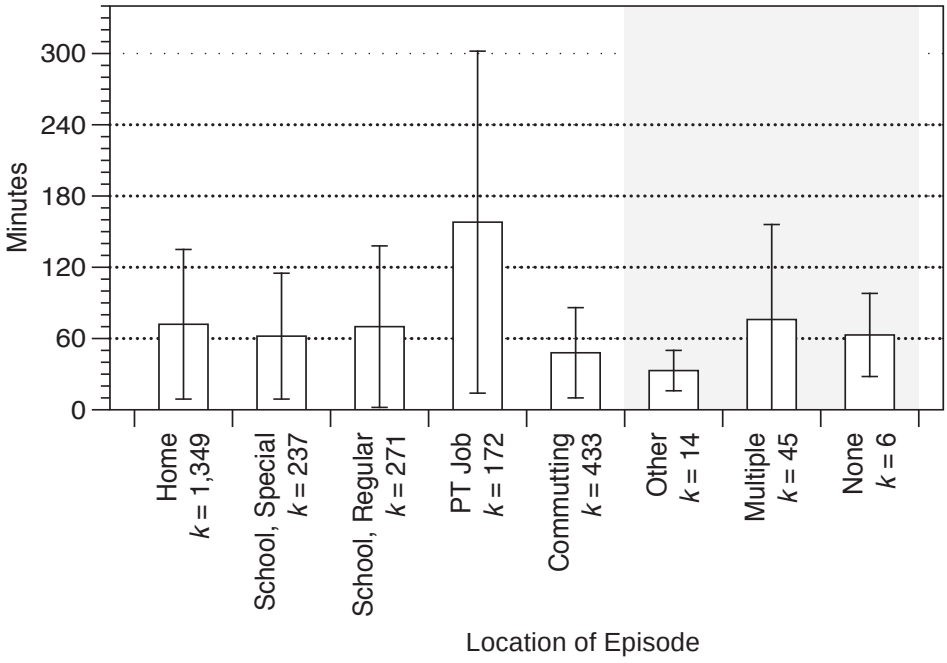

Figure 38. Average number of minutes per episode by location of episode occurrence for Longitudinal Study 1.

Note. School, Special = special location at the school set up for English use or study (English café, language lab, self-access study center, etc.); School, Regular = location at the school not specifically set up for English use; PT Job = part-time job.

as coffee houses and fast food restaurants. Special areas for language study at school, labeled "School, Special," were only listed 237 times, whereas other areas at school,

which could be a classroom, a cafeteria, or a place not specifically meant for language study, labeled "School, Regular," were listed 271 times. Seven percent of the episodes were at part-time jobs (*k* = 174) and the average episode at this location lasted two hours and 38 minutes. This location also had the largest standard deviation (*SD* = 2 hours 24 minutes). The typical episode occurred at home and lasted for about one and a half hours. The error bars indicated the standard deviation for each of the locations. Unshaded areas represent the categories on the EATUS form.

Episode by person data, Longitudinal Study 1.

The vast majority of out-of-class English access episodes occurred when the participant was alone (*k* = 2,073) and lasted on average just over an hour (*M* = 1 hour 4 minutes) (see Table 23). Episodes with friends and others lasted longer (*M* = 1 hour 17 minutes and 2 hours 42 minutes, respectively) but were less frequent (*k* = 234 and 179, respectively). Episodes coded for "Other" included time spent with family members (parents and siblings), or while commuting.

Table 23. *Average Number of Minutes per Episode by Persons Present During Episode for Longitudinal Study 1 (*k = *2,530)*

Person	*M*	*SD*	*k*	*%*
No code given	1h 42m	1h 53m	40	2
Alone	1h 04m	0h 56m	2,073	82
With friends	1h 17m	1h 10m	235	9
Other	2h 42m	2h 21m	179	7
Multiple given	1h 34m	1h 04m	3	0
All Episodes	1h 13m	1h 13m	2,530	

Note. k = number of episodes; h = hours; m = minutes.

Figure 39 displays the number and percent of episodes by persons present and shows the mean and standard deviation for the episodes. Again, error bars indicate the

standard deviation in length for each type of episode. Unshaded areas represent the categories on the EATUS form.

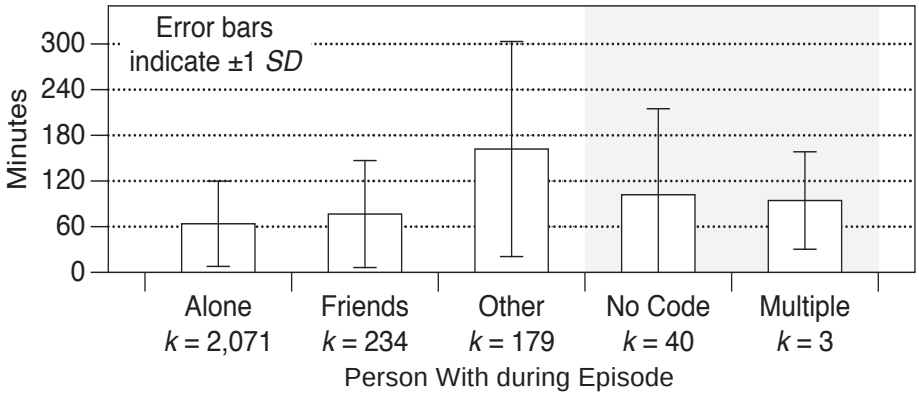

Figure 39. Mean episode length by persons present for Longitudinal Study 1.

The data regarding persons present during the episode indicate most occur when the participant is alone, and average just over one hour in length, with a standard deviation of slightly less than one hour. Episodes with friends or others, including people at work or at home, are much less frequent, making up only 9 percent and 7 percent of the total episodes respectively.

Affective Variables and Contextual Features of EATUS Data, Longitudinal Study 1

In addition to the recording of temporal features of out-of-class English access episodes (date and time) and the contextual features (purpose, location, persons present), two affective features were also surveyed: enjoyment and anxiety. Also of interest regarding time use is the intersection between the contextual features and affective features. The following sections provide an overview of the analysis procedures I followed for this study and then give the descriptive statistics for the

affective by contextual variables. The analyses of the data follow the descriptive statistics.

Analysis procedures for affective and contextual variables (all datasets).

Two tests are generally available for comparing group means where there is a single categorical predictor variable, a continuous outcome variable, and different participants for each category. For parametric datasets, ANOVA is considered most suitable, while the Kruskal-Wallis procedure is more appropriate for those that are non-parametric. As ANOVA is considered the preferred treatment (Green & Salkind, 2008), data are generally evaluated first as to whether they meet the minimum assumptions for the ANOVA before choosing to conduct the Kruskal-Wallis procedure. The assumptions for ANOVA are (a) normal distribution of the dependent variable for each of the populations, (b) variances of the dependent variable are the same for all populations, and (c) cases represent random samples of the populations and scores on the test variable are independent of each other. Moreover, there are a number of transformations that can be applied to the dataset in order to convert a less-parametric distribution into a more parametric one (Tabachnik & Fidell, 2007), thus permitting ANOVA procedures to be employed.

To determine which procedure to follow, I screened the data and checked the descriptive statistics. The normal distribution of the dependent variable for each population can be assessed by statistical and visual means. Statistical methods include tests such as the Kolmogorov-Smirnov and Shapiro-Wilk tests. If the Kolmogorov-Smirnov and Shapiro-Wilk tests are non-significant ($p > .05$), then the sample can be considered not significantly different from the population with the

caveat that large data sets often result in spuriously significant results (i.e., $p < .05$) (Field, 2005). Brown (1997) has suggested that when standard error of skewness (*SES*) exceeds two times skewness, Kruskal-Wallis procedures be employed. However, Field (2005) has indicated that "in very large samples, because of the problem of small standard errors, . . . no criterion should be applied" (p. 72). Field's has suggested that with samples of 200 or more, "it is more important to look at the shape of the distribution" (p. 72).

Visual methods followed the suggestions from Tabachnick and Fidell (2007), who have warned that with large sample sizes statistical calculations of the significance of skew and kurtosis are overly conservative and recommended reference to the absolute size of skew and kurtosis and visual inspection of histograms and q-q plots. I inspected the histograms and q-q plots prior to making my determination of the appropriate procedures.

As ANOVA is the preferred procedure, Green and Salkind (2008, 2011), I first examined the data from each of the studies in this project to assess whether the assumptions were met. When the analysis indicated that the ANOVA assumptions were not met I examined the skew. As skewed distributions can attenuate the significance of certain statistical tests, I first conducted various transformations (e.g., square root, log, inverse, and others) to see if the assumptions could be met with a transformed variable. If the assumptions could be met through the transformed variable, I used this transformed variable in the analyses.

I then considered the post hoc procedures. To determine whether to use the regular ANOVA procedures or the Brown-Forsythe procedures, I relied on the variance ratio test suggested by Field (2005) rather than Levene's tests, which can be

too sensitive for large data sets (Tabachnik & Fidell, 2007). Field (2005) has pointed out that Brown-Forsythe *F*-ratio is appropriate when group sizes are unequal as it reduces "the impact of large sample sizes with large variance" (p. 347). In addition, with large sample sizes, Green and Salkind (2008, 2011) have indicated that "a sample size of 15 cases per group might be sufficiently large enough to yield fairly accurate *p* [emphasis original] values" (2008, p. 164). Field (2005) has also suggested confirmation of the findings through the variance ratio test. Rather than applying different post hoc procedures, I chose to apply the more conservative Dunnett's *C* post hoc procedure, as it does not assume equal group sizes.

When my screening of the data using statistical and visual means indicated that nonparametric procedures were appropriate for the analysis, I applied the Kruskal-Wallis nonparametric procedures test. This procedure requires continuous distribution and makes three assumptions. These are: a) continuous distributions for the test variable are exactly the same for different populations, b) cases represent random samples from the populations and the scores are independent from each other, and c) the chi-square statistic is only approximate and becomes more accurate with large sample sizes. For the Kruskal-Wallace test, post-hoc comparisons can be done using the Mann-Whitney *U* test and controlling for multiple comparisons.

To summarize, following the branching analysis procedures. I first determined if the assumptions for ANOVA were met. If these were met, then the ANOVA procedure was applied. If these were not met, as skewed distributions can attenuate the significance of certain statistical tests, I conducted various transformations (e.g., square root, log, inverse, and others) to see if the assumptions could be met with a transformed variable. I then examined the various transformations to the data

suggested to meet the assumptions. If the assumptions were not met, I then applied the Kruskal-Wallis nonparametric procedures.

Descriptive statistics for affective and contextual variables, Longitudinal Study 1.

The two affective variables for this project were for enjoyment and anxiety of the episodes. The three contextual variables were purpose, location, and persons present during the episodes. Following the procedures outlined above, I conducted various transformations to the data if they showed skewed distributions. I found skewed distributions for the affective variable anxiety and first applied various transformations to this data. The log 10 transformation (see Analysis of affective and contextual variables, Longitudinal Study 1 below) resulted in more normal distribution and used this as a third variable for comparison for the descriptive statistics. Table 24 shows the descriptive statistics for the three contextual variables, (purpose, location, persons present) by the affective variables (enjoyment, anxiety, and anxiety log 10). As can be seen in the table, the mean affective rating for purpose by enjoyment, anxiety, and anxiety log 10 shows, most episodes were coded as for school. Unsurprisingly, episodes for enjoyment had the highest mean level of enjoyment (M = 4.25) and the lowest level of anxiety (M = 1.24), while the highest levels of anxiety were found for the episodes related to participants' part-time jobs (M = 2.77). The skew was within acceptable ranges for large data sets for enjoyment by purpose, but not for anxiety by purpose. Skew for anxiety by the purpose of enjoyment was 3.49. The data also show the mean affective rating for location by enjoyment, anxiety, and anxiety log 10. This information shows that enjoyment was

generally high in all five of the locations, with enjoyment highest during episodes while commuting (M = 3.17). Anxiety was highest during episodes at part-time jobs. The anxiety log 10 shows the same information transformed to make the data more

Table 24. *Descriptive Statistics for Contextual Variables by Affective Variables for Longitudinal Study 1*

	Enjoyment			
	Purpose			
	School	PT job	Self-improvement	Enjoyment
N	1,511	158	286	401
M	2.02	2.60	2.99	4.25
SEM	0.03	0.10	0.06	0.05
99.5% *CI* for *M*				
LL	1.93	2.33	2.82	4.10
UL	2.11	2.87	3.17	4.40
Var.	1.40	1.45	1.07	1.09
SD	1.18	1.20	1.04	1.05
Skew	0.96	0.17	0.01	-1.44
SES	0.06	0.19	0.14	0.12
Kurt.	0.01	-1.03	0.31	1.60
SEK	0.13	0.38	0.29	0.24

	Location				
	Home	School, special	School, other	Part-time job	Commuting
N	1,292	228	262	162	412
M	2.47	2.07	2.34	2.69	3.17
SEM	0.04	0.08	0.08	0.10	0.07
99.5% *CI* for *M*					
LL	2.36	1.84	2.11	2.41	2.97
UL	2.58	2.30	2.57	2.98	3.38
Var.	1.96	1.53	1.77	1.63	2.16
SD	1.40	1.24	1.33	1.28	1.47
Skew	0.50	0.94	0.62	0.14	-0.16
SES	0.07	0.16	0.15	0.19	0.12
Kurt.	-0.97	-0.14	-0.78	-1.07	-1.26
SEK	0.14	0.32	0.30	0.38	0.24

	Persons present		
	Alone	Friends	Others
N	1,959	225	172
M	2.53	2.64	2.80
SEM	0.03	0.10	0.10
99.5% *CI* for *M*			
LL	2.44	2.36	2.52
UL	2.62	2.92	3.09
Var.	2.01	2.13	1.73
SD	1.42	1.46	1.31
Skew	0.45	0.35	0.07
SES	0.06	0.16	0.19
Kurt.	-1.04	-1.23	-1.15
SEK	0.11	0.32	0.37

Table 24 (Continued). *Descriptive Statistics for Contextual Variables by Affective Variables for Longitudinal Study 1*

	Anxiety				Anxiety Log 10[a]			
	Purpose							
	School	PT job	Self-improvement	Enjoyment	School	PT job	Self-improvement	Enjoyment
N	1,511	158	286	401	1,511	158	286	401
M	1.68	2.77	1.78	1.24	0.15	0.41	0.18	0.06
SEM	0.03	0.09	0.06	0.04	0.01	0.02	0.01	0.01
99.5% *CI* for *M*								
LL	1.60	2.53	1.60	1.14	0.13	0.36	0.14	0.03
UL	1.76	3.01	1.96	1.34	0.17	0.45	0.22	0.08
Var.	1.32	1.15	1.16	0.53	0.06	0.04	0.06	0.02
SD	1.15	1.07	1.08	0.73	0.23	0.19	0.24	0.15
Skew	1.54	0.15	0.90	3.49	1.13	-0.67	0.65	2.75
SES	0.06	0.19	0.14	0.12	0.06	0.19	0.14	0.12
Kurt.	1.16	-0.81	-0.58	12.71	-0.36	-0.14	-1.41	6.50
SEK	0.13	0.38	0.29	0.24	0.13	0.38	0.29	0.24

	Location									
	Home	School, special	School, other	PT job	Com-muting	Home	School, special	School, other	PT job	Com-muting
N	1,349	238	271	174	433	1,349	238	271	174	433
M	1.69	1.56	1.70	2.64	1.39	0.15	0.12	0.16	0.37	0.09
SEM	0.03	0.07	0.07	0.09	0.04	0.01	0.01	0.01	0.02	0.01
99.5% *CI* for *M*										
LL	1.60	1.35	1.51	2.38	1.27	0.14	0.08	0.12	0.32	0.06
UL	1.78	1.77	1.89	2.91	1.52	0.17	0.16	0.20	0.42	0.12
Var.	1.27	1.27	1.18	1.40	0.82	0.06	0.05	0.05	0.05	0.04
SD	1.12	1.13	1.08	1.18	0.91	0.23	0.23	0.23	0.22	0.19
Skew	1.46	1.89	1.43	0.20	2.32	1.05	1.55	0.95	-0.47	1.90
SES	0.07	0.16	0.15	0.19	0.12	0.07	0.16	0.15	0.19	0.12
Kurt.	1.01	2.26	0.97	-1.03	4.56	-0.55	0.73	-0.63	-0.88	2.04
SEK	0.14	0.32	0.30	0.38	0.24	0.14	0.32	0.30	0.38	0.24

	Persons present					
	Alone	Friends	Others	Alone	Friends	Others
N	2,073	235	179	2,073	235	179
M	1.62	1.76	2.37	0.14	0.16	0.32
SEM	0.02	0.08	0.09	0.01	0.02	0.02
99.5% CI for *M*						
LL	1.55	1.52	2.11	0.13	0.11	0.27
UL	1.69	2.00	2.62	0.15	0.21	0.37
Var.	1.17	1.61	1.37	0.05	0.06	0.05
SD	1.08	1.27	1.17	0.23	0.25	0.23
Skew	1.60	1.36	0.52	1.19	1.09	-0.16
SES	0.06	0.16	0.19	0.06	0.16	0.19
Kurt.	1.47	0.31	-0.74	-0.23	-0.58	-1.19
SEK	0.11	0.32	0.37	0.11	0.32	0.37

Note. Anxiety Log 10 = Anxiety variable, log 10 transformed; PT job = part-time job; SEM = standard error of measurement; CI = confidence interval; LL = lower limit; UL = upper limit; Var. = variance; SD = standard deviation; *SES* = standard error of skewness; Kurt. = Kurtosis; *SEK* = standard error of kurtosis.

[a]Anxiety log 10 transformation applied to the anxiety variable.

suitable for parametric procedures. The data in the table also show that the enjoyment was highest during episodes where others were present (M = 2.80) or with friends (M = 2.64), though episodes with others also had the highest mean anxiety ratings (M = 2.37).

Analysis of affective and contextual variables, Longitudinal Study 1.

The episode data from Longitudinal Study 1 regarding the affective variables (enjoyment, anxiety) were first screened using the branching procedures outlined above. This screening indicated large deviations from normality with regards to enjoyment and very large deviations from normal distributions for the anxiety variable, thus making ANOVA procedures inappropriate. I determined that the assumptions had been met for the non-parametric procedures, and therefore applied the Kruskal-Wallis test.

Nonparametric procedures applied to Longitudinal Study 1 comparisons of affective and contextual variables.

Affective variables by purpose nonparametric procedures, Longitudinal Study 1. The descriptive statistics for the affective variables enjoyment and anxiety by the contextual variable purpose data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the purpose categories for school (skew = .96, *SES* = .06) and for enjoyment (skew = -1.44, *SES* = .12), indicating that nonparametric procedures were appropriate.

The descriptive statistics for the affective variable anxiety log 10 by the contextual variable purpose data were examined to determine the skewness and

kurtosis. Significant skewness was found between the affective variable anxiety and the purpose categories for school (skew = 1.13, *SES* = .06), for part-time job (skew = -.67, *SES* = .19), for self-improvement (skew = .65, *SES* = .14), and for enjoyment (skew = 2.75, *SES* = .12) indicating that nonparametric procedures were appropriate.

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of enjoyment. I excluded cases that had not been coded for purpose ($k = 15$) or that had been assigned multiple codes ($k = 24$). The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 2{,}460) = 774.041$, $p < .001$, $\eta^2 = 0.315$. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .32, indicating that purpose exerted a strong effect on the enjoyment ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for purpose for the affective variable enjoyment. Significant differences were found between school and part-time job, school and self-improvement, and school and enjoyment. Significant differences were also found between part-time job and self-improvement, and part-time job and enjoyment. Significant differences were also found between self-improvement and enjoyment. (See Table 25 for effect sizes for pairwise comparison of affective variables by purpose.)

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of anxiety. I excluded cases that had not been coded for purpose ($k = 15$) or that had been assigned multiple codes ($k = 23$). The test, which

was corrected for tied ranks, was significant, χ^2 (3, N = 2,439) = 287.16, p <.001, η^2 = 0.118. The proportion of variability in the ranked dependent variable accounted for the purpose variable was .12, indicating a weak effect exerted by purpose on anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for purpose for the affective variable anxiety. Significant differences were found between school and part-time job and between school and enjoyment. Significant differences were also found between part-time job and self-improvement, and part-time job and enjoyment. Significant differences were also found between self-improvement and enjoyment. (See Table 25 for effect sizes for pairwise of affective variables by purpose.)

Table 25. *Effect sizes (*r*) for Pairwise Comparisons of Affective Variables (Enjoyment, Anxiety) by Purpose*

	Part-time job		Self-improvement		Enjoyment	
			Enjoyment			
School	-0.12	*	-0.26	*	-0.51	*
Part-time job			-0.07	*	-0.28	*
Self-improvement					-0.30	*
			Anxiety			
School	-0.27	*	-0.05		-0.16	*
Part-time job			-0.17	*	-0.34	*
Self-improvement					-0.17	*

Note. * = significant at the $p < .005$ level

Affective variables by location nonparametric procedures, Longitudinal

Study 1. The descriptive statistics for the affective variable enjoyment by contextual variable location data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the location categories at home (skew = .50, *SES* = .07), at school, special (skew = .94,

SES = .16), and at school, other (skew = .62, *SES* = .15) indicating that nonparametric procedures were appropriate.

The descriptive statistics for the affective variable anxiety by the contextual variable location data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the location categories at home (skew = 1.05, *SES* = .07), at school, special (skew = 1.55, *SES* = .16), at school, other (skew = .95, *SES* = .15), part-time job (skew = -.47, *SES* = .19), and commuting (skew = 1.90, *SES* =.12) indicating that nonparametric procedures were appropriate, though skew was below the 1.96 level suggested by Field (2005).

A Kruskal-Wallis test was conducted to evaluate differences among the five episode locations (at home, at a special place at school, at a regular place at school, at a part-time job, or while commuting) on median change in rating of enjoyment. I excluded cases that a) had not been coded for location (k = 35), b) that had been assigned multiple codes (k = 6), and c) that had been coded for "other" (k = 14). The test, which was corrected for tied ranks, was significant, $\chi^2(4, n = 2{,}444) = 116.787$, $p < .001$, $\eta^2 = 0.048$. The proportion of variability in the ranked dependent variable accounted for by the place variable was .05 indicating a very weak effect from the place where the episode transpired on the enjoyment ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for location by the affective variable enjoyment. Significant differences were found between home and a location at school for English use (school, special) and between home and commuting. Significant differences were also found

between school, special and part-time job and between school, special and commuting. (See Table 26 for effect sizes for pairwise comparisons of affective variables by location.)

Table 26. *Effect sizes (r) for Pairwise Comparisons of Affective Variables (Enjoyment, Anxiety) by Location*

	School, special		School, other	PT Job		Commuting	
			Enjoyment				
Home	-0.08	*	-0.03	-0.05		-0.17	*
School, special			-0.05	-0.10	*	-0.19	*
School, other				-0.06	*	-0.15	*
Part-time job						-0.07	*
			Anxiety				
Home	-0.05		-0.02	-0.23	*	-0.10	*
School, special			-0.05	-0.20	*	-0.03	
School, other				-0.17	*	-0.09	*
Part-time job						-0.27	*

Note. School, special = a special place at school for English study; School, other = another location at school.
* = significant at the $p < .005$ level

A Kruskal-Wallis test was conducted to evaluate differences among the five episode locations (at home, at a special place at school, at a regular place at school, at a part-time job, or while commuting) on median change in rating of anxiety. I excluded cases that a) had not been coded for location ($k = 33$), b) that had been assigned multiple codes ($k = 6$), and c) that had been coded for "other" ($k = 14$); that is sites that occurred at another location. The test, which was corrected for tied ranks, was significant, $\chi^2(4, N = 2{,}424) = 196.957$, $p < .001$, $\eta^2 = 0.081$. The proportion of variability in the ranked dependent variable accounted for by the place variable was .08, indicating a weak influence by the place where the episode transpired and the anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test

with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for location by the affective variable anxiety. Significant differences were found between home and part-time job, home and commuting. Significant differences were also found for a location at school for English use (school, special) and part-time job. Significant differences were also found for an unspecified location at school (school, other) and between part-time job and commuting. Significant differences were also found between part-time job and commuting. (See Table 26 for effect sizes for pairwise of affective variables by location.)

Affective variables by persons present nonparametric procedures, Longitudinal Study 1. The descriptive statistics for the affective variable enjoyment by contextual variable persons present data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the persons present categories alone (skew = .45, *SES* = .06) and with friends (skew = .35, *SES* = .16) indicating that nonparametric procedures were appropriate.

The descriptive statistics for the affective variable anxiety by the contextual variable persons present data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the persons present categories alone (skew = 1.19, *SES* = .05) and with friends (skew = 1.09, *SES* = .16) indicating that nonparametric procedures were appropriate, though skew was below the 1.96 level suggested by Field (2005) in all instances.

A Kruskal-Wallis test was conducted to evaluate differences among the three episode conditions (alone, with friends, other) on median change in rating of enjoyment. I excluded cases that had not been coded for person (k = 31) or that had been assigned multiple codes (k = 3). The test, which was corrected for tied ranks, was not significant. Pairwise comparisons were conducted using the Mann-Whitney U test with the significance level set at $p < .005$ to control for multiple comparisons. No significant differences were found. (See Table 27 for effect sizes for pairwise comparisons of affective variables by persons present.)

Table 27. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables (Enjoyment, Anxiety) by Persons Present*

	With friends	With others	
	Enjoyment		
Alone	-0.02	-0.05	
With friends		-0.02	
	Anxiety		
Alone	-0.01	-0.21	*
With friends		-0.13	*

Note. * = significant at the $p < .005$ level

A Kruskal-Wallis test was conducted to evaluate differences among the three episode conditions for persons present (alone, with friends, other) on median change in rating of anxiety. I excluded cases that had not been coded for person (k = 31) or that had been assigned multiple codes (k = 2). The test, which was corrected for tied ranks, was significant, $\chi^2(2, N = 2444) = 104.089$, $p < .001$, $\eta^2 = 0.043$. The proportion of variability in the ranked dependent variable accounted for by the person variable was .04, indicating a very weak relationship between the persons present while the episode transpired and the anxiety rating for the episode. Pairwise

comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Significant pairwise differences were observed for persons present by the affective variable anxiety. Significant differences were found between alone and with others. Significant differences were also found for with friends and with others. (See Table 27 for effect sizes for pairwise comparisons of affective variables by persons present.)

Time Allocation and Episode Types for Longitudinal Study 1 Participants

Episode types on EATUS in Longitudinal Study 1.

The lexical analysis of the EATUs activity descriptors led to an analysis of these descriptors based on the types of activities. In order to do this, criteria were developed and the definitions applied to the episode descriptors supplied by the participants to create a codebook for this aspect of Longitudinal Study 1. Once the lexical analysis was completed, the item descriptors were then coded into activity groups. Seven major types of activities were identified, with two to seven sub-categories within each of these major codes. The major code areas and their categories appear in Table 28 and the complete definitions for the categories in the major code areas appear in Table 29. These codes were not exclusive and one episode could be coded into multiple categories (see discussion below).

I employed a mechanistic, text-based system for coding episode descriptions. In this system, I included all instances of a particular linguistic item under the same code. For example, I coded any episode description that included a member from the word family "listen" as "listening." I also coded any episode description that included a member from the word family "watched," as in "watched DVDs," as "listening." As

Table 28. *Activity Codes Used for Analyzing Lexical Items from EATUS Descriptions*

Major code area	Categories for activity codes
Four skills	Listening, Reading, Speaking, Writing
Interaction	Club, Contest, Converse, Interview, Support, Teaching
International	Culture, Interaction with people from other countries in English (labeled "Foreigners" for brevity and clarity)
License	EIKEN, TOEFL, TOEIC
Media & technology	Application, Internet, Music, News, Radio, Skype, Video
Student	Course, Homework, Prepare, Review, Study, Test
Support skills	Grammar, Pronunciation, Vocabulary

Note. EIKEN = Test of Practical English Proficiency; TOEFL = Test of English as a Foreign Language; TOEIC = Test of English for International Communication.

Table 29. *Definitions for Activity Codes* Used for Analyzing Lexical Items from EATUS Descriptions*

Major code	Category	Definition (and keywords[a])
Four skills	Listening	This code is used for instances where students do listening practice or watch TV, videos, or movies. Keywords: listen, watch (TV, movies, etc.)
	Reading	This is used to code instances of students reading books, magazines, newspapers, etc. Keywords: read
	Speaking	This code is used in instances where students are engaged in speaking or other similar activities where they use their voice to communicate with others. This includes such things as using Skype (or similar services) with others, taking orders at a restaurant (from foreign customers), or singing together with other students. Speaking also encompasses listening as part of the interactional process. This code is also used for instances where students practice presentation techniques. Keywords: English conversation, hang out with, sing
	Writing	This code is used for writing practice. It covers writing such things as essays, news reports, and journals. It also includes various types of project work, such as preparing translations, creating menus, or drawing posters, etc. Keywords: write, journal
Interaction	Club	This is used to code for club activities that relate to English, such as ESS or GLEE clubs. Keywords: glee
	Contest	This is used to code for activities related to contests, such as speech contest, drama contest, essay contest, presentation contest, etc. This code might be used for participating in or preparing for a contest as a contestant or watching a contest as a member of the audience. Keywords: contest
	Converse	This codes instances where students interact with others in general. It includes such things as singing together or practicing dialogues together. Keywords: chat, talk, conversation with
	Interview	This is used for marking instances where students interview other people. The presumption is that they are using English for the interaction. Keywords: interview

Table 29 (Continued). *Definitions for Activity Codes Used for Analyzing Lexical Items from EATUS Descriptions*

Major code	Category	Definition (and keywords[a])
	Support	This codes for instances of taking orders from foreign customers or giving support to foreign customers at a part-time job. Keywords: support
	Teaching	This codes for instances of working as a tutor at a *juku* (cram school), or working as a conversation partner or English assistant Keywords: tutor, *juku,* assistant, teach
International	Culture	This codes for instances of consuming English-language media products, such as movies, music, newspapers, television programs, etc. This code is indicative of "international posture."
	Foreigners	This code indicates instances where students interacted with people from other countries in English, such as through their part-time job, Skype, or during school activities. Keyword: foreigners (Japanese terms *gaijin, gaikokujin*)
License	EIKEN	This is used to code instances of studying for the STEP test. Keywords: Eiken
	TOEFL	This is used to code for instances where students study for or take the TOEFL. Keywords: TOEFL
	TOEIC	This is used for instances where students study for or take the TOEIC. Keywords: TOEIC
Media & technology	Application	This code is used for instances where the student used a special program for studying English, such as programs for the iPad or iPod. It does not include SKYPE. Keywords: application, Word, computer, type
	Internet	This codes for instances where students use the Internet for gathering information or accessing media. It is not used for Skype or for other stand-alone programs, such as certain games, MS Word, etc. Keywords: Internet, Web
	Music	This code is used for instances where students listen to western, overseas, or English music. Keywords: music, CD
	News	This codes instances where students access the news (read, listen to, search for) and possibly prepare a news report as for a class activity. Keywords: news, newspaper
	Radio	This codes for instances of listening to music on the radio or studying English by using the radio. Keywords: radio
	Skype	This codes for instances where students Skype with others. Keywords: Skype
	Video	This is used for instances of using DVDs, video, or TV to view movies or programs. Keywords: drama, movies, TV
Student	Course	This is used for instances when the activity mentions a specific course. Keywords: Topic Discussion, Topic Reading, Topic Listening, Grammar Essentials, Phonetics
	Homework	This is used for coding instances marked specifically as homework. Keywords: homework, assignment
	Prepare	This refers to the action of studying for a purpose rather than a focus on studying of some specific content. The purpose here is generally the name of a course. The target is to prepare for some future event, such as the next class session. In Japanese the most common vocabulary item to trigger this code is "*yoshuu*" (preparation), but it can also include "research." Keywords: prepare, review (*yoshuu*), practice, research

Table 29 (Continued). *Definitions for Activity Codes Used for Analyzing Lexical Items from EATUS Descriptions*

Major code	Category	Definition (and keywords[a])
	Review	This is similar to the code prepare in that is focuses on the purpose rather than the content. Here, again, the purpose is generally the name of a course. The target is to consolidate something previously studied, such as the content of a previous class session. The most common trigger item in Japanese was "*fukushuu*" (review). Keywords: review, *fukushuu [review]*
	Study	This is a general type of code for studying something or studying about something. This code focuses on the activity of learning and not on a specific reference to a course or a particular purpose. It includes such verbs as "study," "learn, " and "memorize." It also encompasses the object of study, such as "vocabulary" (studied vocabulary) or "grammar" (learned grammar). Keywords: study, learn, memorize
	Test	This is used to code for instances where the student specifically mentions a school test, quiz, or exam. It is not used for licensing exams (Eiken, TOEIC, TOEFL). Keywords: test, quiz, exam
Support Skills	Grammar	This marks instances where the student mentions grammar or grammatical points. Keywords: grammar
	Pronunciation	This marks instances where the student mentions phonetics or pronunciation. Keywords: pronunciation, phonetics
	Vocabulary	This codes for instances where students mention studying or practicing vocabulary. Keywords: vocabulary, word cards

Note. Activity codes are not exclusive; for example, the entry "listening to English music" was coded "International: Culture" and "Media & technology: Music." EIKEN = Test of Practical English Proficiency; TOEFL = Test of English as a Foreign Language; TOEIC = Test of English for International Communication.

[a]The keyword is the word family, so it also includes related forms. In addition, synonymous forms are also included.

this coding scheme does not require the researcher to interpret the intention of the participant or to derive deeper meaning from surface text, I did not feel it was necessary to formally check my code assignments with another individual or to estimate interrater reliability. (Note: The coding of episode descriptors occurred after the translation of the descriptions into English and the processing of these episodes [see EATUS episode description processing above].)

Episode types and time use.

Due to the types of codes that were developed, a single activity could receive multiple codes. For example, the most common type of activity—listening to English music—was coded for "four skills/listening" (10.7%), "international/culture" (10.7%), and "media & technology/music" (9.2%) according to the codes developed for this portion of the EATUS analysis. The percentages of the total number of codes that were represented in each category are provided in Figure 40. Following "music" in frequency were the coded activities "student/homework" (6.4%), "four skills/speaking" (5.8%), "four skills/reading" (5.3%), "student/study" (5.3%), and "four skills/writing" (4.7%). Other categories of note in terms of frequency were "student/test," "student/course," and "international/foreigners" (3.8% each), and "student/prepare" and "student/grammar" (3.6% each).

These data indicate that out-of-class English access time for the Longitudinal Study 1 participants was most frequently related to activities connected to their status as students, such as homework, course, study, and the types of homework that might be expected of students, such as listening, reading, speaking, and writing.

Longitudinal Study 1 descriptive data from EATUS.

After the descriptions for the reported episodes were processed using the procedures outlined above, they were then analyzed to determine the characteristics of the episodes, including the lexical use. Figure 41 shows the most common word families found in the episodes for the Longitudinal Study 1. The bar chart on the left indicates the number of participants who used the word family in their episode descriptions. The bar chart on the right indicates the percentages of the total word family tokens covered by each of the listed word families. For example, the word

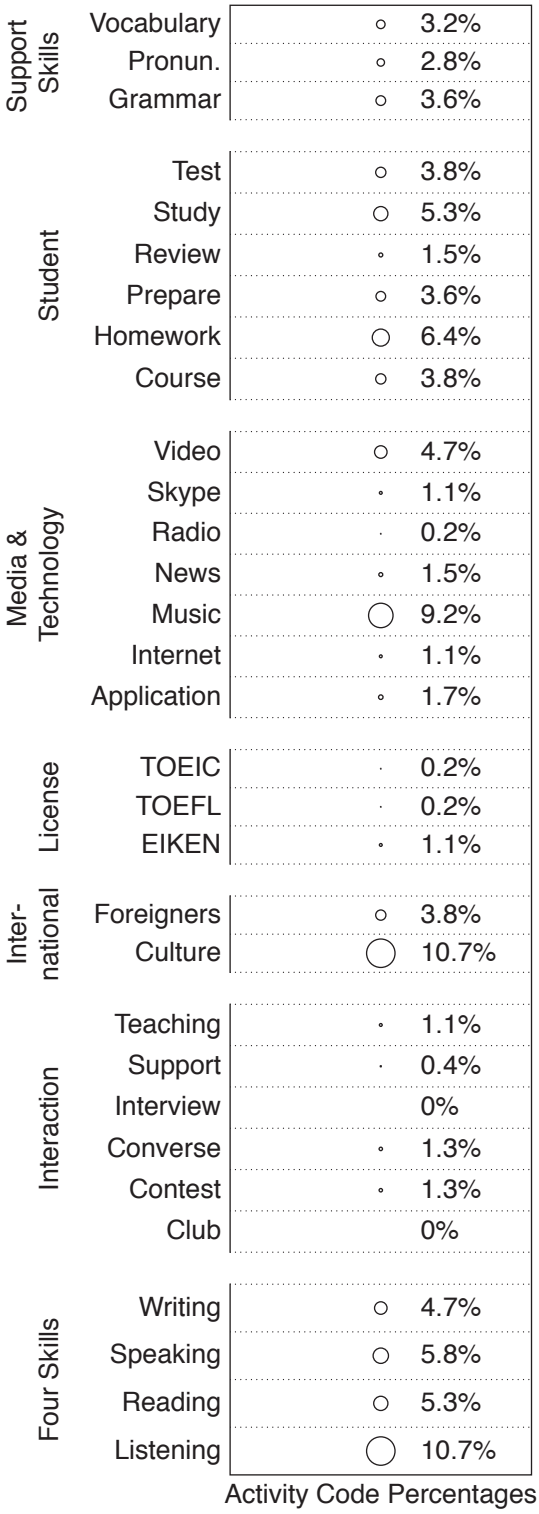

Figure 40. Types of activities participants engage in during out-of-class English access time in percentage of total time allocation for Longitudinal Study 1.
Note. Pronun. = Pronunciation. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

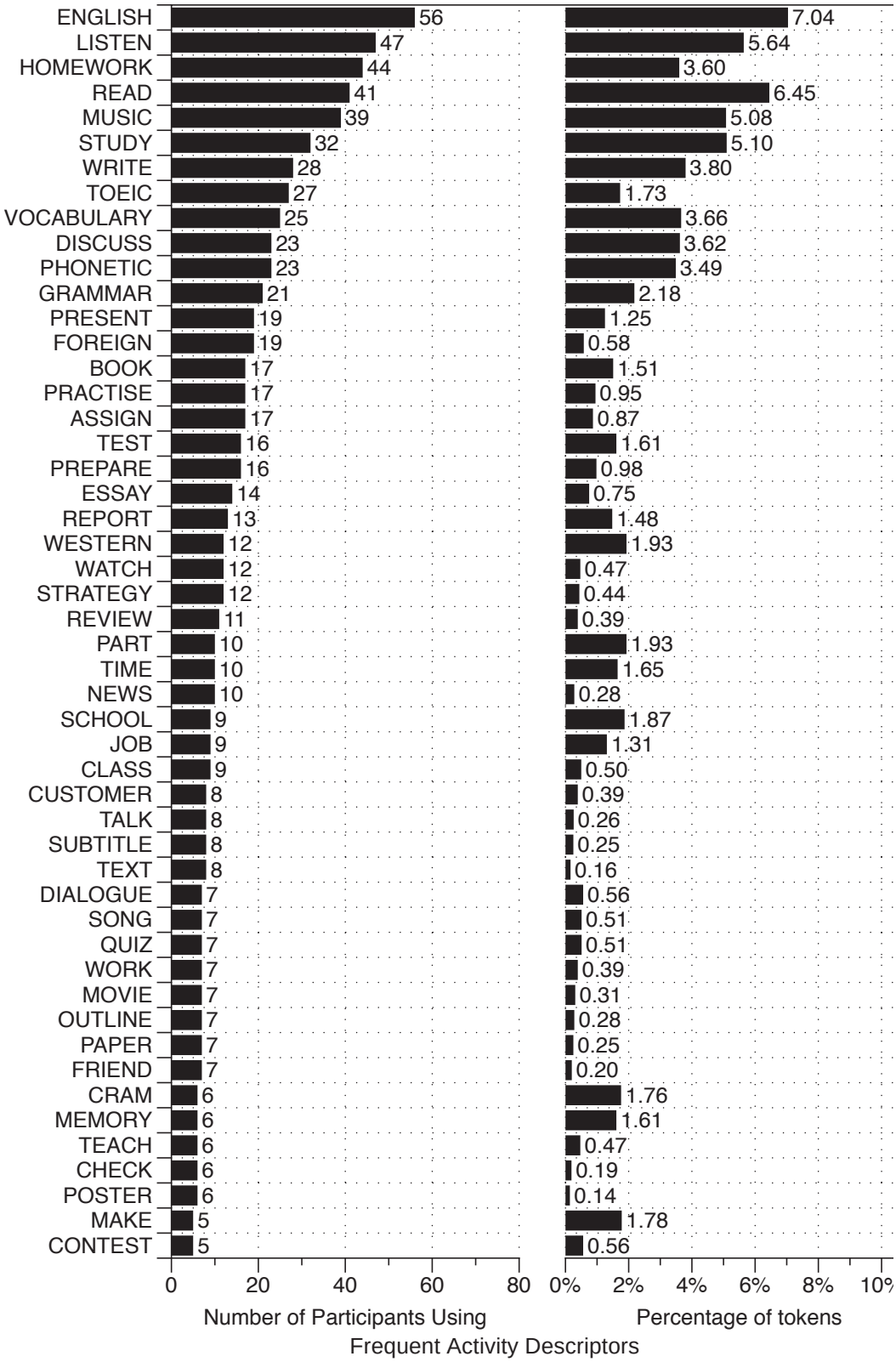

Figure 41. Frequent activity descriptors by word family for descriptions on EATUS for Longitudinal Study 1 data (including translations from Japanese).

Note. TOEIC = Test of English for International Communication.

family "listen" was used by 47 participants in their episode descriptions and the total number of times members of the word family "listen" were used accounted for 5.64 percent of all tokens. Forty-four participants used the word family "homework," but it accounted for 3.60% of all tokens. The bar charts are arranged by the number of participants using the word family. The five most common lexical items occurring in the episode descriptions were "English," "listen," "homework," "read," and "music." These were most often found in combinations such as "listened to English music" or "did English homework." The lexical item used by the largest number of participants in Longitudinal Study 1 was "English" with 56 participants using it. "English" also accounted for 7.04% of the lexical items. Also notable were student-related items, such as "study," "write," "TOEIC," and "vocabulary." These were often found in combinations such as "read an English book," "prepared for vocabulary test," and "studied for TOEIC."

Interviewed versus non-interviewed participant time allocations.

The data was further examined for the two main groups of Longitudinal Study 1 participants, interviewed (n = 15) and non-interviewed participants (n = 49) (see Figure 42). As can be seen, the time allocation for the two groups of Longitudinal Study 1 participants shows some variation, with homework, culture, listening, and reading given the most time, as measured in percentage of total minutes of out-of-class English access. In contrast, interviewed participants spent the most time on "speaking," "writing," "culture," and "course." The number of episodes in Longitudinal Study 1 for all participants (k = 2,530), interviewed participants (k = 1,952), and non-interviewed participants (k = 588) according to the activity codes

appears in Figure 43. The number of episodes for non-interviewed participants at the three Longitudinal Study 1 sites is further displayed in Figure 44 (Site 1: $k = 253$; Site 2: $k = 72$; Site 3: $k = 49$). These data also shows that the most frequently used activity descriptors are related to study regardless of whether the participant was interviewed or not and regardless of the site for the non-interviewed participants.

As the data presented in the three figures above indicates, the types of activities varied by site and by whether the participant was interviewed or not. One point that becomes clear from these figures is that the Site 1 participants spent more out-of-class English access time on writing that either Site 2 or Site 3, where writing was non-existent on these participants' EATUS forms. However, the small number of participants from Site 3 and the limited time they stayed in the study must be kept in mind when interpreting the data.

EATUS Descriptive Data and Affective Features for Longitudinal Study 1

Once the basic descriptive data regarding frequency for the descriptive lexical items for the episodes had been determined, the affective factors on the EATUS form were examined for the word families according to the level of anxiety and level of enjoyment and the most frequently cited keyword family. As discussed above, participants described episodes in their own words. Some key word families were very common, such as "read," "English," "discuss," "write," "study," and "listen." For each episode, participants reported two affective features: anxiety and enjoyment.

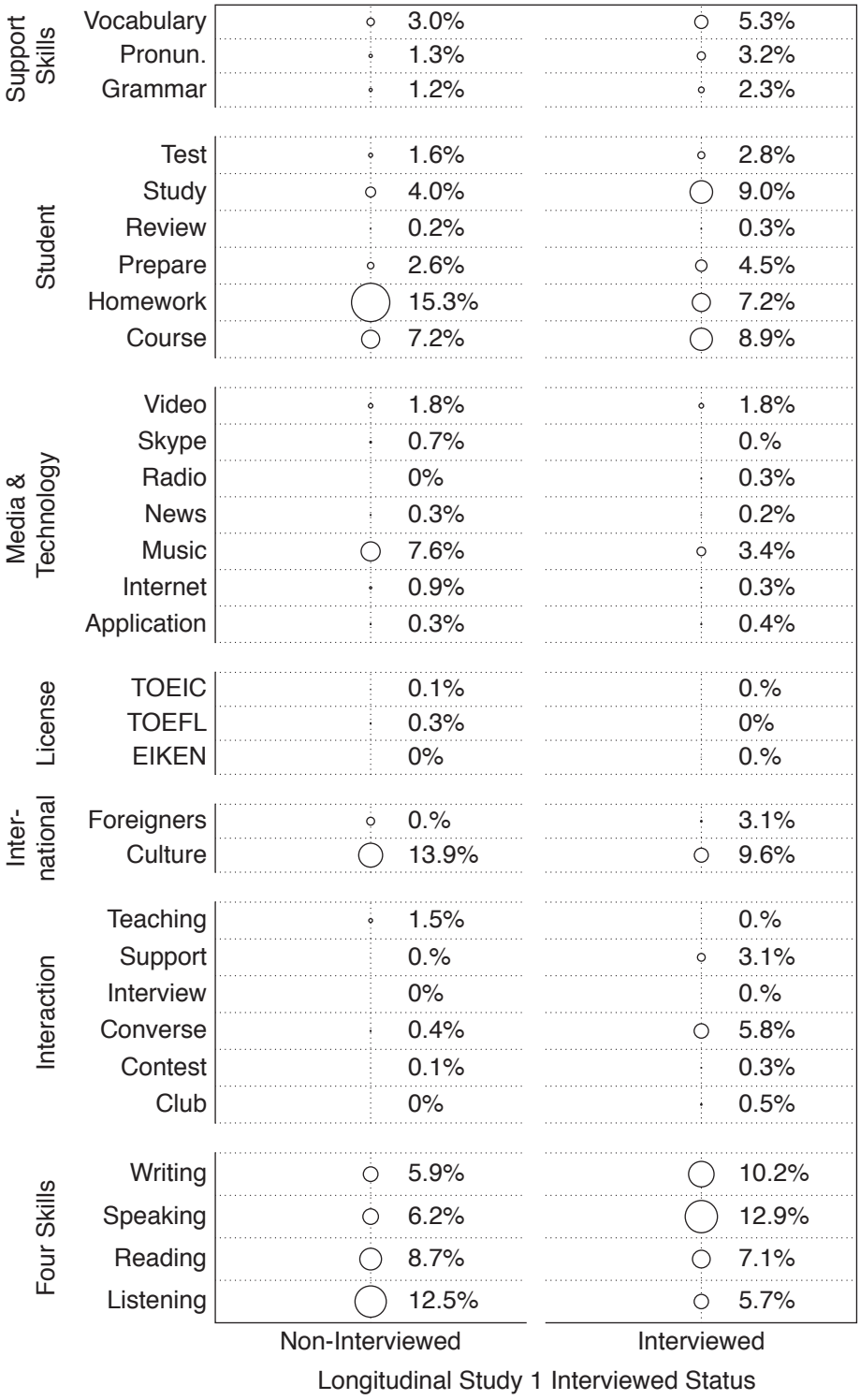

Figure 42. Out-of-class English access activity types for non-interviewed and interviewed Longitudinal Study 1 participants in percentage of total codes given. *Note*. Pronun. = Pronunciation; TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

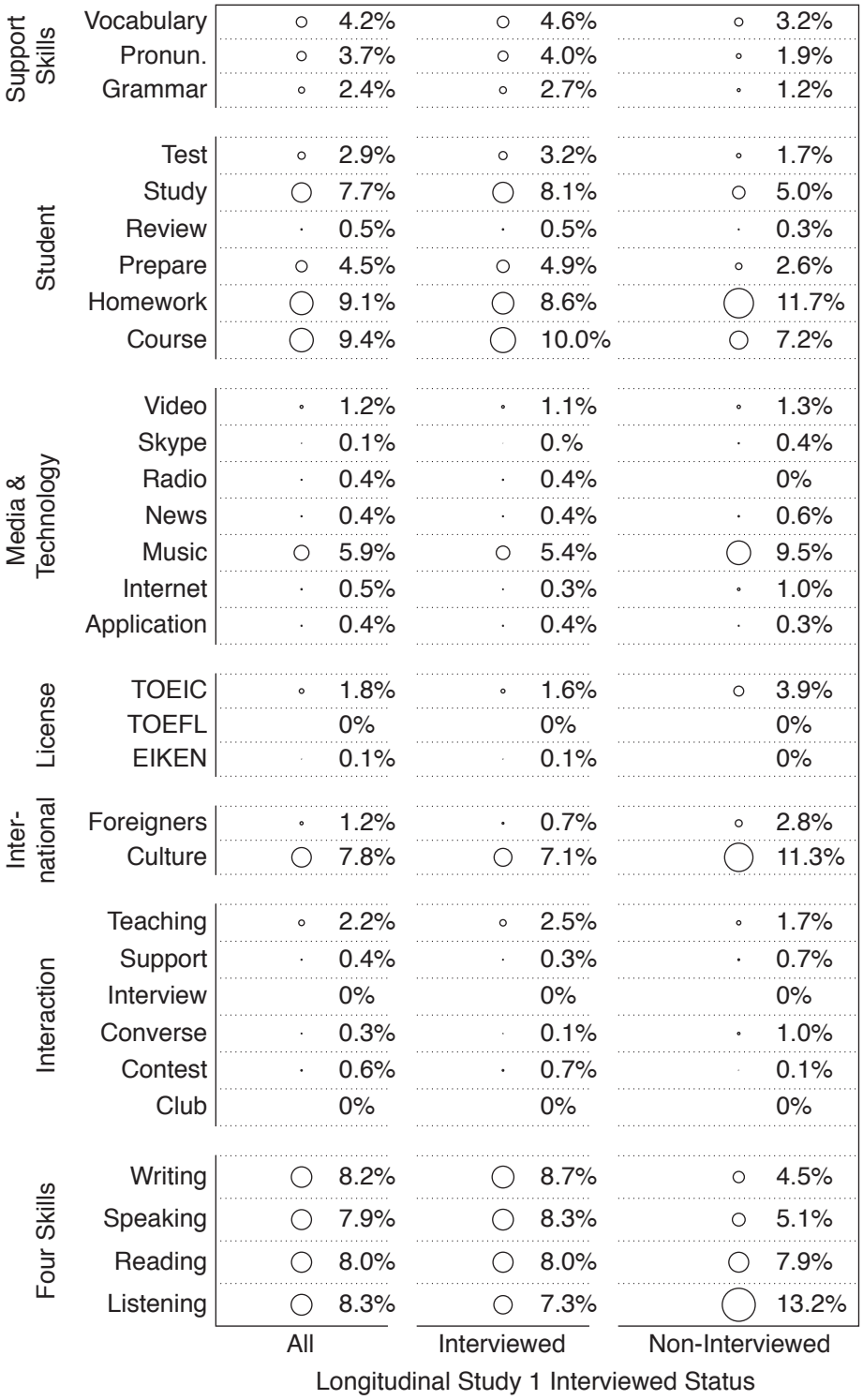

Figure 43. Proportion of episodes for activity codes in Longitudinal Study 1 for all participants, interviewed participants, and non-interviewed participants.

Note. PS = participant in Longitudinal Study 1, the "preliminary study" for this project; TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

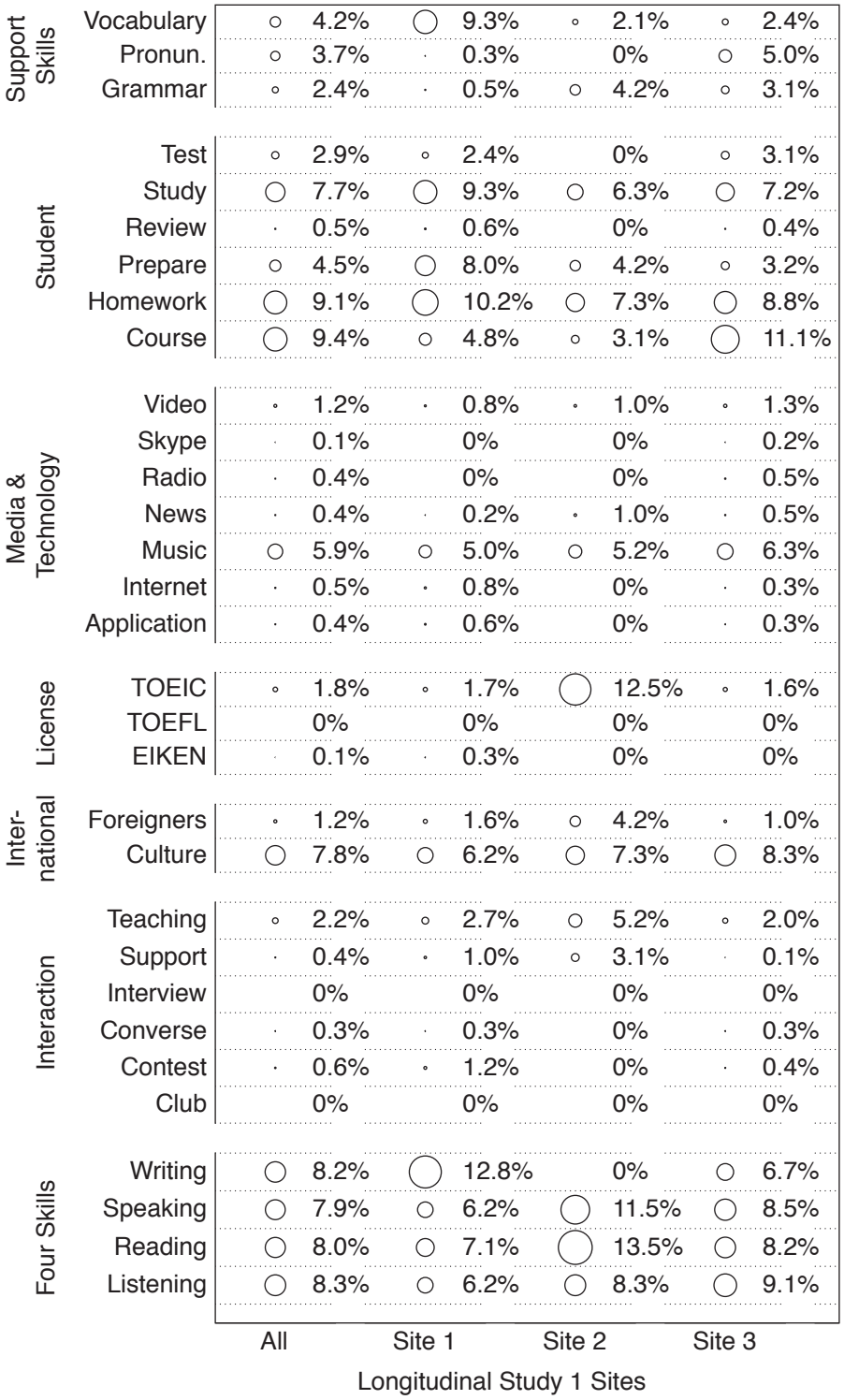

Figure 44. Proportion of episodes for activity codes by site for all participants in Longitudinal Study 1.

Note. Pronun. = Pronunciation, TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency; PS = Longitudinal Study 1, the "preliminary study" for this project.

Figure 45 displays the 40 most frequent activity descriptor word families for Longitudinal Study 1 for the level of anxiety. Episode content that was notably low in anxiety included read, English, listen, and music. The most frequently cited word by low anxiety level was "English," which accounted for 6.23% of words ranked either 1 or 2 on anxiety, followed by "read," "study," and "music." The most typical configuration for these lexical items was in "listened to English music." Similar types of lexical items were found in episodes that had been rated as high in anxiety. These include vocabulary for describing preparation for a particular course (e.g., "discussion"), and doing a "part" "time" "job" where the student either tutored junior high school students or served foreign customers.

The 40 most frequent activity descriptor word families for Longitudinal Study 1 for the level of enjoyment for Longitudinal Study 1 are shown in Figure 46. Many of the lexical items from the descriptors that had low anxiety also had high levels of enjoyment on this measure, with the words "music," "listen," and "English," commonly found in the phrase "listened to English music" in the participants descriptors, with each making up more than 10 percent of the items with high enjoyment, levels 4 and 5 on the participants' reporting of their level of enjoyment. Next highest in level of enjoyment is the item "Western" (4.02%), which most frequently appeared in conjunction with the phrase noted above, as in "listened to Western music" written in Japanese. Lexical items associated with low levels of enjoyment were "read" (8.02% of the items at a low level of enjoyment) and "study" (7.93% of the low enjoyment items). These two items are followed in low enjoyment by the items "write" (5.14%), "homework" (4.64%), "phonetic" (4.24%), and "discuss" (4.12%). Not unexpectedly, these items were also activity descriptors by

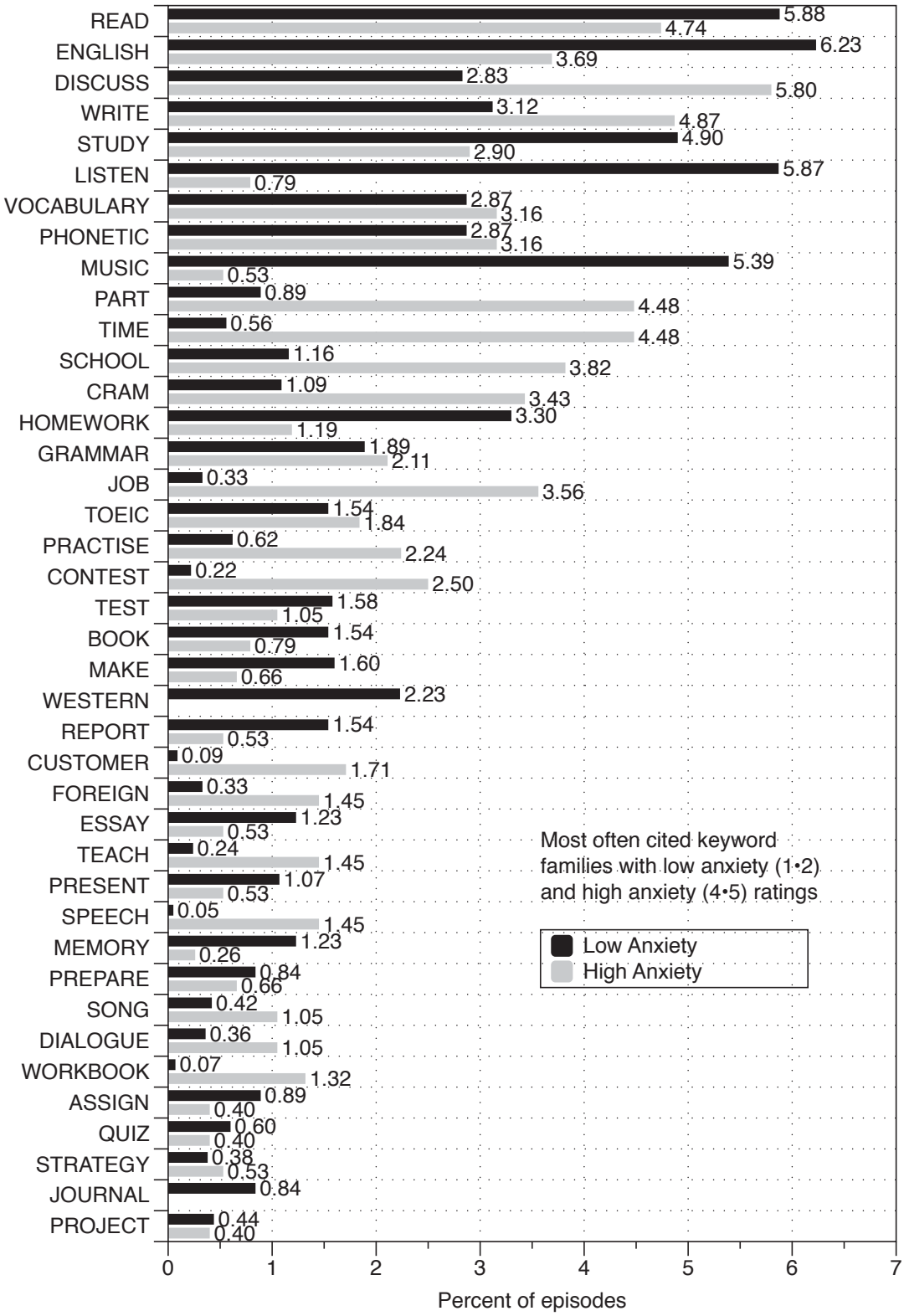

Figure 45. Frequency of activity descriptors by word family in percent by level of anxiety for Longitudinal Study 1.

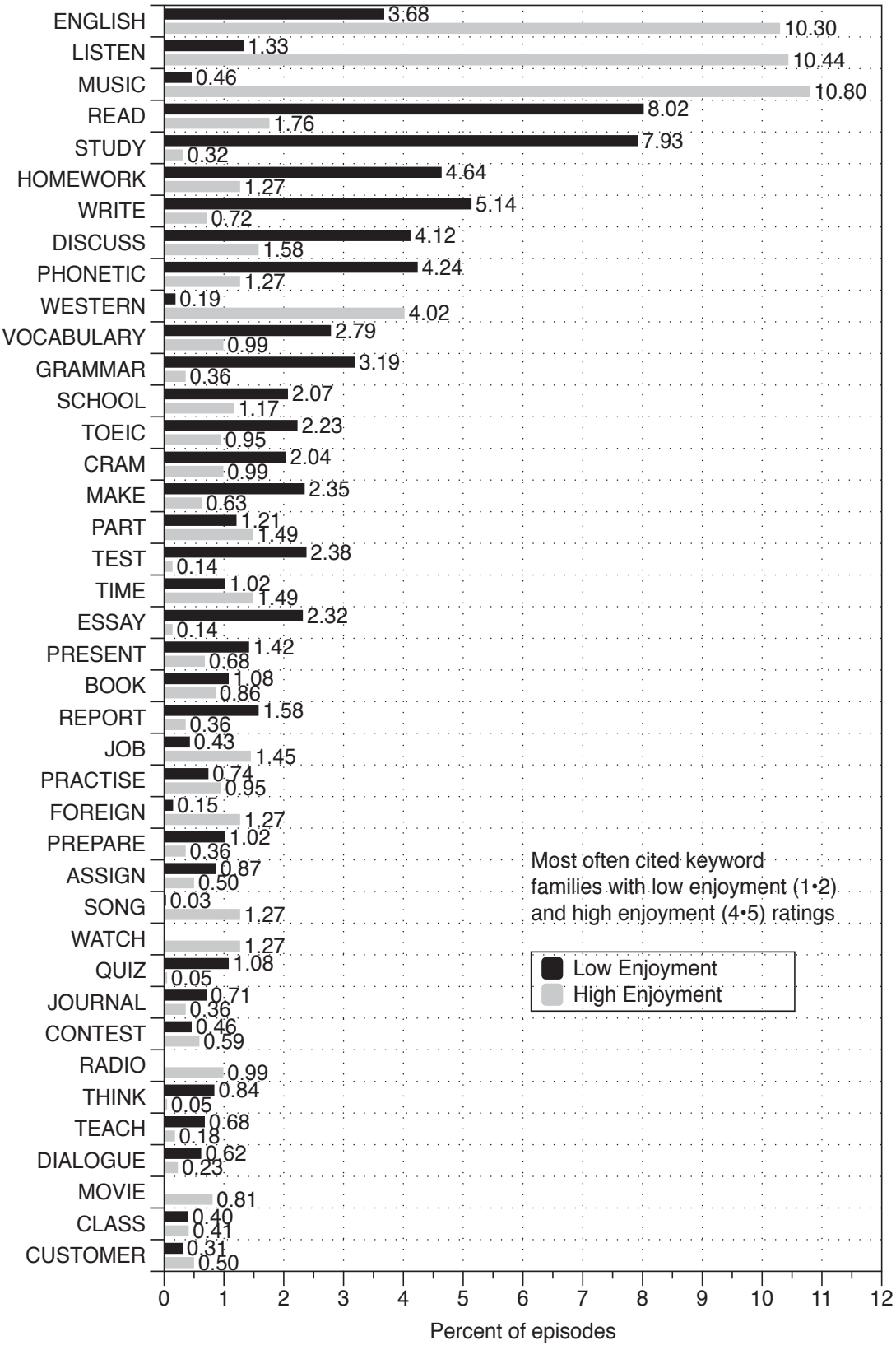

Figure 46. Frequency of activity descriptors in percent by level of enjoyment for Longitudinal Study 1.

word family that were found relatively frequently in the EATUS form entries. The most frequent activities for low level of enjoyment were not necessarily also related to low levels of anxiety. For instance, the lexical item activity descriptors by word family with the highest level of anxiety were "discuss" (5.80%), "write" (4.87%), "part" and "time" (4.48% respectively), "job" (3.56%), and "cram" (3.43%). The last four of these items appeared frequently in descriptors such as "part-time job" or "teach part-time at cram school." "Discuss" and "write," which are primarily used as descriptors for homework activities, are also items with generally low enjoyment, recording 1.58% and 0.72% of the lexical items in descriptors given a low enjoyment ranking. "Cram" (low enjoyment 2.04%; high enjoyment 0.99%), along with "part" and "time" (low enjoyment for both 1.49%; high enjoyment 1.21% and 1.02% respectively). Low levels of enjoyment and high levels of anxiety are associated with these relatively frequent descriptors by word family.

Episode temporal and contextual features for interviewed Longitudinal Study 1 participants.

The contextual features of the data provide further information about the features of the out-of-class English access episodes. Here, the data from the interviewed Longitudinal Study 1 participants (n = 15) is most informative as these participants reported episodes for a variety of contextual features. Table 30 provides information regarding the total number of minutes by purpose of episode for the Longitudinal Study 1 participants. Table 31 provides the percent of total minutes for the place of the episode.

Table 30. *Minutes by Purpose of Episode for Interviewed Participants, Longitudinal Study 1 (*n = *15)*

Standard code	Site	School	Part-time job	Self-improvement	Enjoyment	None	Multiple codes	Total
PS-0007	1	1,710	260	590	1,560	165	180	4,465
PS-0013	1	42		11,431	356	360		12,189
PS-0038	1	290	3,600		360			4,250
PS-0054	1	7,048	15	311	206		614	8,194
PS-0009	2	6,055		60	520			6,635
PS-0012	2	2,405		1,110	2,457			5,972
PS-0014	2	8,170		80				8,250
PS-0017	2	4,805		175	273			5,253
PS-0021	2	16,405	16,230	120	495	550		33,800
PS-0031	2	7,041		86	311	93		7,531
PS-0033	2	6,440		180	1,380	300		8,300
PS-0041	2	6,529	120	60	1,581	40		8,330
PS-0042	2	3,515		20	600			4,135
PS-0052	2	6,075	3,603	300	3,690			13,668
PS-0057	2	3,348			1,660	50		5,058
Min		42	15	20	206	40	180	4,135
Max		16,405	16,230	11,431	3,690	550	614	33,800
M		5,325.20	3,971.33	1,117.15	1,103.50	222.57	397.00	9,068.67
SD		3,989.92	6,241.92	3,113.27	1,020.69	189.43	306.88	7,379.39

Note. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project; Min. = minimum; Max. = maximum. Empty cells had no reported episodes.

The data on minutes and the percent of total minutes by the purpose of the episodes for the interviewed Longitudinal Study 1 participants show wide variation. For some, few episodes took place for school (PS-0013: 42 minutes; 0.34% of total time). For others, episodes for school made up the bulk of their out-of-class English access episodes (PS-0014: 8,170 minutes; 99.03% of total time). Averages for total minutes and percent indicate that interviewed participants most episodes took place at school (63%). Episodes for part-time jobs made of just over 27% of the minutes of out-of-class English access for the interviewed participants. Of importance here is that one participant (PS-0021) accumulated more than 16,000 minutes for out-of-class

English access for part-time jobs, while the next highest cumulative minutes for the six other interviewed participants with episodes for part-time jobs was 3,603 minutes, slightly less than the mean for all interviewed participants.

Table 31. *Percent of Minutes by Purpose for Interviewed Participants, Longitudinal Study 1*

Standard code	Site	School	Part-time Job	Self-improvement	Enjoyment	None	Multiple codes
PS-0007	1	38.30%	5.82%	13.21%	34.94%	3.70%	4.03%
PS-0013	1	.34%		93.78%	2.92%	2.95%	
PS-0038	1	6.82%	84.71%		8.47%		
PS-0054	1	86.01%	.18%	3.80%	2.51%		7.49%
PS-0009	2	91.26%		.90%	7.84%		
PS-0012	2	40.27%		18.59%	41.14%		
PS-0014	2	99.03%		0.97%			
PS-0017	2	91.47%		3.33%	5.20%		
PS-0021	2	48.54%	48.02%	.36%	1.46%	1.63%	
PS-0031	2	93.49%		1.14%	4.13%	1.23%	
PS-0033	2	77.59%		2.17%	16.63%	3.61%	
PS-0041	2	78.38%	1.44%	.72%	18.98%	.48%	
PS-0042	2	85.01%		.48%	14.51%		
PS-0052	2	44.45%	26.36%	2.19%	27.00%		
PS-0057	2	66.19%			32.82%	.99%	
Min		.34%	.18%	.36%	1.46%	.48%	4.03%
Max		99.03%	84.71%	93.78%	41.14%	3.70%	7.49%
M		63.14%	27.76%	10.90%	15.61%	2.08%	5.76%
SD		31.70%	33.44%	25.51%	13.44%	1.32%	2.45%

Note. PS- = participant in Longitudinal Study 1, the "preliminary study" for this project. Min. = minimum; Max. = maximum. Empty cells had no reported episodes.

Longitudinal Study 1 Interview Results

The interviews with the 15 Longitudinal Study 1 participants who agreed to sit for interviews were held from the ninth week of the study, during December and January, at times convenient to the participants. The interview protocols followed as semi-scripted series of points that I wanted to discuss with participants in order to get

a better understanding of the drivers for their out-of-class English access. The general flow for the interviews developed for Longitudinal Study 1 was followed in order to ensure that the central points were covered in each of the interviews (see discussion above). The interviews help provide a clearer understanding of the forces that drive the participants' out-of-class English use than the EATUS data presented in the previous section can alone. Data regarding these participants mean episode length and the length of the total interviews in minutes appear in Table 32. Jointly interviewed participants are indicated. As is clear from the table, the mean episode length showed considerable variation between Longitudinal Study 1 participants, ranging from142.62 minutes (PS38) to 33.86 minutes (PS54). (The identification numbers for

Table 32. *Mean Length of Episodes for Longitudinal Study 1 Interview Participants and Interview Duration*

PS	Mean episode length					Interview	Joint
Code	Minutes	H M	*SD*	Median	Mode	length	interview
PS07	62.01	1H 02M	0H 51M	60	60	26:51:00	
PS09	60.32	1H 00M	0H 42M	60	60	43:22:00	A
PS12	48.95	0H 49M	0H 52M	30	30	28:16:00	
PS13	90.29	1H 30M	0H 52M	90	18	26:03:00	
PS14	52.22	0H 52M	0H 39M	40	30	29:05:00	
PS17	50.03	0H 50M	0H 36M	40	30	43:22:00	A
PS21	142.62	2H 23M	2H 14M	75	60	26:58:00	
PS31	73.12	1H 13M	0H 54M	60	60	29:14:00	B
PS33	101.22	1H 41M	1H 30M	60	60	29:51:00	
PS38	118.06	1H 58M	1H 01M	90	180	25:37:00	
PS41	45.27	0H 45M	0H 31M	40	30	29:14:00	B
PS42	49.23	0H 49M	0H 50M	30	20	27:42:00	
PS52	95.58	1H 36M	1H 10M	60	60	31:34:00	
PS54	33.86	0H 34M	0H 30M	25	25	26:10:00	
PS57	41.80	0H 42M	0H 34M	30	30	26:00:00	

Note. PS# = participant in Longitudinal Study 1, the "preliminary study" for this project; H M = hours & minutes (H = hours, M = minutes). The standard code number for participants here, and in the discussion of the interviews, have been shortened by removing the hyphen and zeros used for the SPSS data processing; Joint interviews were held for these participants (A = PS09 and PS17; B = PS31 and PS41).

the participants are abbreviated in the interview discussion by elimination of the hyphen and two zeros following the study code and before the participants' number. PS indicates a participant in Longitudinal Study 1, the "preliminary study" for this project.) However, the standard deviation for is also more for those participants with longer mean episode length. This information was used in the interviews to elicit further understanding of the Longitudinal Study 1 participants' out-of-class English access time use patterns.

Ease of Use of EATUS Form

To determine the ease of compliance with the study protocols, I also asked the Longitudinal Study 1 participants about the use of the EATUS form. None indicated that they had any difficulty completing the form each day, with most participants making it a "habit" to complete it before going to sleep at night. Most comments about the form itself indicated that the EATUS was easy to use and the burden of compliance was relatively small. Comments from PS21, about the ease of understanding the form (PS21, lines 6 to 8), and from the joint interview with PS31 and PS41, about the ease of completing the form (PS31 & PS41, lines 12 to 17), exemplified the general sentiment in the Longitudinal Study 1 interviews regarding the low compliance burden of the EATUS form:

BV： この用紙を記入するのはそれ大体わかりやすかった
PS21: わかりやすかった
BV: *kono youshi wo kinyuusuru noha sore daitai wakari yasukata*
PS21: *wakari yasukatta*
BV: was it generally easy to understand how to fill in this (EATUS) form
PS21: It was easy to understand
and
BV: 用紙の記入するはどうでしたか。記入の負担とかは
PS41: べつになにもなく
BV: 別に何もない

PS41: | 大丈夫 |
PS31: | 大丈夫 |
BV: *youshi no kinyuu suruha doudeshitaka. kinyuu no futan toka ha*
PS41: *betsuni mo naku*
BV: *betsuni nani mo nai*
PS41: | *daijoubu* |
PS31: | *daijoubu* |
BV: How was entering on the (EATUS) form. How about the burden of entry
PS41: There was nothing in particular
BV: not anything in particular
PS41: | it was okay |
PS31: | it was okay |

These, and other comments like these, indicated that the EATUS form was relatively easy for the Longitudinal Study 1 participants to complete, indicating that the form did not pose an undo burden on participants.

Out-of-Class Study Activities

Since more than 70% of the out-of-class activities related directly to school and involved studying (review, preparation), a large portion of my attention during this series of interviews was on out-of-class study behaviors. The remaining 30% of the activities were for non-school related purposes (see section Longitudinal study 1 data for episode purpose above). Just over half (15%) were listed as for enjoyment, with self-improvement and part-time job roughly splitting the remaining non-class related out-of-class English access time.

Patterns of out-of-class English study.

Most participants in Longitudinal Study 1 have regular study patterns that they follow. Some participants focus on finishing their studies before going home, making comments similar to those from PS12 (lines 34 to 38):

PS12: 高校まではぜんぜん復習とかしなかったけど、大学に入って時間はあまってるけど、家に帰ったら家の手伝いをしないといけないから、学校でできる限り終わらせようと思ってするようになった

PS12: *koukou made ha zenzen fukushuu toka shinakatta kedo daigaku ni haitte jikan ha amatterukedo uchi ni kaettara uchi no tetsudai wo shinaitoikenai kara gakkou de dekiru kagiri owaraseyou to omotte suruyouninatta*

PS12: Through high school, I didn't do any review or at all, but at university, the rest of my time is busy. At home, I have other chores I have to do. I do all the [homework] I can at school. I have come to finish all that I think I can do at school.

Similar to PS12, who indicated she studied at school outside of regular classes, other participants in Longitudinal Study 1 who had close friends with similar schedules, preferred to study at school before they went home. This is seen in the example from one of the two joint participant interviews (PS41 and PS31 joint interview, lines 64-78):

BV: 大体いつやってるんですか大体授業以外では、朝早くとか授業と授業の間とかどれが一番

PS41: 放課後が一番多い

BV: なに

PS41: 放課後のクラスが終わってなんて言うたらいいんやろえっとafter class にやります

PS31: 放課後

BV: 帰る前に

PS41: はい

BV: 帰った後にはあまり勉強しない

PS31: 帰ってからは

PS41: あまり

BV: なんで

PS41: 遅いからかな

BV: *daitai itsu yatteru n desu ka daitai jugyou igai de ha asa hayaku to ka jyugyou to jyugyou no aida to ka dore ga ichiban*

PS41: *houkago ga ichiban ooi*

BV: *nani*

PS41: *houka go no kurasu ga owatte nan te iu tara ii n yaro etto* after class *ni yarimasu*

PS31: *houka go*

BV: *kaeru mae ni*

PS41: *hai*

BV: *kaetta go ni ha amari benkyou shinai*
PS31: *kaettekara ha*
PS41: *amari*
BV: *nan de*
PS41: *osoi kara ka na*
BV: Usually, when do you do [study]? Usually, outside of class or early in the morning or between classes or which is best?
PS41: After school is the best mostly
BV: What
PS41: After classes, When classes finish how can I say Well, "after class" that's when I do [study]
PS31: After class
BV: Before you go home
PS41: Yes
BV: After I go home, I almost never study
PS31: After going home
PS41: Almost [never]
BV: Why
PS41: Because it is so late

Similar to PS31 and PS41, other participants in the Longitudinal Study 1 showed a regular pattern of study, a pattern that can be termed habit. When asked about how she decides when to study, participant PS52 (PS52, lines 70 to 75) indicated:

BV: どういう風に今から私は英語を勉強する、決定するんですか
PS52: うーん、決定するというか晩御飯を食べて、あーもう宿題やらなあかんと思ってやるのが多いです
BV: ふーん、だから習慣ですか
PS52: 習慣
BV: *dou iu fuu ni imakara watashi ha eigo wo benkyou suru kettei suru n desu ka*
PS52: *u-n, kettei suru to iu ka bangohan wo tabete a- mou shukudai yarana akanto omotteyaru no ooi desu*
BV: *fu-n, dakara shuuka n desu ka*
PS52: *shuukan*
BV: When you study English, how do you decide from now I will study this English?
PS52: Mmm, there are many ways I decide, after dinner, I think, have I done all my homework. That's what I do a lot.
BV: Hmmm. Therefore, it is a kind of habit.
PS52: Habit

Similar to PS52, many participants had a routine that they followed (PS21, lines 75 to 82):

BV: だからあのどういうふうにじゃあ今から私は予習する、決定する。どういう風にそれ決定するのですか
PS21: 決定
BV: だから授業終わって家に帰ってたぶんいろいろ食べてとかいろんあことやって,でもあるときにね、それをやっぱりいまから明日の予習しないとダメとかね、それはどういうふうにスタート
PS21: ごはん食べた後から
BV: *dakara ano dou iu fuu ni jyaa ima kara watashi ha yoshuu suru kettei suru dou iu fu ni sore kettei suru no desu ka*
PS21: *kettei*
BV: *dakara jyugyou owatte uchi ni kaete tabun iroiro tabete to ka iroiro akoyatte demo aru toki ni ne sore wo yappari ima kara asa no yoshuu shinai to dame to ka ne sore ha dou iu fuu ni suta-to*
PS21: *gohann tabeta ato kara*
BV: Therefore, regarding that [study] how do you say, well from now I am going to prepare, how do you decide, what do you do to decide?
PS21: Decide
BV: Therefore, after classes are done, you go home, perhaps you eat various things, then you do various things, but at that time, how do you, after all, from now I have to prepare for tomorrow but maybe don't want to, how to you decide to start
PS21: It is just after eating [I study]

Other Longitudinal Study 1 participants also indicated they built study into their schedule, setting aside regular time for study either at home, such as PS 21 and PS 52, or at school, such as PS12, PS31, and PS41.

Out-of-class English: Deliberative study.

Most out-of-class English use was deliberative study for a course for participants in Longitudinal Study 1, as is clear from the data obtained on the Longitudinal Study 1participants' use of the EATUS (see discussion above). Participants asked to further elaborate on their time use indicated that they spent most of their out-of-class English use time on homework or preparation activities that were

directly related to their courses, as can be seen in the interview with PS09 and PS 17 (PS09 and PS 17 joint interview, lines 89 to 99):

BV: えっと大体授業以外で英語を使ってる目的は、なんですかそれ、授業と直接関係するエピソードがいっぱいありましたですね
PS17: 主に宿題
BV: だから勉強する、だから宿題がある場合はどういう風に今から勉強しようと決定するんですか
PS09: 時間が合ったら
BV: だから時間が合って、私は友達と話すか、宿題するか、宿題する傾向か
PS17: やらないと間に合わないと
PS09: 次々あるから
BV: *etto daitai jyugyou igai de eigo wo tsukatteru mokuteki ha nan desu ka sore jyugyou to chokusetsu kankei suru episo-do ga ippai arimashita desu ne*
PS17: *omoni shukudai*
BV: *dakara benkyou suru dakara shukudai ga aru baai ha dou iu fuu ni ima kara benkyou shiyou to kettei suru n desu ka*
PS09: *jikan ga attara*
BV: *dakara jikan ga atte watashi ha tomodachi to hanasu ka shukudai suruka shukudai suru keikou ka*
PS17: *yaranai to aida ni awanai to*
PS09: *tsugi tsugi aru kara*
BV: Well, how do you usually use English outside of class? What's the purpose of the use? There were a lot of episodes related to classes, directly related, weren't there.
PS17: Mainly homework.
BV: Therefore, study. Therefore, when you have homework, how do you decide what kind of study to do?
PS09: By the time.
BV: Therefore, the time [when you decide] do I talk to friends or do I do homework, the tendency is to do homework
PS17: When I haven't done it. When I am not on time.
PS09: Because it [the homework assignments] just keeps coming

As these examples illustrate, the pattern for most participants in Longitudinal Study 1 is to use their out-of-class time for study, with the study driven by the work that needs to be done for their courses.

Vocabulary study.

By far the largest amount of out-of-class English use for the Longitudinal Study 1 participants was study for classes. Participants spent 70 percent of their out-of-class English use time on activities related to study. One area that stood out was the study of vocabulary.

One participant spent a lot of time studying vocabulary. His reported in the interview that his source for the vocabulary was a series of long passages. His strategy was to read a passage through once in order to get the general gist, and then go through it more slowly and copy all of the new vocabulary to a separate word list that he would later study. When asked about how he hit upon this idea, he gave a long explanation about the problems he had with other studying strategies. He dismissed speaking practice because he didn't have any conversation partner at home. He also rejected listening, because although he knew it was important, saying (transcript PS13, lines 26 to 29):

> PS13　リスニングは眠くなっちゃうんで,ぜんぜん集中できないんで
> *risuningu ha nemuku nacchau n de zenzen shuuchuu dekinai n de*
> I get sleepy if I try to practice listening and then I can't focus

He had other comments about TOEIC vocabulary study books, etc. Asked whether his preferred study style was inspired by someone else, he replied in the negative, He rejected listening, because although he knew it was important, saying (transcript PS13, lines 22 to 32):

> BV:　そうですか、どういう、なぜそういう風に勉強しようと思ってた
> PS13:　なんか、スピーキングもあげようとおもったんですよ。だけどスピーキングは相手がいないといけないって言うのがあって。家で一人でできるものっていったら、だ。リスニングは眠くなっちゃうんでぜんぜん集中できないんで、一番いいのが、読んでそんで

プラス単語も覚えられるならっと思ったら、リーディングしながらプラス単語も覚えようみたいな

BV: . . . だからほかの例えば高校の先生とか久しぶりに会って話してからその先生が提案された方法じゃないですね、自分から

PS13: じゃないです、自分で

BV: *sou desu ka, dou iu, naze sou iu fu ni benkyou shiyou to omotteta*

PS13: *nan ka, supi-kingu mo ageyou to omotta n desu yo. dakedo supi-kingu ha aite ga inai to ikenai tte iu no ga ate, kazoku de hitori de dekiru mono tte ittara, da risuningu ha nemuku nacchau n de, zenzen shuuchuu dekinain n de ichiban ii no ga yonde son de purasu tango mo oboerareru nara tto omottara ri-di-ngu shinagara purasu tango mo oboeyou mitai na*

BV: *dakara hoka no tatoeba koukou no sensei to ka hisashburi ni aitte hanashite kara sono sensei ga teian sareta houhou jyanai desu ne jibun kara*

PS13: *jyanai desu, jibun de*

BV: Is that so. How do I say? Why do you think you study in that way?

PS13: What [do I say]. I intended to improve speaking, however, for speaking you have to have a partner to talk with. It isn't really something you can do alone in your house. And listening, well I get sleepy. I can never concentrate. The best is I read. Plus I also learn vocabulary. When I read I want to also learn the vocabulary to what I am reading.

BV: Is that something else that, for example, a high school teacher you met after a long time suggested that you use that method or your own

PS13: Not that. It was my own.

Participant PS57 in Longitudinal Study 1 discussed her vocabulary study in several different parts of her interview. In one section of her interview, when discussing the relationship of her out-of-class English use as mostly related to class (PS57, lines 95 to 101), she indicated:

PS57: はいそうですね。あの課題をやるのが最善でその課題の中でもその何ページから何ページがある。それプラス自分の中で、自分のその知らない単語とか、簡単な単語でもその意味がいろんなあるじゃないですか、日本語だと。どれがあってるのかっていうプラスアルファーをしたうえでっていうのが、たぶんも予習もそれの中にあって

PS57: *hai sou desu ne. ano kadai wo yaru no ga saizen de sono kadai no naka demo sono nan pe-ji kara nan pe-ji ga aru, sore purasu jibun no naka de jibun no sono shiranai tango to ka, kantan na tango demo sono imi ga ironna aru jyanai desu ka nihongo da to, dore ga atteru no ka tte iu purasu arufa- wo shita ue de tte iu no ga, tabun mo youshuu mo sore no naka ni ate*

PS57: Yes, well,to do a good job on an assignment among the assignments there are a lot that are from this page to that page, then in addition, there are some words that I don't known or sometimes even easy [English] words have several different meanings in Japanese so deciding which one is correct is also part of what would be called extra preparation.

Vocabulary related to test study was mentioned in several interviews with Longitudinal Study 1 participants. For instance, PS52 (PS52, lines 172 to 173) reported vocabulary study became part of her homework when she was preparing for tests.

PS52: 宿題は出してもやってこないので出してないですけど、テストは単語とか文法はたまにします
shukudai ha dashite mo yatte konai no de dashite nai desu ke do, tesuto ha tango to ka bunpou ha tama ni shimasu
Though I don't set out to, even if I am given homework to do, sometimes when I study for tests I work on vocabulary or grammar.

Though the more generic term homework was more frequently used in the participants' EATUS descriptions, the interviews indicated that vocabulary study was a major component of this homework. This included specific study of vocabulary for tests as well as a general study of vocabulary to improve English reading or speaking.

The comments from Longitudinal Study 1 interviewed participants regarding out-of-class English access patterns of time use, their deliberative study, and the focus on vocabulary study help to clarify when participants studied and what they chose to study. This leads to a central issue regarding the out-of-class English access time spent on study: what drives this time use.

Compulsions to Study

Two forces seem to be driving out-of-class English use for study. One is the desire to understand, or as Longitudinal Study 1 participant PS52 indicated, she does not "like to not understand" (PS52, lines 104 to 110):

PS52: うーん。教科によると思います reading とか phonetics の授業は、あんまり好きではないので。でも当てられてわからなかったら嫌だからやっているっていうところはたしかにあります discussion とか うーん writing とかは実際に自分がやっていくことで、こう、例えば TeacherNameA 先生は discussion のときに私が何か言ったことに対してもっといろんなことを教えてくれるので、それに向けてやっていっています

PS52: *u-n kyouka ni yoru to omoimasu reading to ka phonetics no jyugyou anmari suki de ha nai no de, demo ataterarete wakaranakattara kirai da kara yatteiru tte iu tokoro ha tashika ni arimasu. discussion to ka u-n writing toka ha jissai ni jibun ga yatte iku koto de kou, tatoeba [TeacherNameA] sensei ha discussion no toki ni, watashi ga nani ka itta koto ni taishite motto ironna koto wo oshiete kureru no de, sore ni mukete yatte itte imasu*

PS52: It varies by topic, I think. For reading and phonetics courses I don't really like them that much But I don't like it if I'm called on and I don't know the answer so I end up preparing. For courses like discussion and uh writing I have to be proactive. Like, for example, TeacherNameA's discussion class the teacher responds to what I say so I have to prepare for that

The phrase used by PS52 to indicate her motivation to study, "*demo ataterarete wakaranakattara kirai da kara yatte iru tte iu tokoro ha tashika ni arimasu"* (But I don't like it if I'm called on and I don't know the answer so I end up preparing.), is similar to the comments from other interview participants regarding the forces that drive them to spend time on studying. That is, to avoid misunderstanding or the embarrassment of not understanding in front of other students.

A second force that seems to be driving decisions regarding out-of-class English use is desire to participate and get the most benefit from a course.

Longitudinal study 1 participants discuss this in terms of being able to participate fully (PS42, lines 90 to 93):

PS42: やらないと怒られるから
BV: ふーん
PS42: か注意。やってたほうが授業ちゃんとわかるしなんかそのほうが良い
PS42: *yaranai to osorerareru kara*
BV: *fu-n*
PS42: *ga chuui. yatteta hou ga jyugyou chanto wakaru shi nan ka sono hou ga yoi*
PS42: Because I get angry when I do not
BV: Hmm
PS42: Or being careful. By doing it I understand the class and somehow that's better.

Also, dissatisfaction with getting poor marks also prompts participants to study aspects of English that they might not be inclined to study, such as pronunciation, as pointed out by PS33 when discussing (PS33, lines 177 to 180):

PS33: でも点数低かったら嫌やしなーって思います
BV: あーだから悪い結果を考えて,それにならないために避けるために勉強する
PS33: そうです
PS33: *demo tensuu hikuka ttara iyayashi na-tte omoimasu*
BV: *a- dakara warui kekka wo kangaete sore ni naranai tame ni sakeru tame ni benkyou suru*
PS33: *sou desu*
PS33: But I think I hate it when I get low marks
BV: Ah, you think about getting bad results You don't want that, to avoid that you study
PS33: That's it

These might have some connection to the Ought-to Self (I ought to study this or I won't be able to understand) and the Ideal L2 Self. However, rather than the issue of identity (as a person) being foremost in the student's mind, it seems to be their interaction with the situation. In this case, too, it might be related to the L2 Learning

Environment or to the concept of instrumentality prevention. However, this also implies the idea of something that ought to be done in order to become the person she wants to be.

In Addition to Study: Music

Aside from studying, many participants mention listening to English songs. Representative of this is a comment from participant PS17, whose out-of-class time use for English is mentioned as directly related to music if it not connected to classes (transcript PS09 + PS17 joint interview, lines 101 to 103):

BV: 授業と関係ないの英語となんていうかな接することありますか
PS17: 音楽聞くぐらいしかないかな
BV: *jyugyou to kankei nai eigo to nantei iu kana sessuru koto arimasu ka*
PS17: *ongaku kiku gurai shikanai ka na*
BV: Do you ever come into contact with English that is not related to classes?
PS17: Only through listening to music I suppose

Similar comments are found from PS14, who reports that because time is limited because of schoolwork (transcript PS14, lines 47-52):

BV: ほとんどは学校と直接ほとんどは宿題とか予習ですねそれ以外のあのー
PS14: そうですね。学校の課題がとてもたくさんあるので、やっぱりそれに時間をとられて、他にはたまに友達から洋楽のＣＤを借りて聞くこともあるんですけど、大体は、学校の宿題をやって一日が終わってしまうというのが、そうですね
BV: *hotondo ha gakkou to choku setsu hotondo ha shukudai to ka yoshuu desu ne sore igai no ano-*
PS14: *sou desu ne. gakkou no kadai ga totemo takusan aru no de yappari sore ni jikan wo torarete. hoka ni ha tama ni tomodachi kara yougaku no CD wo karite kiku koto mo aru n desuke do. daitai ha gakkou no shukudai wo yatte ichinichi ga owatte shimau to iu no ga sou desu ne*
BV: Most of the [episodes] are related most are homework or preparation time, right
PS14: Yeah, I guess. There are so many assignments that, they take so much time that, aside from those, sometimes I borrow a CD from my friend

and listen to it but most of the time when I finish my homework I have to say the day is gone, I guess

Although, the interest in English language music was often just restricted to listening to the songs rather than actually studying the language involved (transcript PS09 + PS17 joint interview, lines 113 to 115):

BV: 歌詞カードを時々読んでるあんまりないない
PS17: 一回ぐらいしかない
BV: *kashi ka-do wo tokidoki yonderu amari nainai*
PS17: *ikkai gurai shikanai*
BV: Do you occasionally read the lyrics? Not often?
PS17: Only once maybe

Another student mentioned how English songs seemed to improve her listening ability (transcript PS12, lines 45 to 48):

PS12: えっとお母さんが昔から洋楽が好きで、ずっとカーペンターズとかずっとかけてたから、耳は結構リスニングに強くなったと自分では思っててだからなんかずっととりあえず。英語を音楽でも聞いてたら良いかなと思って
PS12: *etto okasan ga mukashi kara yougaku ga suki de, zutto ka-penta-zu to ka zutto kakete kara mimi ha, kekkou, risuningu ni tsuyouku natta to jibun de ha omottete, dakara nanka zutto toriaezu eigo wo ongaku demo kittetara yoi ka na to omotte*
PS12: Well, my mother has enjoyed western music for a long time she's always playing [groups like] The Carpenters and stuff so I think I've gotten a pretty good in listening so like always anyway I think that listening to music is a good idea

Participant PS12 specifically mentioned listening to music in English as a way to pick up new vocabulary (transcript PS12, lines 50 to 53):

PS12: 以外はえっとミュージカルはあのー言葉がやっぱりいろんな言葉が入ってて、単語が覚えるのにも、いろんな単語が入ってるからいいなーと思って。ミュージカルはいろいろ聞いてます。最近ミュージカル映画とかたくさん出てるから
PS12: *igai ha etto myu-jikaru ha ano hitokotoba yappari, irona kotoba ga haittete tango ga oboeru no ni mo irona tango ga haiteru kara ii na- to*

omotte. myu-jikaru ha iroiro kiitemasu. saikin myu-jikaru eiga to ka takusan deteru kara

PS12: Aside from pop songs, since musicals have a lot of different words, you can learn vocabulary, too. Since there's a lot of vocabulary, I think it's [a] good way [to study] so I listen to different musicals. And a lot of musical movies have come out too so

Deliberative study of vocabulary from the music they hear was mentioned by PS12, who goes on to discuss how popular television programs and movies that featured a lot of music were part of her language learning (PS12, lines 55 to 57):

PS12: えっと、エアスプレーとかグリーとか、なんかいろんな種類があるけど、そんな難しいくない文法だし単語だし、ちょっと調べて分かったら記憶に入って

PS12: *etto, easupure- to ka guri- to ka, nan ka irona shurui ga aru kedo, sonna muzukashiikunai bunpou da shi tango da shi, chotto shirabete wakattara kioku ni haitte*

PS12: Well, With *Hairspray* or *Glee* or. There are various kinds of, but. The grammar or the vocabulary are not that difficult so if you just examine it a bit you will understand it and commit it to memory

Other participants also mentioned listening as the preferred non-academic out-of-class focus, along with their own nominations for beneficial songs or bands (transcript PS33, lines 90 to 98)

BV: 内容に関してはこれをパッとみて直接授業に関係あることそれが多いですねだからほとんどは予習と勉強が多いですね。テストのための勉強とか、それ以外の自分のためにとか上手になるためとか

PS33: それはリスニングぜんぜんできないんで、一様通学のときに英語の歌詞の人の音楽を聞くようにしています

BV: ううーん。どんな音楽

PS33: ビートルズが聞きやすいって聞いたからとりあえずビートルズからはじめてます

BV: *naiyou ni kanshite ha kore wo pa tto mite chokusetsu jyugyou ni kankei aru koto sore ga ooi desu ne. dakara hotondo ha yosshu to benkyou ga ooi desu ne. tesuto no tame no benkyou to ka, sore igai no, jibun no tame ni to ka jyouzu ni naru tame to ka*

PS33: *sore ha risuningu zenzen dekinai n de, ichiyou tsuugaku no toki ni eigo no ongaku wo kiku you ni shite imasu*

BV: *u-n. donna ongaku*

PS33: *bi-toruzu ga kiki yasui tte kiita kara toriaezu bi-toruzu kara hajimetemasu*
BV: As I see by glancing at your data I see you have a lot of [episodes] related to classes. Therefore, mostly you prepare for classes or study a lot. Aside from studying for tests and other things, do you do anything for yourself or your own self-improvement?
PS33: As for that, I'm no good at listening, so I decided to try listening to English music on my morning commute.
BV: Okay. What type of music?
PS33: I've heard that The Beatles are easy to listen to, so I began with The Beatles.

Though not all English music comes from western musicians, as pointed out by participant PS38 (transcript PS38, lines 84 to 86):

BV: あー、英語の音楽も聴く？特に好きなグループはありますか？
PS38: 英語の音楽と言っても日本の人が歌ってる英語の曲とか。例えば、結構さまざまなんです。
BV: *a-, eigo no ongaku mo kiku? toku ni sukina guru-pu ha arimasu ka*
PS38: *eigo no ongaku to itte mo nihon no hito ga utatteru eigo no kyouku to ka. tatoeba, kekkou samazama nan desu.*
BV: Oh, do you listen to the English music? Do you have any particular favorite group?
PS38: When I say English music [on the EATUS] I often mean English songs that a Japanese person sings even if I say English music. For example, though, it varies a lot.

In addition to listening to music while commuting to school, participants also indicated that they listened to music while doing other things, especially study. This can be seen in the comment from participant PS21 (transcript PS21, lines 85 to 87):

PS21: 音楽聞きながらしたりとか、なんか時間かかるけどテレビ見ながらしたりとか。あんまりは集中できないけど、楽しいことと一緒にやる
PS21: *ongaku kikinagara shitari to ka, nan ka jikan kakaru kedo terebi minagara shitari to ka, anmari shuuchuu dekinai kedo, tanoshii koto to issho ni yaru*
PS21: I do it [study] while listening to music and such somehow if I do it while watching TV it takes a lot of time Although I cannot concentrate as much, I do it along with things I enjoy.

Music is also mentioned as a turning point in participants' attitudes toward English study, as seen in the comment from participant PS42 (transcript PS42, lines 133 to 136):

PS42 あって。中学校の学校の英語の授業は大嫌いだったんですけど、英語の音楽とか聞くのはけっこうちっちゃいときから好きで。高校で英語をちゃんと勉強しようと思って。その英語の専門科のコースに入学してって感じですかね

PS42 *atte. chugakkou no gakkou no eigo no jugyou ha daikirai data n desu kedo, eigo no ongaku to ka kiku no ha kekkou chicchai toki kara suki de. koukou de eigo wo chanto benkyou shiyou to omotte. sono eigo no senmon ka no ko-su ni nyugaku shite tte kanji desu ka ne*

PS42 I hated the English classes in junior high school classes but ever since I was a child I enjoyed listening to English music so I feel that I decided to enter the English course at an English department in high school

Incidental listening to English music also occurred during leisure activities in ways that the participants did not expect, as when it was used for background music to maintain a non-Japanese atmosphere at an amusement park, as noted by PS31 (PS41 & PS31 joint interview transcript, lines 173-175):

PS31: ユニバーサルスタジオジャパンに遊びに行くときは英語が常に流れ音楽とか流れてたりとか、あとショーとか見るときには全部英語とかだから

PS31: *uniba-saru sutajio japan ni tabi ni iku toki ha eigo ga tsune ni nagare ongaku to ka nagaretetari toka, ato sho- to ka miru toki ni zenbu eigo to ka dakara*

PS31: When I went to Universal Studio Japan, English was always being played everywhere. Music and stuff was always being played. Later, when watching the show, everything was in English

Use of English Outside of Class for Work

Another area that had many instances of out-of-class use of English was for work. SAs the time use data shows (see discussion of the data collected using the EATUS form for Longitudinal Study 1 above), 7% of out-of-class English use was for part-time jobs (k = 164), but those who did included large amount of time for these

episodes (*m* = 2 hours 52 minutes). Participants who had large amounts of time at work using English were asked about this. Some participants indicated they teach in *jukus*, Japanese for cram schools, where they teach English to children or junior high school students such as PS52 (lines 15 to 16):

BV: 授業以外ではバイト、殆どバイトためですか？
PS38: はい。
BV: *jyugyou igai de ha baito, hotondo baito tame desu ka?*
PS38: *hai*
BV: Outside of class [episodes] were part-time job related, really for [your] part-time job, wasn't it?
PS38: Yes

And PS38 (lines 18 to 14):

BV: 勉強するとかの時間がバラバラですか
PS21: バイトの日はあんまりしない
BV: あーそうですね。バイトはどんなバイトですか
PS21: 塾で教えてる
BV: 英語
PS21: 英語
BV: *benkyou suru to ka no jikan ga barabara desu ka*
PS21: *baito no hi ha anmari shinai*
BV: *a- sou desu ne. baito ha donna baito desu ka*
PS21: *juku de oshieteru*
BV: *eigo*
PS21: *eigo*
BV: your study episodes and such occur all over, don't they?
PS21: When I have my part-time job, I don't usually study
BV: Ah, is that so. Your job, what kind of part-time job?
PS21: I teach at a *juku* [cram school]
BV: English
PS21: English

This work also occasionally requires reviewing the English materials, as pointed out by PS21 (lines 29 to 33):

BV: どんな準備、教えるためにどんな準備が必要ですか
PS21: 教科書、その子の学校の教科書読んで、どこがポイントかを探してあげて。それのなんかテスト作ってあげたりとか、教科書読ん

だり、あとは事前に、テキスト見たりしてちゃんと解説できるように、準備します

BV: *donna junbi, oshieru tame ni donna junbi ga hitsuyo desu ka*

PS21: *kyoukasho, sono ko no gakkou no kyoukasho yonde, doko ga pointo wo sagashite agete, sore no nan ka tesuto tsukute agetari to ka kyoukasho yondari, ato ha jizen ni, tekisuto mitari shite chanto kaisetsu dekiru you ni, junbi shimasu*

BV: What kind of preparation? For teaching what kind of preparations are necessary?

PS21: The textbook, I use the textbook from the child's school. I consider what points to highlight. From reading that textbook I make tests to give, I read that textbook and think about the things in it, looking at the textbook, after that, before I teach I look at the text and make sure I can explain it properly. That's the preparation.

As seen for PS21 and PS38, PS52 also had large blocks of out-of-class English use related to a part-time job teaching English. She also discussed her part-time job at a *juku* (extract taken from PS52, lines 153 to 162 and lines 172 to 173).

BV えっとこのエピソードを見て家でやっているが多いけどえっと塾、塾で英語教えてるんですか

PS52: はい

BV: それはどうですか。簡単楽しい

PS52: まだ小さい子供に学校の授業についていけるように教えてるので

BV: 小学校、中学校

PS52: 中学校 1 年生です、あんまり一生懸命向こうは聞いてくれないので。私はがんばってますけど、でも子供自体は可愛いんで、それは楽しいけど、彼らに、あの良い影響があるか分からないんですけど

PS52: 宿題は出してもやってこないので出してないですけど、テストは単語とか文法はたまにします

BV *etto kono episo-do wo mite uchi de yatte iru ga ooi kedo etto juku juku de eigo oshieteru n desu ka*

PS52: *hai*

BV: *sore ha dou desuka. kantan. tanoshii*

PS52: *mada chisai kodomo ni gakkou no jyugyou ni tsuite ikeru you ni oshieteru no de*

BV: *shougakkou, chuugakkou*

PS52: *chuugakkou ichi nen sei desu. anmari isshou kenmei mukai kou ha kite kurenai no de, watashi ha ganbattemasu kedo, demo kodomo jitai ha kawaii n de, sore ha tanoshii kedo, karera ni ano yoi eikyou ga aru ka wakaranai n desu kedo*

PS52: *shukudai ha dashite mo yatte konai desu kedo, tesuto ha tango to ka bunpou ha tama ni shimasu*
BV Oh, I see you have many long episodes at home, but you teach English at a *juku* [cram school], a *juku* [cram school] ?
PS52: Yes
BV: How is that Easy Enjoyable
PS52: They are still young children so that I can teach a school lesson for them
BV: Elementary school Junior high school
PS52: They are first year junior high school. In one way I have to [work] hard because they don't listen, so I have to do my best However, as for me, it is fun teaching children because they are cute So it is fun But I don't know whether I am having a good effect or not on them . . .
PS52: Because they don't do it, I don't give them homework But I do test them sometimes on vocabulary and grammar

A great deal of the work-related use of English outside of class was connected to part-time jobs at various cram schools for Longitudinal Study 1 participants, as is clear from the EATUS data discussed above. This out-of-class English use, driven by demands of work, provides one area where the participants L2 use is not driven by the demands of their own study.

Ending an Out-of-Class English Use Episode

As is clear from the data collected using the EATUS form, the length of episodes varied according to purpose and place, but the mean episode was 1 hour 13 minutes in duration (see discussion of Longitudinal Study 1 EATUS Results above). The mean episode length for the interviewed participants ranged from 34 minutes (PS54) to 2 hours 23 minutes (PS21).

Regarding how participants decided to end a deliberate out-of-class study episode, interview participants indicated that this decision was made based on some sense of completion of the study tasks they had set or fatigue, as expressed by PS33 (PS33, lines 77 to 80)

PS33: 終わり.終わりのほうは、もうこれ以上
BV: 終わりのほうは
PS33: 終わりのほうは。そのやろうと思ってたことが終わるか眠たくなるか
PS33: *owari. owari no hou ha, mou kore ijyou*
BV: *owari no hou ha*
PS33: *owari no hou ha, sono yarou to omotteta koto ga owaru ka nemutaku naru ka*
PS33: Ending. The ending That's enough
BV: The ending
PS33: The ending is when I think I have done what I set out to do, or I become sleepy, or

Others echoed this, referring to a certain set amount that they wanted to accomplish before they went home (PS41 and PS31 joint interview, lines 132 to 142):

PS41: 課題が終わったら、全部終わったら
BV: 全部終わるとは、例えば作文だったら、いやなにか空所で 10 個埋まるまでですね。他のだったら
PS31: もしエッセイとかを書くのだったら、その、えっと何どこまで。第一パラグラフまでやるとか、第二パラグラフまでやるとか決めて、できたらもう帰ろうみたいな
BV: あーそうですか。だから自分のなにか目標を設定して、それの勉強の機会の目標を設定して。それを達成してから帰る、そのエピソード途中に大体集中するんですか
PS41: | うん。集中。はい |
PS31: | うん。集中。はい |
PS41: *kadai ga owattara, zenbu owattara*
BV: *zenbu owaru to ha. tatoeba sakubun dattara, iyana ni ka kuusho de 10 ko marumaru desu ne. hoka no dattara*
PS31: *moshi essei to ka wo kaku no dattara, sono, etto nani doko made, daiichi paragurafu made yaru to ka, dai ni paragurafu made yaru to ka kimete. dekitara mou kaerou mitai na*
BV: *a- so desu ka. dakara jibun no nani ka moku hyou wo kettei shite, sore no benkyou no kikai no moku hyou wo kettei shite, sore wo tassei shite kara kaeru. sono episo-do tochuu ni daitai shuuchuu suru desu ka*
PS41: | *un. shuuchuu. hai* |
PS31: | *un. shuuchuu. hai* |
PS41: If an assignment is done, then I am done
BV: When everything is done. For example, if it is a composition. No, if it's 10 blanks to fill in then when you fill them all your done, right, but what about other assignments

PS31: If I am writing an essay, that, well what . . . I decide how far to go, such as to finish the 1st paragraph or 2nd paragraph. Then, when I finish I guess I head home
BV: Ah, so generally you set a goal, you decide on a goal for that study time and when you reach that goal you go home. During the episode do you usually concentrate?
PS41: | yes, intensely |
PS31: | yes, intensely |

Decisions regarding the ending of an episode followed these patterns. Either a task was completed, that is a participant had set a certain amount of work to do on an assignment or finished the homework, or fatigue had set in.

Gaining an Interest in English

Participants in Longitudinal Study 1 had four main paths toward English study. These were early exposure, usually because of a parental decision to send them to English classes, the influence of a teacher, a unique experience, or a perception that English was something they wanted to use in their future.

Early exposure.

One was early exposure, with parents often putting them on the path to using English, either directly by sending them to English-language programs before they began formal study of English in junior high school, as illustrated by a comment from PS41 (PS41 and PS31 joint interview, lines 250 to 255):

BV: 君はいつから英語が
PS41: 幼稚園のころから
BV: えっ幼稚園
PS41: 幼稚園のころからになんか英会話教室に通ってて。それで、中学生の時にいったんやめてそれからは塾で英語をやってて楽しいなって思ってました
BV: *kimi ha itsu kara eigo ga*

PS41: *youchien no koro kara*
BV: *ey- youchien*
PS41: *youchien no koro kara ni nan ka eigo kyoshitsu ni toottete. sore de, chuugakusei no toki ni ittan yamete sore kara juku de eigo wo yattete tanoshii natte omottemashita*
BV: When did you start English
PS41: From kindergarten
BV: Oh, kindergarten
PS41: From kindergarten, I went to English conversation class and stopped when I entered junior high school And then I did English at a *juku* and thought it was fun.

Other participants also traced their interest in English to childhood experiences.

Parental involvement.

Parents were frequently not a factor in whether the participant studied English, as explained by PS17 (PS09 and PS17 joint interview, lines 386 to 393):

BV: 最後のほうは、家族とか両親は英語を君たち英語勉強することはどうですか。それ賛成反対とか
PS09: べつに賛成はしてくれてます
BV: えっと両親は英語ができる
PS09: できない
PS17: 全く
PS09: 全くできない
BV: *saigo no hou ha, kazoku to ka ryoushin ha eigo wo kimitachi eigo benkyou suru koto ha dou desu ka. sore sansei hantai to ka*
PS09: *betsuni sansei ha shite kuretemasu*
BV: *etto ryoushin ha eigo ga dekiru*
PS09: *dekinai*
PS17: *mataku*
PS09: *mataku dekinai*
BV: Lastly, what does your family or your parents think about studying English. Are they in favor or against or
PS09: In particular, they agree
BV: Oh, can you parents speak English
PS09: They can't
PS17: At all
PS09: They can't [speak it] at all

Many participants in Longitudinal Study 1 were clear that their parents' didn't seem to have any preference as to whether they studied English or some other topic. PS38 discussed it in terms of her parents not mentioning it at all to them (PS38, lines 132 to 137):

BV: 家族はどうですか。君が英語を勉強するのは賛成、反対、どっちでもいいか。
PS38: 反対はしていない。
BV: 例えばお母さん、お父さんは、何を考えるとか、私の「娘が英語できる」、とかプライド持っているんですか？
PS38: そんな聞いたこと無いから、わからない。
B: *kazoku ha dou desu ka kimi ga eigo wo benkyou suru no ha sansei, hantai, docchi de mo ii ka*
PS38: *hantai ha shiteinai*
BV: *tatoeba okaasan, otousan ha, nani wo kangaeru to ka, watashi no "musume ga eigo dekiru" to ka puraido motte iru n desu ka*
PS38: *sonna kiita koto nai kara, wakarani*
B: How about your family? Do they agree, disagree with your studying English
PS38: They don't object
BV: For example, has your mother or father said something like "my daughter can speak English" or anything like that
PS38: I haven't heard anything like that. I'm not sure

However, parental interest also sparked interest in English among some participants, as explained by PS42 (PS42, lines 126 to 136):

BV: あのいつから英語が好きになったんですか
PS42: いつから。うーん。なんかお母さんがすごいアメリカが好きで、洋楽とか洋画とかをお母さんがすごい好きで小っちゃいときからいろいろ見たり聞いたりしてて、で、なんか中学校の時に、国際ボランティアっていうのに興味があって。外国に行ってジャイカっていう団体が海外、海外に行ってなんか支援してるのに興味があって。中学校の学校の英語の授業は大嫌いだったんですけど、英語の音楽とか聞くのはけっこうちっちゃいときから好きで、高校で英語をちゃんと勉強しようと思って。その英語の専門科のコースに入学してって感じですかね
BV: *ano itsu kara eigo ga suki ni natta n desu ka*
PS42: *itsu kara. u-n. nan ka okaasan ga sugoi amerika ga suki de yougaku to ka you ga toka wo okaasan ga sugoi suki de chicchai toki kara iroiro mitari kitari shitete de nan ka chuugakkou no toki ni, kokusai borantia*

tte iu no ni kyoumi ga ate, gaikoku ni itte jaika [JICA] tte iu dantai ga kaiga, kaigai ni itte nan ka shien shiteru no ni kyoumi ga ate, chuugakkou no gakkou no eigo no jyugyou ha daikirai data n desu kedo, eigo no ongaku to ka kiku no ha kekkou chicchai toki kara suki de, koukou de eigo wo chanto benkyou shiyou to omotte, sono eigo no senmonka no ko-su ni nyuugaku shite tte kanji desu ka ne

BV: Well, when did you begin to like English?

PS42: When? Well. My mother liked America a lot and she likes western music and western movies a lot so I heard and saw a lot of English since I was really young and then in junior high school I got interested in international volunteering, there's a group called jaika [JICA = Japan International Cooperation Agency] that goes overseas and provides some kind of assistance . . . and although I hated my junior high school English class I did like listening to English music since I was a young kid I thought I would study English hard in high school and so I entered the English program in an English department in high school.

This early exposure was one spark for participants in the Longitudinal Study 1 regarding English. A second spark was the influence of role models, particularly teachers.

Influence of teachers and other role models.

A second reason was an influential teacher. Often, the influence of a teacher or the development of one's ability lead to a change in attitude towards English. One influential teacher could even change Longitudinal Study 1 participants from hating English study to enjoying it immensely, as explained by PS21 (PS21, lines 118 to 129):

BV: いつから英語が好きになったんですか

PS21: 中学校

BV: 最初の授業に入って好きになった

PS21: 2 年生から

BV: どうして 2 年生から

PS21: 1 年生の時は先生が怖かったから全然好きになれなくって、なんか、英語の授業好きじゃなかったけど、2 年生は先生がおもしろい先生で、クラスごとに分けられてて、ちっちゃい教室で、なん

か個人的にやってくれて、できるようになってきて、そこから好きやなーって
BV: だからそれは先生のおかげですか
PS21: 先生のおかげ
BV: *itsu kara eigo ga suki ni natta n desu ka*
PS21: *chuugakkou*
BV: *saishou no jyugyou ni haitte suki ni natta*
PS21: *ni nensei kara*
BV: *doushite ni nensei kara*
PS21: *ichi nensei no toki ha sensei ga kowakata kara zenzen suki ni nare nakutte, nan ka, eigo no jyugyou suki jyanakata kedo, ni nensei ha sensei ga omoshiroi sensei de, kurasu goto ni wakeraretete, chicchyai kyoushitsu de, nan ka kojin teki ni yatte kurete, dekiru you ni natte kite, soko kara sukiyana- tte*
BV: *dakara sore ha sensei no o-kage desu ka*
PS21: *sensei no okage*
BV: When did you begin to like English?
PS21: Junior high school
BV: From the first class you entered you liked it
PS21: From second year
BV: Why from the second year
PS21: My first year teacher was scary so I didn't get to like the subject at all. I didn't like English classes, but in second, the teacher was a really interesting teacher and he split up the class and held it in a really small classroom and then taught it a little like it was a private lesson and I gradually got better and from that point I started to like English
BV: So, your teacher deserves the credit
PS21: Thanks to my teacher

Teacher influence, particularly the influence of junior high school teachers, played a large role in the decision to study English for many of the Longitudinal Study 1 participants. This is particularly important as junior high was the first time some participants in Longitudinal Study 1 were exposed to English, as explained by PS17 (PS09 and PS17 joint interview, lines 38 to 44):

BV: いつから英語が好きになりましたか
PS09: いつから
PS17: 中学生で始めて英語を習い始めたんですけど、たぶんそのときに、楽しいなと思いました
BV: だからそれの前は、小学校のときとか、もっと若いときとかは、英語に関して特になにか意見はなかった
PS17: ぜんぜん英語に触れる機会がなかった

BV: *itsukara eigo ga suki ni narimashita ka*
PS09: *itsukara*
PS17: *chuugakusei de hajimete eigo wo narai hajimeta n desu kedo, tabun sono toki ni, tanoshii na to omoimashita*
BV: *dakara sore no mae ha, shogakkou no toki to ka, motto wakai toki to ka ha, eigo ni kanshite toku ni nani ka iken ha nakatta*
PS17: *zenzen eigo ni fureru kikai ga nakatta*
BV: When did you begin to like English
PS09: When
PS17: I started when I was a junior high student when I began learning English Perhaps probably about that time I though I enjoyed it
BV: So, you didn't think about English when you were in elementary school At a younger age
PS17: Not at all. There was not chance to experience English

This point was also made by PS09 (PS09 and PS17 joint interview, line 50)

PS09: あまり意識してなかったです
PS09: amari ishiki shite nakatta desu
PS09: I wasn't really conscious of [English]

Lack of consciousness of English prior to junior high school was common among the Longitudinal Study 1 participants, which might give some indication of why junior high school teachers are so influential.

Occasionally there were people who could be considered to have been role models, but who were perhaps too proficient so that the student didn't believe that they could achieve the same level (PS41 and PS 31 joint interview, lines 303 to 311):

BV: 誰かが人物は、その英語がよくできる人物がいて、そうみたいな人になれば良いなと思ってる。そういう方がいますか
PS41: います。クラスの子がすごく英語しゃべれる子が多いクラスなんでその子みたいになれたらよいなっていつも思っています
BV: 今のクラスメートの、だからそれ自信のことですか。だからクラスメートが良くできると思ってるけれどど、君はそういう風になりたいは君は同じ程度でできるから
PS41: できないって自信を英語をしゃべるっていう自信はないです
BV: *dare ka ga jinbutsu ha. sono eigo ga yoku dekiru jinbutsu ga ite, sou mitai na hito ni nareba yoi na to omotteru. sou iu kata ga imasuka*
PS41: *imasu. kurasu no ko, ga sugoku eigo shabereru ko ga ooi kurasu nan de sono ko mitai ni naretara yoinatte itsumo omotteimasu*

BV: *ima no kurasume-to no, dakara sore jishin no koto desu ka. dakara kurasume-to ga yoku dekiru to omotteru keredo do, kimi ha sou iu fu ni naritai ha kimi ha onaji teido dekiru kara*
PS41: *dekinai tte jishin wo eigo wo shaberu tte iu jishin ha nai desu*
BV: Did you have anyone, know anyone whose English was good and you thought you wanted to become like them, like that person.
PS41: Yes. There are some students in class who can really speak English well so I think I'd like to be like them
BV: And among your present classmates . . . so is that a matter of confidence? So that classmate you thought can speak well
Do you think that if you want to reach that level you can reach it?
PS41: I won't have that confidence. I don't have confidence in speaking English

The school environment, with both teacher and classmate role models, can be seen as one of the triggers for English.

Positive views of English.

The third reason participants in Longitudinal Study 1 became interested in studying English was for a generally positive view of English. This emerged in two patterns. One was a general interest in English in their future, as expressed by PS38 (PS38, lines 50 to 53):

BV: いつから英語が好きになりましたか
PS38: えっと、一番初めに英語って言うのを知ったっていうか、勉強し始めたんが中学校の授業だったんで、そこで英語は好きやなとなって。ずっと将来英語関係の仕事とかをやりたいと思った。
BV: *itsu kara eigo ga suki ni narimashitaka*
PS38: *etto, ichiban hajime ni eigo tte iu no wo shitta tte iu ka, benkyou shi hajimeta n ga chuugakkou no jyugyou data n de, soko de eigo ha suki ya na to natte zutto shourai eigo kankei no shigoto to ka wo yaritai to omotta*
BV: When did you begin to like English?
PS38: Oh, right when I first got exposed to English when I became aware of it from when my first junior high school class. From then I started to like English. Since then I thought I want to do some English-related work in the future

Or because it was viewed as something "cool," which could occur in spite of having English classes that were not well received, as PS42 explained (PS42 and PS15 joint interview, lines 163 to 168):

PS42: はい。そうですね、なんか中学校の英語の授業が先生が嫌いだったんです。先生の話し方とかもなんか気持ち悪くて、授業も眠たいし、で中学は嫌いだったんですけど、なんか英語うまくなりたいと思って
BV: なぜ英語を
PS42: 喋ってる人がかっこいいから
PS42: *hai. sou desu ne. nan ka chuugakkou no eigo no jyugyou ga kirai data n desu. sensei no hanashi kata to ka mo nan ka kimochi warukute, jyugyou mo nemutai shi, de chuugaku ha kirai data n desu kedo*、*nan ka eigo umaku naritai to omotte*
BV: *naze eigo wo*
PS42: *shabetteru hito ga kakkoii kara*
PS42: yes, that's right I hated some junior high school English teacher's lesson I felt uncomfortable with the teacher's way of speaking I was also sleepy in class I hated junior high school but I wanted to be better at English
BV: Why English?
PS42: Because talking to other people is cool

Though the path toward an interest in English varied among the Longitudinal Study 1 participants, they all gained an interest in studying English and using it in some way in their future.

Positive views of English were also the by-product of overseas experiences, particularly homestay programs offered when the participants were in high school. PS12, who had also been to China and Guam, discussed her homestay experiences and how they had increased her motivation to study English, which she really hadn't considered whether she liked or disliked as her private high school had "English all the time" (PS12, lines 104 to 106 and lines 143 to 148):

PS12: えっと UniversityName のここ、高校に行ってて、英語科に入って。ほんとずっと、英語がやっぱり多かったんですけど、やっぱり嫌だと思うこともなかったから

. . .

BV: それを、その経験があってから自分の動機の変更がありましたか

PS12: もっと、それまではあの一やっぱり憧れてただけだけど、英語を使って喋ってるうちにもっともっと滑らかに喋りたいとかその専門的にホネティックスじゃないけどもっと綺麗に喋りたいとかそういうもっと単語増やしたいとか別に勉強をもっとしようと思う気になりました

PS12: *etto [UniversityName] no koko, koukou ni ittete, eigo ka ni haitte, hotondo zutto, eigo ga yappari ookatta n desu kedo, yappari kirai da to omou koto mo nakata kara*

. . .

BV: *sore wo, sono keiken ga ate kara jibun no douki no henkou ga arimashitaka*

PS12: *motto, sore made ha ano- yappari akogareta da kedo, eigo wo tsukatte shabetteru uchi ni motto motto nameraka ni shaberitai to ka, sono senmon teki ni honetikkusu jyani kedo motto kirei ni shaberitai to ka, sou iu motto tango fueyashitai to ka, betsu ni benkyou wo motto shiyou to omou ki ni narimashita*

PS12: Oh, I came here to [UniversityName's] high school. I entered the English department. So really there was a lot of English all the time. So, I never really thought about not liking English.

. . .

BV: Was there any change in your motivation to study since you had those [homestay] experiences

PS12: More Before that, well, I still wanted to [use English] but Because of using English I wanted to talk more smoothly, though it wasn't really specialized like phonetics I wanted to increase my vocabulary Particularly, I decided to focus on studying more

This sentiment was found from other Longitudinal Study 1 participants with overseas experiences.

The prompt for English study varied from classmates and teachers to parental influence and overseas experiences. Regardless of the trigger, Longitudinal Study 1 participants explained their interest in terms of English as a part of their future.

Visions of the Future and English

The reason for studying English is frequently related to a vision of their future for the participants in Longitudinal Study 1. Participants discuss this in terms of

future jobs or living overseas. PS13, for example, sees English as part of the work he will do after he graduates (PS13, lines 152 to 169), whether in Japan or overseas.

BV: だから将来は英語関連する
PS13: 仕事したいです
BV: 例えば
PS13: 例えば。あんまり考えてないです。やっぱソフトバンクとかだったらあのー、海外ではまだボーダーフォンなんですけど、そういう会社のアレが海外にもあったりする場所とかだったら。最初は日本かもしれないですけど、その時に、海外行ってくれって言われたら海外で、英語使えたら、英語で喋れるし、その英語に対してなんか、その会社に来たら、読んだりできるし、そういう風な感じで、会社のためになんか英語を使いたいとかもあるし、後一回だけ。そのソフトバンクショップ行ったときに、その海外の人来たときに、全然日本語で喋れなくて英語でやろうとしたけど、その店員さんがあんまり全然　英語わかってないし喋れないしっていうのがあって、日本語でちょっと、その携帯についてこういうなってますって言ってたんで　そうするとやっぱ、日本語が喋れない外人が日本に来てて住んでたりすると、そういうのかわいそうだなっと思って。そういうところで手伝えるんだったら手伝いたいなって思って
BV: *dakara shourai ha eigo wo, kanren suru*
PS13: *shigoto shitai desu*
BV: *tatoeba*
PS13: *tatoeba. anmari kangaetenai desu. yappa sofuto banku to ka dattara, ano- kaigai de ha mada bo-da-fon nan desu kedo, sou iu kaisha no are ga kaigai ni mo attari suru basho to ka dattara, saisho ha nihon kamoshirenai desu ke do sono toki ni, kaigai itte kurette iwaretara kaigai de, eigo tsukaetara, eigo de shirabererushi, sono eigo ni taishite nanka, sono kaisha ni kitara, yondari dekiru shi, sou iu fu na kanji de kaisha no tame ni nan ka eigo wo tsukaitai to ka mo aru shi, ato ikkai dake, sono sofuto banku shoppu itta to ki ni sono kaigai no hito kita toki n, zenbu nihongo de shaberenakute eigo de yarou to shita kedo, sono tenin san ga anmari zenbu, eigo wakattenai shi shaberenai shitte iu no ga ate, nihongo de chotto. sono keitai ni tsuite kou iu nattemasu tte itteta n de, sou suru to yappa, nihongo ga shaberenai gaijin ga nihon ni kitete sunde tari suru to, sou iu no kawai sou dana tto omotte, sou iu tokoro de tetsudaeru n dattara tetsudaitai natte omotte*
BV: Therefore, English is related to your future
PS13: I want [to use English] at work
BV: For example
PS13: For example, I haven't really thought about it but places like Softbank or overseas, there's also Vodaphone. In companies like that there is a chance to work abroad, even if at first it is in Japan. Even then, if I can speak English then I have a chance if they want me to work abroad. I

> could do something with English. For that, I have read that I can get into the company and can speak English It looks like I can do it. Even any company in Japan needs English use sometimes When I was at Softbank there was a foreign customer who came in about a cell phone who could not speak Japanese And the salesclerk could not speak English. The shop manager didn't understand English. The foreigner used a little Japanese, just for that cell phone, I thought it was important to speak English. After all, that foreigner who couldn't speak Japanese was in Japan. I thought "that's too bad," and I wanted to help and thought I could have helped if I spoke English

Other Longitudinal Study 1 participants also discussed their future goals in terms of using English for work, with most expressing this in terms of working overseas or being able to help foreigners in Japan.

Discussion of Longitudinal Study 1

The Longitudinal Study 1 results provide three aspects that warrant discussion at this time. The first is regarding the general time use patterns that were identified. The second is related to the time use purposes that these participants had for their out-of-class English access. The third relates to how the interviewed Longitudinal Study 1 participants view their out-of-class English access and the motivators for this time use.

Patterns of Out-Of-Class English Access for Longitudinal Study 1 Participants.

The data collected from Longitudinal Study 1 confirmed that the EATUS was a reliable instrument for the collection of out-of-class English access data. This confirmed that the EATUS data, in combination with the interview data, would be able to address the specific research questions related to out-of-class time use for this study. To review, those questions are:

RQ1: What temporal patterns occur in the allocation of out-of-class time to English?

RQ2: What types of variability exist between participants in the temporal features of out-of-class time use allocated to English?

RQ3: What are the contextual characteristics of English-related episodes?

RQ4: What type of activities do participants engage in during the episodes?

RQ5: What types of variability are evident in the time use patterns according to gender, types of activities, and salient contextual characteristics of the episodes?

RQ6: To what extent do participant interviews corroborate their time use data?

RQ7: What feelings about uses of time are salient in participant interviews?

Though Longitudinal Study 1 must be treated as preliminary, the data provided in this discussion of Longitudinal Study 1 has addressed RQ1 by indicating the temporal patterns of out-of-class English access time for the Longitudinal Study 1 participants. One point that is clear is that Longitudinal Study 1 participants had a higher percentage of their out-of-class English access time from Monday to Thursday than they did on weekends, with Friday being the day with the lowest percent of out-of-class English access episodes and time allocation. Moreover, a preliminary answer to RQ2 has also emerged from this data. The weekday out-of-class time use on English was generally consistent, but the individual allocations to the time use on

English show a great deal of variation in patterns for the Longitudinal Study 1 participants. During the term, it is regular and fairly consistent for most of the participants, with the expected peaks near exams seen in other time use studies (see Chapter 2, Literature Review). However, some participants showed greater English access each week in both number of episodes and the length of time. In other words, the results for Longitudinal Study 1 helped to understand the temporal patterns and the temporal features of out-of-class English access by these participants.

Regarding RQ3 and the contextual characteristics of the episodes, one point stands out, the generally low level of anxiety that the participants had regarding their out-of-class English time use. Regarding RQ4 and the types of activities, data from Longitudinal Study 1 suggest that there is a limited range of activity types that participants engage in during their out-of-class English access time, with the episodes primarily related to school work, including homework and preparation for classes, and enjoyment. RQ5 shows that there is some individual variability, but the majority of participants show generally the same overall pattern of time use for the types of activities and contextual characteristics. The limited number of participants precludes discussion of variability by gender at this point. The interviews were found to corroborate the participants' time use data and suggest that the EATUS is being used as expected by the participants, beginning to answer RQ6. Finally, addressing RQ7, the data from the interviews shows that for these participants, the general feeling about their time use is that they feel good about their study because they see it as helping them to achieve their individual goals regarding English.

For these highly motivated Longitudinal Study 1 participants from English-targeted programs, their first interest in English came long before entering the

university and this interest was not connected to any particular future objectives or goals. In general, these participants did not have clear goals for English in the future, though many had some vaguely defined future career in mind that might allow them or require them to use English.

Furthermore, Longitudinal Study 1 participants did not see themselves as being much different from their peers. English did not seem to set them apart from others, which might argue against any great importance being assigned to the concept of the ideal L2 self by these Japanese university students. In addition, these Longitudinal Study 1 participants did not feel that their parents had any real opinion about the desirability or utility of learning English, though a few participants mentioned a shared interest with one of their parents, usually their mother, in English, and especially a shared interest in consuming English media such as music, TV, and movies. This might suggest that the concept of the ought-to L2 self does not play a role in the L2 self concept of Japanese university students. This might suggest that both the ideal L2 self and the ought-to L2 self are set much earlier in learners' language learning experiences.

Most of the out-of-class time use was governed by sources outside of the Longitudinal Study 1 participants' control, such as course schedules, homework assignments, tests, friends, and commuting. Though the L2 motivational self seems to be important in decisions to begin and continue study, it is not likely that it can be invoked for this level of daily behavior. Rather, it is more likely that the self-system impacts on the participants' initial orientations towards English, and is thus set long before they enter university, as well as in their continued decision to study English in intensive English programs or English-related departments at university. Interviews

with the Longitudinal Study 1 participants indicate that the initial L2 motivational self-system might be set in elementary school for participants with early exposure to English, but for most arose during junior high school. This is highlighted by the small portion of the Longitudinal Study 1 participants who commented on some turning point in their degree of interest in English. Often this was the influence from a teacher or friend, though was also seen in those who had the opportunity to travel abroad. With regards to influence from teachers, the most important factor seemed to be a big change in proficiency; that is, whether the Longitudinal Study 1 participants had changed from mostly not understanding English to mostly understanding it in the classroom context.

The results from the interviews with the Longitudinal Study 1 participants confirmed the reliability of the EATUS instrument and the accuracy of participants' time use data. Results also pointed toward a more in depth longitudinal study, with interviews that would explore the participants' perception of their ideal L2 selves and their motivations to learn English, and a cross-sectional study that would use the EATUS form in conjunction with the motivational survey modeled on Taguchi et al.'s (2009) in order to assess the relationship between motivation and time use. Therefore, the Longitudinal Study 1 discussion must be seen as tentative. These results inform the discussion of the results that appears in Chapter 7, following the results for Longitudinal Study 2, which appear in Chapter 5, and those for the cross-sectional study, which appear in Chapter 6.

CHAPTER 5

LONGITUDINAL STUDY 2

Longitudinal study 2 for this project followed the protocols devised for and tested in the Longitudinal Study 1 (see Chapter 4). This chapter first reviews Longitudinal Study 2 participant recruitment (see Chapter 3, Methods For Longitudinal Study 2, participants were sought from Longitudinal Study 1 Site 1 and Site 2). The chapter then discusses the data collection and analysis procedures using the EATUS form, which was used with the Longitudinal Study 1 participants (see Chapter 4). The interview protocols follow discussion of the data collection and analysis procedures. Participants in Longitudinal Study 2 sat for two interviews. Time 1 interviews with the Longitudinal Study 2 participants followed the procedures used with Longitudinal Study 1 participants (see Chapter 4). These focused on the general issues of the participants' out-of-class time use, their language learning experiences, the influence of others, and the use of the EATUS instrument. Time 2 interview protocols expanded from this to cover aspects of motivation and behavior. Following the discussion of the interview protocols, the data collected from the Longitudinal Study 2 participants using the EATUS are presented and analyzed. Then the results of the two interviews with Longitudinal Study 2 participants are discussed.

Longitudinal Study 2 Participant Recruitment

Participants were recruited to take part in the Longitudinal Study 2 and asked to submit EATUS data throughout the semester. Participants were recruited from the intact groups at Site 1 (a pool of 73 students) and at Site 2 (a pool of 28 students). Of

these, 46 agreed to participate in the Longitudinal Study 2 (Site 1, *n* = 29; Site 2, *n* = 17) (see Chapter 3, Methods, discussion of Longitudinal Study Participants) and returned the informed consent form. EATUS data forms were collected weekly at both Site 1 and Site 2, though participants did not always remember to bring the forms each week. EATUS forms were collected by myself at Site 1 and by my representative at Site 2.

When I recruited participants at both Site 1 and Site 2 for the EATUS data collection, I invited all participants to also take part in two interviews during the study period, one during the term and one after the term ended. Participants submitted data for varying numbers of weeks. After several weeks of data collection, I reminded participants of the invitation to be interviewed and actively recruited interviews from the most active participants in the EATUS data collection based on early EATUS submission patterns. Twenty-seven participants agreed to be interviewed about their out-of-class English access and aspects of their English study and sat for the Time 1 interview. (Note: Two of these participants then requested that only their EATUS data be used in the study results and are considered as "non-interviewed" for discussion of the interviewed versus non-interviewed participants. Their EATUS data is included in the analysis of these participants.) Figure 47 shows the number of weeks of EATUS data obtained from interviewed and non-interviewed participants. Twenty-eight participants submitted 10 weeks or more of EATUS data. All participants were invited to participate in interviews and encouraged to continue to submit the EATUS data each week. However, as participation was completely voluntary, there was certain amount of attrition, as well as sporadic submission, which is common in any longitudinal study. All participants who submitted data regularly were invited to

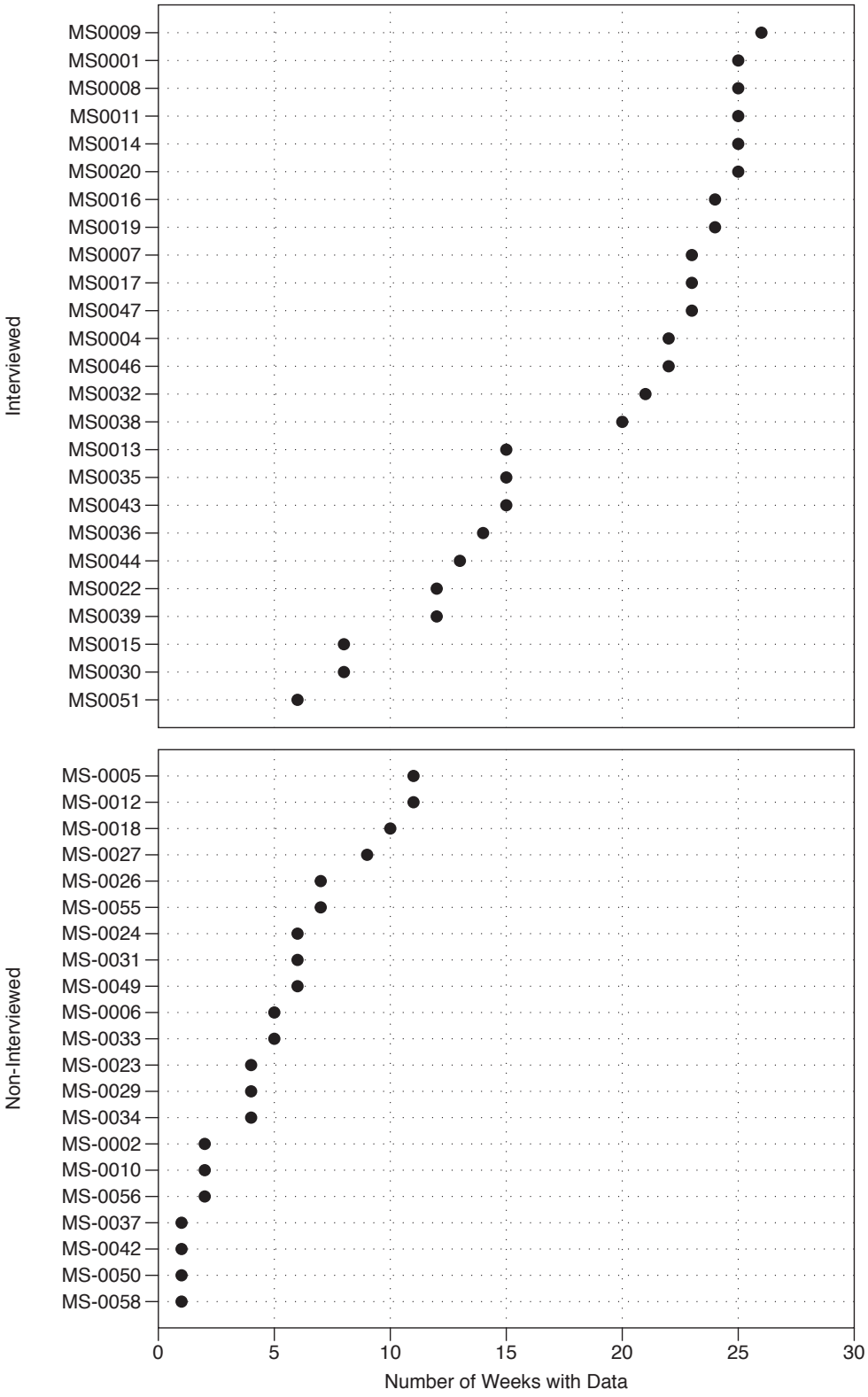

Figure 47. Number of weeks of data for interviewed and non-interviewed longitudinal participants (*Longitudinal Study 2*).

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project.

participate in the interviews during week 8 of the study. Differences in the decision to continue to submit EATUS forms seem to be independent of the institution, as a similar number of participants submitted more than eight weeks of data at the two sites. Because of the initially small number of male participants at Site 1, it is not possible to link staying in the study as a decision based on gender. One male participant stayed in Longitudinal Study 2 for the entire period. (Note: The designation MS- plus a code number is used to identify the participants in Longitudinal Study 2.)

The first set of interviews was conducted during the term (from mid June to the first week of July). Interviews took several weeks to complete as they were arranged to suit the participants' schedules as well as my own. Interviews at Site 1 were conducted in the researcher's office. Interviews at Site 2 were conducted in the office of a faculty member at the site. The second set of interviews was conducted after the EATUS data collection was completed, with interviews taking place between late September and early October (the end of summer holiday and the beginning of fall term). I asked the interview participants, who had all regularly submitted EATUS data, to maintain the EATUS record over the summer months. Although I tried to balance the number of male and female participants in the Longitudinal Study 2 from Site 1, only one male participant agreed to be interviewed (see Table 34). Two participants withdrew from the interview portion of the study following the first interview but permitted their time use data to be retained. In total, 25 participants completed both sets of interviews. The results from the Longitudinal Study 2 interviews are discussed below in this chapter. Differences in the participants'

out-of-class time use might have been related to the differences in the program noted above.

Table 34. *Interviewed Longitudinal Study 2 Participants with Assigned Code Number and Gender*

Site 1	Gender	Site 2	Gender
MS-0019	F	MS-0001	F
MS-0020	F	MS-0004	F
MS-0022	F	MS-0007	F
MS-0030	F	MS-0008	F
MS-0032	F	MS-0009	F
MS-0035	F	MS-0011	F
MS-0036	F	MS-0013	F
MS-0038	F	MS-0014	F
MS-0039	F	MS-0015	F
MS-0043	M	MS-0016	F
MS-0044	F	MS-0017	F
MS-0046	F	MS-0012[a]	F
MS-0047	F	MS-0018[a]	F
MS-0051	F		

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project.
[a]Participants at Site 2 who completed the Time 1 interview but not the Time 2 interview and were removed from the interviewed data analysis.

Longitudinal Study 2 Data Collection and Analysis Procedures

EATUS Episode Processing for Longitudinal Study 2

As with the earlier Longitudinal Study 1 (see Chapter 4), the EATUS form was used to report out-of-class episodes related to English. Participants in the Longitudinal Study 2 showed considerable variation in their submission patterns, with participants providing from one week to one semester of data. (See Chapter 3 Methods for a discussion of the EATUS data collection form). Following procedures used in Longitudinal Study 1, episodes were compiled on daily, weekly, monthly, and semester basis. However, as the greatest common denominator for comparative purposes is data compiled on a weekly basis, this remains the basic unit for this study.

As in Longitudinal Study 1, calculation of the number of weeks of data and summarization of that data is straightforward for participants with a full data set, episodes on each day, and a data collection span in round weeks. However, as in Longitudinal Study 1, most Longitudinal Study 2 participants did not have an episode recorded every day. Data were compiled following the procedures that were used in the Longitudinal Study 1, and outlined in Longitudinal Study 1 section on EATUS data processing (see Chapter 4, Longitudinal Study 1 Data Collection and Analysis Procedures above). Unfortunately, participants were not reminded regularly to report days without episodes on the EATUS form, though they were asked to do so at the beginning of the data collection period. To reiterate this information, two possible reasons were identified for days without episodes: episodes either did not occur (valid data) or they did occur but were not recorded (missing data). Again, days without episodes (DWE) are included in the compilation and amalgamation of data, such as when calculating the number of episodes per day or the number of weeks of data. Conversely, days with unreported episodes (DWUE) are excluded when compiling and amalgamating data.

For Longitudinal Study 2, 46 participants supplied data on the EATUS for at least one week. Nine participants returned the informed consent form (see Appendix H) but did not submit EATUS data sheets with durations or episodes (see Table 35) and were excluded from any further analysis. In contrast to Longitudinal Study 1, every episode on the submitted EATUS forms was given a start and end time, allowing the calculation of a duration for all episodes. This EATUS data included valid durations for 3,322 episodes (Site 1 k = 1,199; Site 2 k = 2,123).

Table 35. Participants and Episodes with and without Durations Reported by Site for Longitudinal Study 2

	Participants		Episodes	
Site	With durations	Without durations	With durations	Without durations
1	29	3	1,199	0
2	17	6	2,123	0
Total	46	9	3,322	0

During the orientation for Longitudinal Study 2 participants, I told them I was interested in collecting data for the entire first semester (April through July). However, during the first interview session, I asked them to continue collecting data over the summer break so that I could compare on-term with off-term patterns. Not every student submitted data, nor did every student submit data for every week during the semester. For participants who did submit data, the number of weeks varied from 1 to 26. Fifteen participants submitted 20 weeks or more of data.

Once again, instead of treating all lacunae as missing data, I examined individual data records for evidence of whether a multi-day lacuna was a gap in data reporting (DWE) or a period of unreported episodes (DWUE). The three case types used in Longitudinal Study 1 for multi-day lacuna were applied (see Chapter 4, EATUS Data Processing for Longitudinal Study 1 and Definitions applied to EATUS data prior to analysis, for information on these procedures).

EATUS episode description processing.

On the EATUS form, participants were asked to record short descriptions for the content of each episode using their own words and given example texts on the form (see Chapter 3, Methods and Chapter 4, Longitudinal Study 1). As in Longitudinal Study 1, Longitudinal Study 2 participants wrote episode descriptions in

a combination of English and Japanese. All episode descriptions from the EATUS forms submitted by Longitudinal Study 2 participants (n = 46) are included in the general analysis of the content of episodes.

I processed the episode descriptions following the procedures established for the Longitudinal Study 1 in order to enable lexical analysis and activity coding (see discussion of EATUS episode description processing in Chapter 4, Longitudinal Study 1). For information that had been originally written in Roman letters, I corrected misspellings. For entries in Japanese, I translated the descriptions into English. During the translation process, I used the *sort, find,* and *replace* functions in an Excel (Microsoft Excel for Mac 2011) spreadsheet to maintain consistency. Again, as the purpose of this study was to identify *what* had occurred, I made no distinction between tenses and aspects, or between different kanji used that identify the same type of episode. The code book appears in Appendix I.

Following the procedures used in Longitudinal Study 1 to identify trends in the episodes, I conducted lexical analysis of the English versions of the episode descriptions using the Range program (BNC 25) developed by Heatley, Nation, and Coxhead (2002). As the focus was on the types of activities participants engaged in, I focused on word families rather than on types or tokens. My aim was to identify the types of episodes and the patterns in episode content. The stop list of common function words and abbreviations that offered little substantive information about the episodic content was employed for the Longitudinal Study 2 episode description analysis (see Chapter 4, Table 16). Lexical items not excluded by this stop list were considered to provide information about the content of episodes. These were then analyzed in more depth. The results of this analysis appear below.

Longitudinal Study 2 Interviews Procedures

For Longitudinal Study 2, I conducted two sets of interviews with those participants who agreed to sit for the interviews (n_{T1} = 27, n_{T2} = 25). The first interview (Time 1) took place from seven to nine weeks after the beginning of data collection, in June 2011. The second interview (Time 2) took place in September or October 2011, following the summer break.

For both interviews I followed the procedures I used in Longitudinal Study 1 and prepared a list of topic areas that I wanted to explore based upon the targeted temporal behaviors, the L2 Motivation Self System from Dörnyei, and SEM models from Csizér and Kormos (2009), Dörnyei and Taguchi (2010b), and Taguchi et al. (2009). Different questions were asked in the two interviews in order to focus upon different dimensions of the participants' out-of-class English use and explore other aspects of their behavior. The first interview explored the issues that had been covered with the Longitudinal Study 1 participants and followed the same topic map (see Chapter 4, Longitudinal Study 1). The second interview expanded this exploration to cover aspects of the motivation and behavior. It also covered topics relate to the complete period of study, including the differences between in term and holiday out-of-class English access.

All participants in Longitudinal Study 2 were native speakers of Japanese and Japanese was the main language of the interviews. Most participants used only English. Some interspersed a few words or phrases in English. One participant used mostly English during the Time 2 interview. All interviews were 20 to 30 minutes long, depending on the participants' schedules and their willingness to continue the interview. As with Longitudinal Study 1, I conducted all interviews.

For both interviews, in order to provide feedback to the participants and to be able to target questions about particular student behaviors, I compiled an individual record of each participant's English-related out-of-class time use before the interviews and referred to it. I also gave copies of that information to participants.

The Time 1 interviews explored out-of-class time use and general issues, including learner experiences, influence of others, and use of the EATUS data collection form. The Time 2 interviews explored attitudes toward English, future goals, role models of English use, the influence of participation in this project on the participants' English use and study behavior, and differences between English access during the term and during the vacation period.

Longitudinal Study 2 Interview Transcription

The Longitudinal Study 2 interviews were transcribed by a native speaker of Japanese, for those conducted in Japanese, and by a native speaker of English, for those conducted in English. As this project was seeking to understand how participants describe their out-of-class English time use experiences, transcription procedures were kept to a minimum. Transcribers used standard language and orthography for the English and Japanese transcriptions and followed the same procedures used for Longitudinal Study 1 transcription. This meant that for the Japanese transcriptions, a one second pause was given one space. As spaces are not used in Japanese between words, this was deemed sufficient for the transcribers to indicate a one second pause, with a pause of five seconds receiving five spaces. In English transcriptions a period with spaces on either side was used for each one second pause, as in (.).

The transcripts were then checked by the researcher. At this stage, transcripts were confirmed and changes made as necessary. This included adding texts for sections that the transcribers indicated they could not decide exactly what was said, either because a section of a Japanese interview was in English or there was noise or distortion in the recordings. The resulting transcripts were reviewed by a colleague to ensure the highest degree of accuracy. Any errors in transcription are my own.

The interview transcripts were then examined to determine the major themes in the texts following procedures outlined by Cresswell (2003) regarding the analysis of interview data. This included reading and re-reading the transcripts and revising the categories in a recursive process. Selected quotes are provided in the language of the interview. For interviews in Japanese, the Japanese text is provided, followed by the text transliterated into Roman script, and then the text translated into English. All translations are mine. (Note: All line numbers indicate the line number in the participant's original transcript, in most cases the Japanese text. When a quote from a participant using English is selected, it appears only in English. Selected quotes using English and Japanese are transliterated into Roman script and the Japanese portions translated into English. As the original Longitudinal Study 2 interview transcripts total 335 pages for the Time 1 interviews and 267 pages for the Time 2 interviews, and are the same length for the transliterated Roman script and English translations, they are not provided as appendices but are available upon request.)

Longitudinal Study 2 EATUS Results

The EATUS form asked participants to record a number of different points of information regarding each out-of-class English access episode. In addition to the date,

time, and open-ended brief description of the episode, participants indicate a level of anxiety and enjoyment (by writing a number from 1 to 5 in the space provided), then select the purpose of the episode, the location of the episode, and the people present during the episode (see Appendix B and Chapter 3, Methods, for a discussion of the EATUS construction). Each of data points provides information about the characteristics of the participants' out-of-class English access episode. In the discussion that follows, I first provide general data for the purpose, location, and person with during the episodes, as indicated by participants on the EATUS form. I then provide the time and day data, as calculated from the date, start, and end times provided by the participants for the episodes. Following this, I provide the episode description data obtained from Longitudinal Study 2 participants. Unless otherwise indicated, the data is for all Longitudinal Study 2 participants (n = 46), regardless of the total number of weeks of data provided on the EATUS form.

The total number of episodes (k = 3,322) for the Longitudinal Study 2 participants is from all EATUS datasheets submitted by all participants in this aspect of the project. Each interviewed participant submitted at least eight weeks of data for the study period. Several interviewed participants continued to maintain the EATUS after the end of the term, and their data collection period extends up to 26 weeks, which includes the study period during the term and the summer holiday period and ends with their final interview. Nine of the non-interviewed participants also submitted at least eight weeks of data using the EATUS form.

Longitudinal Study 2 Temporal Data

Distribution of episodes by day of week.

The day of week pattern for all episodes recorded on the EATUS for the participants' out-of-class English access during the study period is informative. Figure 48 displays the total number of episodes (k = 3,322) by day of week for all Longitudinal Study 2 participants. As the figure illustrates, Monday, Tuesday, Thursday, and Sunday all have more than 500 episodes recorded, with Monday and Tuesday having the highest number of total episodes for all Longitudinal Study 2 participants. The fewest number of episodes occur on Friday and Saturday, with both days having less than 400 episodes recorded.

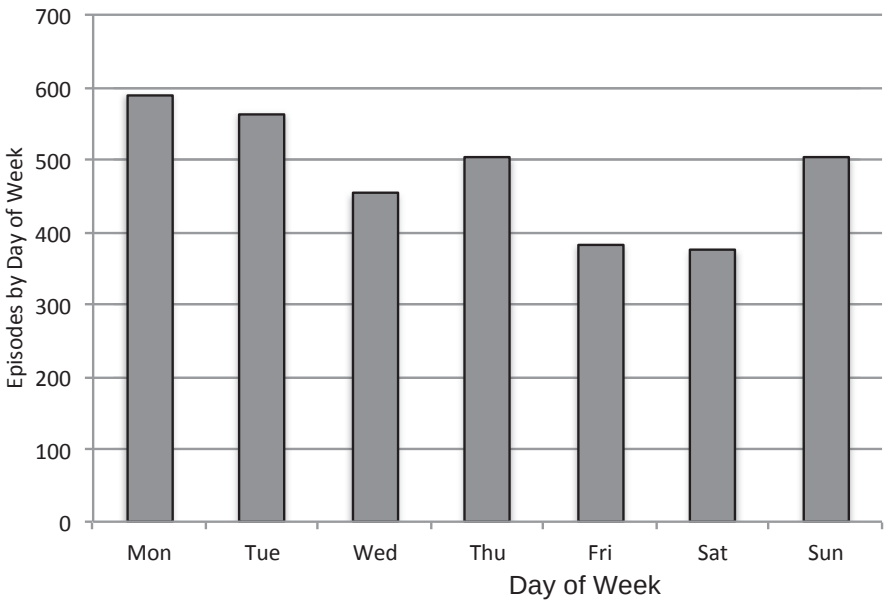

Figure 48. Total number of episodes on each day of the week for all Longitudinal Study 2 participants.

Figure 49 shows the same episode information for the interviewed (n = 25) and non-interviewed (n = 21) Longitudinal Study 2 participants. The scales on the left

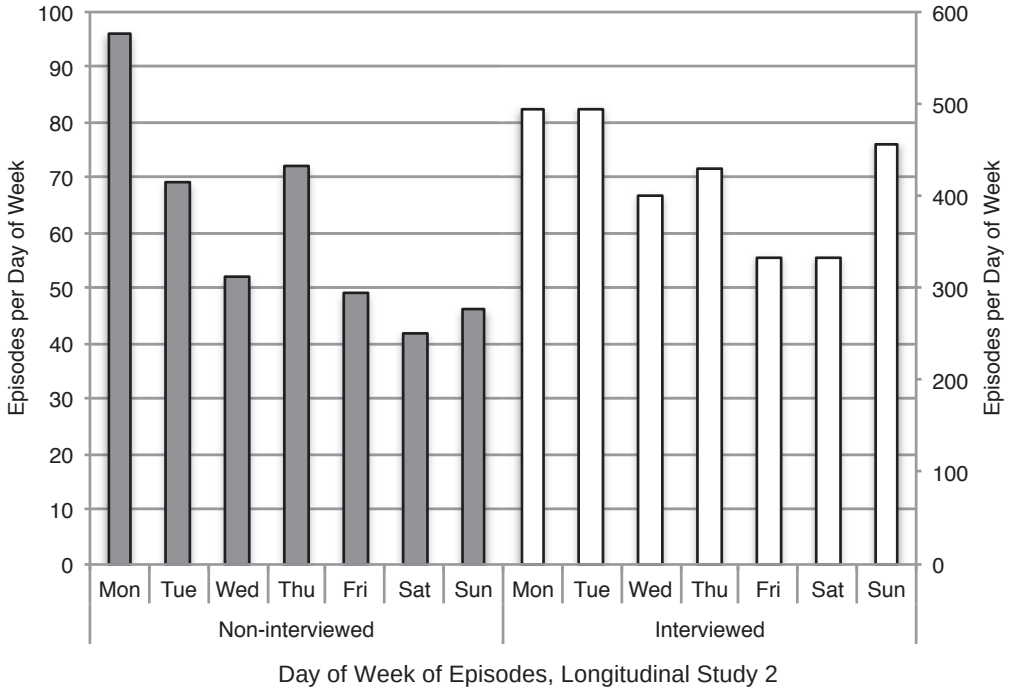

Figure 49. Total number of episodes on each day of the week for non-interviewed and interviewed Longitudinal Study 2 participants.

Note. Non-interviewed participant data is on the left in gray, interviewed participant data is on the right in white. The scale on the left side indicates the number of episodes for non-interviewed participants (0 to 100). The scale on the right side indicates the number of episodes for interviewed participants (0 to 600).

and right side of the figure are not identical. The number of episodes for non-interviewed longitudinal participants is shown on the left. It indicates that the highest number of episodes for the non-interviewed Longitudinal Study 2 participants was recorded on Monday, with more than 90 total episodes, followed by Thursday, with just over 70 total episodes. The non-interviewed participants show much wider variation in the number of episodes recorded each day of the week and do not have the peak in the number of episodes recorded on Sunday that can be seen for the interviewed participants. For interviewed participants, there is a more even distribution of the episodes on each day of the week, with only Wednesday, Friday

and Saturday having less than 400 episodes recorded. The total number of episodes on Friday and Saturday were the lowest for the interviewed participants.

Figure 50 provides the percent of episodes by group for the interviewed and non-interviewed Longitudinal Study 2 participants. The shaded bars represent students who were interviewed and the unshaded bars represent students who were not interviewed. Interviewed students generally had more weeks of data and more episodes reported than non-interviewed students. Different scales are used the two groups, however, patterns of episode frequency are similar. Because the non-interviewed participants submitted far fewer EATUS sheets than the interviewed participants, their episodes make up a far small percent of the total episodes, but can be considered in terms of the percent of episodes by day of the week for the two

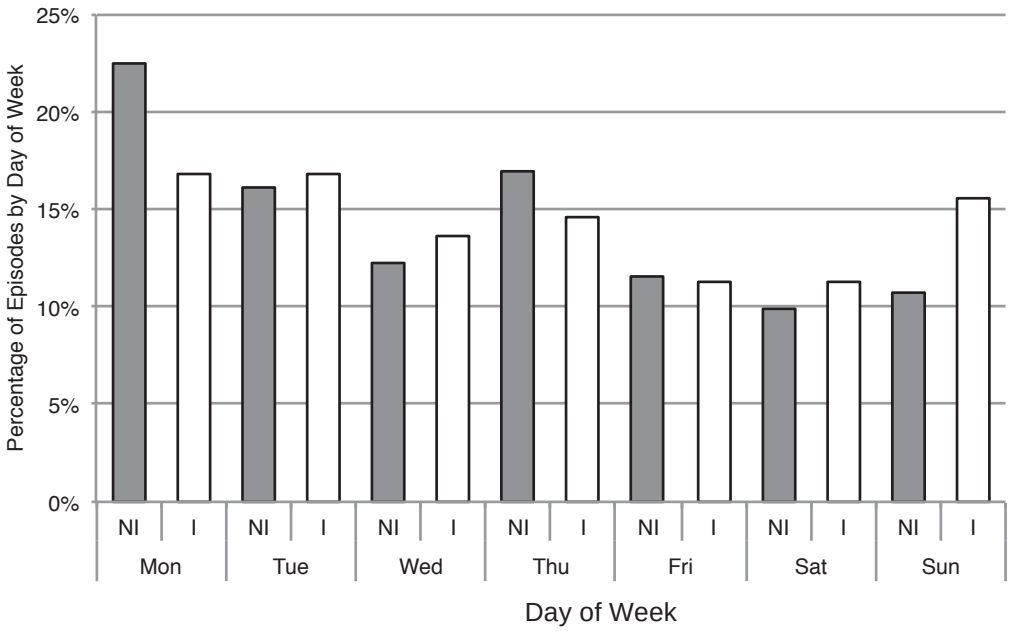

Figure 50. Percent of episodes by day of week for the total number of episodes (*k* = 3,322) recorded by interviewed (*n* = 25, *k* = 2,944) and non-interviewed (*n* = 21, *k* = 426) participants in the Longitudinal Study 2.
Note. NI = non-interviewed; I = interviewed. Non-interviewed participant data is on the left in gray; Interviewed participant data is on the right in white.

groups of Longitudinal Study 2 participants. The bar graph indicates that the non-interviewed participants (gray) had the more than 20% percent of their total episodes on Monday, and more than 15% on Thursday. For interviewed participants, Monday, Tuesday and Sunday all have more than 15% of total episodes, but no day has less than 10% of the episodes for this group.

Time on out-of-class English episodes.

The number of episodes is only one dimension of the data on the participants' out-of-class English access as this is a count of the number of episodes. Also important is the total amount of time spent on the episodes. Figure 51 shows the distribution of episodes during the week for the interviewed and non-interviewed participants in percent of total time spent on out-of-class English access each day.

Further understanding of participants' out-of-class English access by day of week appears in Figure 52. This box plot shows the proportion of total minutes by day of week for all Longitudinal Study 2 participants. The data show a generally consistent pattern of time use exists for the Longitudinal Study 2 participants with a few extreme outliers (three times interquartile range).

Figure 53 shows the percent of episodes that occurred on each day of the week for Longitudinal Study 2 by the interviewed and the non-interviewed participants. Both groups show similar frequency patterns. The simple correlation between the percent of episodes by day between interviewed and non-interviewed students is .72, which is quite high (Field, 2005). Although the Longitudinal Study 1 data (see Chapter 4) indicated a clear distinction between weekends and weekdays, this was not as apparent with longitudinal data from Longitudinal Study 2. In contrast to in the

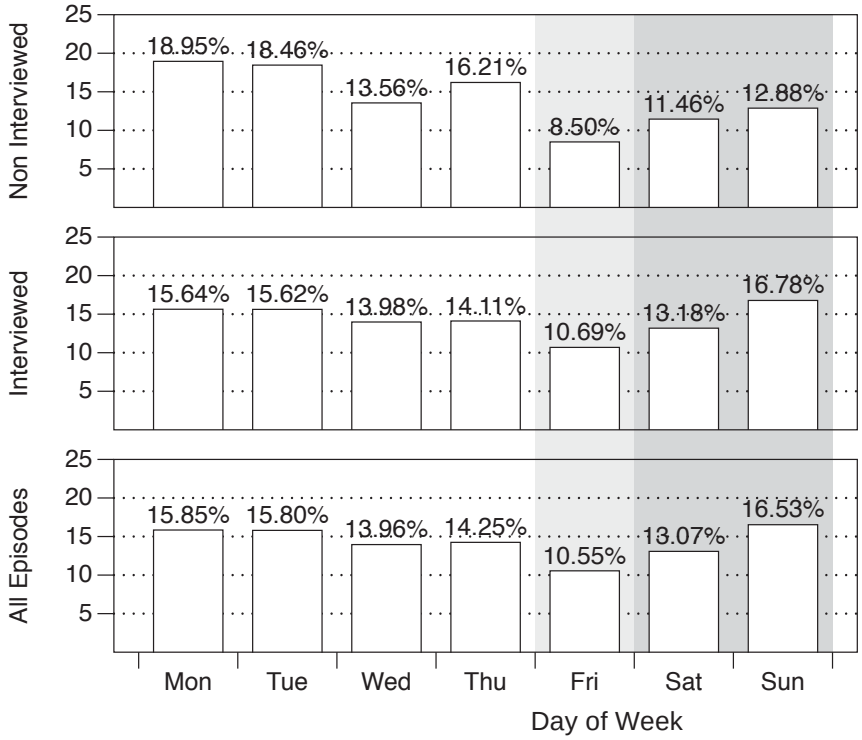

Figure 51. Distribution of minutes by day of week by percent of total time for interviewed, non-interviewed, and all participants, Longitudinal Study 2.
Note. Based upon amalgamated minutes.

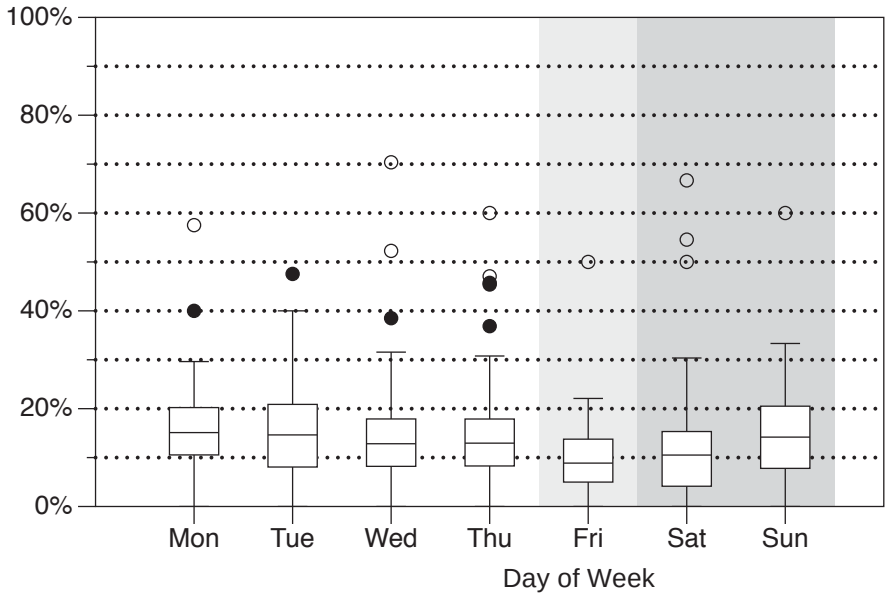

Figure 52. Proportion of total minutes by day of week for all Longitudinal Study 2 participants.
Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal line indicates the median, points indicate outliers, and hollow circles indicate extreme outliers (3 X IQR).

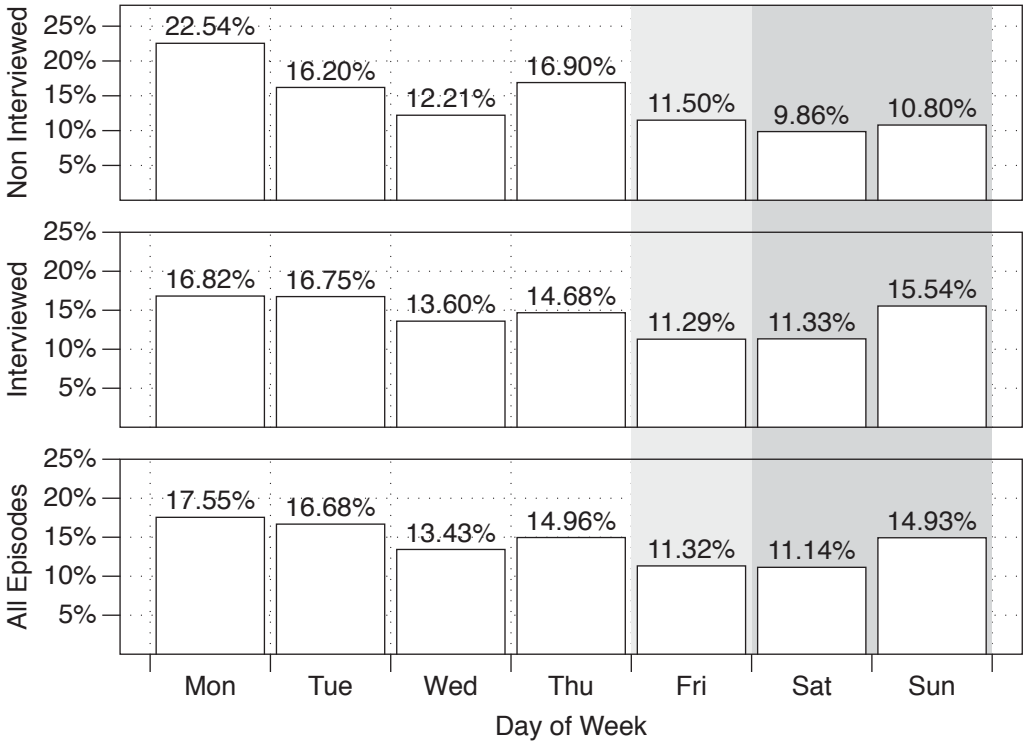

Figure 53. Distribution of episodes by day of week for Longitudinal Study 2.

Longitudinal Study 1, where Saturday and Sunday had the fewest number of episodes related to out-of-class English use (10.09% and 11.06% of all episodes respectively), which was in line with other time use studies, the data for Longitudinal Study 2 have the fewest number of episodes occurring on Friday and Saturday (11.36% and 11.13% respectively). This pattern can be seen for both the interviewed and non-interviewed Longitudinal Study 2 participants.

Episode termini for Longitudinal Study 2 participants.

The start and end times of the episodes for the Longitudinal Study 2 participants are also illustrative of their patterns of out-of-class English access. Figure 54 shows the most frequent temporal termini (start and end times) in minutes. Most termini correspond to common round time numbers, such as on the hour (3,757

termini) and on the half hour (1,418 termini). Participants often entered round numbers for their episode start and end times, on the hour and half past the hour times being much more common than episodes starting or ending at other times. This might indicate a tendency to estimate starting and ending times, and, as such, reduce the reliability of the measurement. However, it might also indicate a link between other anchoring events, such as television broadcasts or common eating times, and behavior. Although in interviews a number of participants reported habitual action triggered other time reminders (e.g., the end of a television program) (see discussion of interviews below), a large number of these are convenience start and end times. As in other time diary studies which rely on the participants' good will to collect data regarding their time use, this has also been noted. Less common start and end times

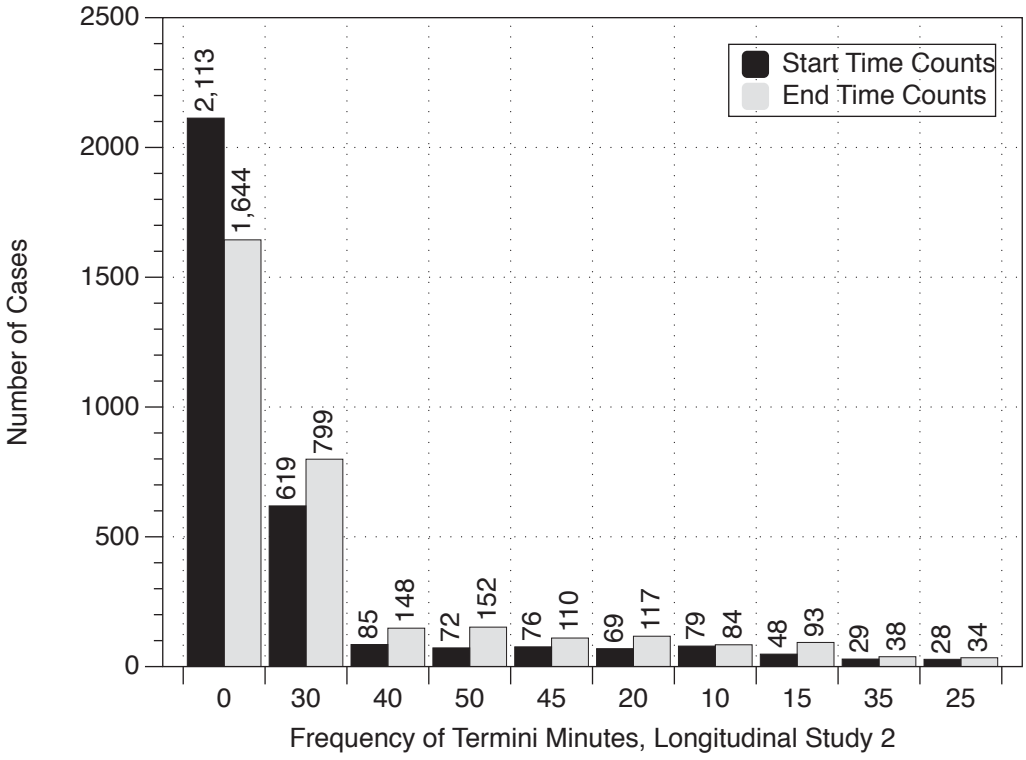

Figure 54. Frequencies of the most common episode termini minutes for Longitudinal Study 2 participants.

would, therefore, tend to be more reliable. Regardless, the interviews confirm that the episodes began at about the time indicated and lasted for the length of time given on the EATUS form.

The most common episode lengths and the differences between lengths on the weekdays and the weekends also provide information about participants' out-of-class English access. Figure 55 shows the most frequent episode durations that were reported. One hour, 30-minute, and 2-hour durations comprised 49.6% of the 136 unique durations recorded by Longitudinal Study 2 participants. This same pattern was evident in Longitudinal Study 1 (see Chapter 4) and the cross-sectional study (see Chapter 6). The correlations between each of these sets were very strong. Based upon the 25 most common time frequencies composite. This figure shows how the most frequent episode durations that were reported. The most common frequency of episode duration was 1 hour (23.5%), followed by 30 minutes (15.2%), 2 hours (10.9%), 1 hour and 30 minutes (6.2%), 40 minutes (3.7%) and 20 minutes (3.3%). A similar pattern was evident in Longitudinal Study 1 (see Chapter 4).

The bias in favor of recording round numbers is clear. It is uncertain to what degree this indicates a lack of record-keeping diligence on the part of participants or a tendency toward clock-driven time management (e.g., I will study 1 hour) rather than task-driven time management (e.g., I will study until I finish this task). One question I asked during interviews (see below) concerned how participants ended their episodes, especially study-related episodes. Most respondents mentioned completion of the task or, in the case of late night study, fatigue rather than any given benchmark duration. This would lend strength to an assumption that time-records were to the nearest round figure ending.

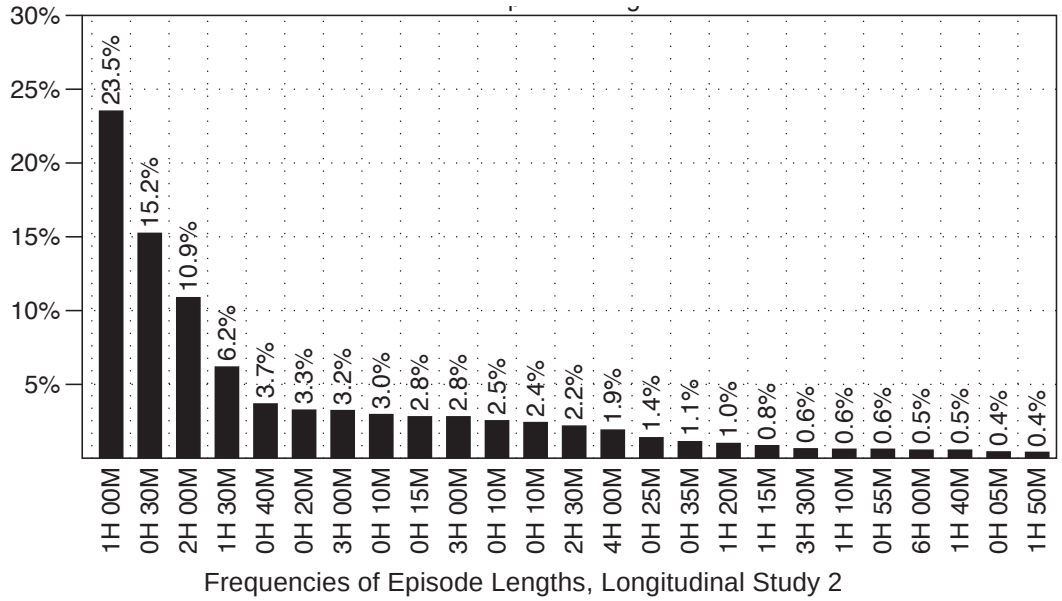

Figure 55. Frequencies of the most common episode lengths in hours and minutes for Longitudinal Study 2 participants in percent.

Time of day for episodes.

In addition to the episode frequency and durations, it is also important to examine when the episodes occur. As the two sites for Longitudinal Study 2 data collection have different class schedules, the time of day patterns are first addressed for each site separately. The data included here are only for the interviewed participants at both sites as these were viewed to provide the clearest amalgamated view of the participants' time of day pattern for out-of-class time use.

Site 1: Interviewed Longitudinal Study 2 episodes by day of week. At Site 1, classes are held from Monday to Friday, with five class periods scheduled during the day, from (09:00 to 17:50), including a lunch break from 12:10 to 13:00 when no classes are scheduled. Figure 56 shows the percentage of episodes by day of week that occurred during each 5-minute interval for Longitudinal Study 2 participants at Site 1

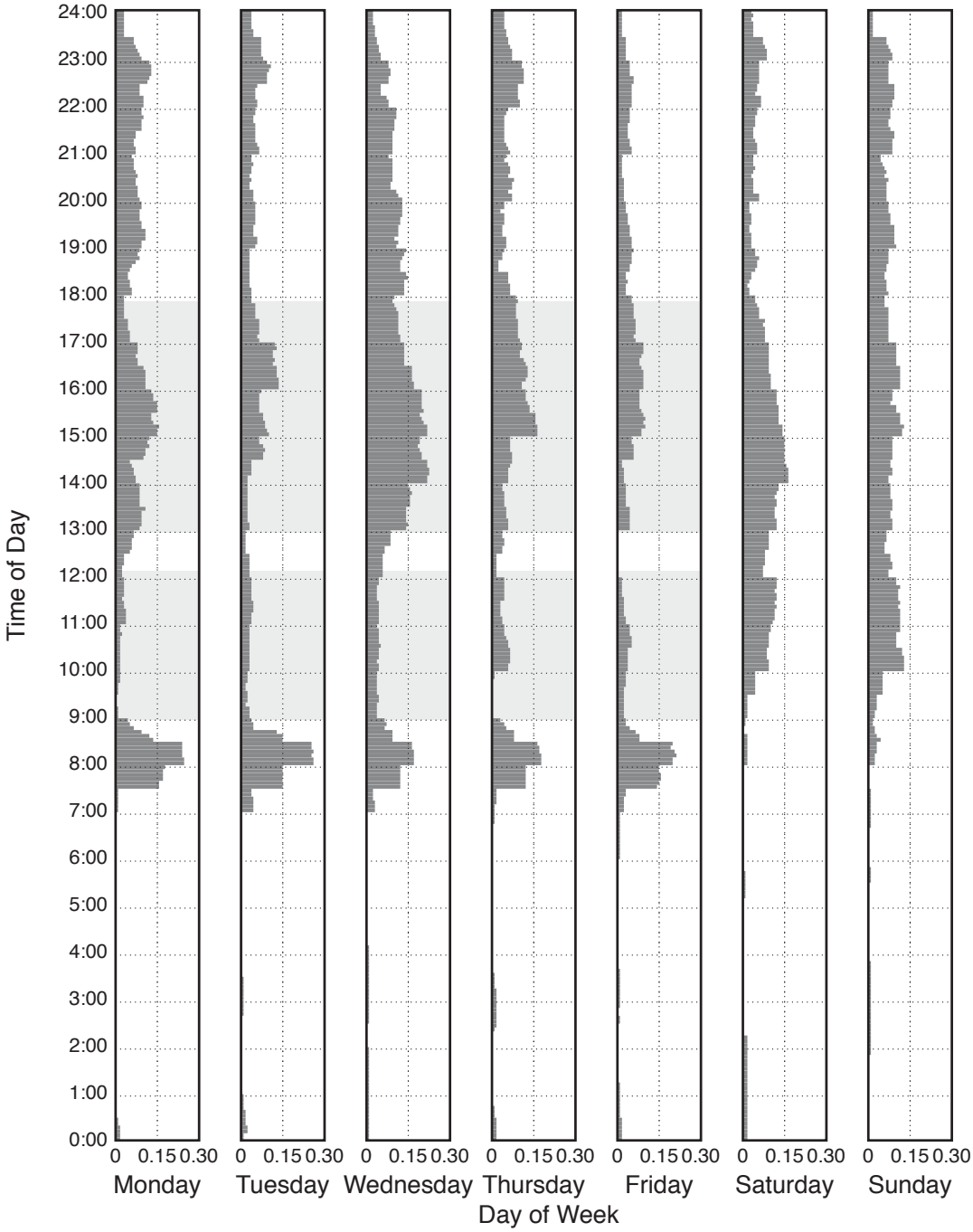

Figure 56. Proportion of daily episodes in percent that occur during each 5-minute interval during an amalgamated week for interviewed Site 1 participants in Longitudinal Study 2.

who were interviewed. It is important to keep in mind that the interviewed participants had a more regular pattern for submitting data, with each providing

several weeks of data regarding their time use. The shaded area indicates the school day at Site 1. English courses for this group of participants were concentrated during the mornings and early afternoons on Monday, Tuesday, Thursday, and Friday. One set of peaks occurred on weekday mornings prior to class. These episodes often occurred during the morning commute. Another set of peaks is evident in the early afternoon. Saturdays and Sundays show less variation in episodes by time of day.

Site 2: Interviewed Longitudinal Study 2 episodes by day of week. Site 2 holds classes on Monday to Saturday. Monday to Friday follows a standard day, with classes from 09:00 to 18:00, with a break during the morning (10:50 to 11:30) and at lunch time (13:20 to 14:00) when no classes are scheduled. Saturday follows only the morning schedule, with classes from 09:00 to 13:20, and includes the mid-morning break (10:50 to 11:30). Site 2 also offers non-credit English classes on some evenings (18:10 to 20:00) but none of the Site 2 interviewed participants were taking these courses during the study period. Figure 57 shows the percentage of episodes by day of week that occurred during each 5-minute interval for Longitudinal Study 2 participants at Site 2 who were interviewed. The shaded area indicates the weekday (Monday to Friday) school day at Site 2. For these participants, classes were distributed more evenly during the week than for participants at Site 1. The main weekday episode peaks for these participants occur in the evening hours, after classes and dinner have finished. In contrast to the data for Site 1, the episodes for Site 2 interviewed participants often continue late into night, without the morning peak shown in the Site 1 data. English courses for this group of participants were concentrated during the mornings and early afternoons on Monday, Tuesday,

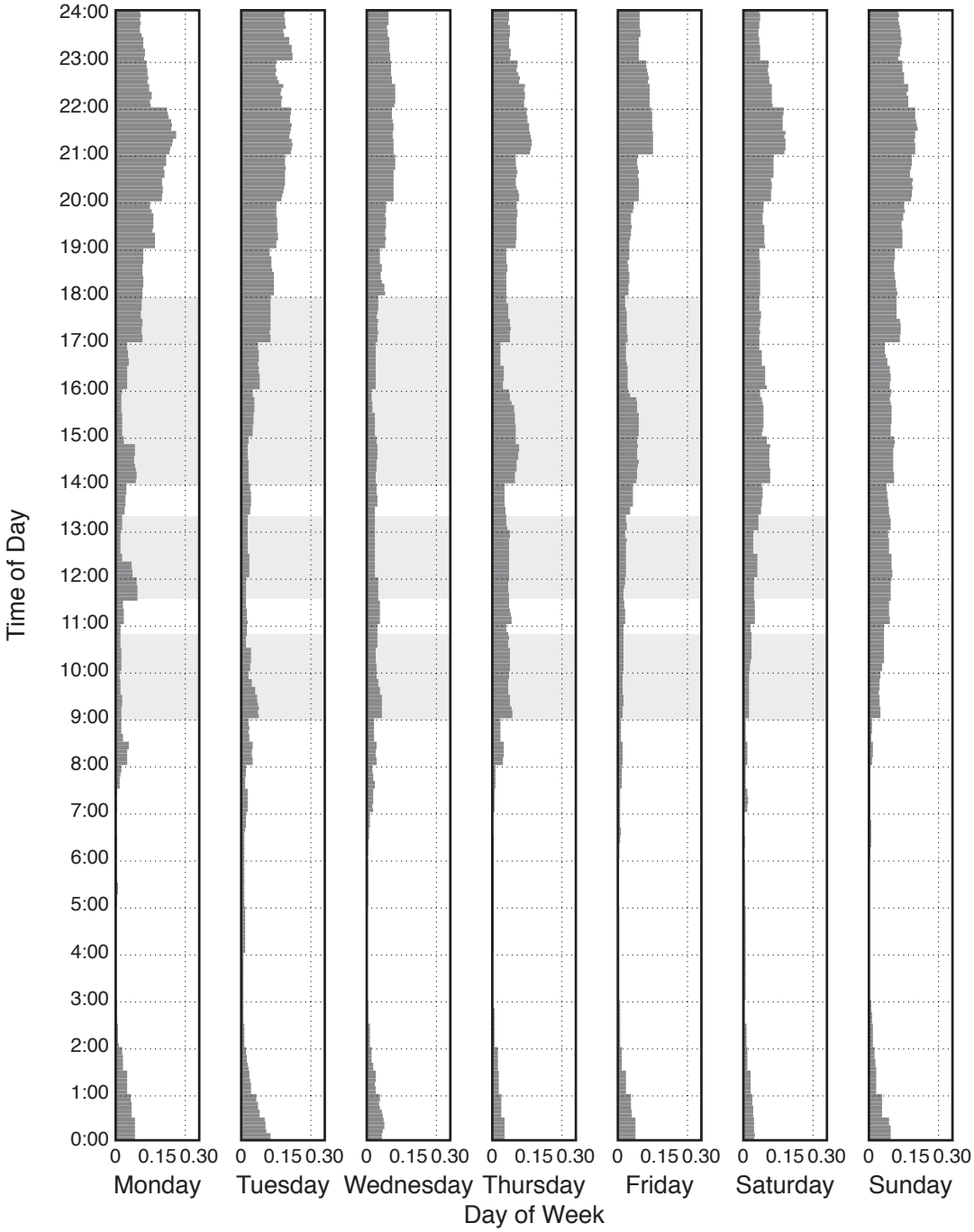

Figure 57. Proportion of daily episodes in percent that occur during each 5-minute interval during an amalgamated week for interviewed Site 2 participants in Longitudinal Study 2.

Wednesday, and Friday, as well as on Saturday morning. Site 2 participants had a lighter class schedule on Thursday. For these participants, the peaks occurred in the

evenings, but overall there was a more even distribution of episodes. Sunday, Monday, and Tuesday evenings show a steady increase in the number of episodes recorded, while on Thursday and Friday there is a jump in episodes from 21:00.

Viewing the participants' time of day use in the proportion of daily episodes by five-minute intervals allows for a more complete understanding of how the participants' are allocating their out-of-class English access time. The commute time is clearly part of the Site 1 participants daily study routine, whereas for Site 2 participants, the morning commute time, though still including episodes, does not have the same importance to their overall out-of-class English access time as the evenings. When asked about this pattern, participants' at both sites indicated that at it was often time they listened to English music (see sections below: "Episode activity type and time of day" and "Longitudinal Study 2 Interview Results").

Weekday versus weekend time use.

Further illustrating the participants' out-of-class English access is the differences between weekday and weekend time use. Figure 58 shows the average number of episodes per five-minute interval by weekday (Monday - Friday) versus weekend day (Saturday - Sunday) for Longitudinal Study 2 participants. The weekday pattern is characterized by the spike near 08:00, which coincides with many participants' commuting times. The weekend pattern lacks the early morning spike, but include more mid-day episodes as would be expected on days without classes. This is only one possible pattern for the participants' time use. Figure 59 shows the average number of episodes per five-minute interval by alternate weekday (Monday - Thursday) versus weekend day (Friday - Sunday) for Longitudinal Study 2

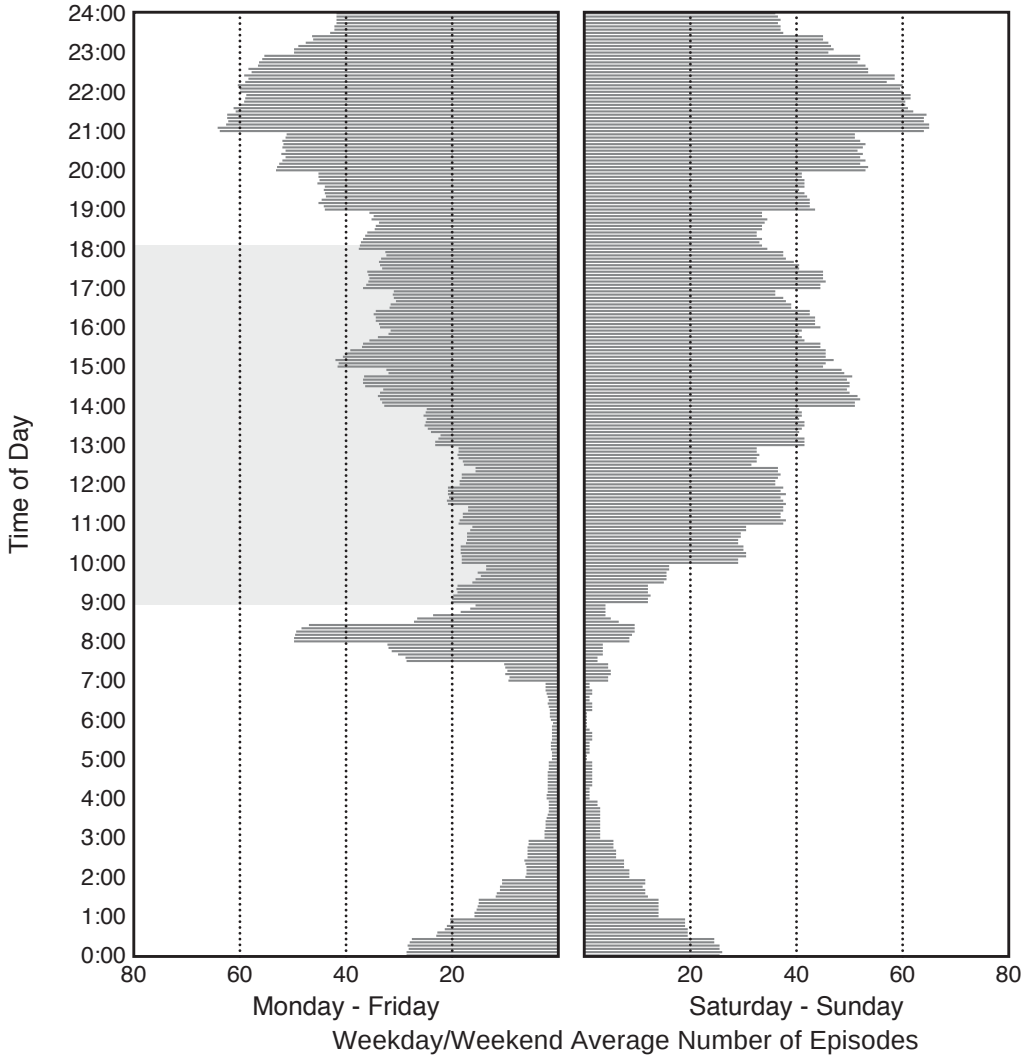

Figure 58. Time of day for episodes in five-minute intervals following a Monday to Friday weekday and Saturday to Sunday weekend for Longitudinal Study 2 participants.

Note. Shaded area during the Monday to Friday data indicates the time when participants would normally be at school and in classes on weekdays.

participants. This alternative weekday/weekend pattern deemphasizes the early morning commutation spike, but shows an increased number of weekday episodes in the evening hours. Friday marks the transition between the school-centered weekdays and other-directed weekend days, with the main change occurring at the end of the school day. These patterns are quite similar to those shown by the participants in Longitudinal Study 1 (see Chapter 4).

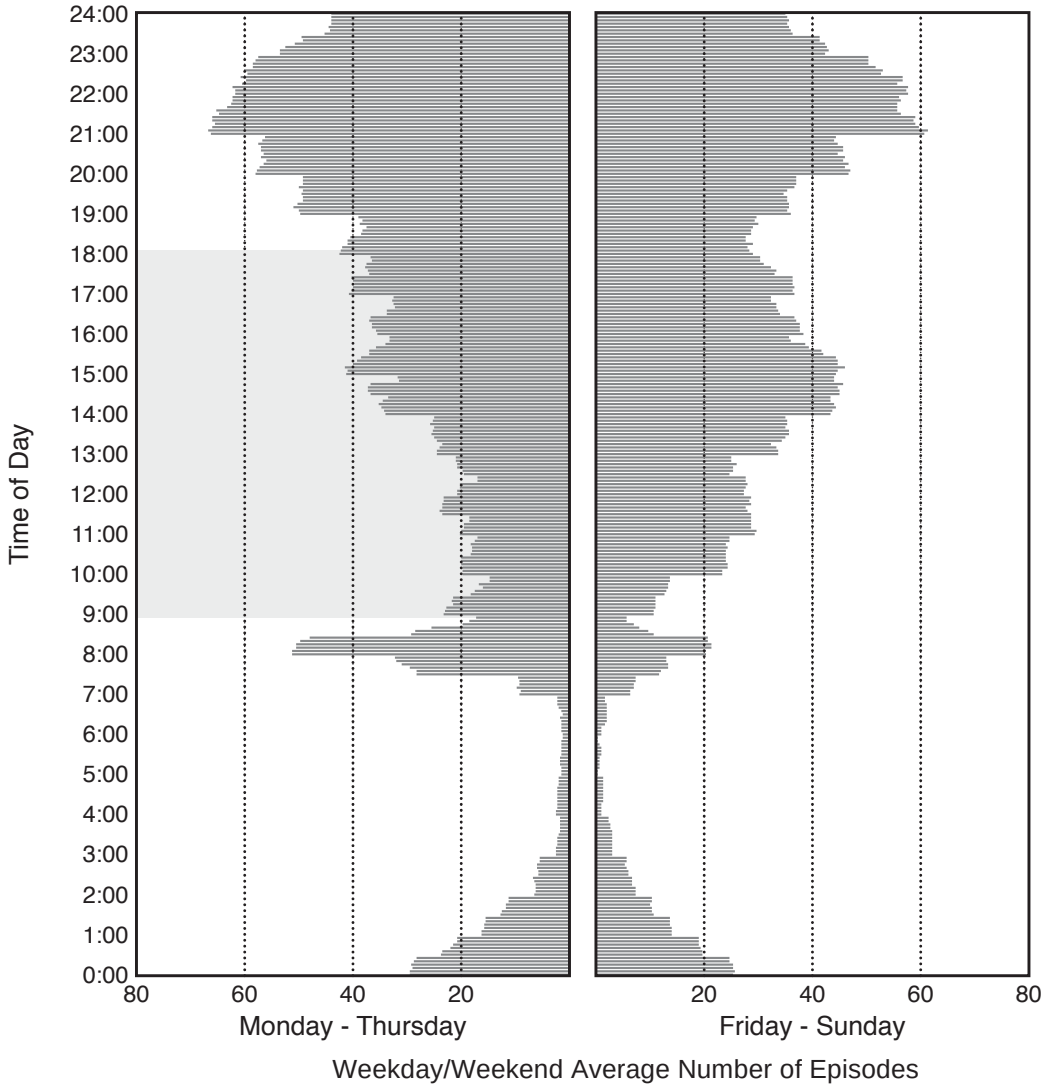

Figure 59. Time of day for episodes in five-minute intervals following a Monday to Thursday weekday and Friday to Sunday weekend for Longitudinal Study 2 participants.

Note. Shaded area in the Monday to Thursday data indicates time when participants would normally be at school and in classes on weekdays.

The two longitudinal components of this project involve the same two sites (Site 1 and Site 2) as the majority of the data collected in Longitudinal Study 1. Therefore, it should be kept in mind that the participants are influenced by the curricular settings of these sites. In other words, there should be similarities between Longitudinal Study 1 and Longitudinal Study 2 data. However, patterns derived from

these two sites should also be evident with regards to other sites, in as much as the typical Japanese university shares many of the same curricular characteristics as those found at these two sites.

The proportion of total minutes for weekday versus weekend for two patterns was also examined based on the results of other time studies that found different patterns of time use for these periods (see Chapter 3). Figure 60 provides the proportion of total minutes for the two weekday-weekend patterns. The left side of the figure shows the proportion of total minutes for a five-day week and two-day weekend while the right side shows this information for the four-day week three-day weekend pattern. In one pattern, the weekdays are Monday to Friday and the weekend is Saturday and Sunday. In the other, the weekdays are Monday to Thursday, and the weekend includes Friday, Saturday, and Sunday. There is some distinction between the Monday to Friday and Monday to Thursday weekday patterns, as can be seen from the box plots. There is much greater variation in participants' out-of-class English access time on the weekend than the weekdays in the two-day weekend pattern than appears in the three-day weekend pattern.

This information shows that the Longitudinal Study 2 participants have a similar pattern of time use as the Longitudinal Study 1 participants, indicating the general out-of-class English access patterns for students at Site 1 and Site 2. While these results can be generalized to a larger population, the specific nature of these two sites must be kept in mind.

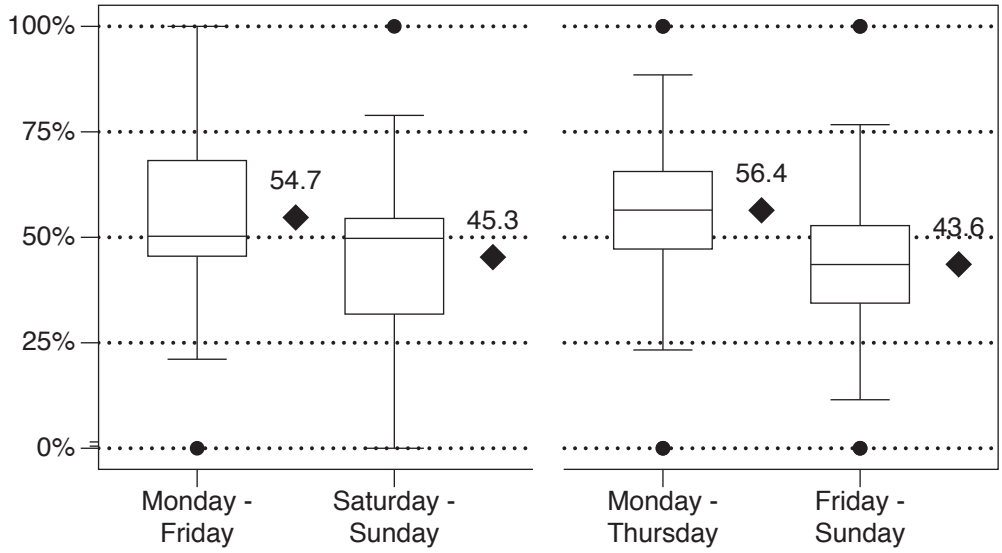

Figure 60. Proportion of total minutes by weekday vs. weekend episodes for two patterns of weekends (Saturday-Sunday and Friday-Sunday) for Longitudinal Study 2. *Note*. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal lines indicate medians, points indicate outliers, hollow circles indicate extreme outliers (3 X IRQ), and diamonds indicate means.

General patterns of time use during Longitudinal Study 2.

First, the very small sample sizes mean that the descriptive statistics discussed here cannot be considered indicative of other groups, even groups of participants at the same sites. Given this caveat, the examination of the data indicates there were large differences between groups within the Longitudinal Study 2 (see Table 36). First, students at Site 2 spent many more minutes during the term accessing English than did students at Site 1. The average number of minutes for Site 2 was just under four times that for Site 1. This might be due to a number of reasons, such as different levels of motivation and different curricula. Students at Site 1 are in an international communication department which stresses English only during the first two years. During their second year, they focus on aspects of international communication,

including cross-cultural studies, media studies, education, and communication for development, with most classes taught in Japanese. Students at Site 2 are in in an international studies department where third and fourth year classes are conducted in English. Students focus either on business, development, or communication in their upper division courses.

Table 36. *Descriptive Statistics for Total Minutes by Site, Interview Status, and Gender for Longitudinal Study 2*

	Site		Interviewed		Gender	
	1	2	No	Yes	Male	Female
n	29	17	19	27[a]	6	40[b]
M	2,888.76	11,194.47	906.95	9,512.89	1,632.33	6,607.15
SEM	623.33	3,190.71	146.88	2,064.02	859.92	1,534.36
95% *CI* for *M*						
LL	1,611.92	4,430.46	598.37	5,270.24	-578.17	3,503.61
UL	4,165.60	17,958.48	1,215.53	13,755.54	3,842.84	9,710.69
Median	1,546.00	7,760.00	930.00	6,030.00	777.50	3,984.00
SD	3,356.76	13,155.65	640.23	10,724.96	2,106.37	9,704.17
Min.	90	1,135	90	1,168	339	90
Max.	12,513	57,155	2,220	57,155	5,815	57,155
Skewness	1.74*	2.88*	.34	3.57*	2.18*	3.84*
SES	.43	.55	.52	.45	.85	.37
Kurtosis	2.84*	10.05*	-1.03	15.60*	4.86*	18.95*
SEK	.85	1.06	1.01	.87	1.74	.73

Note. SEM = standard error of the mean; CI = confidence interval; LL = lower limit; UL = upper limit; Min. = minimum; Max. = maximum; *SES* = standard error of skewness; *SEK* = standard error of kurtosis.

* = significant at the p < .05 level.

[a]Includes two participants who sat for only one interview. They are treated here as interviewed but their interviews are excluded from the discussion of the interviews below.

[b]Site 2 is a women's university. The difference in the number of male and female participants is primarily an artifact of this.

Part of the large differences in means is due to one significant outlier, who accessed English for more than 57,000 minutes (952 hours and 35 minutes) during the term (18-Apr-11 through 24-Sep-11). There were also large differences between

interviewed and non-interviewed participants. The average number of minutes for interviewed participants was more than 10 times that for non-interviewed participants. The differences in out-of-class time use by gender are not as great, but here women spend much more time than men outside of class accessing English. (Note: although all participants were invited to be interviewed at the beginning of the study, I solicited interviews with participants who had submitted data on a regular basis without considering the absolute amount of time they had spent accessing English. I did not press participants who had not submitted data for at least eight weeks for interviews. However, most of the participants who had not submitted data on a regular basis had not spent much time outside of class accessing English.)

First, very small sample sizes mean that the descriptive statistics cannot be considered indicative of other groups, even groups of participants at the same sites. The small sample sizes result in descriptive group statistics that do not exhibit normal skew or kurtosis. With the exception of non-interviewed participants, all other categories have significant skew and kurtosis scores that are in excess of twice the absolute value of their respective errors. Skews for Sites 1 and 2, both genders, and Interviewed are all strongly positive, indicating that a few participants have very large total out-of-class time English access minutes. Kurtosis figures for Sites 1 and 2, both genders, and interviewed are all leptokurtic. In short, there were large differences between groups within Longitudinal Study 2. This might be due to a number of reasons, such as different levels of motivation and different curricula. Participants at Site 1 are in an international communication department that stresses English only during the first two years, while participants at Site 2 are in an international studies department where many of the third and fourth year classes are in English.

Furthermore, part of the large differences in means was due to one significant outlier. (See discussion of interview results below.)

Examination of the breakdown of total minutes based upon a combination of site and interview status (see Table 37) aligns with the general findings that participants at Site 2 access English more often regardless of their interview status than those at Site 1 and that interviewed participants access English more often that non-interviewed participants. Of note, statistics for skew and kurtosis are all within the normal range.

Table 37. *Total Minutes by Combined Site and Interview Status for Longitudinal Study 2*

	S1 + NI	S1 + I	S2 + NI	S2 + I
n	15	14	4	13[a]
M	788.47	5,139.07	1,351.25	10,645.50
SEM	173.21	972.52	80.35	3,808.10
95% *CI* for *M*				
LL	416.97	3,038.06	1,095.55	7,523.90
UL	1,159.97	7,240.08	1,606.95	13,767.10
Median	565.00	5,013.00	1,390.00	11,930.50
SD	670.84	3,638.85	160.70	4,913.04
Minimum	90	1,168	1,135	3,958
Maximum	2,220	12,513	1,490	16,142
Skewness	.89	1.06	-1.02	-.26
SES	.58	.60	1.01	.64
Kurtosis	-.37	.75	-.13	-1.86
SEK	1.12	1.15	2.62	1.23

Note. SI + NI = Site 1, Non-Interviewed; S1 + I = Site 1, Interviewed; S2 + NI = Site 2, Non-Interviewed; S2 + I = Site 2, Interviewed; SEM = standard error of the mean; CI = confidence interval; LL = lower limit; UL = upper limit; *SES* = standard error of skewness; *SEK* = standard error of kurtosis.

[a]Includes two participants who sat for only the first of the interviews but allowed their EATUS data to be retained for analysis.

Interviewed participants' patterns of time use during Longitudinal Study 2.

The data on the time use of the interviewed participants allows for a clearer understanding of the patterns of time use. First, the cumulative minutes per day for interviewed participants (n = 27) in the Longitudinal Study 2 varied widely. Figure 61 provides a visual breakdown of the number of minutes by site and interview status for the data. That some of the participants had many more minutes of out-of-class English access during the study period is immediately evident. This data, however, only shows the data that the participants actually submitted. Gaps in the submission of the EATUS cannot be considered as periods without episodes but must be viewed as they truly are, unknown aspects of the participants time use.

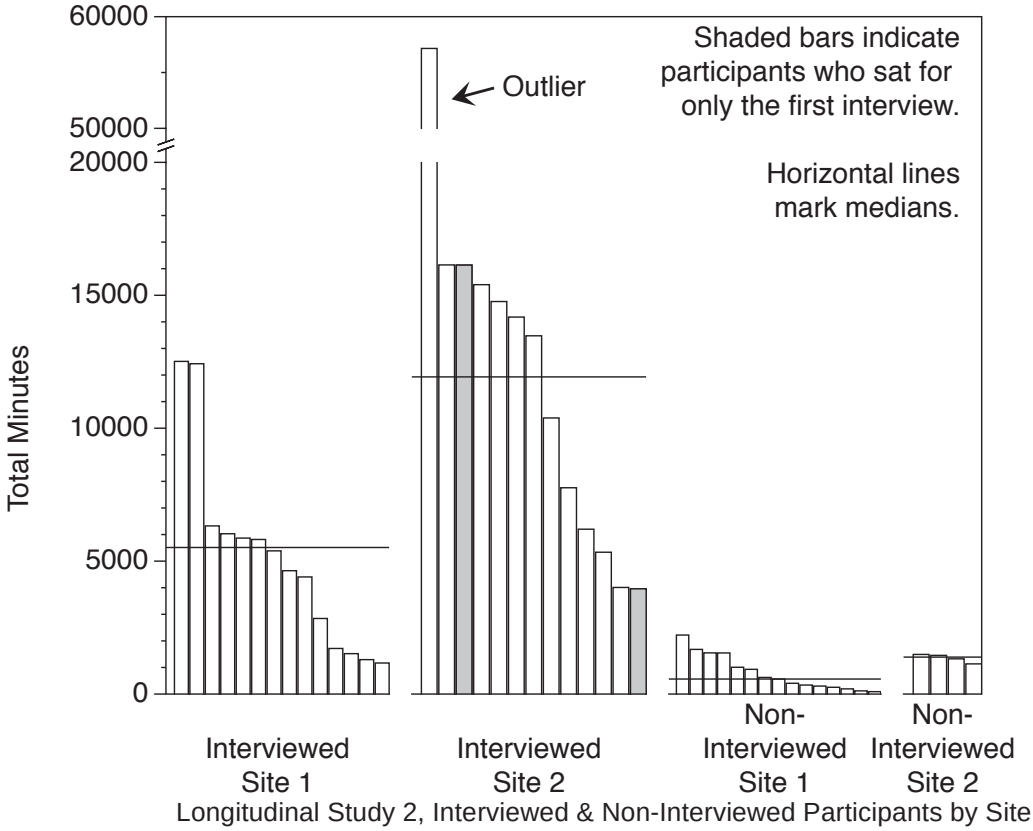

Figure 61. Total minutes for participants by site and interview status.

Far more informative is the linear information for the participants provided in Figure 62. Here, the gaps in the data are in bold and indicate periods when participants did not submit EATUS forms, which means that these participants actual out-of-class English access time could have been much higher. Even with the gaps, the information provides insights into the time use of participants during the study period. First, a visual inspection shows that many of the Site 1 participants show a change in the upward trajectory in the accumulation of minutes that is less pronounced for the Site 2 participants. Though the growth in the number of minutes for most Site 1 participants is similar at the start, the trajectory changes from around the middle of May, with some weeks after this showing very little out-of-class time use. In contrast, the overall trajectory of time use remains at a steeper angle for most Site 2 participants. Any slowing in the accumulation of time seems to come much later in the term, with a drop off appearing, if at all, in June.

As in Longitudinal Study 1, the line slopes for individual participants were calculated by determining the time in minutes per week and the cumulative minutes for these participants. When a participant did not turn in EATUS forms for a period but then resumed submission of the forms, the week was treated as a data gap and did not add cumulative minutes to the total. These gaps appear as bold lines on the graphs. The vertical tails at the ends of the gap indicator lines should not appear bold, but do so due to a limitation of the graphing software (DataGraph [Adalsteinsson, 2006-2014]) used to display this longitudinal data. The slopes indicate how many minutes per week the Longitudinal Study 1 participants were spending on out-of-class English access and how their time allocation varied from others in the study during the weeks for which they submitted data.

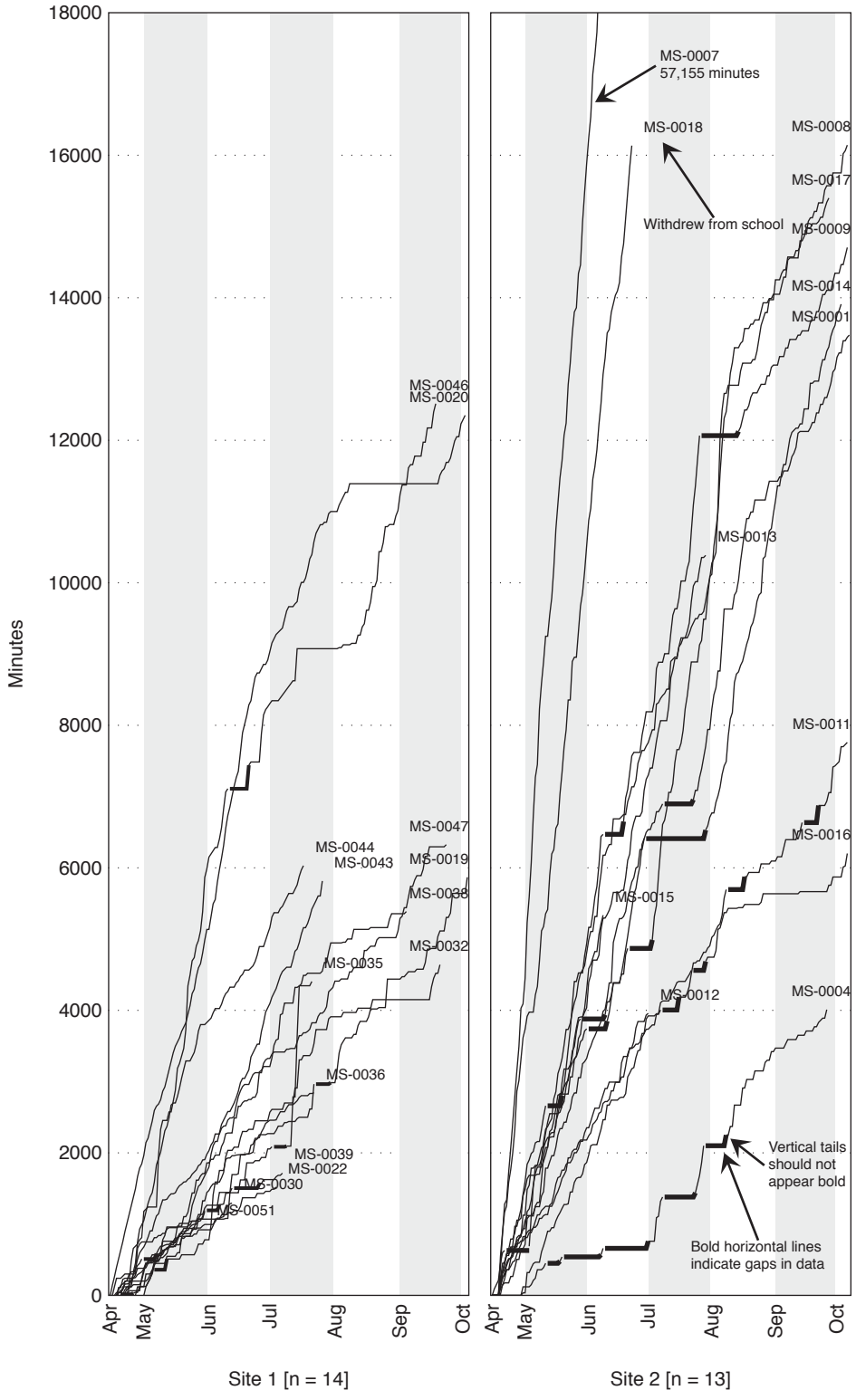

Figure 62. Cumulative minutes per day for interviewed participants in Longitudinal Study 2 by site.

Note. Bold horizontal lines indicate gaps in the dataset when participants did not submit EATUS forms. Actual totals would presumably be higher. MS- = participant in Longitudinal Study 2, the "main study" for this project.

It is important to repeat the caution about the gaps in the datasets here. It might be tempting to point to participants such as MS-0004 (Site 2) as an indication that there were great differences in the out-of-class English time use for some participants, but this would be an inaccurate interpretation of the data. When MS-0004 submitted EATUS forms, the steep increase in the lines for most weeks submitted indicates that the out-of-class time use by this participant was actually increasing at about the same rate as others at this site. The gaps are missing data, not periods without episodes.

As is clear, there was wide variation in the number of total minutes spent on out-of-class English access by the interviewed Longitudinal Study 2 participants. Of note are Site 1 participants MS-0046 and MS-0020 and Site 2 participants MS-0007 and MS-0018. These participants accumulated many more minutes than their classmates also participating in the study, though this must be interpreted with caution.

Regardless, from nearly all of the participants, there is a lower trajectory in the accumulation of actual minutes toward their out-of-class English time use as the term progresses. Near the exam period, participants at both sites show an increase in the minutes of English time use outside of class, as indicated by a steeper trajectory This is followed by a much slower accumulation of minutes after the end of the term at both sites, which is characterized by nearly level accumulation lines. The summer period EATUS forms were maintained only by a few of the participants. Most show patterns similar to those for MS-0020 and MS-0032 from Site 1 or MS-0016 (Site 2) and have little or not added time during this period. This, also, is not universal. Some continue to show steady increase in their accumulation of out-of-class English access

time, most notably MS-0046 (Site 1), MS-007 (Site 2), and MS-0014 (Site 2). These three participants showed steady out-of-class time accumulation, as well as regular pattern of EATUS submissions.

The periods where minutes of out-of-class English time use accumulates more slowly could be viewed as periods when participants lost motivation to study. Interestingly, Site 2 shows a drop off in out-of-class minutes just prior to and extending into the recommencement of classes in September. During the interviews (discussed below), some students were aware of this drop off at the beginning of term but did not have any specific reason for it. Moreover, several of the participants mentioned that their motivation to study fell off during the middle of the term, but increased again prior to the term-end examinations. Also noted by participants was that in the middle of the term they sometimes did not feel like studying and had to push themselves to do so. It should be noted that out-of-class time includes non-school-related activities. It might be that students maintain a general level of English contact but that the nature of the contact changes during the term. This could account for some of the differences between interview comments and time use data. Table 38 provides general information about the days in period, days with reported data, percent of days with episodes, total time in minutes, total time in hours and minutes, and average minutes per day of out-of-class English access for all days in study and days with reported episodes for these participants.

A Mann-Whitney *U* test was conducted to evaluate whether there were differences between sites in weekly out-of-class time devoted to English. The dependent variable was mean minutes per week and the independent variable was site. The assumptions for the test were met. I examined the distributions and determined

Table 38. *Longitudinal Study 2 Interviewed Participants Time Use (Period, Episodes, Total Time)*

Site	Standard code	Earliest	Latest	Days in period	Days with episodes	Episodes per day with episodes	Episode per day in period	% DIPWE	Total minutes	Total hours and minutes
1	MS-0019	18-Apr	1-Oct	167	63	1.40	.53	38%	5,867	97h 47m
	MS-0020	14-Apr	30-Sep	170	114	1.39	.93	67%	12,425	207h 05m
	MS-0022	17-Apr	2-Jul	77	28	1.07	.39	36%	1,520	25h 20m
	MS-0030	20-Apr	11-Jun	53	25	1.20	.57	47%	1,295	21h 35m
	MS-0032	27-Apr	18-Sep	145	38	1.45	.38	26%	4,640	77h 20m
	MS-0035	16-Apr	19-Jul	95	28	1.04	.31	29%	4,405	73h 25m
	MS-0036	18-Apr	20-Jul	94	52	1.48	.82	55%	2,843	47h 23m
	MS-0038	20-Apr	2-Sep	136	61	1.30	.58	45%	5,386	89h 46m
	MS-0039	22-Apr	5-Jul	75	27	1.04	.37	36%	1,715	28h 35m
	MS-0043	11-Apr	24-Jul	105	84	1.23	.98	80%	5,815	96h 55m
	MS-0044	18-Apr	15-Jul	89	71	1.41	1.12	80%	6,030	100h 30m
	MS-0046	23-Apr	16-Sep	147	81	1.67	.92	55%	12,513	208h 33m
	MS-0047	18-Apr	21-Sep	157	98	1.37	.85	62%	6,325	105h 25m
	MS-0051	21-Apr	29-May	39	31	1.06	.85	79%	1,168	19h 28m
	M			110.64	57.21	1.29	.69	53%	5,139	85h 39m
2	MS-0001	18-Apr	5-Oct	171	109	2.26	1.44	64%	13,476	224h 36m
	MS-0004	26-Apr	24-Sep	152	40	1.30	.34	26%	4,010	66h 50m
	MS-0007	18-Apr	24-Sep	160	153	2.05	1.96	96%	57,155	952h 35m
	MS-0008	18-Apr	4-Oct	170	113	1.68	1.12	66%	16,142	269h 02m
	MS-0009	17-Apr	5-Oct	172	90	2.18	1.14	52%	14,765	246h 05m
	MS-0011	18-Apr	4-Oct	170	93	1.47	.81	55%	7,760	129h 20m
	MS-0013	18-Apr	27-Jul	101	73	2.22	1.60	72%	10,385	173h 05m
	MS-0014	14-Apr	1-Oct	171	105	1.77	1.09	61%	14,180	236h 20m
	MS-0015	18-Apr	7-Jun	51	38	2.03	1.51	75%	5,335	88h 55m
	MS-0016	29-Apr	4-Oct	159	74	2.12	.99	47%	6,201	103h 21m
	MS-0017	18-Apr	25-Sep	161	94	1.59	.93	58%	15,399	256h 39m
	M			148.91	89.27	1.88	1.17	61%	14,983	249h 42m

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; DIPWE = days in period with episodes; h = hours; m = minutes.

that they did not have the same shape. The data for Site 2 (see Table 39) showed much greater skew (skewness = 2.02, *SES* = .55) and kurtosis (kurtosis = 4.70, *SEK* = 1.06) than for Site 1 (skew = 1.05, *SES* = .43; kurtosis = 0.42, *SEK* = 0.85). Although three outliers (one from Site 1 and two from Site 2) were identified as having scores

more than 2*SD* in excess of the respective site means, I decided to retain them as the Mann-Whitney *U* test is appropriate for unequal score distributions.

Table 39. *Descriptive Statistics for Mean Minutes Per Week by Site*

	Site 1	Site 2
N	29	17
Mean	350.52	844.47
SEM	28.98	133.53
95% CI for *M*		
LL	291.15	561.40
UL	409.88	1,127.53
Median	300.61	719.75
Variance	24,357.60	303,098.46
Std. Deviation	156.07	550.54
Skewness	1.05	2.02
SES	0.43	0.55
Kurtosis	0.42	4.70
SEK	0.85	1.06

Note. SEM = standard error of measurement; CI = confidence interval; LL = lower limit; UL = upper limit; Std. Deviation = standard deviation; *SES* = standard error of skewness; *SEK* = standard error of kurtosis.

The results were significant, $z = -4.27$, $p < .001$. Participants at Site 1 had an average rank of 17.03 and those at Site 2 had an average rank of 34.53. Figure 63 shows the distribution of minutes by site.

Longitudinal Study 2 Data and Contextual Features

Episode by purpose data.

The purpose of episodes was one of the data points with categories for participants to select. Table 40 displays the average number of minutes per episode by purpose for the Longitudinal Study 2 participants along with the number of episodes and the percent of total episodes. The longest episodes of out-of-class English access involved part-time jobs, with the average length of episode reaching 3 hours and 52

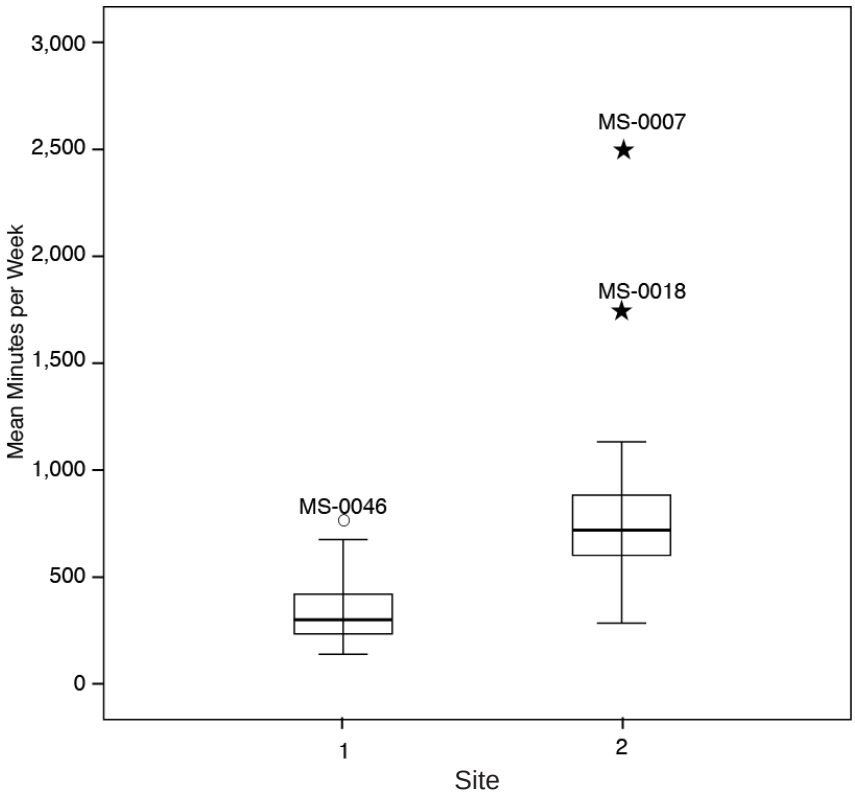

Figure 63. Distribution of minutes per week by site for Mann-Whitney *U* test.
Note. MS- = participant in Longitudinal Study 2, the "main study"; ○ = Site 1 participant with score two times standard deviation; ★ = Site 2 participant with score two times standard deviation.

Table 40. *Average Number of Minutes per Episode by Purpose of Episode for Longitudinal Study 2 (*k = *3,322)*

Purpose	*M*	*SD*	*k*	%
None given	1h 54m	2h 25m	59	2%
For school	1h 10m	1h 00m	1,712	52%
Part-time job	3h 52m	1h 57m	99	3%
Self-improvement	1h 22m	1h 09m	458	14%
Enjoyment	1h 28m	1h 21m	951	29%
Multiple given	1h 04m	0h 45m	43	1%
All episodes	1h 23m	1h 17m	3,322	100%

Note. h = hour; m = minutes; *k* = number of episodes.

minutes (see Figure 64). Episodes involving activities related to enjoyment averaged the second longest at 1 hour and 28 minutes. By far, the most common activity

marked for the purpose of enjoyment was listening to music. Episodes involving activities related to school (e.g., homework, studying for tests) were the most common (*k* = 1,712), nearly double the second most frequent category, for enjoyment (*k* = 951). The error bars indicate the standard deviation in length for each type of episode by purpose. Unshaded areas represent the categories on the EATUS form.

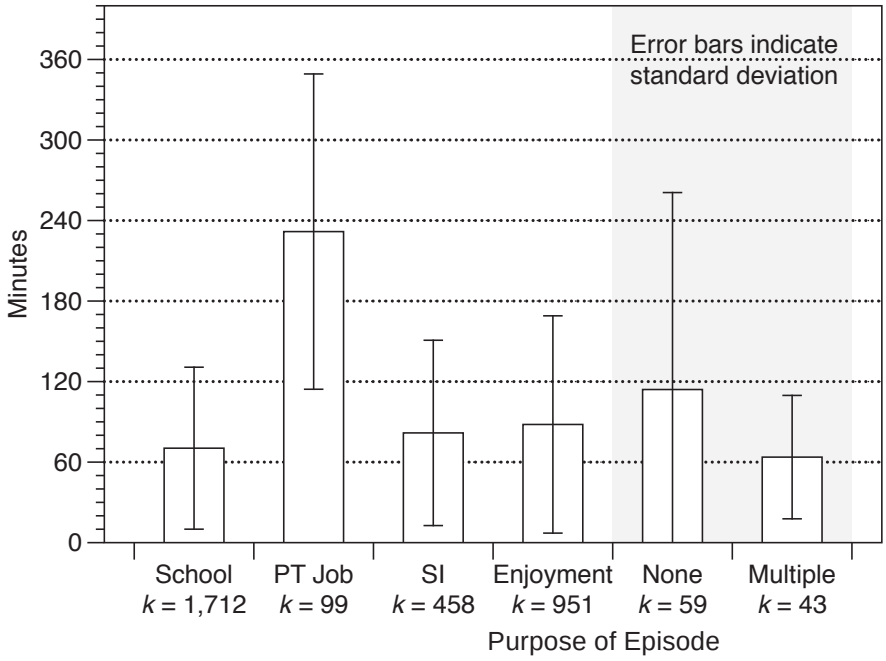

Figure 64. Mean episode length by purpose of the occurrence for Longitudinal Study 2.
Note. k = number of episodes; PT Job = part-time job; SI = self-improvement.

Examining the number of episodes by purpose for the out-of-class English access time for the Longitudinal Study 2 participants provides one dimension of information about how these participants spent their time. As can be seen above, most episodes were for school (52%, *k* = 1,712), with episodes for enjoyment making up nearly 30% (*k* = 951), of the Longitudinal Study 2 participants' out-of-class English access time use. Also important is the amount of time spent on the episode. The

average length of episodes was 1 hour and 23 minutes for the Longitudinal Study 2 participants. Though episodes for school were the most frequent, the longest episodes were those for part-time jobs (see above). Episodes for part-time jobs had the longest average time (3 hours 52 minutes), but also had the greatest standard deviation (1 hour 57 minutes) and were the least frequent of the four categories of purpose on the EATUS form (k = 99) with only non-responses or multiple responses recording fewer episodes (none: k = 59; multiple k = 43). Episodes involving activities related to self-improvement averaged the second longest at 1 hour and 22 minutes. Episodes involving activities related to school (e.g., homework, studying for tests) averaged 1 hour 10 minutes. Episodes for school were also the most consistent in length for the four categories provided on the EATUS form.

As is clear from the data presented above, school activities made up the bulk of the episodes for the Longitudinal Study 2 participants, with the remaining time split primarily between episodes for enjoyment and self-improvement. Part-time job related episodes were relatively infrequent (3%, k = 99) for these participants.

The distribution of episodes by day of week by the purpose for the interviewed and non-interviewed participants is also informative of the temporal patterns of time use for out-of-class English access (see Figure 65). Patterns for interviewed and non-interviewed participants show great similarity and have an overall correlation of .95, with two categories having high correlation (For school = .88; For enjoyment = .78) and two categories having low or negative correlations (For self improvement = .06; For part-time job = -.61). Both groups show a similar percent of time use for the purpose on a daily basis, though these patterns do not mirror each other. For example, the non-interviewed participants have a higher percent of

episodes related to part-time jobs for each day, with Wednesday and Friday having about 10% of episodes that day for a part-time job. Also, it should be noted that a greater percent of episodes are related to schoolwork for the interviewed participants for every day except Saturday. This information shows that the purposes of episodes are consistent for the Longitudinal Study 2 participants, regardless of whether they are interviewed or non-interviewed.

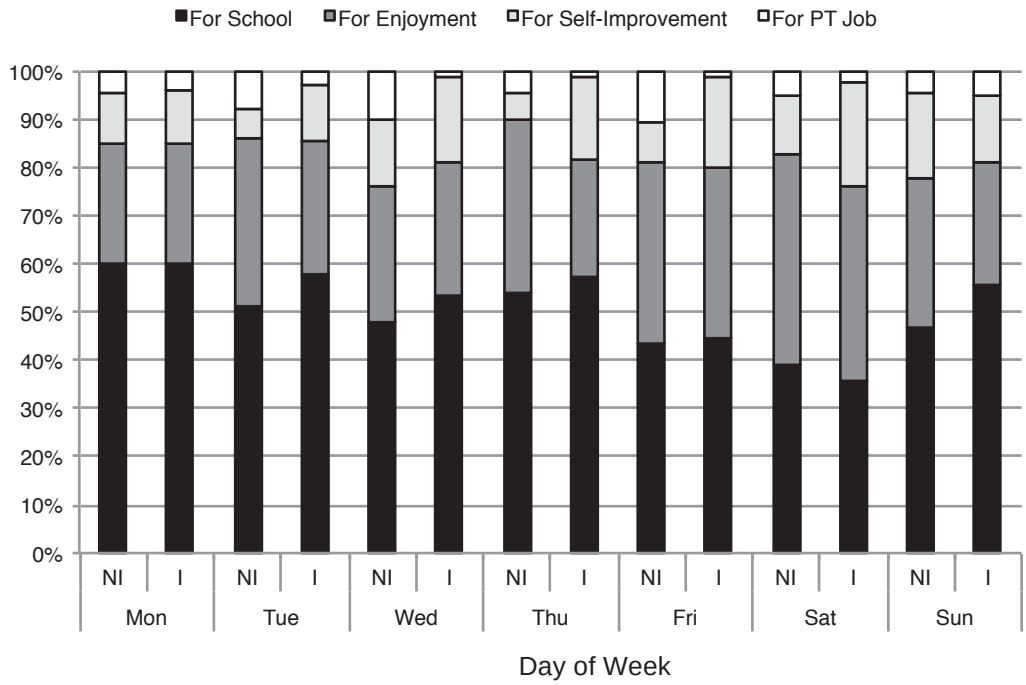

Figure 65. Distribution of episodes by day of the week for purpose for Longitudinal Study 2 interviewed and non-interviewed participants.
Note. PT Job = part-time job; NI = non-interviewed participant; I = interviewed participant.

The sum of minutes per episode by purpose for the interviewed Longitudinal Study 2 participants appears in Table 41. The mean length of episodes by purposes appears in Table 42. The percent of minutes per episode by purpose appears in Table 43. These three tables, which provide different views of the same information, show the

Table 41. *Sum of Minutes per Episode by Purpose for* Longitudinal Study 2 *Participants by Site*

MS-00 code	Site	School	Part-time job	Self-improvement	Enjoyment	None	Multiple codes	Total
19	1	1,994	65	2,005	1,728		75	5,867
20	1	6,940		815	4,130	60	480	12,425
22	1	990			330	200		1,520
30	1	120	10	110	1,055			1,295
32	1	3,060	490	880	210			4,640
35	1	550		10	2,285	1,560		4,405
36	1	1,562		306	883	92		2,843
38	1	2,342		465	2,054	360	165	5,386
39	1	1,065		90	495	65		1,715
43	1	3,895		1,080	540		300	5,815
44	1	1,590		975	3,465			6,030
46	1	2,025		1,050	8,198	1,240		12,513
47	1	2,520		745	2,940	120		6,325
51	1	705		230	163	10	60	1,168
12[a]	2	2,321	1,000	124	513			3,958
18[a]	2	10,845		90	4,600	600		16,135
01	2	5,984		3,795	3,697			13,476
04	2	1,520		60	810	600	1,020	4,010
07	2	1,160	17,020	11,755	26,920	300		57,155
08	2	12,707		280	3,155			16,142
09	2	9,925		2,715	2,065		60	14,765
11	2	5,290		950	1,400	60	60	7,760
13	2	8,890		660	695	140		10,385
14	2	7,010	1,260	570	5,340			14,180
15	2	4,190	240	90	335	480		5,335
16	2	4,886		420	480		415	6,201
17	2	9,579	120	5,310	390			15,399
Min		120	10	10	163	10	60	1,168
Max		12,707	17,020	11,755	26,920	1,560	1,020	57,155
M		4,209.81	2,525.63	1,368.46	2,921.33	392.47	292.78	9,512.89
SD		3,515.99	5,494.93	2,410.14	5,075.84	441.57	299.11	10,524.47

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; MS-00 removed from standard code to fit table; Min. = minimum; Max. = maximum. Empty cells had no reported episodes.

[a]Participant sat for only the first interview: one withdrew from school and the other declined to sit for the second interview due to scheduling problems.

Table 42. *Mean Episode Length by Purpose (in Minutes) for Interviewed Longitudinal Study 2 Participants*

Standard code	Site	School	Part-time job	Self-improvement	Enjoyment	None	Multiple codes	Total
MS-0019	1	117.29	32.50	46.63	72.00		37.50	66.67
MS-0020	1	93.78		54.33	65.56	60.00	96.00	78.64
MS-0022	1	55.00			36.67	66.67		50.67
MS-0030	1	40.00	10.00	27.50	47.95			43.17
MS-0032	1	95.63	122.50	58.67	52.50			84.36
MS-0035	1	55.00		10.00	152.33	780.00		157.32
MS-0036	1	32.54		34.00	49.06	92.00		37.41
MS-0038	1	58.55		93.00	73.36	90.00	82.50	68.18
MS-0039	1	62.65		30.00	82.50	32.50		61.25
MS-0043	1	77.90		90.00	90.00		100.00	81.90
MS-0044	1	63.60		51.32	61.88			60.30
MS-0046	1	126.56		105.00	85.40	95.38		92.69
MS-0047	1	33.16		46.56	73.50	60.00		47.20
MS-0051	1	41.47		57.50	16.30	10.00	60.00	35.39
MS-0012[a]	2	61.08	100.00	31.00	34.20			59.07
MS-0018[a]	2	193.66		90.00	88.46	200.00		144.06
MS-0001	2	46.39		58.38	73.94			55.23
MS-0004	2	76.00		60.00	73.64	100.00	78.46	78.63
MS-0007	2	82.86	293.45	146.94	168.25	300.00		182.60
MS-0008	2	79.92		70.00	121.35			85.41
MS-0009	2	74.62		84.84	86.04		60.00	77.71
MS-0011	2	52.38		73.08	77.78	60.00	60.00	57.91
MS-0013	2	63.96		60.00	69.50	140.00		64.50
MS-0014	2	86.54	210.00	81.43	58.04			76.24
MS-0015	2	67.58	240.00	90.00	41.88	96.00		69.29
MS-0016	2	40.72		38.18	34.29		34.58	39.50
MS-0017	2	92.11	120.00	139.74	65.00			103.35
Min.		32.54	10.00	10.00	16.30	10.00	34.58	35.39
Max.		193.66	293.45	146.94	168.25	780.00	100.00	182.60
M		73.00	141.06	66.47	72.27	145.50	67.67	76.25
SD		33.25	93.01	32.18	32.92	182.89	22.02	34.80

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; Min. = minimum; Max. = maximum. Empty cells had no reported episodes.

[a]Participant sat for only the first interview: one withdrew from school and the other declined to sit for the second interview due to scheduling problems.

variation in the number of minutes each participant spent for each purpose provided on the EATUS form. These tables make clear that one participant, MS-0007, spent considerably more time on out-of-class English access than most of the other

Table 43. *Percentage of Minutes per Episode by Purpose for Interviewed Longitudinal Study 2 Participants*

Standard code	Site	School	Part-time Job	Self-improvement	Enjoyment	None	Multiple codes
MS-0019	1	34%	1%	34%	29%		1%
MS-0020	1	56%		7%	33%	0%	4%
MS-0022	1	65%			22%	13%	
MS-0030	1	9%	1%	8%	81%		
MS-0032	1	66%	11%	19%	5%		
MS-0035	1	12%		0%	52%	35%	
MS-0036	1	55%		11%	31%	3%	
MS-0038	1	43%		9%	38%	7%	3%
MS-0039	1	62%		5%	29%	4%	
MS-0043	1	67%		19%	9%		5%
MS-0044	1	26%		16%	57%		
MS-0046	1	16%		8%	66%	10%	
MS-0047	1	40%		12%	46%	2%	
MS-0051	1	60%		20%	14%	1%	5%
MS-0012[a]	2	59%	25%	3%	13%		
MS-0018[a]	2	67%		1%	29%	4%	
MS-0001	2	44%		28%	27%		
MS-0004	2	38%		1%	20%	15%	25%
MS-0007	2	2%	30%	21%	47%	1%	
MS-0008	2	79%		2%	20%		
MS-0009	2	67%		18%	14%		0%
MS-0011	2	68%		12%	18%	1%	1%
MS-0013	2	86%		6%	7%	1%	
MS-0014	2	49%	9%	4%	38%		
MS-0015	2	79%	4%	2%	6%	9%	
MS-0016	2	79%		7%	8%		7%
MS-0017	2	62%	1%	34%	3%		
Min		2%	1%	0%	3%	0%	0%
Max		86%	30%	34%	81%	35%	25%
M		52%	10%	12%	28%	7%	6%
SD		22%	11%	10%	20%	9%	7%

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; Min. = minimum; Max. = maximum. Empty cells had no reported episodes.

[a]Participant sat for only the first interview: one withdrew from school and the other declined to sit for the second interview due to scheduling problems.

participants, recording 57,155 minutes during the study period, versus a mean of 9,512.89 minutes. This participant had the highest number of total minutes, but MA-0012 had the highest number of minutes related to school. The data from the

participants is not for an equal number of weeks, however, and this needs to be taking into account when interpreting the information.

These three tables provide an indication of how the interviewed participants in the Longitudinal Study 2 allocated to the various purposes for their out-of-class English access time. For most interviewed participants, out-of-class English access was primarily for study, though a number spent more time on English for enjoyment. The average amount of time devoted to enjoyment for all interviewed Longitudinal Study 2 participants was 28%. Notably, participant MS-0030 spent 81% of his time on English for enjoyment. MS-0007 and MS-0025 are also notable in that much of these participants' out-of-class English access time (30% and 25% respectively) was for a part-time jobs teaching English at *juku* (cram schools). The average for all interviewed Longitudinal Study 2 participants was 10%.

Episode by location data.

Location of the episode was also selected by the participants on the EATUS form. Six categories were provided: at home (home), at school in a special location for language study (school, special), at school in another location (school, regular), at a part-time job (PT job), while commuting (commuting), or another location (other). As with purpose, participants were instructed to select one of these locations, but in some cases selected none or multiple locations on the forms submitted. The number of episodes and the percent for each location appear in Table 44. As can be seen in Figure 66, which displays this information in a bar graph, episodes at home comprised 64% (k =2,135). This shows the average number of minutes per episode by location of occurrence for the Longitudinal Study 2. Unshaded areas represent main categories.

For each category there is a large standard deviation in length. The longest episodes were associated with part-time jobs, with an average length of 4 hours and 5 minutes. The part-time jobs category includes such activities as tutoring younger students in English and waiting on tables in a restaurant, and the times represent the total amount of time spent at work rather than the total amount of time actively engaged with English. Most of the episodes occurred at home (*k* = 2,135) and had an average duration of 1 hour and 23 minutes. The second most frequent location was commuting (*k* = 411), with a mean duration of 48 minutes. The category "Other" included such places as coffee houses and fast food restaurants. Special areas (for language study) at school were only listed 120 times. At these particular sites, the special areas set aside for language study do not appear to be locations frequented by study participants for out-of-class English access.

Table 44. *Location of Episodes by Number and Percent for Longitudinal Study 2 (*k = *3,322)*

Location	*k*	%
At home	2,135	64%
At school, special	120	4%
At school, other	343	10%
At PT job	83	2%
Commuting	411	12%
Other	127	4%
None selected	22	1%
Multiple selected	81	2%

Note. *k* = number of episodes; School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use; PT job = part-time job.

Excluding episodes with no codes given or multiple codes, the general results mirror those from Longitudinal Study 1 (see Chapter 4, Longitudinal Study 1). As

with Longitudinal Study 1, the typical episode occurred at home and lasted for about one and a half hours.

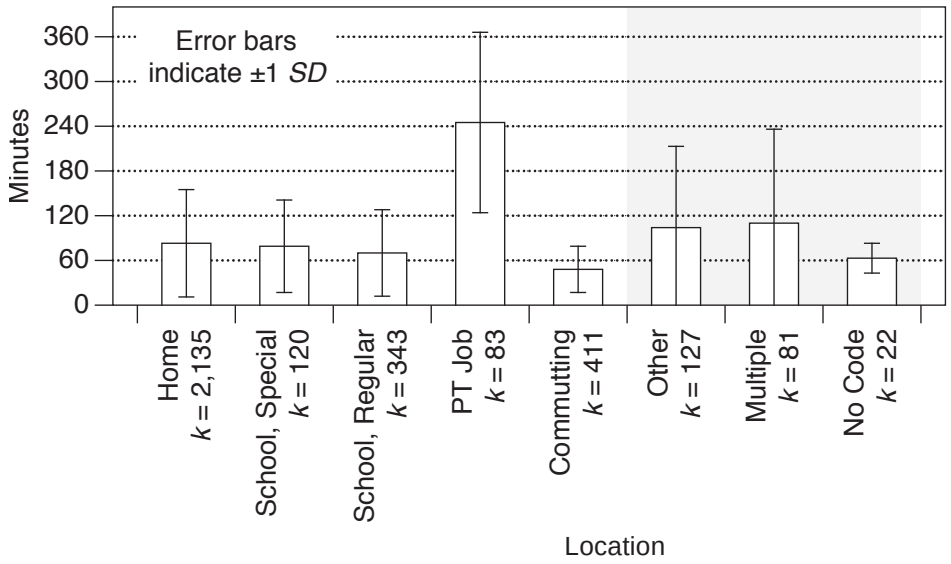

Figure 66. Mean number of minutes per episode by location of episode occurrence for Longitudinal Study 2.
Note. *k* = number of episodes; School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use; PT Job = part-time job.

Figure 67 shows the distribution of episodes by day of week and location for interviewed and non-interviewed participants and illustrates how the location of the episode varies for the interviewed and non-interviewed participants in the Longitudinal Study 2. This bar chart compares the percent of episodes by location for the two Longitudinal Study 2 groups. The interviewed Longitudinal Study 2 participants consistently have a higher percent of the total episodes at home and a lower percent while commuting than the non-interviewed Longitudinal Study 2 participants for each day of the week. Also of note is that neither group has a higher percent of out-of-class English access episodes in a place at school specifically meant for language study. Although the patterns are similar, there is greater variability. The

overall correlation between interviewed and non-interviewed participants was .91, but correlations for each of the categories vary: At home (.95), Commuting (.75), School-regular (.84), School-special (.14), Other (-.26), and At PT job (-.14). There appears to be a qualitative difference between the first three and last three categories.

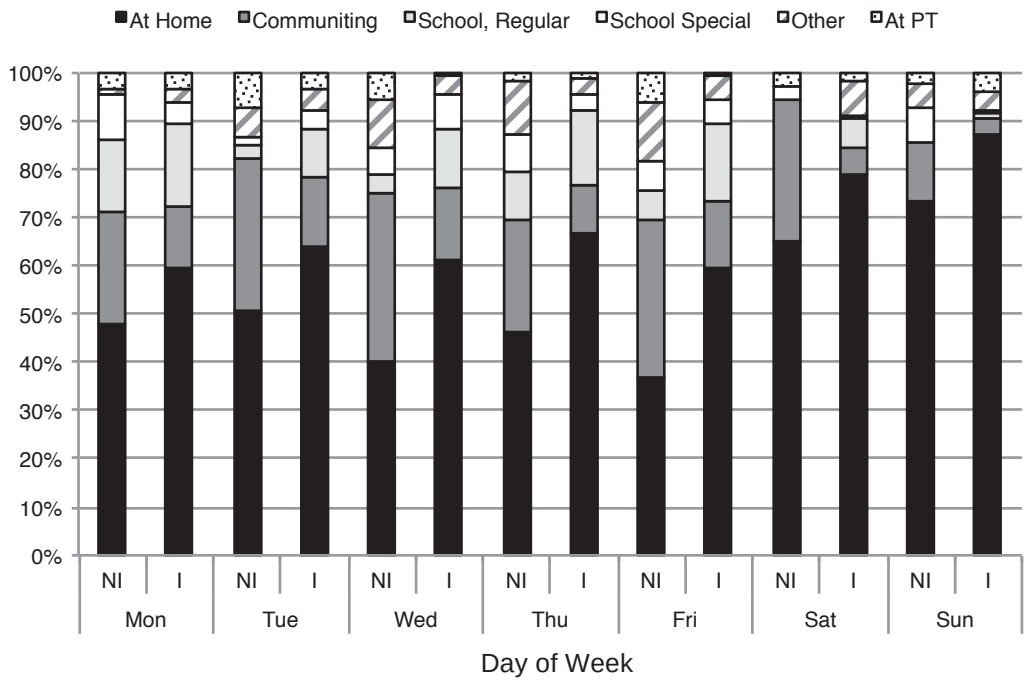

Figure 67. Distribution of episodes by day of the week by location for Longitudinal Study 2 interviewed and non-interviewed participants.
Note. At PT = At part-time job; NI = non-interviewed participant; I = interviewed participant.

Whereas the first three categories might be central elements in student life, the fourth category might be indicative of the depth of participation in school life, and the final two categories might reflect more of students' non-academic rather than academic lives. It might be that non-interviewed students are less committed to school life in general than interviewed ones.

The sum of minutes per episode by location for the interviewed Longitudinal Study 2 participants appears in Table 45. The mean length of episodes by location

appears in Table 46. The percent of minutes per episode by location appears in Table 47. These tables, which provide different views of the same information, show the variation in the number of minutes each participant spent at each location for out-of-class English episodes provided on the EATUS form.

These three tables provide an indication of how the interviewed participants in the Longitudinal Study 2 allocated time at the various locations for their out-of-class English access. For most interviewed participants, out-of-class English access was primarily at home (mean = 65%). Of interest is the generally low use of the special areas set up for English study at Site 1 and Site 2, which was used on average for 6% of the total minutes devoted to out-of-class English access by the interviewed participants as compared to 11% for other places at school.

Episode by persons present data.

Data were also collected regarding the persons present during the out-of-class English access episode. As with Longitudinal Study 1, episodes coded for "Other" were the longest in duration (*m* = 1 hour 47 minutes) (see Table 48) but also had the greatest standard deviation of any of the categories provided on the EATUS (see Figure 68). The error bars indicate the standard deviation in length for each type of episode by purpose. Unshaded areas represent the categories on the EATUS form. The most frequent category was "Alone" (*k* = 2,801) and these episodes had a mean duration of 1 hour and 19 minutes, which comprised nearly 85% of the total episodes for the Longitudinal Study 2 participants. Similar to the EATUS selection for location and purpose of the episode, the information about who was present during an episode

Table 45. *Sum of Minutes per Episode by Location for Interviewed Longitudinal Study 2 Participants*

MS- code	Site	Home	School, special	School, other	PT job	Commuting	Other	No code	Multiple codes	Total
19	1	4,562	415	69	50	511	260			5,867
20	1	5,520	190	2,540		4,115	60			12,425
22	1	1,460		30			30			1,520
30	1	1,100		120	10	65				1,295
32	1	2,150	1,240	1,110		140				4,640
35	1	1,390		50			1,240	1,680	45	4,405
36	1	2,415		52			110		266	2,843
38	1	1,870	240	2,975		14	180	107		5,386
39	1	1,495	60			100			60	1,715
43	1	4,560	180	895				60	120	5,815
44	1	3,470		30		2,230	240	60		6,030
46	1	7,328	90	1,345		2,285	955	510		12,513
47	1	1,610	30	1,715	20	1,200	1,540	90	120	6,325
51	1	488	345	140	60	15	110	10		1,168
12[a]	2	1,873	70	389	615	473	538			3,958
18[a]	2	11,075		370		2,050	120	2,520		16,135
01	2	10,556	124	1,791		630	375			13,476
04	2	1,920	120					1,970		4,010
07	2	34,445	1,405	1,475	16,060	300	3,230	240		57,155
08	2	13,597	390	1,225		420	510			16,142
09	2	12,050	885	1,515		140	175			14,765
11	2	4,205	425	1,410		360	1,240	60	60	7,760
13	2	9,105	510	200	40	180	210	140		10,385
14	2	6,820	240	2,650	1,050	2,100	1,320			14,180
15	2	4,060	120	100	240	335		480		5,335
16	2	5,581	170	420		10	10	10		6,201
17	2	13,645	780	634	120		30	190		15,399
Min		488	30.	30	10	10	10	10	45	1,168
Max		34,445	1,405	2,975	16,060	4,115	3,230	2,520	266	57,155
M		6,235.19	382.33	930.00	1,826.50	841.57	594.43	541.80	111.83	9,512.89
SD		6,807.25	377.45	885.78	4,755.24	1,064.20	758.46	786.76	74.99	10,524.47

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; Min. = minimum; Max. = maximum; School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use; PT job = part-time job. Empty cells had no reported episodes.

[a]Participant sat for only the first interview: one withdrew from school and the other declined to sit for the second interview due to scheduling problems.

Table 46. *Mean Episode Length (in Minutes) by Location for Interviewed Longitudinal Study 2 Participants*

MS- code	Site	Home	School, special	School, other	PT job	Commuting	Other	No code	Multiple codes	Total
19	1	81.46	138.33	23.00	50.00	24.33	65.00			66.67
20	1	81.18	63.33	101.60		67.46	60.00			78.64
22	1	52.14		30.00			30.00			50.67
30	1	47.83		40.00	10.00	21.67				43.17
32	1	74.14	88.57	123.33		46.67				84.36
35	1	106.92		25.00			137.78	560.00	45.00	157.32
36	1	38.33		8.67			36.67		66.50	37.41
38	1	49.21	120.00	87.50		14.00	180.00	35.67		68.18
39	1	67.95	60.00			25.00			60.00	61.25
43	1	78.62	180.00	99.44				60.00	60.00	81.90
44	1	65.47		30.00		54.39	60.00	60.00		60.30
46	1	138.26	90.00	96.07		43.94	79.58	170.00		92.69
47	1	50.31	30.00	31.76	20.00	52.17	73.33	90.00	120.00	47.20
51	1	30.50	49.29	28.00	60.00	15.00	55.00	10.00		35.39
12[a]	2	64.59	70.00	55.57	87.86	29.56	76.86			59.07
18[a]	2	208.96		92.50		66.13	60.00	114.55		144.06
01	2	52.00	24.80	74.63		78.75	93.75			55.23
04	2	91.43	40.00					72.96		78.63
07	2	155.86	140.50	92.19	297.41	300.00	358.89	120.00		182.60
08	2	84.45	97.50	94.23		52.50	170.00			85.41
09	2	81.97	49.17	75.75		46.67	87.50			77.71
11	2	62.76	42.50	47.00		30.00	95.38	60.00	60.00	57.91
13	2	62.36	255.00	40.00	20.00	90.00	70.00	140.00		64.50
14	2	86.33	80.00	110.42	262.50	35.59	77.65			76.24
15	2	67.67	120.00	50.00	240.00	41.88		96.00		69.29
16	2	38.76	56.67	60.00		10.00	10.00	10.00		39.50
17	2	103.37	156.00	79.25	120.00		30.00	95.00		103.35
Min		30.50	24.80	8.67	10.00	10.00	10.00	10.00	45.00	35.39
Max		208.96	255.00	123.33	297.41	300.00	358.89	560.00	120.00	182.60
M		78.62	92.94	63.84	116.78	54.56	90.83	112.95	68.58	76.25
SD		37.96	55.81	31.98	103.78	58.73	72.78	127.07	23.89	34.80

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; Min. = minimum; Max. = maximum; School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use; PT job = part-time job. Empty cells had no reported episodes.

[a]Participant that sat for only the first interview. One withdrew from school and the other declined to sit for the second interview due to scheduling problems.

Table 47. *Percentage of Minutes per Episode by Location for Interviewed Longitudinal Study 2 Participants*

MS- code	Site	Home	School, special	School, other	PT job	Commuting	Other	No code	Multiple codes
19	1	78%	7%	1%	1%	9%	4%		
20	1	44%	2%	20%		33%	0%		
22	1	96%		2%			2%		
30	1	85%		9%	1%	5%			
32	1	46%	27%	24%		3%			
35	1	32%		1%			28%	38%	1%
36	1	85%		2%			4%		9%
38	1	35%	4%	55%		0%	3%	2%	
39	1	87%	3%			6%			3%
43	1	78%	3%	15%				1%	2%
44	1	58%		0%		37%	4%	1%	
46	1	59%	1%	11%		18%	8%	4%	
47	1	25%	0%	27%	0%	19%	24%	1%	2%
51	1	42%	30%	12%	5%	1%	9%	1%	
12[a]	2	47%	2%	10%	16%	12%	14%		
18[a]	2	69%		2%		13%	1%	16%	
01	2	78%	1%	13%		5%	3%		
04	2	48%	3%					49%	
07	2	60%	2%	3%	28%	1%	6%	0%	
08	2	84%	2%	8%		3%	3%		
09	2	82%	6%	10%		1%	1%		
11	2	54%	5%	18%		5%	16%	1%	1%
13	2	88%	5%	2%	0%	2%	2%	1%	
14	2	48%	2%	19%	7%	15%	9%		
15	2	76%	2%	2%	4%	6%		9%	
16	2	90%	3%	7%		0%	0%	0%	
17	2	89%	5%	4%	1%		0%	1%	
Min		25%	0%	0%	0%	0%	0%	0%	1%
Max		96%	30%	55%	28%	37%	28%	49%	9%
M		65%	6%	11%	6%	9%	7%	8%	3%
SD		20%	8%	12%	9%	10%	8%	15%	3%

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; Min. = minimum; Max. = maximum; School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use PT job = part-time job. Empty cells had no reported episodes.

[a]Participant that sat for only the first interview. One withdrew from school and the other declined to sit for the second interview due to scheduling problems.

with adds another dimension to understanding the out-of-class English access time allocation of study participants.

Table 48. *Average Number of Minutes per Episode by Persons Present During Episode for Longitudinal Study 2*

Person	*M*	*SD*	*k*	*%*
No code given	2h 07m	2h 40m	44	1.3%
Alone	1h 19m	1h 13m	2,801	84.3%
With friends	1h 34m	1h 28m	357	10.7%
Other	1h 47m	1h 34m	117	3.5%
Multiple given	1h 10m	0h 37m	3	.09%
All episodes	1h 23m	1h 17m	3,322	100%

Note. k = number of episodes; h = hours; m = minutes.

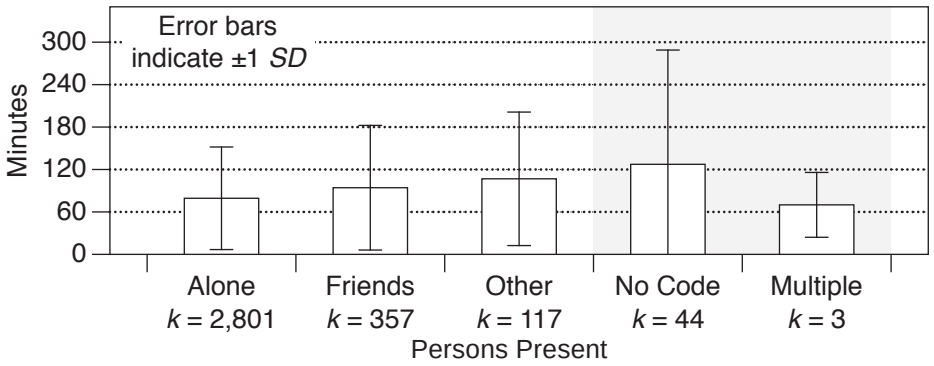

Figure 68. Mean episode length by persons present for Longitudinal Study 2.
Note. k = number of episodes.

The sum of minutes per episode by persons present for the interviewed Longitudinal Study 2 participants appears in Table 49. The mean length of episodes by persons present appears in Table 50. The percent of minutes per episode by persons present appears in Table 51. These tables, which provide different views of the same information, show the variation in the number of minutes each participant spent for each category of persons present provided for participants to select from on the EATUS form.

Table 49. *Sum of Minutes per Episode by Persons Present for Interviewed Longitudinal Study 2 Participants*

MS- code	Site	Alone	Friends	Other	No code	Multiple codes	All codes
19	1	5,226	539	102			5,867
20	1	9,565	570	2,230	60		12,425
22	1	1,360	70	90			1,520
30	1	805	30	70	390		1,295
32	1	3,590	1,020	30			4,640
35	1	1,580	1,265		1,560		4,405
36	1	2,803		40			2,843
38	1	1,828	3,343	155	60		5,386
39	1	1,655	60				1,715
43	1	4,915	840		60		5,815
44	1	5,975	55				6,030
46	1	10,593	1,120	455	345		12,513
47	1	4,965	1,180	90	90		6,325
51	1	488	485	170	25		1,168
12[a]	2	2,589	459	910			3,958
18[a]	2	15,225	370		540		16,135
01	2	11,996	1,480				13,476
04	2	3,090	30		860	30	4,010
07	2	48,855	7,975	25	300		57,155
08	2	12,997	1,585	1,560			16,142
09	2	13,435	1,330				14,765
11	2	5,145	1,375	1,000	60	180	7,760
13	2	8,765	1,480		140		10,385
14	2	7,780	3,190	3,210			14,180
15	2	4,685	170		480		5,335
16	2	5,586	495	120			6,201
17	2	13,719	1,620	60			15,399
Min		488	30	25	25	30	1,168
Max		48,855	7,975	3,210	1,560	180	57,155
M		7,748.70	1,236.00	606.88	355.00	105.00	9,512.89
SD		9,148.59	1,591.90	894.10	408.37	75.00	10,524.47

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project; Min. = minimum; Max. = maximum. Empty cells had no reported episodes.

[a]Participant that sat for only the first interview. One withdrew from school and the other declined to sit for the second interview due to scheduling problems.

Table 50. *Mean Episode Length (Minutes) by Persons Present for Interviewed Longitudinal Study 2 Participants*

Standard code	Site	Alone	Friends	Other	No code	Multiple codes	All codes
MS-0019	1	65.33	134.75	25.50			66.67
MS-0020	1	76.52	114.00	82.59	60.00		78.64
MS-0022	1	52.31	35.00	45.00			50.67
MS-0030	1	40.25	10.00	35.00	78.00		43.17
MS-0032	1	78.04	127.50	30.00			84.36
MS-0035	1	98.75	126.50		780.00		157.32
MS-0036	1	37.37		40.00			37.41
MS-0038	1	43.52	101.30	51.67	60.00		68.18
MS-0039	1	61.30	60.00				61.25
MS-0043	1	79.27	105.00		60.00		81.90
MS-0044	1	60.97	27.50				60.30
MS-0046	1	90.54	101.82	151.67	86.25		92.69
MS-0047	1	47.29	47.20	30.00	90.00		47.20
MS-0051	1	30.50	40.42	56.67	12.50		35.39
MS-0012a	2	51.78	57.38	101.11			59.07
MS-0018a	2	143.63	92.50		270.00		144.06
MS-0001	2	53.32	77.89				55.23
MS-0004	2	81.32	30.00		78.18	30.00	78.63
MS-0007	2	180.94	194.51	25.00	300.00		182.60
MS-0008	2	79.74	99.06	156.00			85.41
MS-0009	2	76.77	88.67				77.71
MS-0011	2	58.47	41.67	100.00	60.00	90.00	57.91
MS-0013	2	61.73	82.22		140.00		64.50
MS-0014	2	58.94	102.90	139.57			76.24
MS-0015	2	66.93	85.00		96.00		69.29
MS-0016	2	38.26	61.88	40.00			39.50
MS-0017	2	103.15	108.00	60.00			103.35
Min		30.50	10.00	25.00	12.50	30.00	35.39
Max		180.94	194.51	156.00	780.00	90.00	182.60
M		71.00	82.79	68.81	155.07	60.00	76.25
SD		32.02	40.43	43.64	190.07	30.00	34.80

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project. Empty cells had no reported episodes.

[a]Participant that sat for only the first interview. One withdrew from school and the other declined to sit for the second interview due to scheduling problems.

Table 51. *Percent of Minutes per Episode by Persons Present for Interviewed Longitudinal Study 2 Participants*

Standard code	Site	Alone	Friends	Other	No code	Multiple codes
MS-0019	1	89%	9%	2%		
MS-0020	1	77%	5%	18%	0%	
MS-0022	1	89%	5%	6%		
MS-0030	1	62%	2%	5%	30%	
MS-0032	1	77%	22%	1%		
MS-0035	1	36%	29%		35%	
MS-0036	1	99%		1%		
MS-0038	1	34%	62%	3%	1%	
MS-0039	1	97%	3%			
MS-0043	1	85%	14%		1%	
MS-0044	1	99%	1%			
MS-0046	1	85%	9%	4%	3%	
MS-0047	1	78%	19%	1%	1%	
MS-0051	1	42%	42%	15%	2%	
MS-0012[a]	2	65%	12%	23%		
MS-0018[a]	2	94%	2%		3%	
MS-0001	2	89%	11%			
MS-0004	2	77%	1%		21%	1%
MS-0007	2	85%	14%	0%	1%	
MS-0008	2	81%	10%	10%		
MS-0009	2	91%	9%			
MS-0011	2	66%	18%	13%	1%	2%
MS-0013	2	84%	14%		1%	
MS-0014	2	55%	22%	23%		
MS-0015	2	88%	3%		9%	
MS-0016	2	90%	8%	2%		
MS-0017	2	89%	11%	0%		
Min		34%	1%	0%	0%	1%
Max		99%	62%	23%	35%	2%
M		78%	14%	7%	8%	2%
SD		18%	13%	8%	12%	1%

Note. MS- = participant in Longitudinal Study 2, the "main study" for this project. Empty cells had no reported episodes.

[a]Participants that sat for only the first interview. One withdrew from school and the other declined to sit for the second interview due to scheduling problems.

These three tables provide an indication of who was present during episodes for the interviewed participants in the Longitudinal Study 2. For most interviewed

participants, out-of-class English episodes occurred alone (mean = 78%). Episodes with friends present accounted for an average of 14% of the participants' out-of-class English access time.

EATUS Descriptive Data for Longitudinal Study 2

Longitudinal Study 2 lexical items in EATUS.

The data from the EATUS description of the episodes showing the frequencies of activity description vocabulary assigned to episodes for Site 1 and Site 2 Longitudinal Study 2 participants is given in Table 52. Following this, Figure 69 shows the number of Longitudinal Study 2 participants that used the word in their episode descriptions and the percent of times it appeared in the total tokens. The frequency of the words used by the Longitudinal Study 2 participants mirrors that of the Longitudinal Study 1 participants, with the most frequent token for the Longitudinal Study 2 participants being "homework", which appeared in 9.99% of the episodes, followed by "listen," "music," and "English," which frequently appeared in combination, all of which were used in more than 7% of the episode descriptions. In order of descending frequency, episodes included the words "read" (5.18%), "western" (4.28%), "study" (4.01%), "grammar" (3.44%), and "topic" (3.38%). "Listen" was used by 44 of the participants, "homework" by 42 participants, and "music" and "listen" by 41 participants. As explained above, the episode descriptions were also placed into the episodic activity codes (see Table 53) following the procedures used for Longitudinal Study 1 (see Chapter 4). The percentages of the total number of codes that were represented in each category are provided in Figure 70. Due to the types of codes that were developed, a single activity could receive

multiple codes. For example, the most common type of activity—listening to English music—was coded "four skills/listening" (9.5% for all Longitudinal Study 2 participants), "international/ culture" (10.9%), and "media & technology/music" (7.8%) according to the codes developed for this portion of the EATUS analysis. The diameter of the circle indicates the relative proportion of that code to the total number of codes assigned. As codes are not mutually exclusive (i.e., multiple codes can be assigned to a single episode), sizes are not absolute. Nevertheless, they can be considered rough indicators of relative frequency of activity types by the Longitudinal Study 2 participants.

Table 52. *Sample RANGE Output of Activity Description Vocabulary Showing Frequency by Type and Word Families for Site 1 and Site 2, Longitudinal Study 2*

Site 1				Site 2			
		Frequency				Frequency	
Base list	Item	Type	Family	Base list	Item	Type	Family
1	listen	386	460	2	homework	491	491
1	English	456	456	1	read	18	354
1	to	446	446	2	topic	303	303
1	music	433	433	1	discuss	0	280
2	homework	396	396	3	grammar	278	278
2	Western	261	261	1	study	206	216
1	study	126	140	1	listen	170	207
1	read	12	104	2	foreign	166	202
4	vocabulary	92	92	1	English	193	193
1	watch	28	83	1	music	192	193
1	write	1	78	1	to	192	192
5	journal	65	65	2	assign	0	186
3	movie	61	61	8	phonetic	3	174
3	essay	38	38	1	friend	4	159
1	for	35	35	1	with	158	158
2	drama	29	29	1	write	0	140
3	grammar	27	27	2	essential	1	115
1	radio	25	25	1	prepare	2	101
2	song	2	24	2	Western	98	98
4	overseas	23	23	X	Skyped	86	86

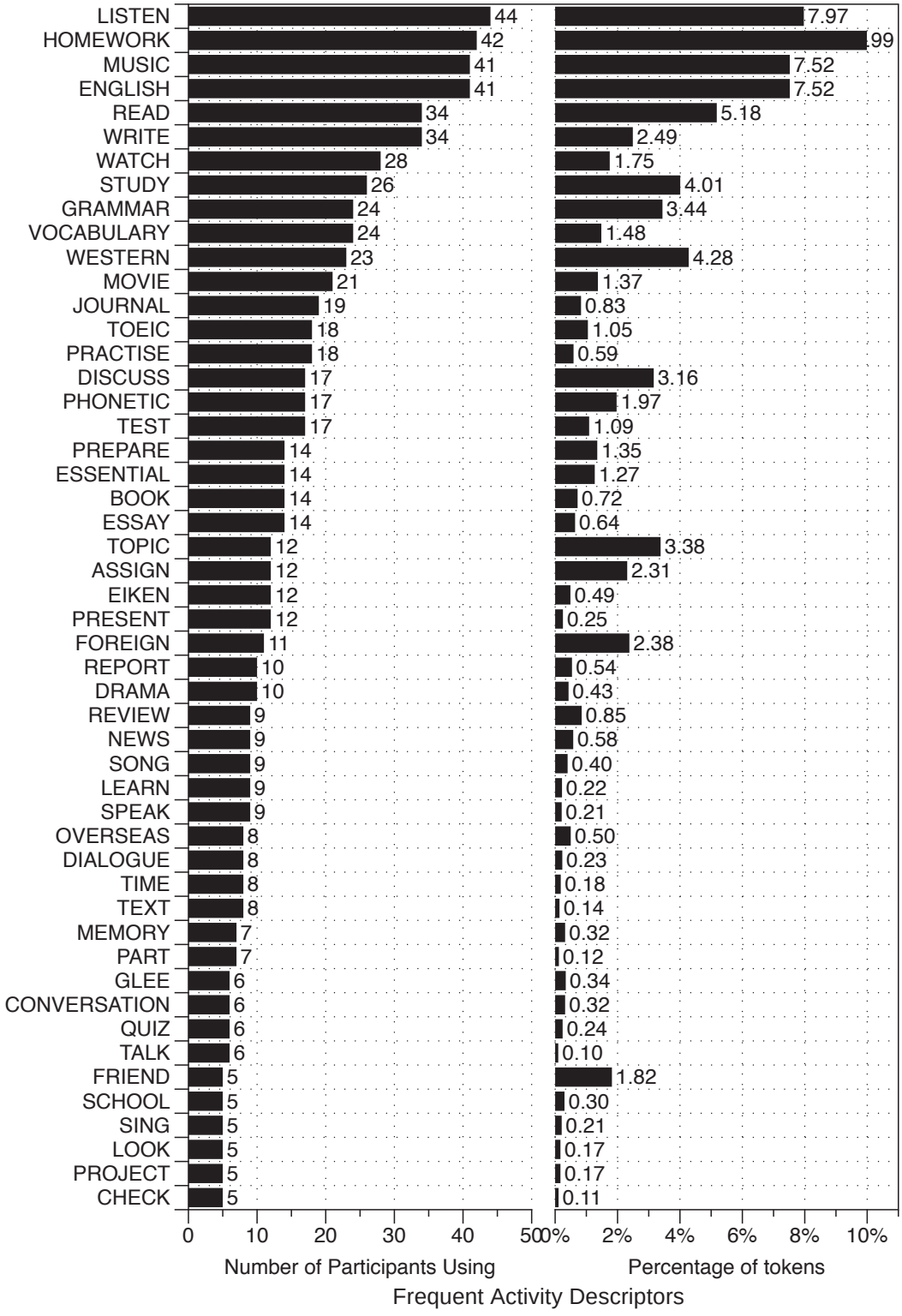

Figure 69. Frequent activity descriptors by word family for descriptions on EATUS for Longitudinal Study 2 data (including translations from Japanese).

Note. TOEIC = Test of English for International Communication.

Table 53. *Activity Codes Used for Analyzing Lexical Items from EATUS Descriptions*

Major code area	Categories for activity codes
Four skills	Listening, Reading, Speaking, Writing
Interaction	Club, Contest, Converse, Interview, Support, Teaching
International	Culture, Foreigners
License	EIKEN, TOEFL, TOEIC
Media & technology	Application, Internet, Music, News, Radio, Skype, Video
Student	Course, Homework, Prepare, Review, Study, Test
Support skills	Grammar, Pronunciation, Vocabulary

Note. EIKEN = Test of Practical English Proficiency; TOEFL = Test of English as a Foreign Language; TOEIC = Test of English for International Communication.

The codes with the highest frequency for the types of activities for all Longitudinal Study 2 participants engaged in during out-of-class English access time for Longitudinal Study 1 were in the major code area of "student," for the sub-categories "homework" (13.7%) and "course" (11.8%). The next two most frequent activity types according to this coding scheme were for the category "international/culture" (10.9%) and "four skills/listening" (9.5%). These were followed by the category "media & technology/music" (7.8%), which was the fifth most frequent activity type. This was followed by the category "student/study" (4.9%). Other frequent sub-categories were in the major code area "four skills." Of these, "reading" (5.9%) was the sixth most frequently recorded type of activity, followed by "writing" (4.6%) and "speaking" (4.1%). This information is also shown for the participants' interview status. Some differences in the two groups can be noted, including more time for "homework," "culture," "listening," and "music" for non-interviewed, which serves as a reminder of the non-exclusive nature of these codes.

These data indicate that out-of-class English access time for the Longitudinal Study 2 participants was most frequently related to activities connected to their status as students, such as homework, course, study, and the types of homework that might

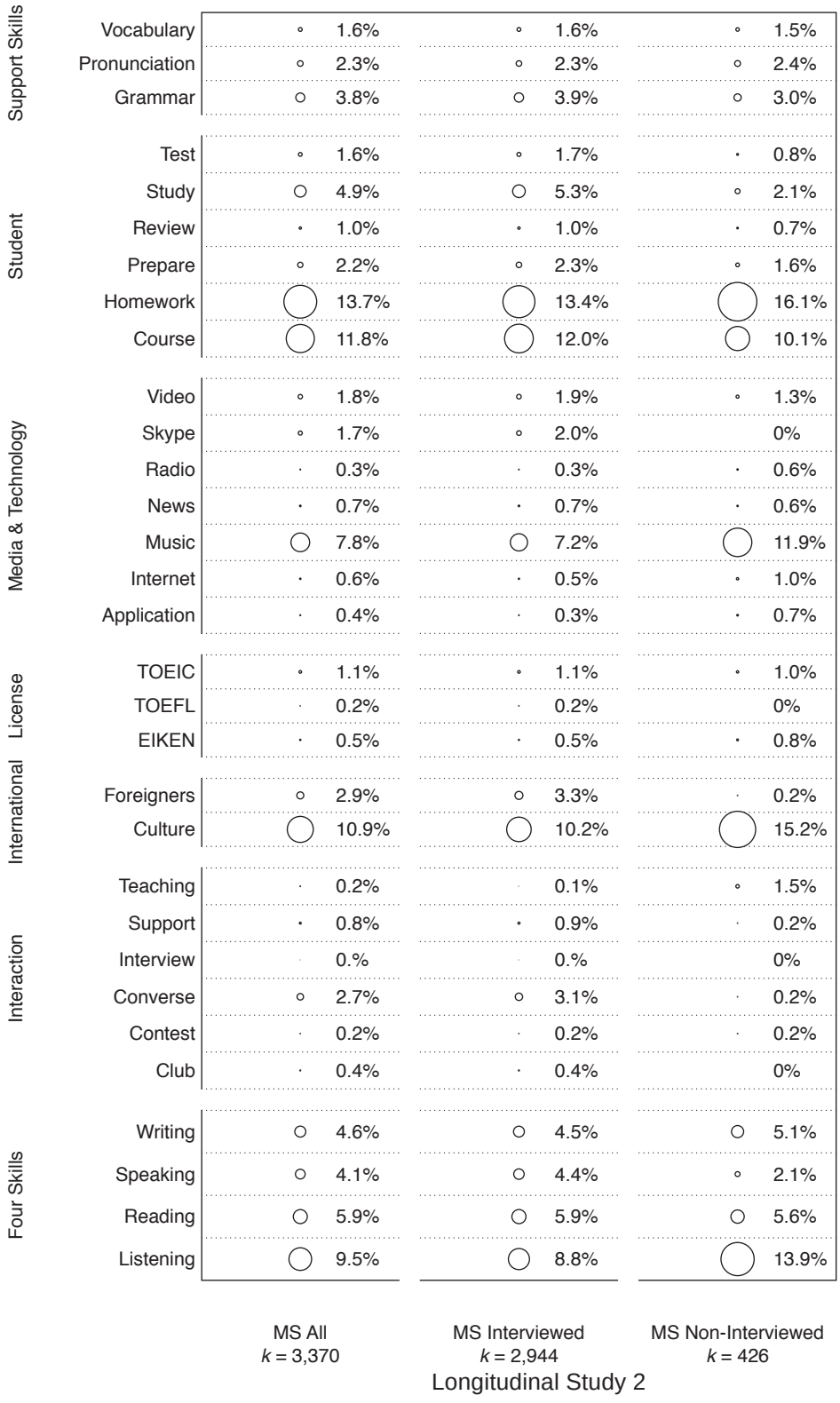

Figure 70. Percent of episodes assigned to activity code for out-of-class English total time allocation for interviewed and non-interviewed Longitudinal Study 2 participants. *Note*. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency; k = number of episodes.

be expected of students, such as listening, reading, speaking, and writing, but that English was also an enjoyable activity linked to cultural pursuits. This mirrors the findings from the Longitudinal Study 1 administration of the EATUS (see Chapter 4).

Episode activity type and time of day for Longitudinal Study 2.

Different types of activities occur at different times of the day. Using the cluster/category coding scheme I developed for analyzing activity content (see above), I amalgamated the counts of each code for all of the episodes that occurred during the Longitudinal Study 2 period and plotted them against every five-minute interval during the day in which they occurred. Episodes lasting more than five minutes were counted in each five-minute interval in which they appeared. For each cluster of I produced two plots, one with the proportions calculated against the cluster total that I label *absolute*, and one with proportions calculated against the category total that I label *relative*. The absolute plots enable cross-code comparisons and the relative plots are restricted to within-category comparisons. This comparison is based on the activity codes.

The following figures (Figures 71 to 82) compare the relative and absolute distribution of episodes by the major code areas and the categories for each of the activity codes. Among the episodes coded for four-skills (see Figures 71 and 72), episodes involving listening show a marked peak in the morning hours that corresponds to the daily commute to school. Episodes coded for speaking, which include homework for any class labeled "conversation" or "debate," as well as interactional activities, such as using the conferencing software Skype to talk with friends, were most common in the period after participants had left school. More

episodes were coded for speaking than for either reading or writing, which also exhibited peaking later in the day.

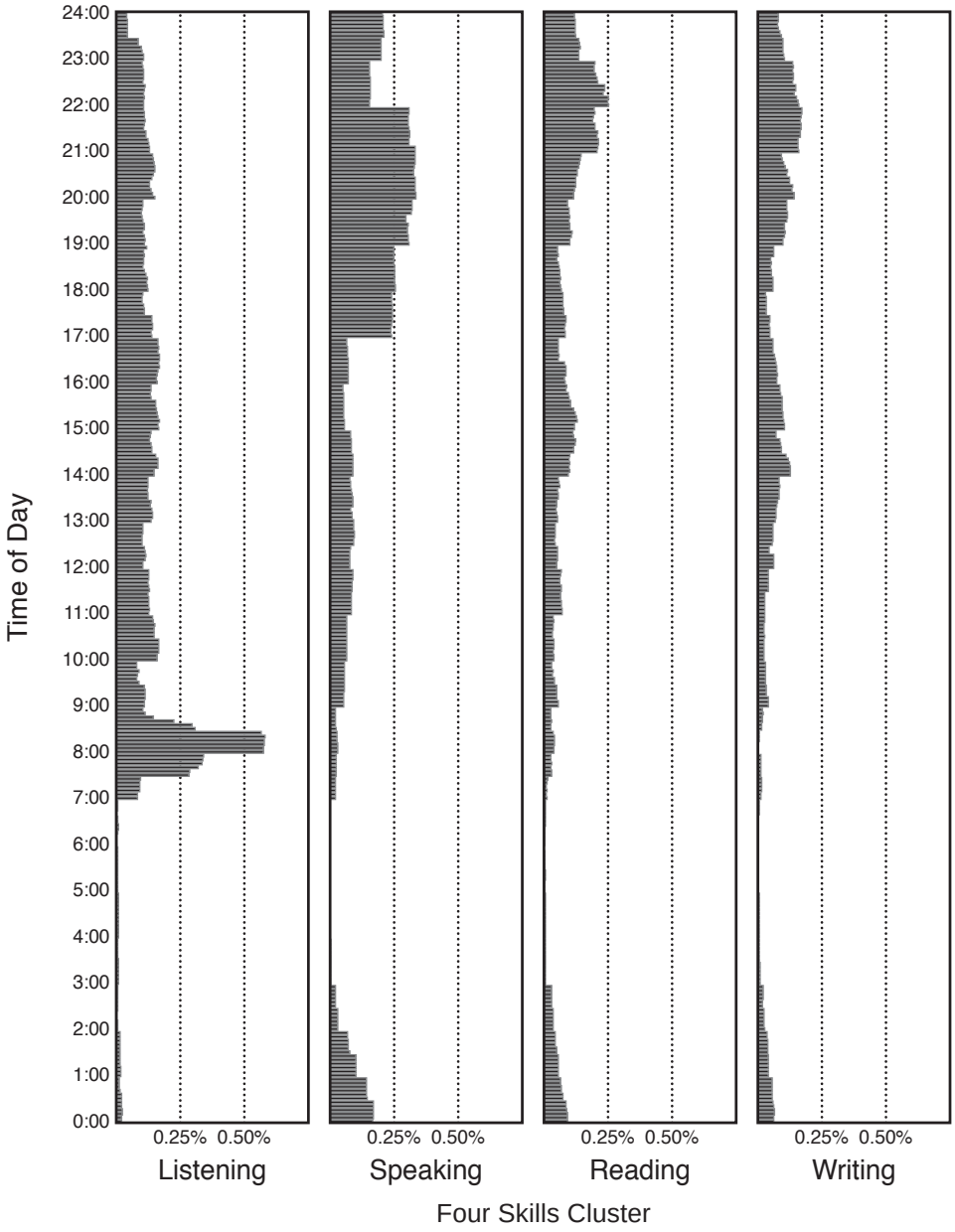

Figure 71. Absolute distribution of episodes in four-skills cluster.
Note. Bars indicate the proportion of all cluster episodes that occurred in the respective category at the specified time of day. Longitudinal Study 2.

Figures 73 and 74 display the time of day in absolute and relative distribution of episodes for activities related to the four-skills cluster. The distribution within each

of the categories is similar to that of the absolute plot, but differences between times within each of the categories are more pronounced. For example, four to five times more episodes are coded for listening in the morning commute time slot than at any

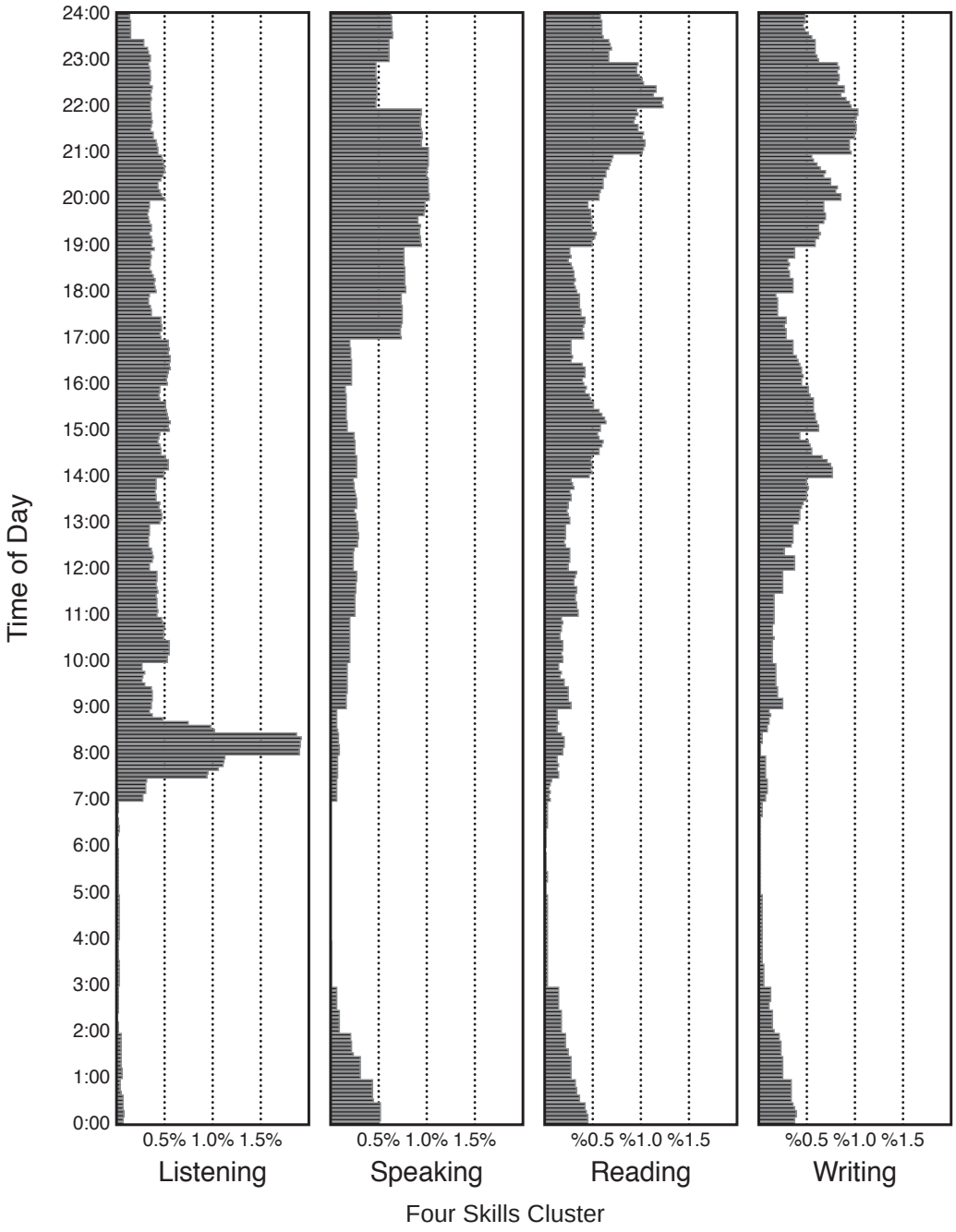

Figure 72. Relative distributions of episodes in four-skills cluster subcategories. *Note*. Bars indicate the proportion of episodes within each category that occurred at the specified time of day.

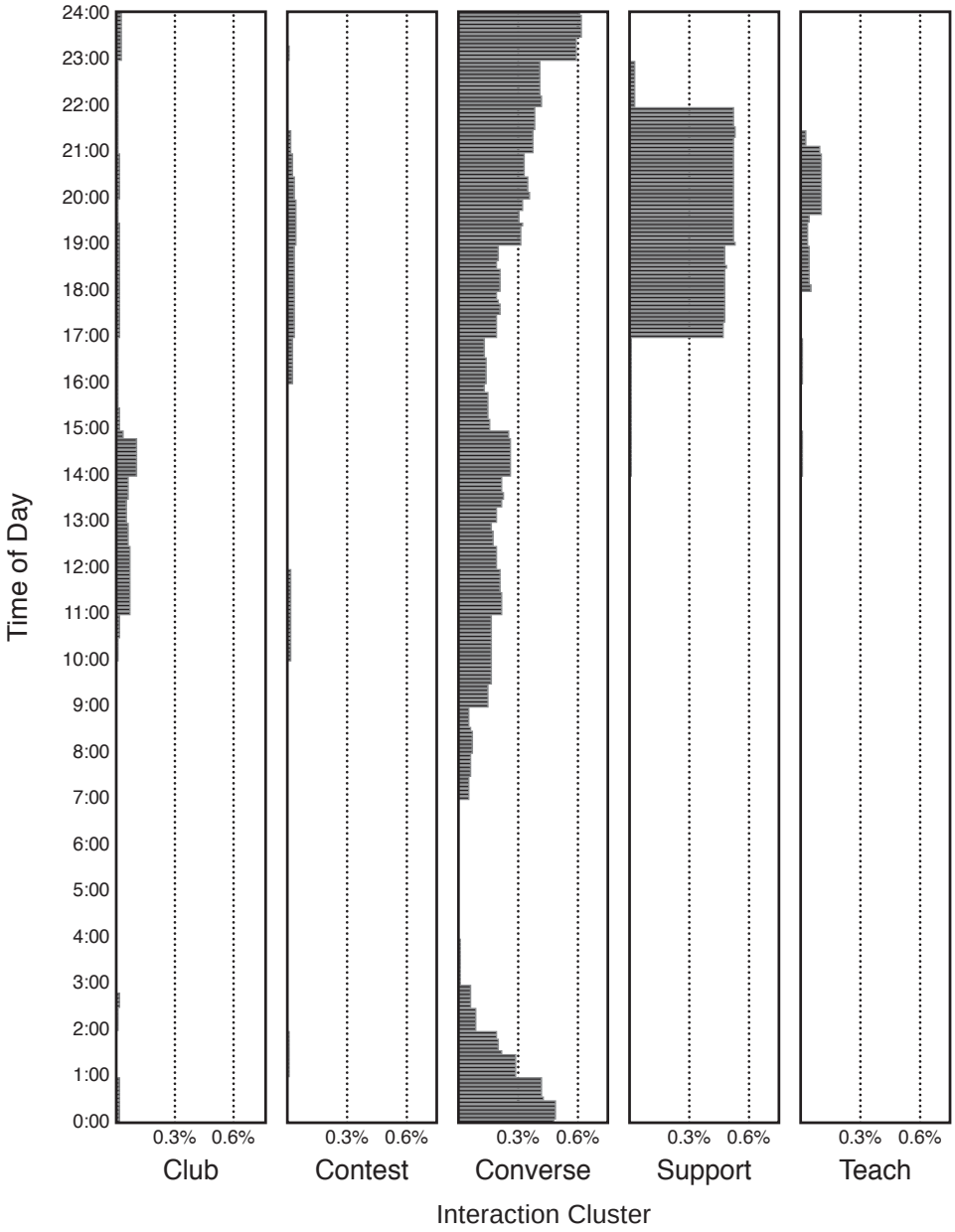

Figure 73. Absolute distribution of episodes in interaction cluster for Longitudinal Study 2.

Note. Bars indicate the proportion of all cluster episodes that occurred in the respective category at the specified time of day.

other time during the day. The largest group of activities involving reading occurs much later in the day, with a peak between nine and eleven in the evening. Unsurprisingly, activities coded for "converse," such as "talk to friends" or "Skype with friends," were clustered in the evening. Also of note is the peak for activities

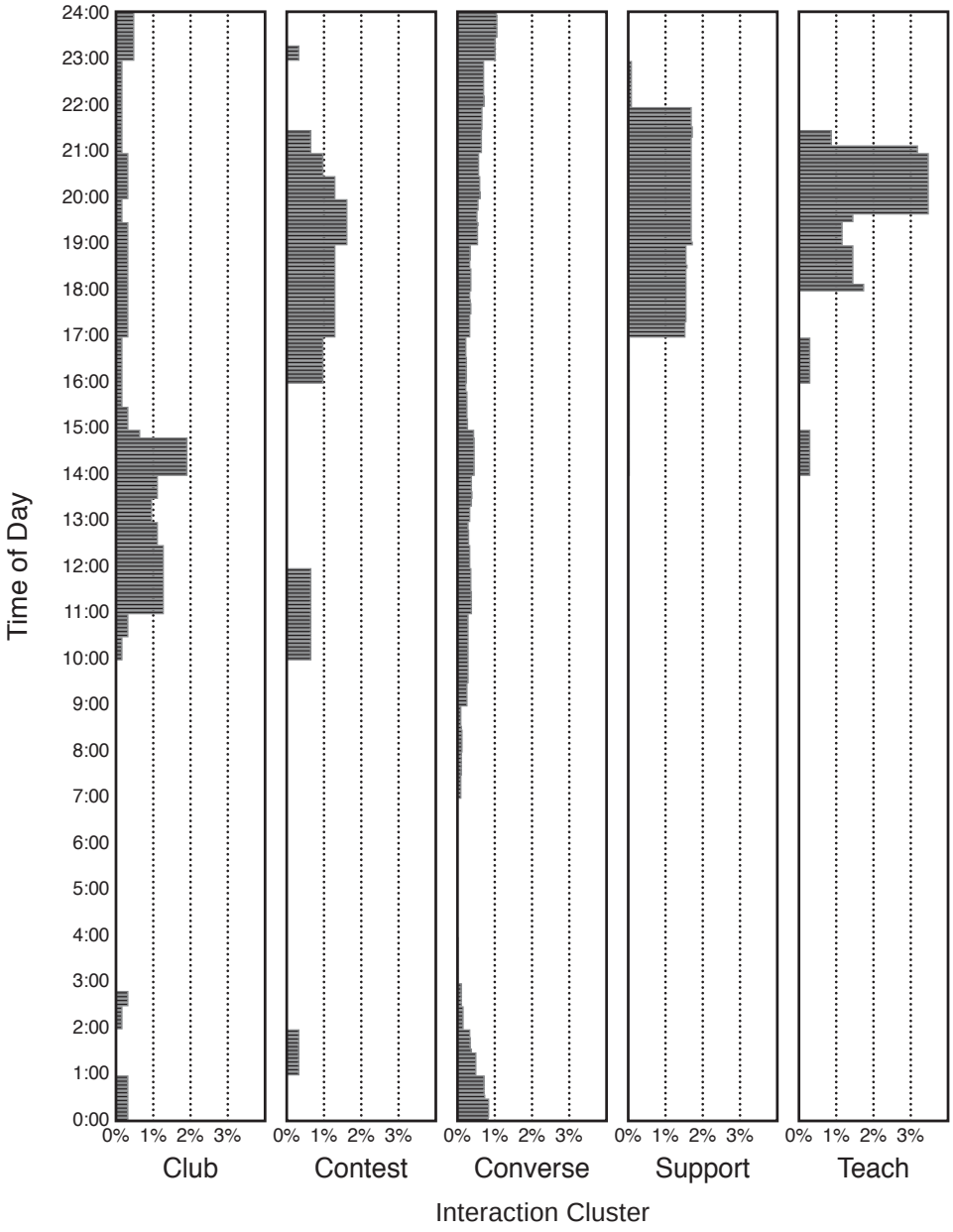

Figure 74. Relative distributions of episodes in interaction cluster subcategories for Longitudinal Study 2.

Note. Bars indicate the proportion of episodes within each category that occurred at the specified time of day.

labeled "support" in this activity cluster. These were activities such as "visit writing center" or "help from tutor" which were common activities on the EATUS at Site 2.

Figures 75 and 76 provide the time of day in absolute and relative distribution of episodes for activities related to the international cluster. The morning peak on the

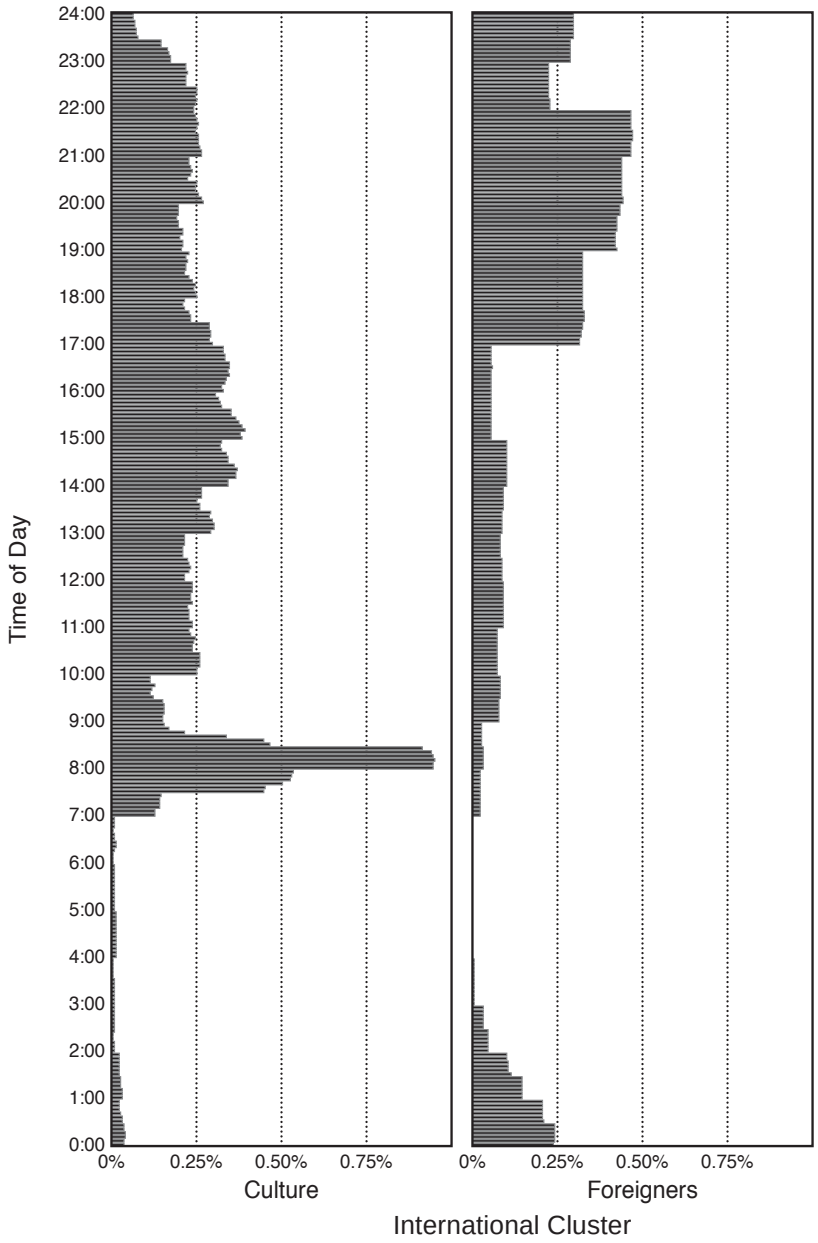

Figure 75. Absolute distribution of episodes in international cluster for Longitudinal Study 2.

Note. Bars indicate the proportion of all cluster episodes that occurred in the respective category at the specified time of day.

"culture" category corresponds to activities such as "listen to Western music," though incidents of this are found throughout the day. The evening peak for "foreigners" was in reference to non-Japanese customers at part-time jobs and speaking or Skyping with friends from other countries.

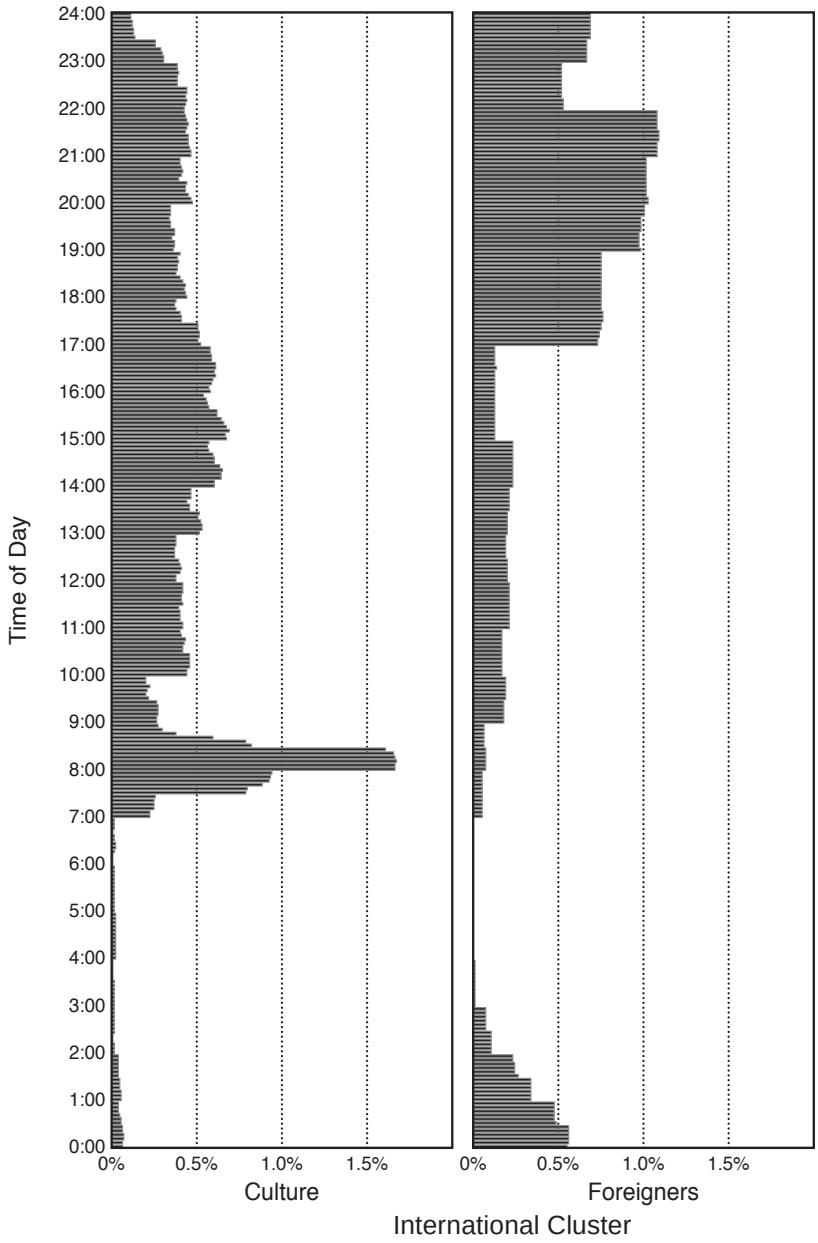

Figure 76. Relative distributions of episodes in international cluster subcategories for Longitudinal Study 2.

Note. Bars indicate the proportion of episodes within each category that occurred at the specified time of day.

Figures 77 and 78 provide the time of day in absolute and relative distribution of episodes for activities related to the license cluster, showing a late evening and early morning peak for the "Eiken" subcategory. TOEIC study occurs throughout the day

but is most frequent in the evenings. In contrast, TOEFL study shows a peak in the late afternoon.

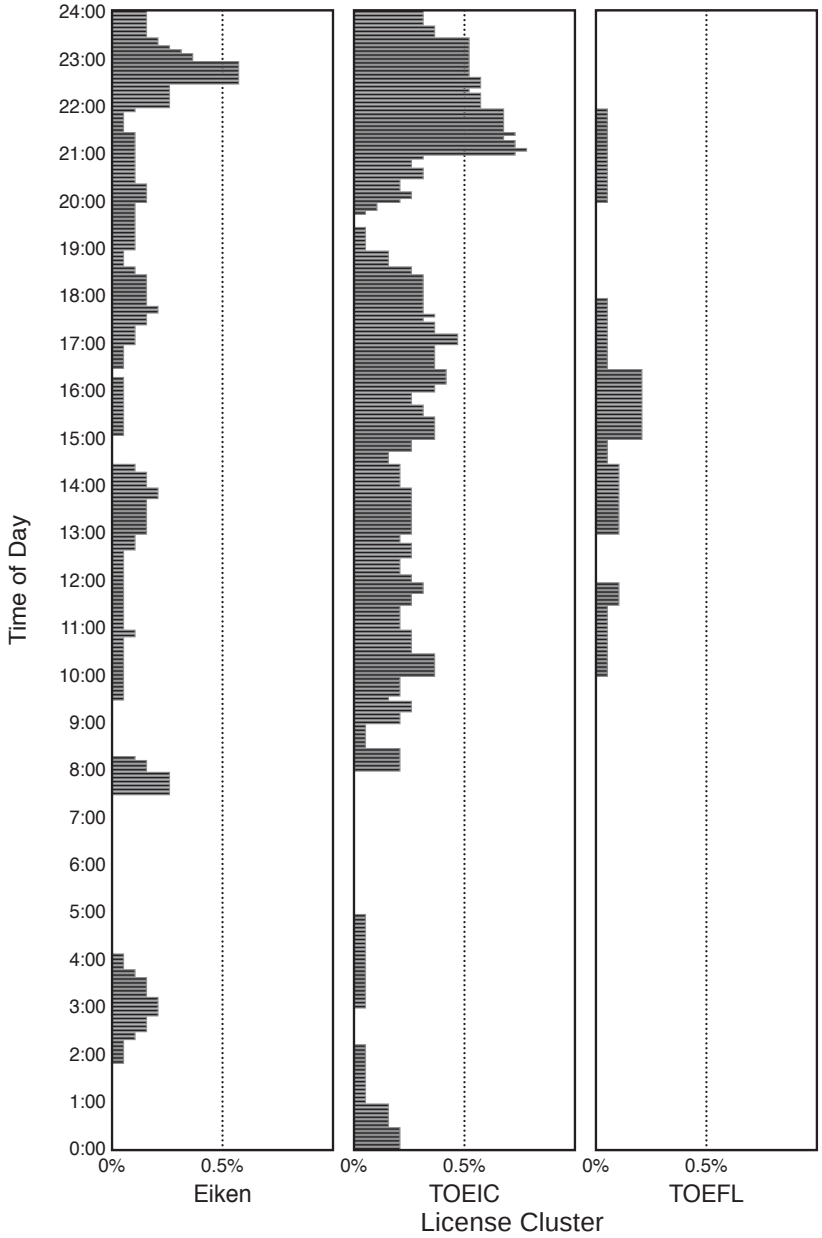

Figure 77. Absolute distribution of episodes in license cluster for Longitudinal Study 2.
Note. Bars indicate the proportion of all cluster episodes that occurred in the respective category at the specified time of day. EIKEN = Test of Practical English Proficiency; TOEFL = Test of English as a Foreign Language; TOEIC = Test of English for International Communication; k = number of episodes.

Figures 79 and 80 provide the time of day in absolute and relative distribution of episodes for activities related to the student cluster. Interestingly, different activity

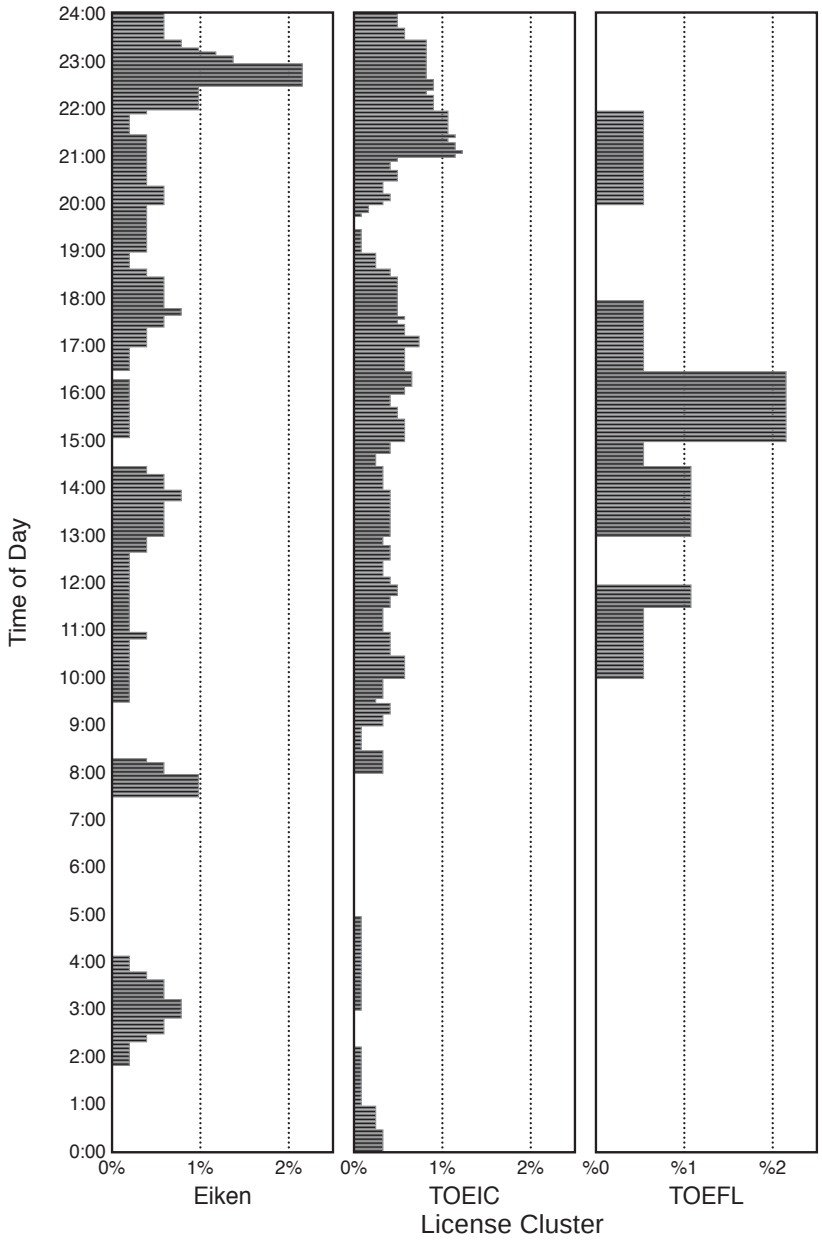

Figure 78. Relative distributions of episodes in license cluster subcategories for Longitudinal Study 2.

Note. Bars indicate the proportion of episodes within each category that occurred at the specified time of day. k = number of episodes; EIKEN = Test of Practical English Proficiency; TOEFL = Test of English as a Foreign Language; TOEIC = Test of English for International Communication.

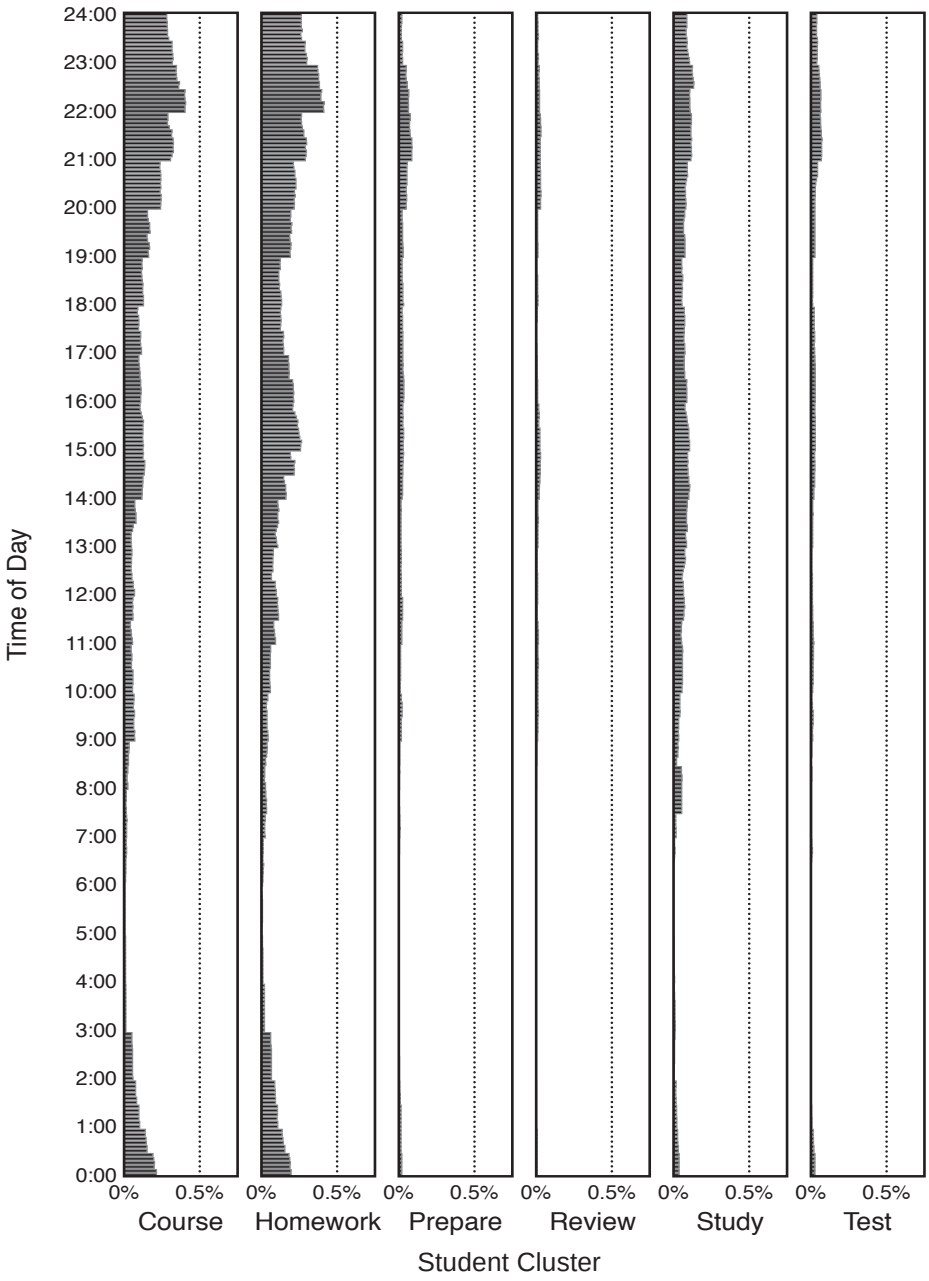

Figure 79. Absolute distribution of episodes in student cluster for Longitudinal Study 2.

Note. Bars indicate the proportion of all cluster episodes that occurred in the respective category at the specified time of day.

subcategories peak at various points in the day. The activity subcategories "course" and "homework" show a peak in the evening, episodes categorized as "prepare" show a slight increase in the early evening. This is also seen for "study," but this subcategory also has a mid-afternoon rise in episodes.

Figures 81 and 82 provide the time of day in absolute and relative distribution of episodes for activities related to the support cluster. Although Longitudinal Study 2 participants indicated awareness of the importance of "vocabulary" in the interviews (see below), far more time was given to activities coded for "pronunciation" and "grammar" in their out-of-class English access time. Site 2 courses might be driving this as it has courses with names that are associated with these support skills.

Each of these figures for the time of day in absolute and relative distribution of episodes for the major area codes and cluster subcategories is informative of how participants in the Longitudinal Study 2 spent their daily out-of-class English access time. When considering these figures, it is important to keep in mind that major code areas and categories are not mutually exclusive as episodes could be coded in several categories according to the participants' episode description.

Equally informative is the longitudinal differences that participants showed for the activity codes, particularly the "four skills" activity code. Figure 83 displays the pattern for the participants during the data collection period. The percents are for the number of participants submitting EATUS forms for the week. Data cannot be considered representative of all participants. Nevertheless, as can be seen, the episodes associated with "writing" fall to zero during the summer period. Moreover, there is a peak for "reading" prior to the exam period (July and early August), and a fall after classes and exams end. In contrast, "speaking" rises in relative percent of activities codes during for the summer period, peaking in early September, before dropping off at the beginning of fall term when the final EATUS forms were submitted. "Listening" also shows a peak in August. As is clear from this figure, the number of participants that maintained the EATUS form during the summer period is

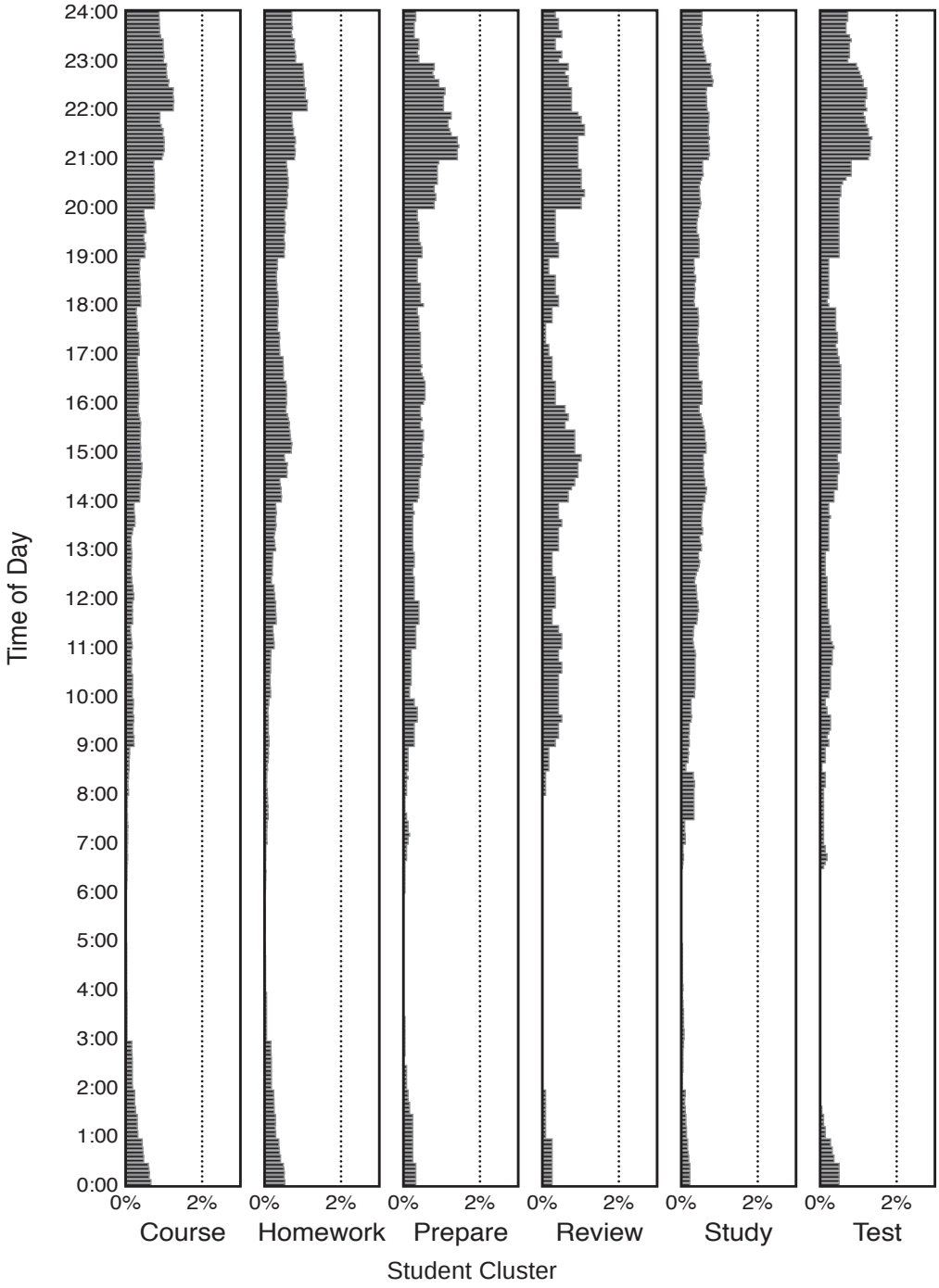

Figure 80. Relative distributions of episodes in student cluster subcategories for Longitudinal Study 2.

Note. Bars indicate the proportion of episodes within each category that occurred at the specified time of day.

very small. However, those participants engaged in very specific types of activities as coded for the "four skills" category in the data analysis, with activities coded for the

subcategory "speaking" making up a large portion of their out-of-class English access during this time.

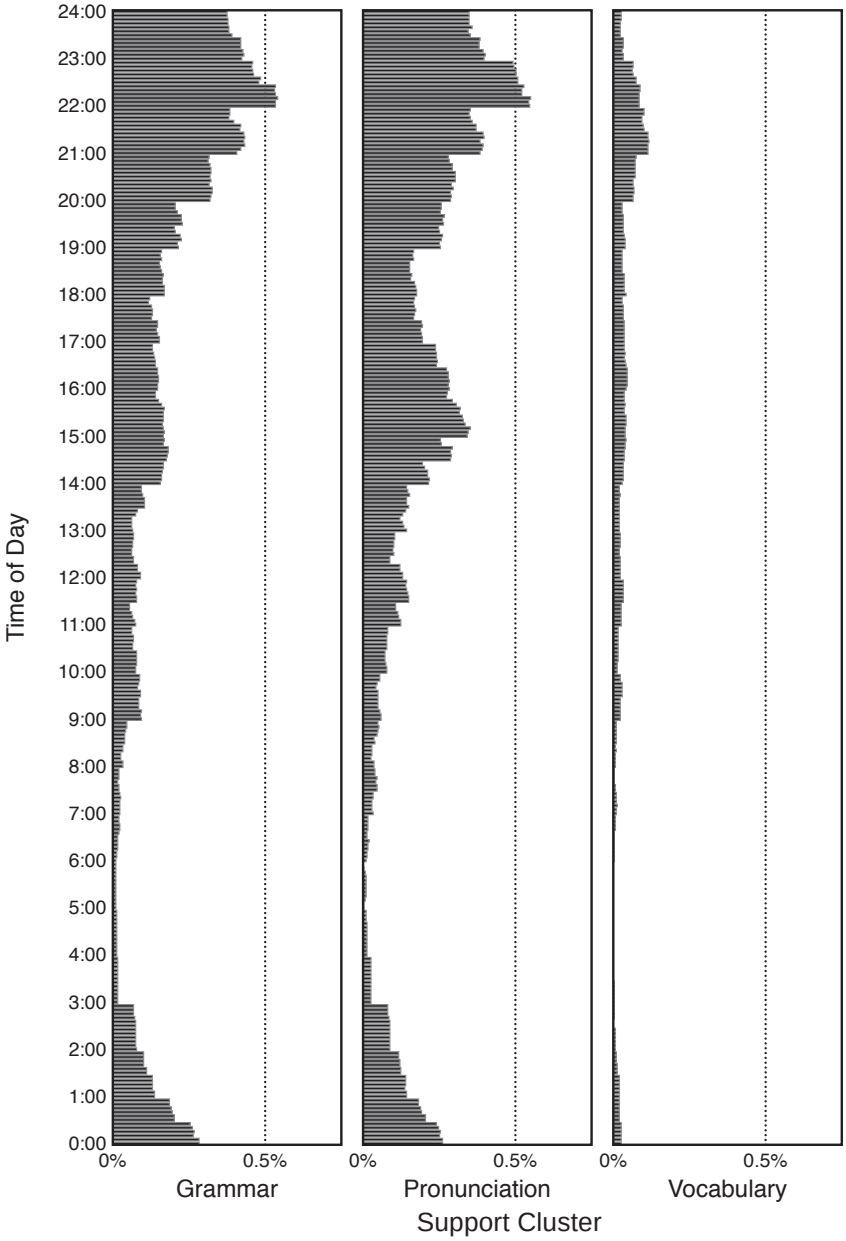

Figure 81. Absolute distribution of episodes in support cluster for Longitudinal Study 2.

Note. Bars indicate the proportion of all cluster episodes that occurred in the respective category at the specified time of day.

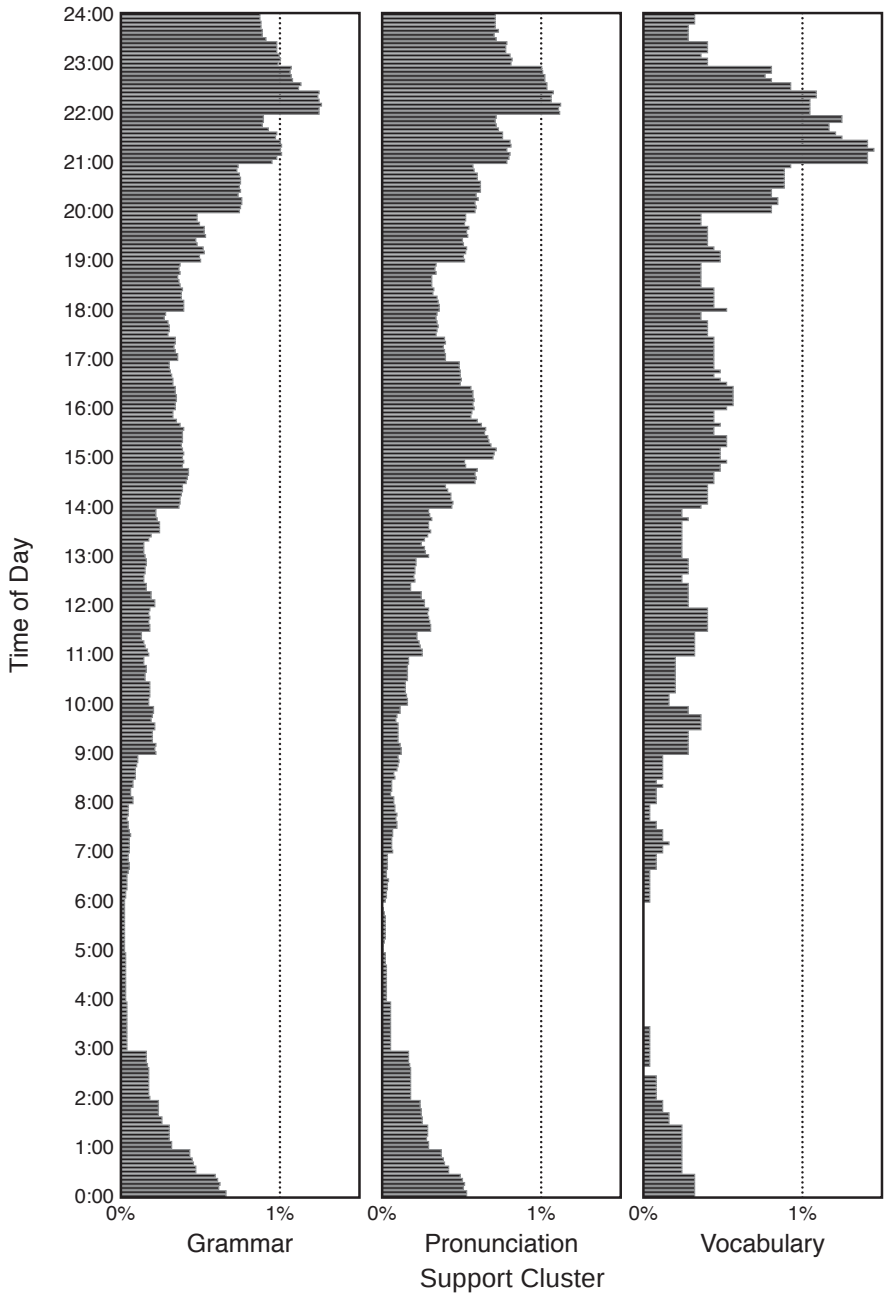

Figure 82. Relative distributions of episodes in support cluster subcategories.
Note. Bars indicate the proportion of episodes within each category that occurred at the specified time of day.

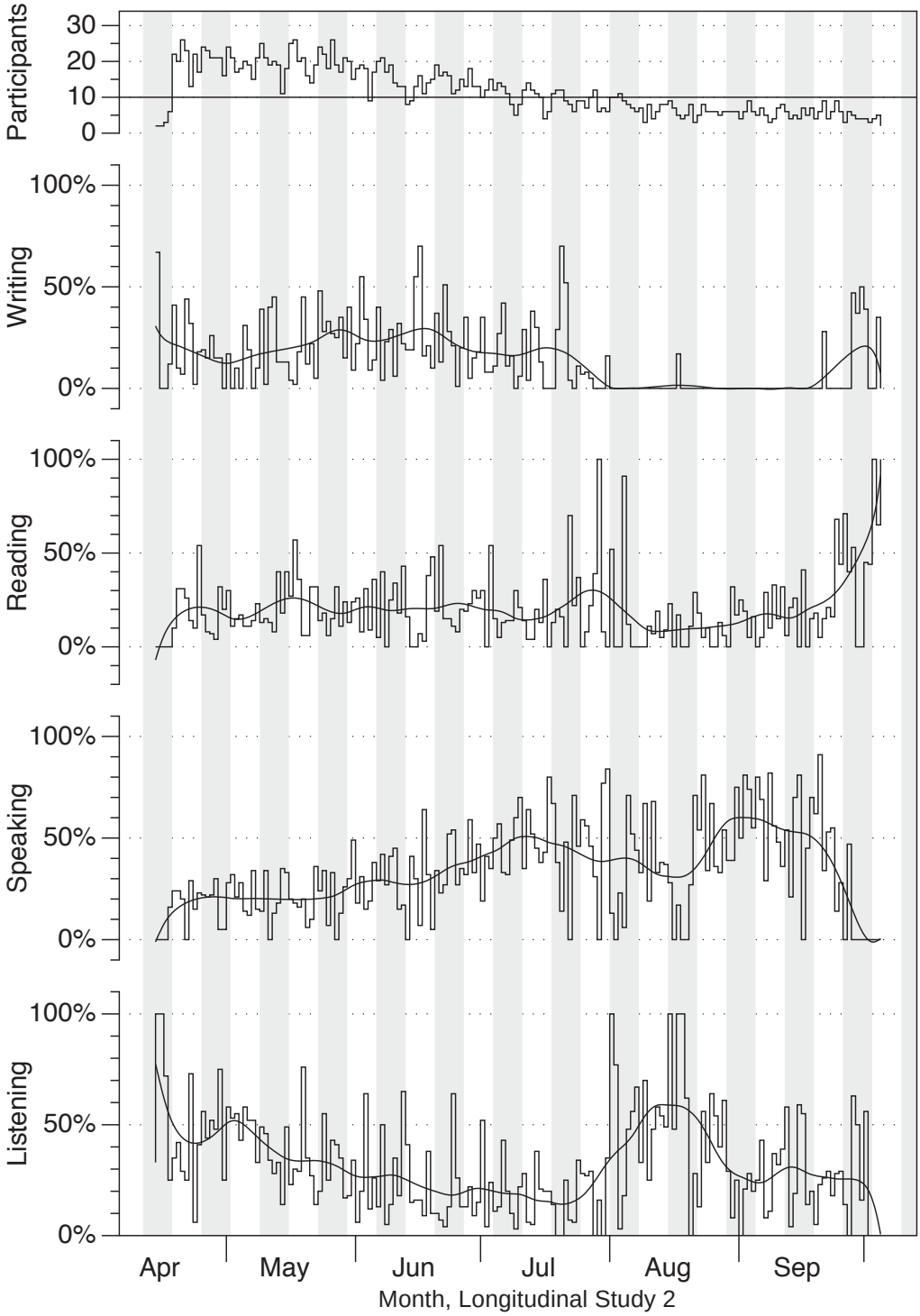

Figure 83. Time allocation to activities coded for four skills in percent of episodes for Longitudinal Study 2 participants during the entire collection period.

Note. Each bar indicates one week. Percentages are relative to the total number of episodes coded for the activity for the EATUS submissions by the number of participants that week. As the number of participants drops below 10 during the summer (August and September), data from this period cannot be considered to be representative of the entire group. Apr = April; Jul = July; Aug = August; Sep = September.

Affective Variables and Contextual Features of EATUS Data, Longitudinal Study 2

Briefly, to review the analysis procedures (see Chapter 4), I first determined if the assumptions for ANOVA were met. If these were met, then the ANOVA procedure was applied. If these were not met, as skewed distributions can attenuate the significance of certain statistical tests, I conducted various transformations (e.g., square root, log, inverse, and others) to see if the assumptions could be met with a transformed variable. I then examined the various transformations to the data suggested to meet the assumptions. If the assumptions were not met, I then applied the Kruskal-Wallis nonparametric procedures. For post-hoc comparisons, I applied the Mann-Whitney *U* test.

Descriptive statistics for affective and contextual variables, Longitudinal Study 2.

The data from the Longitudinal Study 2 participants regarding the affective variables of the episodes (enjoyment, anxiety) were first screened using the branching procedures outlined above (see Chapter 4, Analysis procedures for affective and contextual variables). This screening indicated large deviations from normality with regards to enjoyment and very large deviations from normal distributions for the anxiety variable. I decided to transform the anxiety variable using a log 10 transformation and reassessed the skew and kurtosis. Although the transformation resulted is a more normal distribution of scores, I determined that nonparametric procedures would be more appropriate for both enjoyment and anxiety and, therefore, applied the Kruskal-Wallis test.

As can be seen in Table 54, the skew for the enjoyment by purpose variables ranged from -0.33 (for part-time job) to -1.15 (for enjoyment), while kurtosis ranged from -1.03 (for part-time job) to 1.60 (for enjoyment). Skew and kurtosis for the anxiety by purpose, show significant skew for the purpose of enjoyment (skew = 2.81), as did skew for the purpose of enjoyment by the anxiety log 10 transformation (skew = 2.12). The skew and kurtosis for the affective variables enjoyment and anxiety by the contextual variables location had lower levels of skew, but these remained high enough to suggest that nonparametric procedures were appropriate. For enjoyment by location, skew ranged from -0.42 (commuting) to 0.27 (at home). For anxiety by location, skew ranged from 0.74 (part-time job) to 2.79 (commuting). In the anxiety log 10 transformation by location, skew ranged from 0.17 (part-time job) to 2.03 (commuting). For the affective variable enjoyment and persons present, skew ranged from -0.31 (with others) to 0.12 (alone). For the affective variable anxiety by the contextual variable persons present, skew ranged from 0.94 (with friends) to 1.62 (with others). For the anxiety log 10 transformed by persons present, skew ranged from 0.49 (with friends) to 1.28 (with others). Though the skew for the affective variables (enjoyment, anxiety) by the contextual variables location and persons present were within acceptable ranges for the ANOVA procedure, I determined that nonparametric statistical procedures were appropriate for all comparisons.

The affective evaluations of the episode and the day of occurrence are also informative. Figure 84 provides the percentage of episode for each rating of enjoyment for interviewed and non-interviewed students by day of week, and Figure 85 shows the percentage of episode for each rating of anxiety for interviewed and non-interviewed students by day of week. Of note here is that more than 60% of

episodes were rated as low anxiety (1 or 2) for both interviewed and non-interviewed participants for each day of the week. In contrast, there is much more variation in the ratings for enjoyment, with a similar percent of low and high enjoyment activities appearing on each day for interviewed and non-interviewed participants.

Table 54. *Descriptive Statistics for Contextual Variables by Affective Variables for Longitudinal Study 2*

	Enjoyment			
	Purpose			
	School	PT job	Self-improvement	Enjoyment
N	1,738	99	470	956
M	2.34	3.51	2.60	4.24
SEM	0.03	0.11	0.06	0.03
99.5% *CI* for *M*				
LL	2.26	3.19	2.44	4.15
UL	2.42	3.83	2.76	4.34
Var.	1.37	1.11	1.44	0.93
SD	1.17	1.05	1.20	0.97
Skew	0.45	-0.33	0.31	-1.15
SES	0.06	0.25	0.12	0.09
Kurt.	-0.80	-0.46	-0.80	0.68
SEK	0.12	0.50	0.23	0.17

	Place				
	Home	School, special	School, other	Part-time job	Commuting
N	2,167	125	346	84	411
M	2.72	2.97	2.96	3.51	3.87
SEM	0.03	0.13	0.07	0.12	0.06
99.5% *CI* for *M*					
LL	2.63	2.61	2.77	3.15	3.71
UL	2.80	3.33	3.16	3.86	4.03
Var.	1.93	1.90	1.55	1.20	1.28
SD	1.39	1.38	1.24	1.10	1.13
Skew	0.27	-0.04	0.04	-0.42	-0.60
SES	0.05	0.22	0.13	0.27	0.12
Kurt.	-1.19	-1.21	-0.90	-0.40	-0.59
SEK	0.11	0.45	0.27	0.54	0.25

	Persons present		
	Alone	Friends	Others
N	2,834	369	118
M	2.87	3.13	3.77
SEM	0.03	0.08	0.12
99.5% *CI* for *M*			
LL	2.80	2.91	3.42
UL	2.95	3.34	4.13
Var.	1.93	1.86	1.35
SD	1.39	1.36	1.16
Skew	0.12	-0.12	-0.31
SES	0.05	0.14	0.26
Kurt.	-1.23	-1.17	-1.24
SEK	0.10	0.27	0.52

Table 54 (Continued). *Descriptive Statistics for Contextual Variables by Affective Variables for Longitudinal Study 2*

	Anxiety				Anxiety Log 10[a]			
	Purpose							
	School	PT job	Self-improvement	Enjoyment	School	PT job	Self-improvement	Enjoyment
N	1,738	99	470	956	1738	99	470	956
M	1.92	2.07	2.11	1.33	0.21	0.24	0.24	0.08
SEM	0.03	0.13	0.06	0.03	0.01	0.03	0.01	0.01
99.5% *CI* for *M*								
LL	1.84	1.69	1.93	1.25	0.19	0.17	0.21	0.06
UL	2.00	2.44	2.28	1.40	0.23	0.32	0.28	0.09
Var.	1.41	1.50	1.71	0.64	0.06	0.06	0.07	0.03
SD	1.19	1.23	1.31	0.80	0.24	0.25	0.26	0.17
Skew	1.05	0.88	0.87	2.81	0.56	0.33	0.39	2.12
SES	0.06	0.25	0.12	0.09	0.06	0.25	0.12	0.09
Kurt	0.01	-0.24	-0.51	7.74	-1.25	-1.43	-1.42	3.31
SEK	0.12	0.52	0.23	0.17	0.12	0.50	0.23	0.17

	Location									
	Home	School, special	School, other	PT job	Commuting	Home	School, special	School, other	PT job	Commuting
N	2,167	125	346	84	411	2,167	125	346	84	411
M	1.80	1.89	2.11	2.17	1.36	0.18	0.20	0.24	0.27	0.08
SEM	0.02	0.12	0.07	0.14	0.04	0.01	0.02	0.01	0.03	0.01
99.5% *CI* for *M*										
LL	1.73	1.56	1.91	1.77	1.24	0.17	0.13	0.20	0.19	0.06
UL	1.87	2.22	2.30	2.57	1.48	0.20	0.26	0.28	0.35	0.11
Var.	1.31	1.61	1.66	1.54	0.75	0.06	0.06	0.07	0.06	0.03
SD	1.15	1.27	1.29	1.24	0.87	0.24	0.25	0.26	0.25	0.18
Skew	1.28	1.24	0.74	2.79	2.32	0.77	0.76	0.34	0.17	2.03
SES	0.05	0.22	0.13	0.27	0.12	0.05	0.22	0.13	0.27	0.12
Kurt.	0.57	0.30	-0.76	-0.46	7.68	-0.95	-1.00	-1.54	-1.49	3.02
SEK	0.11	0.45	0.27	0.54	0.25	0.11	0.44	0.27	0.53	0.25

	Persons present					
	Alone	Friends	Others	Alone	Friends	Others
N	2,834	369	118	2,834	369	118
M	1.77	2.04	1.72	0.18	0.23	0.15
SEM	0.02	0.07	0.14	0.01	0.02	0.03
99.5% CI for M						
LL	1.70	1.83	1.32	0.16	0.19	0.07
UL	1.83	2.25	2.11	0.19	0.27	0.23
Var.	1.27	1.69	1.68	0.06	0.07	0.06
SD	1.13	1.30	1.29	0.23	0.26	0.25
Skew	1.34	0.94	1.62	0.84	0.49	1.28
SES	0.05	0.14	0.26	0.05	0.14	0.26
Kurt.	0.74	-0.39	1.21	-0.84	-1.37	-0.04
SEK	1.10	0.27	0.51	0.10	0.27	0.51

Note. Anxiety Log 10 = Anxiety variable, log 10 transformed; PT job = part-time job; SEM = standard error of measurement; CI = confidence interval; LL = lower limit; UL = upper limit; Var. = variance; SD = standard deviation; *SES* = standard error of skewness; Kurt. = Kurtosis; *SEK* = standard error of kurtosis.

[a]See Chapter 4 for a discussion of the Anxiety Log 10.

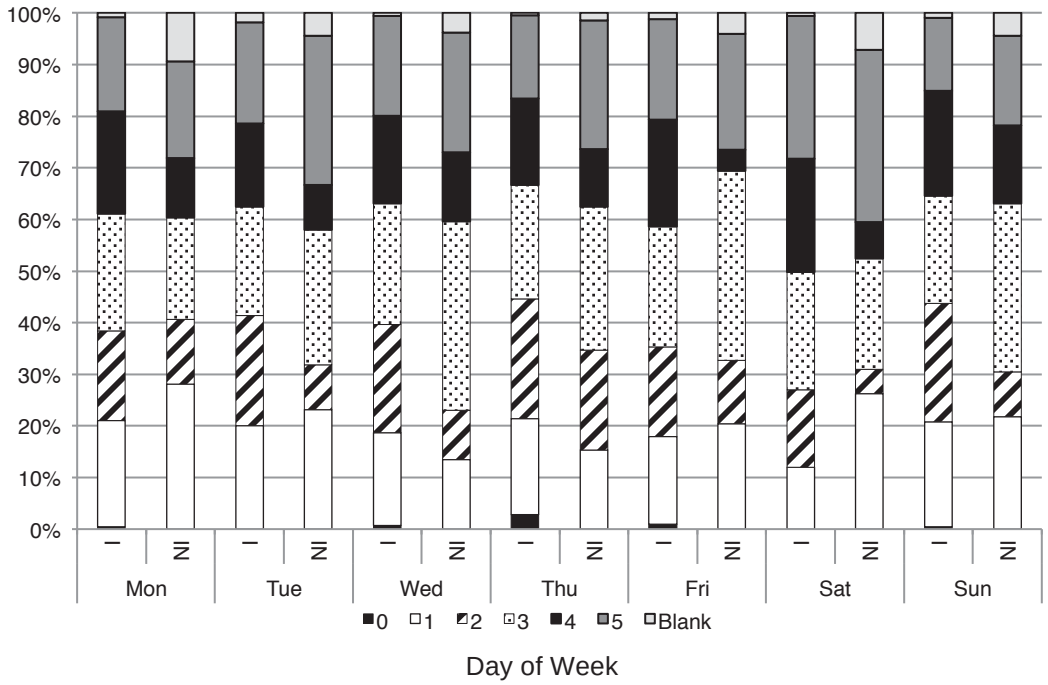

Figure 84. Percentage of episodes for each rating of enjoyment (low = 1, high = 5) for interviewed and non-interviewed students by day of week.
Note. I = Interviewed participant; NI = non-interviewed participant.

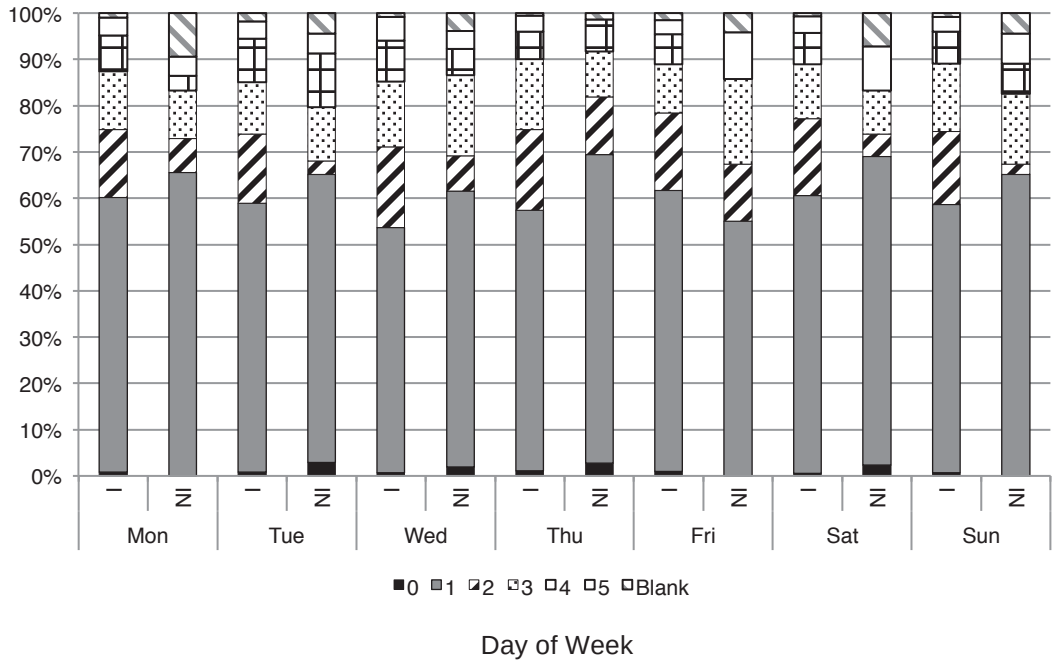

Figure 85. Percentage of episode for each rating of anxiety (low = 1, high = 5) for interviewed and non-interviewed students by day of week.
Note. I = Interviewed participant; NI = non-interviewed participant.

Nonparametric procedures applied to Longitudinal Study 2 comparisons of affective and contextual variables.

Affective variables by purpose nonparametric procedures, Longitudinal Study 2. The descriptive statistics for the affective variable enjoyment by the contextual variable purpose data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the purpose categories for self improvement (skew = .31, *SES* = .12) and for enjoyment (skew = -1.15, *SES* = .09), indicating that nonparametric procedures were appropriate. Skew was below the 1.96 level suggested by Field (2005).

The descriptive statistics for the affective variable anxiety log 10 by the contextual variable purpose data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the purpose categories for school (skew = 1.05, *SES* = .06), for part-time job (skew = .88, *SES* = .25), for self-improvement (skew = .87, *SES* = .12), and for enjoyment (skew = 2.81, *SES* = .09) indicating that nonparametric procedures were appropriate. Skew for the affective variable anxiety by purpose for enjoyment exceeded the 1.96 level suggested by Field (2005).

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of enjoyment. I excluded cases that had not been coded for purpose (k = 36) or that had been assigned multiple codes (k = 43). The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 3{,}242) = 1{,}146.11$, $p < .001$, $\eta^2 = 0.354$. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .35, indicating that purpose exerted a strong effect on the

enjoyment ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for purpose by the affective variable enjoyment. Significant differences were found between all pairwise comparisons for the affective variables by purpose of the episodes. (See Table 55 for effect sizes for pairwise comparisons of affective variables by purpose.)

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of anxiety. I excluded cases that had not been coded for purpose ($k = 35$) or that had been assigned multiple codes ($k = 42$). The test, which was corrected for tied ranks, was significant, χ^2 (3, N = 3,241) = 250.427, p <.001, η^2 = 0.077. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .08, indicating a very weak relationship between purpose and anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for purpose by the affective variable anxiety. Significant differences were found between school and self-improvement and enjoyment. Significant differences were also found between part-time job and self-improvement and enjoyment. Significant differences were also found between self-improvement and enjoyment. (See Table 55 for effect sizes for pairwise comparisons of affective variables by purpose.)

Table 55. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables by Purpose*

	Part-time job	Self-improvement	Enjoyment
	Enjoyment		
School	-0.14 *	-0.07 *	-0.57 *
Part-time job		-0.10 *	-0.13 *
Self-improvement			-0.37 *
	Anxiety		
School	-0.04	-0.05 *	-0.24 *
Part-time job		-0.01	-0.15 *
Self-improvement			-0.23 *

Note. * = significant at the .005 level

Anxiety variables by location nonparametric procedures, Longitudinal

Study 2. The descriptive statistics for the affective variable enjoyment by contextual variable location data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the location categories at home (skew = .27, *SES* = .05) and commuting (skew = -.60, *SES* = .12) indicating that nonparametric procedures were appropriate, though skew was below the 1.96 level suggested by Field (2005).

The descriptive statistics for the affective variable anxiety by the contextual variable location data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the location categories at home (skew = 1.28, *SES* = .05), at school, special (skew = 1.24, *SES* = .22), at school, other (skew = .75, *SES* = .13), part-time job (skew = .74, *SES* = .27), and commuting (skew = 2.79, *SES* =.12) indicating that nonparametric procedures were appropriate. Skewness was above the 1.96 level suggested by Field (2005) for one of the comparisons (anxiety and location commuting).

A Kruskal-Wallis test was conducted to evaluate differences among the five episode locations (at home, at a special place at school, at a regular place at school, at

a part-time job, or while commuting) on median change in rating of enjoyment. I excluded cases that (a) had not been coded for location (k = 55), (b) that had been assigned multiple codes (k = 22), and (c) that had been coded for "other" (k = 130). The test, which was corrected for tied ranks, was significant, $\chi^2(4, N = 3{,}114) = 238.322$, $p < .001$, $\eta^2 = 0.077$. The proportion of variability in the ranked dependent variable accounted for by the place variable was .08, indicating a weak relationship between the place where the episode transpired and the enjoyment ratings. Pairwise comparisons were conducted using the Mann-Whitney U test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for location for the affective variable enjoyment. Significant differences were found between home and an unspecified location at school (school, other), home and part-time job, and home and commuting. Significant differences were found between a location at school for language study (school, special) and commuting. Significant differences were found between school, other and part-time job and commuting. (See Table 56 for effect sizes for pairwise comparisons of affective variables by purpose.)

A Kruskal-Wallis test was conducted to evaluate differences among the five episode locations (at home, at a special place at school, at a regular place at school, at a part-time job, or while commuting) on median change in rating of anxiety. I excluded cases that a) had not been coded for location (k = 54), b) that had been assigned multiple codes (k = 22), and c) that had been coded for "other" (k = 129). The test, which was corrected for tied ranks, was significant, $\chi^2(4, N = 3{,}113) = 108.885$, $p < .001$, $\eta^2 = 0.035$. The proportion of variability in the ranked dependent variable accounted for by the place variable was .04, indicating that place exerted a

very weak influence on the anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for location for the affective variable anxiety. Significant differences were found between home and an unspecified location at school (school, other), home and part-time job, and home and commuting. Significant differences were found between a location at school for language study (school, special) and commuting. Significant differences were found between part-time job and commuting. (See Table 56 for effect sizes for pairwise comparisons of affective variables by location.)

Table 56. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables by Location*

	School, special	School, other		PT Job		Commuting	
			Enjoyment				
Home	-0.04	-0.05	*	-0.09	*	-0.26	*
School, special		-0.01		-0.04		-0.11	*
School, other				-0.06	*	-0.17	*
Part-time job						-0.05	
			Anxiety				
Home	-0.01	-0.07	*	-0.06	*	-0.14	*
School, special		-0.03		-0.04		-0.09	*
School, other				-0.02		-0.16	*
Part-time job						-0.13	*

Note. School, special = a special place at school for English study; School, other = another location at school.
* = significant at the .005 level

Enjoyment by persons present nonparametric procedures, Longitudinal

Study 2. The descriptive statistics for the affective variable enjoyment by contextual variable persons present data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the persons present category alone (skew = .12, *SES* = .05) indicating that nonparametric

procedures were appropriate, though skew was below the 1.96 level suggested by Field (2005).

The descriptive statistics for the affective variable anxiety by the contextual variable persons present data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the persons present categories alone (skew = 1.34, *SES* = .05), with friends (skew = .94, *SES* = .14), and with others (skew = 1.62, *SES* = .26) indicating that nonparametric procedures were appropriate, though skew was below the 1.96 level suggested by Field (2005) in all instances.

A Kruskal-Wallis test was conducted to evaluate differences among the three episode conditions for persons present (alone, with friends, other) on median change in rating of enjoyment. I excluded cases that had not been coded for person (k = 25) or that had been assigned multiple codes (k = 3). The test, which was corrected for tied ranks, was significant, $\chi^2(2, N = 3{,}293) = 54.74$, $p < .001$, $\eta^2 = 0.017$. Although there was a significant overall effect, the effect size was extremely small. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for persons present for the affective variable enjoyment. Significant differences were found between alone and with friends and with others. Significant differences were found between with friends and with others. (See Table 57 for effect sizes for pairwise comparisons of affective variables by persons present.)

Table 57. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables by Persons Present*

	With friends		With others	
	Enjoyment			
Alone	-0.08	*	-0.11	*
With friends			-0.06	*
	Anxiety			
Alone	-0.06	*	-0.01	
With friends			-0.02	

Note. * = significant at the .005 level

A Kruskal-Wallis test was conducted to evaluate differences among the three episode conditions for persons present (alone, with friends, other) on median change in rating of anxiety. I excluded cases that had not been coded for person (k = 25) or that had been assigned multiple codes (k = 3). The test, which was corrected for tied ranks, was significant, $\chi^2(2, N = 3{,}290) = 11.819$, $p = 0.003$, $\eta^2 = 0.004$. Although there was a significant overall effect, the effect size was near zero. Pairwise comparisons were conducted using the Mann-Whitney U test with the significance level set at $p < .005$ to control for multiple comparisons. Only one significant difference was found for pairwise comparisons for persons present for the affective variable anxiety. Significant differences were found between alone and with friends. (See Table 57 for effect sizes for pairwise comparisons of affective variables by persons present.)

EATUS lexical data by affective features for Longitudinal Study 2.

Once the basic descriptive data regarding frequency for the descriptive lexical items for the episodes had been determined, the affective factors on the EATUS form were examined for the word families according to the level of anxiety and level of enjoyment and the most frequently cited keyword family. As discussed above,

participants described episodes in their own words. Some key word families were very common, such as "read," "English," "discuss," "write," "study," and "listen." For each episode, participants reported two affective features: anxiety and enjoyment.

For each of the episodes participants were asked to rate two affective features on a 5-point rating scale: anxiety and enjoyment. Figure 86 displays the 40 frequent activity descriptor word families for the Longitudinal Study 1 for the level of anxiety. Episode content that was notably low in anxiety included "read," "English," "listen," and "music." Low anxiety level was also associated with "English," which accounted for 7.11% of words ranked either 1 or 2 on anxiety, though it was also cited connected to high anxiety in 4.92 % of its usage. Other lexical items associated with low anxiety were homework (8.58%), "listen" (7.86%), "music" (7.59%), and "western" (4.57%). The most typical configuration for these lexical items was in "listened to English music." Similar types of lexical items were found in episodes that had been rated as high in anxiety. These include vocabulary for describing preparation for a particular course (e.g., "discussion"), and doing a "part" "time" "job" where the student either tutored junior high school students or served foreign customers. Interesting, "homework" was both the most frequently used low anxiety word (8.58%) and the most frequently used high anxiety word (8.55%).

Figure 87 displays the 40 most frequent activity descriptor word families for Longitudinal Study 1 for the level of enjoyment for Longitudinal Study 1. Many of the lexical items from the descriptors that had low anxiety (see above) also had high levels of enjoyment on this measure. The term "homework," which received a nearly equal percent of instances associated with both low and high anxiety, was considered the least enjoyable activity in percent of citations (15.92%). As in Longitudinal Study

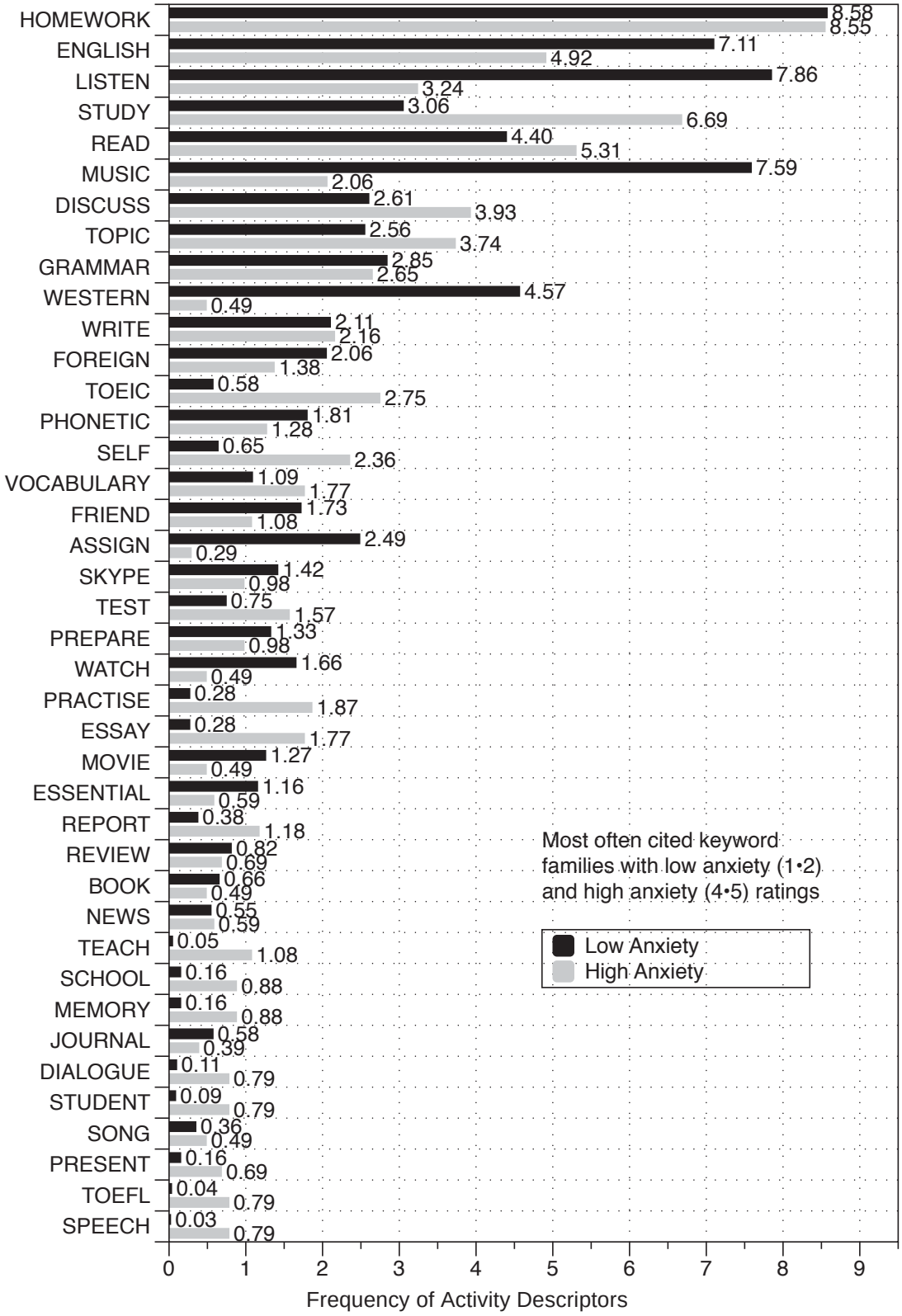

Figure 86. Frequency of activity descriptors in percent by level of anxiety for Longitudinal Study 2.

1, episode content that was notably high in enjoyment included "listen," and "music." These two items, which often occurred in combination, received the highest association in percent of uses given ratings of high enjoyment for the participants in Longitudinal Study 1, with listen episodes connected to high enjoyment accounting for 9.68% of the episodes and music 9.98%. In addition to "homework," lexical items related to low enjoyment were "read" (8.77%), "study" (6.23%), "topic" (6.39%), and "grammar" (5.85%).

Regarding enjoyment, the lexical item "homework" was often found in episodes that were rated as low in enjoyment. Rated high in enjoyment were "music," "listen," "English," and "western." These were most often found in combinations, such as "enjoyed listening to western music" and "listened to English music."

Individual Profiles of Time Use Longitudinal Study 2

Individual profiles were created for each of the interviewed Longitudinal Study 2 participants. Only a few are included here to provide a picture of the average participant's out-of-class English access profile. The three participants I selected, MS-0007 (Site 2, F), MS-0017 (S2, F), and MS0046 (S1, F), provide a view of participants with high amounts of out-of-class English access (MS-0007), and participants with time use more representative of the average out-of-class English access for the interviewed Longitudinal Study 2 participants from the two sites (MS-0017 and MS-0046). The total minutes of out-of-class time use for these participants appears in Table 58, along with the means for other participants from each site. As is clear from this data, MS-0007 spends significantly more of her time on out-of-class English access, while MS-0017 and MS-0046 are representative of the

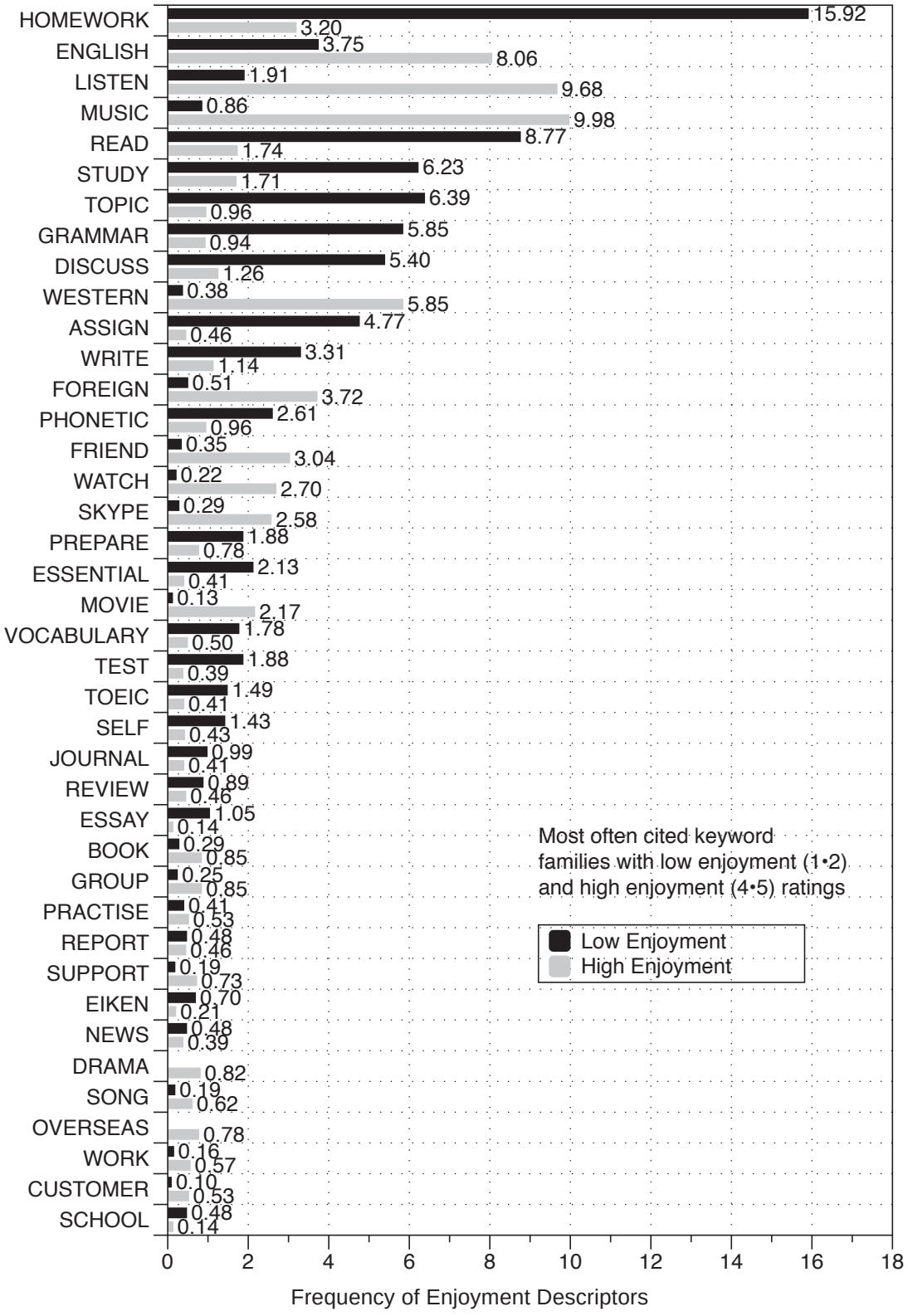

Figure 87. Frequency of activity descriptors in percent by level of enjoyment for Longitudinal Study 2.

average interviewed participants' out-of-class English time use for this study. Figure 88 shows the distribution in minutes of out-of-class English access by day for the three selected participants. The number of episodes recorded for each day of the week by time of for the participants' episodes are provided in Figures 89, 90, and 91.

Table 58. *Minutes of Out-of-Class English Time Use for Selected Individuals by Site with Site Means*

Site	Standard code	Earliest	Latest	Days in period	Days with episodes	Episodes per day with episodes	Episode per day in period	% DIPWE	Total minutes	Total hours and minutes
1	MS-0046	23-Apr	16-Sep	147	81	1.67	.92	55%	12,513	208h 33m
	M			110.64	57.21	1.29	.69	53%	5,139	85h 39m
2	MS-0007	18-Apr	24-Sep	160	153	2.05	1.96	96%	57,155	952h 35m
	MS-0017	18-Apr	25-Sep	161	94	1.59	.93	58%	15,399	256h 39m
	M			148.91	89.27	1.88	1.17	61%	14,983	249h 42m

Note. MS- = participant in Longitudinal Study 2, the "main study" in this project; DIPWE = days in period with episodes; h = hours; m = minutes; Apr = April; Sep = September.

The data in each figure show the total number of episodes that the participant recorded for that time of day during the entire 26-week data collection period. As such, these are indicators of the total number of episodes for the participant by time of day not the total amount of time recorded for that time. The data are a clear indication of the consistency of the participants' out-of class English access (see Figure 102). MS-007 has the most consistent time use patterns, as seen both in the information about the date of the time use episodes and the daily number of episodes in the figures above. MS-0017 and MS-0046 are representative of the average out-of-class English access for the interviewed Longitudinal Study 2 participants. Episodes for MS-0017

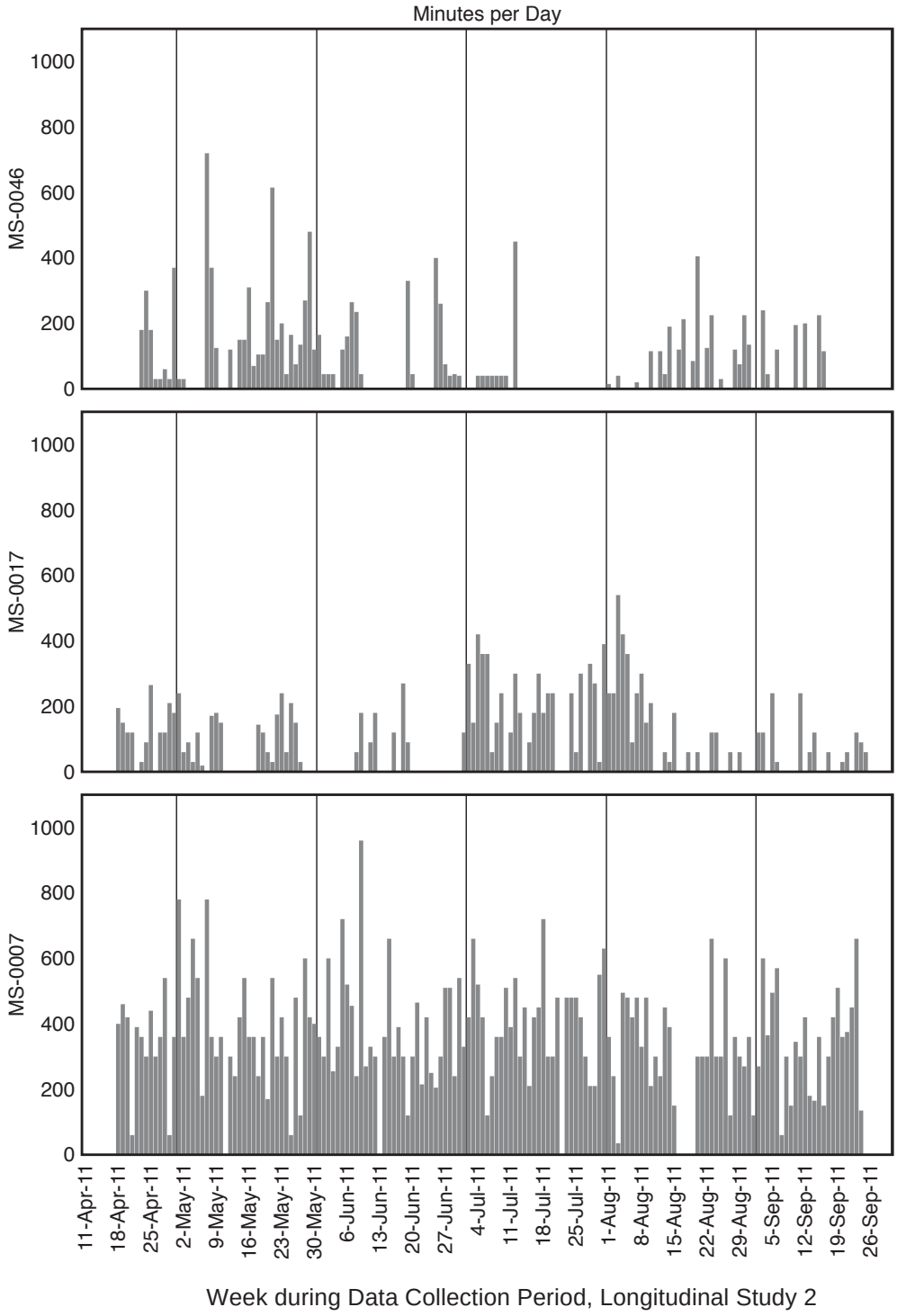

Figure 88. Minutes of out-of-class English access for three individual participants (MS-0007, MS-0017, MS-0046) by date.

Note. MS- = participant in Longitudinal Study 2, the "main study" in this project.

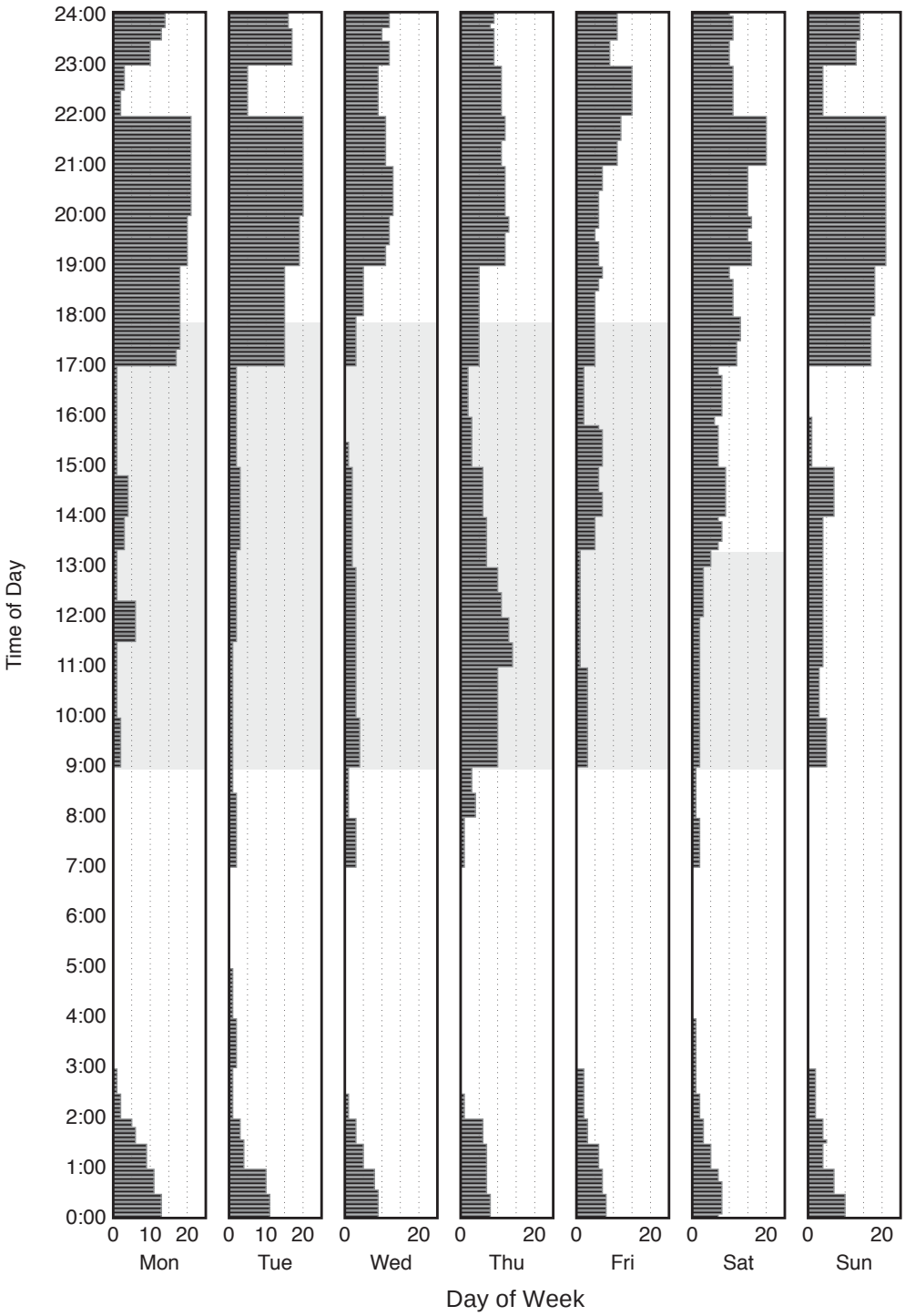

Figure 89. Number of episodes recorded for each day of the week by time of day for MS-0007's out-of-class English access.

Note. The figure displays the total number of episodes that the participant recorded for that time of day during the entire 26-week data collection period. MS- = participant in Longitudinal Study 2, the "main study" in this project.

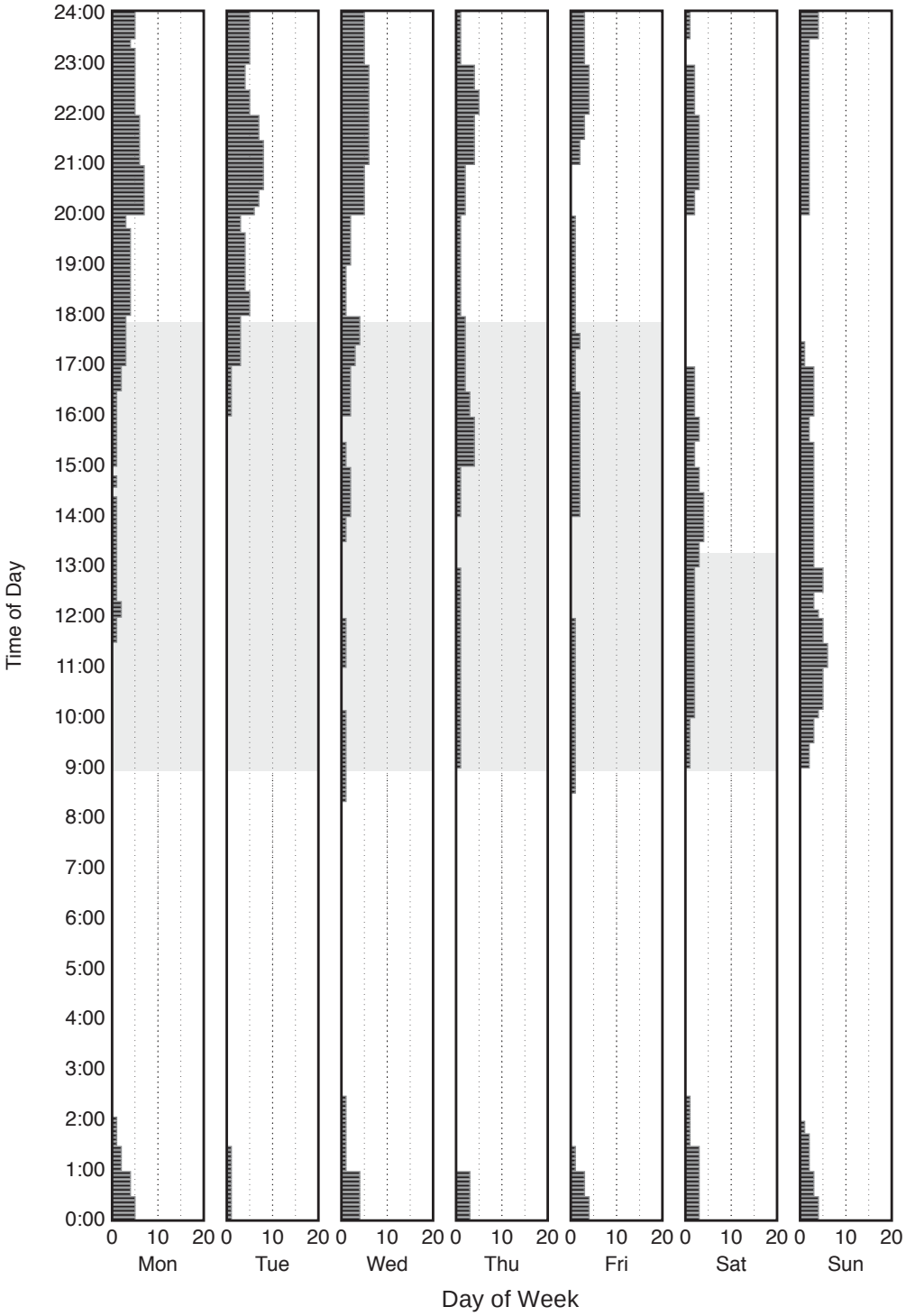

Figure 90. Number of episodes recorded for each day of the week by time of day for MS-0017's out-of-class English access.

Note. The figure displays the total number of episodes that the participant recorded for that time of day during the entire 26-week data collection period. Note. MS- = participant in Longitudinal Study 2, the "main study" in this project.

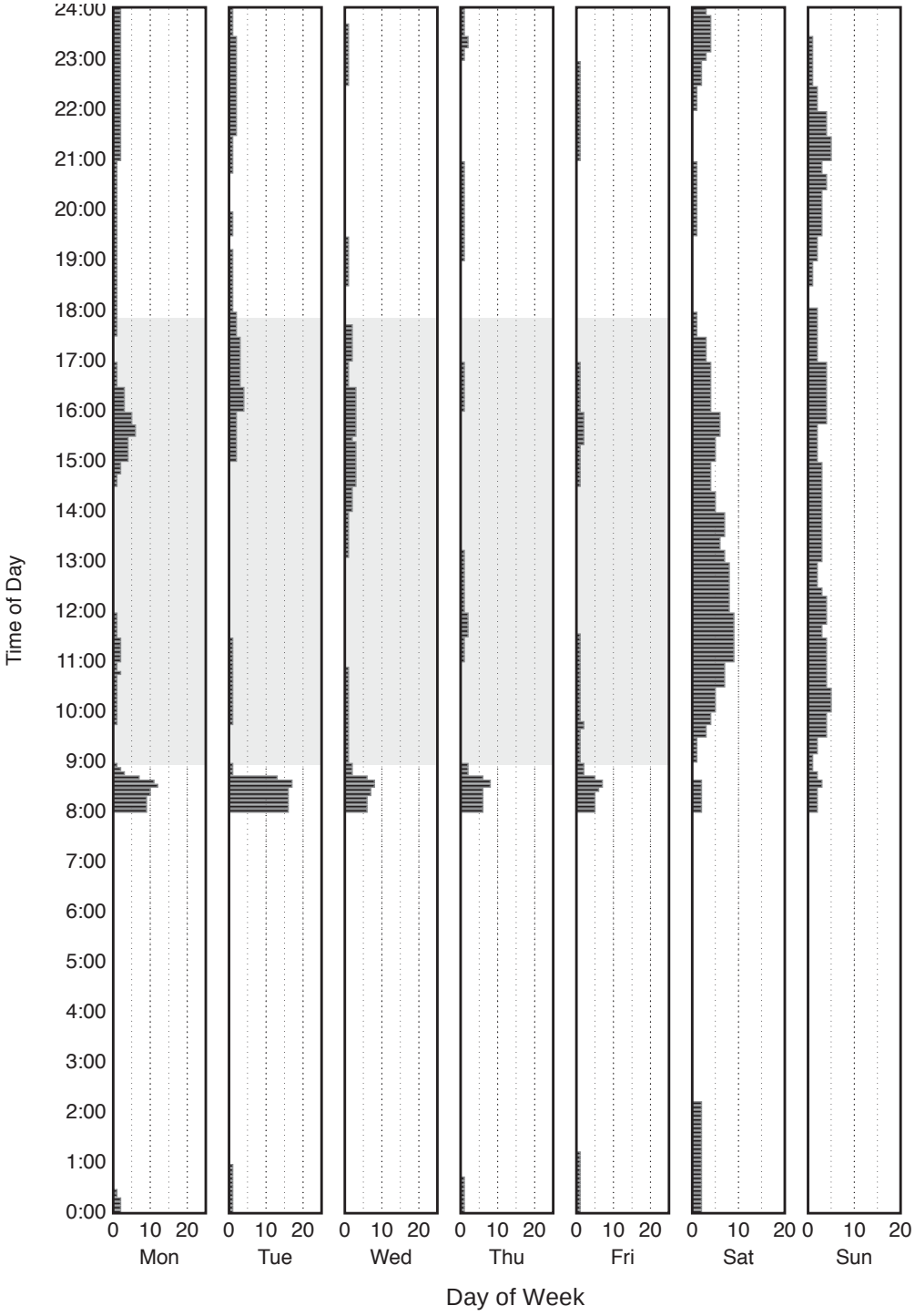

Figure 91. Number of episodes recorded for each day of the week by time of day for MS-0046's out-of-class English access.

Note. The figure displays the total number of episodes that the participant recorded for that time of day during the entire 26-week data collection period. MS- = participant in Longitudinal Study 2, the "main study" in this project.

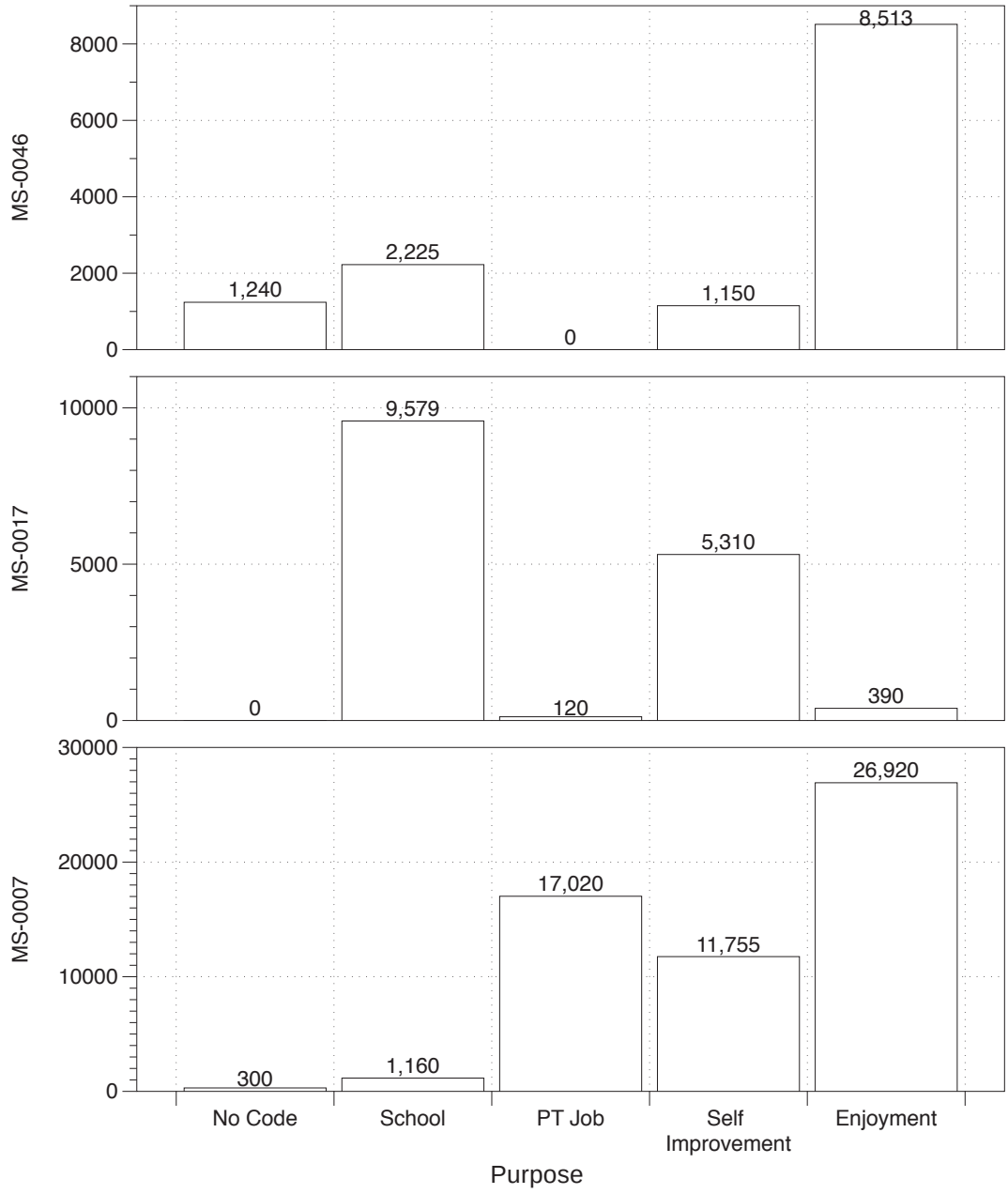

Figure 92. Total minutes by purpose for selected individual participants (MS-0007, MS-0017, MS-0046).

Note. Scales on the left are not identical and the bar heights cannot be used for comparative purposes. MS- = participant in Longitudinal Study 2, the "main study" in this project; PT Job = part-time job.

are more frequent in the evenings and on Sunday. Episodes for MS-0046 occur mostly during the morning commute and on Saturday, with episodes scattered

throughout the week. Neither of these two participants shows the same consistency in out-of-class English access during the period as that in the data for MS-0007.

The purpose of the participants' out-of-class English access is also informative. Figure 92 shows the total minutes by purpose for these three participants. MS-0007 recorded the largest portion of her minutes for enjoyment, as did MS-0046, whereas MS-0017 had the most total minutes allocated to school and self-improvement, that is study for qualifying exams such as TOEIC.

The purposes of these three participants' out-of-class English access are further highlighted by the episode descriptor data and the major category and subcategory codes assigned (see Figure 93). This information gives the number of episodes for the three selected participants, the total number of codes assigned to these episode descriptions, and the percent of total codes assigned to each category. This data highlights the differences between MS-0007's out-of-class English access episodes and the episodes of out-of-class English access by MS-0017 and MS-0046. MS-0007 has a high percent of codes assigned to the Four Skills subcategory of "speaking" (24.6%), the International subcategory of "foreigners" (23.8%), and the Interaction subcategory "converse" (18.1%). Examination of the episode descriptions show that many of these episodes involved activities such as "Skype with friends" in another country, "meet foreign friends" in Japan, and "study for discussion." A heavy emphasis on using English by speaking to others is clear in the data from MS-0007. In contrast, MS-0017 most frequent categories are related to the "business of study," that is the Student category for the episode descriptors, with the subcategory of "course" being the most frequent (23.7%). This was generally a course name on the episode descriptions that also received the code for "writing" (7.2%) or "reading" (7.9%),

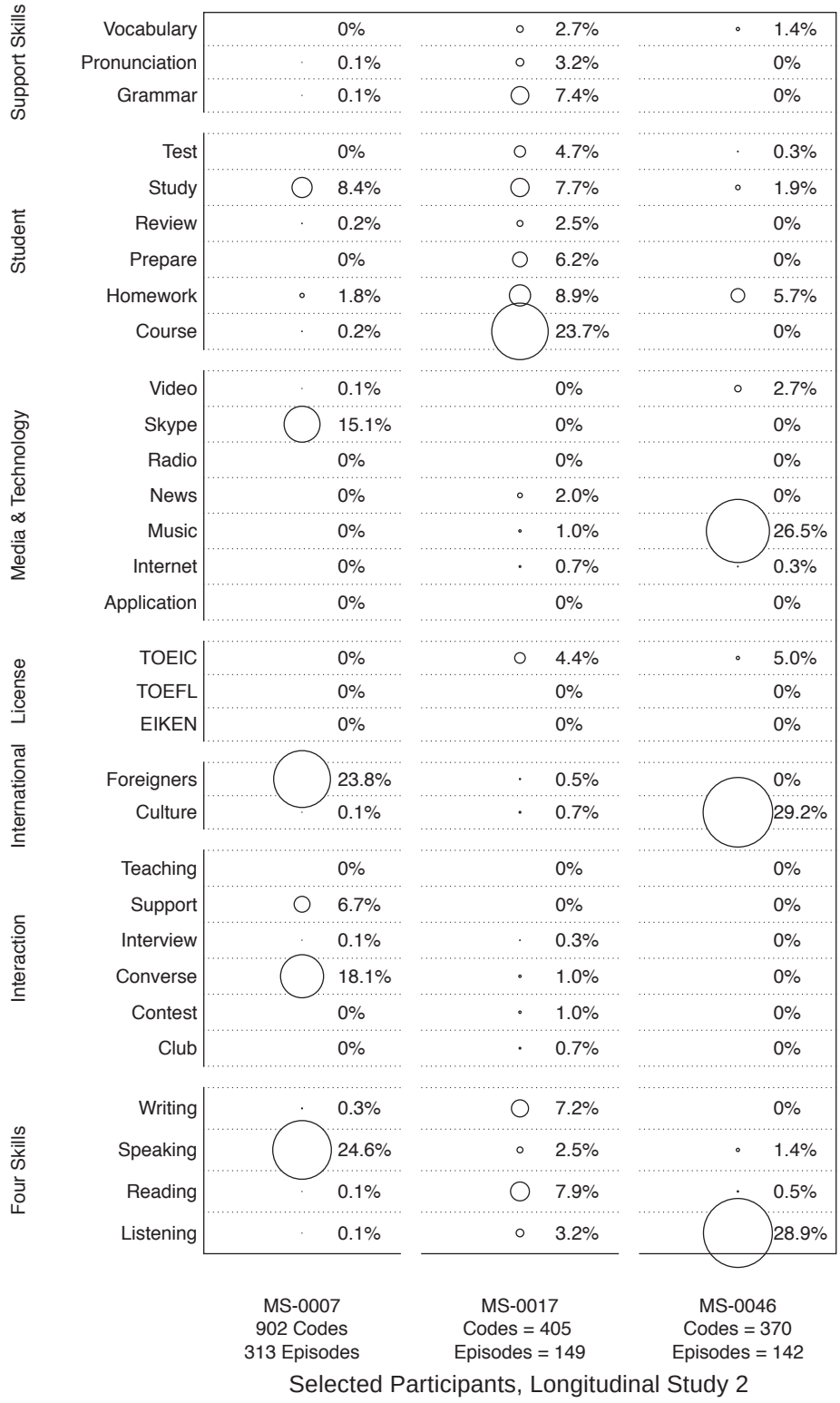

Figure 93. Percent of episode codes assigned to the major categories and subcategories for selected participants.

Note. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency; MS- = participant in Longitudinal Study 2, the "main study" in this project.

along with the subcategories codes of "homework" (8.9%), "study" (7.7%), and "prepare" (6.2%). MS-0046 shows an entirely different pattern for episode descriptions. For MS-0046, the activity codes are centered on those linked to English for enjoyment, with the Four Skills code "listening" (28.9%), the International subcategory code "culture" (29.2%) and the Media and Technology subcategory code "music" (26.5%) being the most frequent. On the EATUS form, these episodes were entered as "listened to Western music" and "listened to English music" by the participant.

The three participants were also asked about their out-of-class English access time use in the Time 1 and Time 2 interviews. While the generally findings of these interviews are discussed below, the comments from these participants indicate that they are aware of their time use allocation. For MS-0007, the emphasis on speaking is connected to her desire to live and work overseas. This does not mean that this participant did not see study as important, though her time allocation to study was only 1,160 minutes, about half of the total minutes of MS-0046 spent on study self-improvement (2,225), her time on self-improvement (i.e. study for qualifying exams such as TOEIC and TOEFL) was 11,755 minutes, more than either of the other two selected participants spent for all purposes.

Finally, all three of these interviewed participants also completed the motivational survey administered as part of the cross-sectional study for this project (see Chapter 6). If the survey measures general motivation (see Chapter 6), then the information in this Figure 93 indicates the degree of motivation for these three participants, with a higher point indicating a higher degree of motivation. As can be seen from the figure, all three of the participants are highly motivated and score at

least 2 standard deviations from the norm for all participants completing the motivational survey (n = 1,399).

The individual profiles provided here for these three interviewed Longitudinal Study 2 participants help to draw a fuller picture of the out-of-class English access time for all participants in this study. This information will also inform the following section of this chapter, the Longitudinal Study 2 Interview Results, and the discussion that follows.

Longitudinal Study 2 Interview Results

Interviews were held twice with the interviewed Longitudinal Study 2 participants. I invited all participants to participate in interviews at the beginning of the data collection and again about six to seven weeks after data collection had started. I specifically sought interviews with participants who had submitted data on a regular basis without considering the absolute amount of time they had spent accessing English. None of the participants who had submitted less than eight weeks of data agreed to sit for an interview. Moreover, most of the participants who had not submitted data on a regular basis also had not spent much time outside of class accessing English. The differences in out-of-class time use by gender are not as great, but here women spend much more time than men outside of class accessing English. For the Time 2 interview, I only interviewed those students who had participated in the Time 1 interview. (Note: Two Time 1 interview participants withdrew from the interview portion of this project. The data from the remaining participants (n = 25) are used in the discussion of interviews below.)

Time 1 Interview Results

For the Time 1 interviews, as explained above, I used the interview protocol developed for Longitudinal Study 1 to direct the flow of the interviews and cover the key points with each of the participants (see Figure 26). This map has two main sections. One focused on the EATUS instrument and the use of the instrument by the participants. The second focused on participants' out-of-class English time use and motivation. This section was further divided into four main areas. The first was the patterns of time use. The second asked about motivators and triggers for this time use and the participants' attitudes toward English and English study. The third delved into the meaning that participants assign to English in their lives. The fourth explored the reasons that participants became interested in English.

As more than 52% of the out-of-class English time use activities were related directly to school and involved studying (review, preparation), a large portion of my attention during this series of interviews was on out-of-class study behaviors. The remaining 48% of the activities were for non-school related purposes (discussion of temporal features above). Of these, 29% were listed as for enjoyment, 14% for self-improvement, and 3% for part-time jobs. (Note: As in Longitudinal Study 1, the hyphen and four-digit number following the designation MS for Longitudinal Study 2 are reduced to the final two digits and the MS designation in the discussion of the interview results below. For example, MS-0001 appears in the interview discussions as MS01 and MS-0059 is MS59.)

The results of the Time 1 interviews, presented below, first cover the participants' interpretation of the EATUS form, then the influences on their interest in English. Following this are their comments on the patterns of out-of-class English use

and their motivators for study. The final three sections discuss their use of English for enjoyment, part-time jobs, and their future that they see as it is related to English.

Use of the EATUS instrument by Longitudinal Study 2 interview participants.

As in the Longitudinal Study 1, an initial concern in the Time 1 interview was to make sure that the participants did not have any difficulty completing the EATUS form. Here, their comments are similar to those from Longitudinal Study 1 participants, with all indicating that the form itself was easy to complete. The amount of time needed to complete the form varied according to the number of out-of-class English episodes the participant had to enter but generally took one or two minutes, as a comment from MS43, who had an average of 388 minutes of out-of-class English access per week in the study period, indicated (MS43, lines 51 to 52):

MS43: １，２分でこの活動が終わればすぐ記入ってかたちです
MS43: *1, 2 fun de kono katsudo ga owareba sugu kinyuutte katachi desu*
MS43: from 1 to 2 minutes, as soon as the activity was over, I immediately entered it on the form

Similarly, MS47, who averaged 282 minutes per week for out-of-class English access, reported that he only two or three minutes to complete the EATUS form (MS47, line 19):

MS47: 時間ですか。毎日、２～３分とかです。
MS47: *jikan desuka. mainichi ni san pun toka desu*
MS47: The time? I did it in 2 or 3 minutes everyday.

Only MS46, who averaged 736 minutes of out-of-class English access per week, indicated it took longer than five minutes to complete the EATUS form (MS46, line 26):

MS46: 書くのですかえっとうーん 7 分くらい
MS46: *kaku no desu ka etto u-n 7 fun kurai*
MS46: To write it in. Well, hmm, about 7 minutes.

Moreover, most participants indicated they completed the form at the end of each day. A few, such as MS43, cited above, entered the information on the EATUS as soon as the episode was completed, or entered the information on the form twice a day, as was done by MS19, who averaged 267 minutes per week. MS19 commented (MS19, lines 23 to 24):

MS19: でも空いた時間だから一日二回くらいは書く時間があるかなたぶんそのくらいかな
MS19: *demo aita toki dakara ichinichi nikai kurai ha kaku toki ga aru kana tabun sono kurai kana*
MS19: but it was free time, so about twice each day, I wrote when I had time, I wonder, maybe, about that much.

Similar to these participants, the other interviewed participants in the Longitudinal Study 2 indicated that the EATUS form was easy to understand and did not take any of the participants more than seven minutes to complete, with most finishing the record of their out-of-class English episodes in a few minutes each day.

Participants indicated they did not have any difficulty with the two Likert scale items on the EATUS form, which asked the participants to indicate the level of enjoyment and the level of anxiety experienced during the episode, though one viewed it as a 6-point scale rather than a 5-point scale, and said he considered homework to have a score of "zero" as it was not at all enjoyable. Following the time 1 interview, this participant used a 5-point scale. With his agreement, his "0" entries on the EATUS were reassigned to "1" for data analysis. All other participants followed the directions regarding the 5-point scale. When asked if completing the EATUS form was a burden, MS07 replied (MS07, lines 448 to 449):

MS07: 負担がっていう事は別に全然全然全然そんなそんな全然多くない少ない
MS07: *futan ga te iu koto ha betsu ni zenzen zenzen zenzen sonna sonna zenzen ooku nai suku nai*
MS07: to say it is a burden, not particularly, not really, not really. It wasn't a lot. Just a little.

As with the Longitudinal Study 1 participants, Longitudinal Study 2 interview participants found the EATUS form easy to complete, taking only a few minutes a day, which might have helped keep them willing to continue with the data collection throughout the study period.

Influences for interest in English.

Parental involvement and initial interest in English. Two paths are taken toward interest in English, either an influential teacher or family influence. The influence of parents on their children is not surprising. Several of the interviewed participants in the Longitudinal Study 2 became interested in English because of their parents' decisions to send them to English classes, as discussed below, or because they had parents who used English to some degree. Having at least one parent see English use as important was the trigger for at least one of the participants, as MS17 commented (MS17, lines 346 to 348):

MS17: えうーん私のお父さんは別にあんまり興味ないんですけどお母さんは英語は出来といたほうが良いっていう風に絶対出来といた方が良いから
MS17: *e u-n watashi no otousan ha betsuni kyoumi nai n desu kedo okaasan ha eigo ha deki to ita hou ga yoitte iu fu ni zettai n dekiru to itakata ga yoi kara*
MS17: Ah. Hmmm. My father, he isn't especially interested in it, but my mother says that it is good to be able to use English, so it is certainly good to be able to.

Although she says at this point in the interview that her father is not particularly interested in English, earlier MS17 pointed out that her father liked foreign films (MS17, lines 108 to 114):

MS17: あぁ外国の音楽はあんまり聞かなくってテレビではあの一私のお父さんがあの洋画かな外国の映画が好きなんですよまぁ金曜日とかやってロードショーを点いてるのをたまに観たりするのとあとはハリーポッターの映画が大好きなんですよでそれも全部本読んだり後は映画も全部観たしでそれ映画観る時は絶対に日本語じゃなくって英語のやつで見るようにしたりっていうのはしてます

MS17: *aa gaikoku no ongaku ha anmari kikanakute terebe deha ano- watashi no otousan ga ano youga kana gaikoku no eiga ga sukinandesyo maa kinyoubi toka yatte ro-dosho- wo tsuiteru no wo tamani mitari suru noto atoha hari-potta- wo eiga ga daisukinandesuyo de sore mo zenbu hon yondari ato ha eiga mo zenbu mitashi desore eigo miru toki ha zettai ni nihongo jyanakutte eigo no yatsude miru you ni shitari ttiu no ha shitemasu*

MS17: Ah, I don't listen to foreign music. And television, well, my father likes Western films, foreign films, so on Friday always watches "Roadshow" special first run showings. And I like the "Harry Potter" movies. I read all the books and after that I had to see all the movies and when I watched them I didn't watch the Japanese versions. I had to see the English versions, so that's what I did.

This type of peripheral interest in other cultures, or the products of other cultures such as music or films, was also likely to trigger participants' interest in English. Though MS17 does not link her father's interest in foreign films to using English, she does indicate that this might have triggered her own enjoyment of movies, and with this a desire to watch the movies in English.

Similarly, MS36, who began to study English in elementary school, cites her father as encouraging her to study English. This, along with a family trip to Hawaii when she was a third grade elementary school student, triggered her to study English (MS36, lines 99 to 101):

MS36: その時にお父さんがめっちゃ英語現地の人としゃべるんですねそれであーやっぱなんか自分以外の国の人としゃべれるのはいいなっと思って
MS36: *sono toki ni otousan ga meccha eigo genchi no hito to shaberu n desu ne sorede a- yappa nanka jibun igai no kuni no hito to shabereru no ha iina tto omotte*
MS36: at that time, my father said it really important for people today to speak English. So, how can I say it, of course I thought that it would be neat to speak to people from other countries.

To further understand the influence of parents on their interest in English, participants were asked if their parents could speak English. However, for the most part participants were unaware of their parents' ability to use English, as seen in a comment from MS44 (MS44, lines 199 to 200):

MS44: 両親はできないんですけどお父さんがその一洋画の映画が好きででそのそばで見てる感じで
MS44: *ryoushin ha dekinaindesukedo otousan ga sono- yoga ga sukide de sonosoba de miteru kanjide*
MS44: My parents can't, but my father, he likes western movies, and it seems like he watches them in English

This lack of awareness of whether their parents could use English was also expressed by MS36 (MS36, lines 112 to 113):

MS36: お母さんはたぶんうーんお母さんよくわからないです英語できるかどうか
MS36: *okaasan ha tabun u-n okaasan yoku wakaranai desu eigo dekiruka dou ka*
MS36: My mother. Maybe. Hmm. I really don't know about my mother, whether she can speak English or not

Though parents, particularly mothers in the Japanese context, are the ones who enroll their children in English lessons, the children seem, for the most part, unaware of their parents' English ability. The influence of parents, therefore, seems to be more of directing their children's learning than in modeling English use. MS01 said his

mother's dislike of English as a student was actually what made her decide to push him to learn English (MS01, lines 191 to 194):

MS01: お父さんは あのちょっとは喋れるんですけどお母さんはなんか英語は嫌いだったみたいで 学生時代に それで子供にはそうなってほしくないって思って習わしたみたいです
MS01: *otousan ha ano chotto ha sabereru n desu kedo okaasan ha nanka eigo ha kirai data mitai de gakusei jidai ni sore de kodomo ni wa sou natte houshikunai tte omotte narawashita mitai desu*
MS01: My father, well, he can speak a little. But it seems like my mother hated English when she was a student. Because of that, she thought she didn't want her child to be like that, so she had me learn it

However, others became interested in English despite a lack of parental interest. This was noted by MS07, who began to study English in junior high school. She indicated her family had no interest in English. This is especially informative as MS07 reported quite a bit of time accessing English, an average of 2,501 minutes per week. For comparison, the next highest participant, MS08, averaged 665 minutes per week. MS07 commented that her family has no interest in English, but that her brother had recently expressed interest in traveling to Europe, which might have increased her own interest in English (MS07, lines 181 to 183):

MS07: 家族はもう全然興味ない英語にもう国際っていうだからも私だけが英語喋るから家族皆喋らないでも一今弟が最近ちょっとヨーロッパの方に行って一英語を教えて一っていうのはあったけど
MS07: *kazoku ha mou zenzen kyoumi nai eigo ni mou kokusai tt iu dakara mo watashi dake ga eigo shaberu kara kazoku minna saberanai demo- ima otouto ga saikin chotto yo-roppa no hou ni itte- eigo wo oshiettiu noha atta kedo*
MS07: My family isn't interested in English. They say English is international, however, I am the only one who speaks it. No one in my family. But my younger brother recently mentioned going to Europe and asked me to teach him a little English, but

In contrast to these, parental interest in English was not a factor for initial interest in English for most of the Longitudinal Study 2 interviewed participants. When asked about their parents and whether they had encouraged them to study English, most said that their parents were not interested in English nor had they encouraged them to study the language. Comments similar to the one from MS19 were common among the interviewed participants (MS19, lines 116 to 117):

MS19: 全然だしたぶん家族私だけ英語すきなんみんな嫌いで英語が分からんって言ってて私だけ家族の中では
MS19: *zenzen dashi tabunn kazoku watashi dake eigo sukinan minna kiraide eigo ga wakarantte ittete watashi dake kazoku no naka deha*
MS19: Not at all. Maybe in my family, I am the only one that likes English. Everyone else hates English. They say they can't understand it. I'm the only one in my family, only me.

However, a few of the participants also recognized that perhaps their parents own lack of English might have pushed them to encourage their children to study. MS30, responding to a comment from the interviewer, makes this clear (MS30, lines 144 to 149):

MS30: 全然できないですだから逆に親ができないので子供にはさしてあげようみたいな感覚で入れたやと思います
BV: だからなんか両親の立場で見ると英語ができるのがなにかメリットがある
MS30: そうですね
MS30: *zenzen dekinai desu dakara gyaku ni oya ga dekinai no de kodomo ni ha sashite ageyou mitai na kankaku de ireta ya to omoimasu*
BV: *dakara nanka ryoushin no baai de miru to eigo ga dekiru no ga nanika meritto ga aru*
MS30: *sou desu ne*
MS30: They can't speak English at all. Therefore, conversely, since my parents can't, I think they wanted to give their children the opportunity, in that sense
BV: So it's possible that your parents saw some merit in using English
MS30: that's right

This is not to say that parents did not have an early influence on their children's interest in English. MS14 reported that she started going to a conversation school when she was three years old (MS14, lines 169 to 171):

MS14: 3 才から ECC のネイティブの先生の方行ってて小っちゃい時はディズニーを観てるけど英語でずっと観てたからその頃から
MS14: *3 sai kara ECC no neitibu no sensei no kata ittete chichai toki ha dizuni- wo miteru kedo eigo de zutto miteta kara sono goro kara*
MS14: When I was 3 years old, at ECC (language school chain) I had a native teacher. And even when I was young I watched Disney in English, I always watched it in English. From about that time.

This same participant also said that her parents told her that the first word she spoke was "hi" (MS14, lines 176 to 178):

MS14: 何か初めて大体みんな初めて喋る言葉ったらママとかやけど私が初めて喋った言葉が Hi!っつたらしいんですよほんで親が入れてくれて
MS14: *nanika hajimete daitai minna hajimete shaberu kotoba ttara mama toka ya keddo watashi ga hajimete shabetta kotoba ga Hi! ttsuta rashii n desu yo hondo oyaga irete kurete*
MS14: What to say. For most people, the first word they say is 'ma ma' and, well, it seems like my first word was 'Hi!' At least that's what my parents have told me.

Similarly, MS15 comments on how her sister and she have a friendly rivalry to improve their English (MS15, lines 284 to 289):

MS15: あぁおとう父がちょっと出来る感じですかね母は英語って感じですえー無理ーみたいな感じですけどはいでも妹居るんですけど妹結構もぅ外国好きで結構ピュピュンみたいな感じで行っちゃう人なんですよなんで結構兄弟が英語好きどっちも好きなんで結構何て言うんですか近くにいるライバルみたいな感じですかね
MS15: *aa otou chichi ga chotto dekiru kajidesukana haha ha eigo tte kanjidesu e- muri- mitaina kanji desu kedo hai demo imouto iru n desu kedo imouto kekkou mou gaikoku suki de kekkou pyupyun mitai na kanji de ichau hito nan desu yo nan de kekkou kyoudai ga eigo suki dochimo suki nan de kekkou nante iun desu ka chikaku ni iru raibaru mitai na kanji desu ka ne*

MS15: Ah, my father, I think my dad can use English a little. My mom, it seems like she, well, not at all, that's what I feel. Yes. But, my younger sister, my sister is okay. She also likes other countries. It feels like she really wants to go, I think. Why. Well, it's okay that we both like English, I think. What do I want to say? It feels like we are close to being rivals.

In addition to immediate family, members of a participant's extended family can also have an influence on whether a participant developed an interest in English. For MS19, the influence was his grandfather, who had lived in Australia (MS19, lines 91 to 94):

MS19: おじいちゃんがもうペラペラで英語が貿易会社みたいなその世界と繋ぐような会社に勤めてて
MS19: *ojiichan ga mou perapera de eigo ga boeiki kaisha mitai na sono sekai to tsunagu you na kaisha ni tsutometete*
MS19: My grandfather is fluent in English. It seems that he works for a trading company, that world is linked to English

Though family is clearly an influence on participants, for most it is confined to enrolling children in pre-school, kindergarten, or early primary school English programs. These parental decisions regarding their children's education lead to early exposure to English, though only a few of the Longitudinal Study 2 participants mentioned this as the initial trigger of their interest in English. Those participants that traced their interest in English to this type of early exposure cite English lessons from three years old, kindergarten, and the third grade of elementary school. MS09 commented on beginning to learn English when she was three (MS09, line 181 to 183):

MS09: えっと 3 歳から英会話を習ってたのでその頃から
MS09: *etto 3 sai kara eikaiwa wo naratteta n ode son goro kara*
MS09: Well, from 3 years old I had English conversation. From about then.

MS11 mentions English conversation classes from kindergarten (MS11, line 151 to 159):

MS11: 何時頃 うーん何か凄い小っちゃい時、幼稚園とかの時は、英会話やってて
MS11: *itsu goro u-n nani ka sugoi chiicchai toki, youchien toka no toki ha, eikaiwa yattete*
MS11: When did I start? Hmm, some time when I was really young, about the time of kindergarten, I had English conversation classes

While another participant, MS01, began to learn English during third year of elementary school (MS01, lines 175 to 176):

MS01: えっとー小学３年生の頃から英会話教室に習っててそれでその時から英語に興味があって
MS01: *etto- shougakko 3 nensei no goro kara eikaiwa kyoushitsu ni narattete sore de sono toki kara eigo ni kyoumi ga ate*
MS01: Well, when I was about a third grade student in elementary school, I studied in an English conversation class. That's it. From that time, I was interested in English

Teachers, junior high friends, and other role models. By far the most frequent is participants' junior high school English classes and interactions with teachers who were positive models. In nearly every interview, the participant mentioned a teacher that had given them a positive view of English. As seen from the Longitudinal Study 1 participants, the Longitudinal Study 2 participants also cited teachers as a key influence on their decision to study English. Some have a specific teacher in mind, such as MS30 (MS30, lines 129 to 134):

MS30: 好きになったのは中２中学２年生ぐらいやと思います
BV: なぜ
MS30: それまで英会話を別の塾で通ってたんで英会話だけの塾そこで先生に知り合ってそういう人みたいになれたらいいなーっみたいなことを考え出したのが中２ぐらいでそれまでは好きやったんかなまー塾に通ってたっていう感覚ぐらいしかなかったです
MS30: *suki ni natta no ha chuu 2 chuugaku 2 nensei guri ya to omimasu*
BV: *naze*

MS30: *sore made eigo wo betsu ni juku de tootteta n de eikaiwa dake no juku soko de sensei ni shiriatte sou iu hito mitai ni nareta iina- mmitai na koto wo kangae dashita no ga chuu 2 gurai de sore made ha suki yatta n kana ma- juku ni tootteta tte iu kankaku gurai shikanakatta desu*
MS30: When did I start to like it? Junior high, second year, about second year of junior high school I think
BV: why
MS30: I got to know a teacher at the *juku* (cram school) I was going to for English conversation class. That teacher, well I started to think I wanted to be someone like that. That was about junior high second year. Since then I've liked it. Yeah, in a sense because I was going to that *juku*.

Similar comments came from most of the other participants who cited teachers as a main influence in their interest in English, as seen in the comments from MS 32 (MS32, lines 105 to 106):

MS32: あー中学校も高校も良い先生ばかりで別に英語も嫌いになったときもないし今までずっと英語は好きですね
MS32: *a- chuugakkou mo koukou mo yoi sensei bakari de betsu ni eigo mo kirai ni natta toki mo nai shi ima made zutto eigo ha suki desu ne*
MS32: Ah, in junior high school and high school, I only had good teachers. Additionally, there was no time when I disliked English. Up to now, I have always liked English.

Similarly, MS44 traces interest in English to junior high (MS44, lines 155 to 157):

MS44: うーーーーん中学校のころ英語を始めて触れてでーそのときはまだそんなにやったんですけどでー
MS44: *uuuuun chuugakkou no koro eigo wo hajimete furete de – sono toki ha mada sonna ni yatta n desu kedo de-*
MS44: Well, in about junior high school, when I started English, that experience. From that time, yeah, I still did if from that time.

For MS01, it was the gradual influence of an English conversation course teacher that led to her current interest (MS01, lines 220 to 222)

MS01: 何 か 習ってた 英会話 教室の先生がその研修組んでくれて それで連れてってもらったんですけど そっから こう だんだん好きになってって

MS01: *nanika naratteta eikaiwa kyoushitsu no sensei ga sono kenshuu kunde kurete sore de tsurete tte moratta n desu kedo sokkara kou dandan suki ni nattette*
MS01: What was it? There was a teacher of an English conversation class whose lesson I was taking who guided me along. There, I gradually came to like it.

Junior high English classes, however, were frequently discussed by the participants and far more likely to be cited than early exposure. Most of the interviewed Longitudinal Study 1 participants began to study English in junior high school, when English classes became one of their compulsory subjects. Their junior high school English courses were cited as the main trigger for the interview participant's interest in English. More than half of the participants' traced their interest to exposure to English in junior high school, often citing the influence of a teacher. For example, MS04 cited her first-year junior high school English teacher as leading her to select the university (MS04, lines 5 to 9):

MS04: えっと中学校の時は出来なかったんですよ英語がでも先生その英語の先生が凄い好きで好きでそれでまぁ高校も英語学科に行こうと思ってで行って高校ほんだらまぁまぁもっと好きになってこう大学まで来た感じです
MS04: *etto chuugakkou no tokiha dekinakattan desu yo eigo ga demo sensei sono eigo no sensei ga sugoi suki de suki de de sore de maa koukou mo eigo gakka ni ikou to omotte de itte koukou hondara maa maa motto suki ni natte kou daigaku made kita kanji desu*
MS04: well, when I was in junior high school, I couldn't do English. But my teacher, the English teacher, I really really liked that teacher, and so form that, because of that I thought about entering an English department in high school, and after that, well, I liked it even more, so I feel that's why I came to this university

Other participants made similar comments about the influence of junior high school teachers regarding their interest in English, and view this as the normal route toward interest in English, as a comment from MS17 indicates (MS17, lines 230 to 234):

MS17: 私はえっと何時から勉強っていうのは普通に中学生の時とかは授業で普通に受けてたんですけどあの中学生の時の英語の先生が日本人の先生なんですけどめっちゃあの一授業のやり方とか進め方とかが凄い大好きやってそこから英語が中学生の時に大好きになって何かお腹お腹鳴りました

MS17: *watashi ha etto itsu kara benkyou tte iu no ha futsu ni chuugakusei no toki toka ha jyuugyou de futsu ni uketeta n desu kedo ano chuugaku sei no toki no eigo sensei ga nihonjin no sensei nan desu kedo meccha ano- jyuugyou no yarikata to ka susumekata to ka ga sugoi daisuki yatte soko kara eigo ga chuugaku sei no toki ni daisuki ni natte nan ka onaka onaka narimashita*

MS17: Me, well, when did I begin to study, I can say it was when I was an average junior high school student. Well, when I was a junior high school student, my English teacher, a Japanese teacher but, really, that class was taught in such a way, the teacher knew how to lead us, and I really loved it. From that point, when I was a junior high student, I loved English. What can I say? In my soul. It called to my soul

A few found a special activity or event at their schools, especially junior high schools, to be the central trigger. MS07, who had more out-of-class English access time than any of the other participants, reported (MS07, lines 143 to 145):

MS07: 中学校の時に中学校の時にその一結構イングリッシュカフェとかあってそん時に私そん時にすごい

MS07: *chuugakkou no toki ni sono- kekkou ingurisshu kafe toka ate son toki ni watashi son toki ni sugoi*

MS07: during junior high school, during junior high school, it had a nice English café, and at that time, I thought it was great

Similar to most other participants, MS07 traced her interest in English to junior high school. As these examples from the interviews illustrate, junior high school was when more than half of the interviewed participants became interested in English, with teachers being a central influence in the creation of this interest. This becomes clear in the comments from MS43, who did not like English until the second year of junior high school when it he began to understand it (MS43, lines 76 to 80):

MS43: 中学校のときから英語を習い始めて最初は嫌いだったんですけど

BV: だから中学校の一回生は嫌いだった
MS43: はい 2 回生なって何となくでもなんか分かるようになってそのわかるって言うのが楽しくてもうそこからは好きになってどんどんなんか英語勉強したいって言う
MS43: *chuugakkou no toki kara eigo wo narai hajimete saishou ha kirai da tta n desu kedo*
BV: *dakara chuugakkou no ikkaisei ha kirai datta*
MS43: *hai 2 kaisei natte nan to naku demo nanka wakaru you ni natte sono wakaru tte iu no ga tanoshikute mou soko kara ha suki ni natte dondon na ka eigo benkyou shitai tte iu*
MS43: In junior high school I started to study English. At first I hated it, but
BV: So as a first year student you hated it
MS43: Yes, when I became a second year student, how can I say it I started to make sense of it, to understand you could say, and I enjoyed that. Since then, I have liked it, so you could say that bit by bit I started to want to study English

Finally, junior high friends might have had as great an impact on participants as their teachers. We can see the influence that friends can have in comments from MS43, who discussed how he enjoyed helping a friend learning English and by doing this began to really understand it (MS43, lines 85 to 89):

MS43: 友達は英語苦手で自分が好きだったんで教えてたらその自分の説明で
BV: 友達に
MS43: 友達に説明して分かってくれてそういうのも嬉しくて本当に英語使いたいなーっていう
MS43: *tomodachi ha eigo nigate de jibun ga suki datta n de oshietera son jibun no setsume de*
BV: *tomodachi ni*
MS43: *tomodachi ni setsume shite wakatte kurete sou iu no mo ureshikute honto ni eigo tsukaitai na-ttiu*
MS43: My friend was poor at English. I liked it, so I taught her and explained it in my way
BV: to your friend
MS43: It was really nice to explain it to my friend so that she managed to understand. I'd have to say that is when I really wanted to speak English

Environment also contributed by helping to bring interview participants into contact with people who spoke English. Though only participant MS18 mentioned

this as a trigger, her comments serve to point out the there are other triggers for initial interest than teachers and parents (MS18, lines 166 to 169):

MS18: あぁ英語が好きになったのはえっと小っちゃい時から何か周りに外人の人が居る私はかん関西空港空港が家から近いんですよだから電車に乗ってもこう外人の方が結構一緒にいてちっちゃかったから

MS18: *aa eigo ga suki ni natta no ha etto chiichai toki kara nani ka mawari ni gaijin no hito ga iru watashi ha kan kansai kuukou kuukou ga uchi kara chikai n desu yo dakara densha ni note mo kou gaijin no kata ga kekkou ishou ni ite chichakatta kara*

MS18: Ah. When did I start to like English? Well, since I was really young there were a lot of foreigners around. My house is near Kan . . . Kansai Airport. The airport is near my house. So, even when I rode the train, there were a lot of foreigners riding with me, since I was young.

A variety of people served as the triggers for interest in English. An influential teacher or class often led to a positive view towards English. A push by a parent to take English classes at an early age might have been the trigger. Or even helping a friend to get through classes can be the trigger. In short, there is no one single trigger for all of these participants. Similar to the Longitudinal Study 1 participants, the interviewed participants in Longitudinal Study 2 became interested in English from the people around them, including other children and their family, or, more importantly, teachers, which could be either one inspirational teacher or a series of teachers that helped them during their secondary studies.

Patterns of out-of-class English study.

Motivators and triggers for time use. As in Longitudinal Study 1, most of the episodes were directly related to school and involved studying (review, preparation). Therefore, a large portion of my attention during the Time 1 interviews was on out-of-class study behaviors. As seen in the discussion above, episodes for school

made up 52% of total episodes (*k* = 1,712) and those for self-improvement, which included study for specific qualification exams, accounted for 14% of the episodes (*k* = 458). Of the remaining episodes, 29% were for enjoyment, versus only 15% for the Longitudinal Study 1 participants) and 3% for part-time jobs. (See discussion of Longitudinal Study 2 EATUS data above and Chapter 4, Longitudinal Study 1.)

The main trigger for the interviewed participants is that study must be done. In other words, for the interviewed participants, many indicated that assignments and tests were a main driver of their out-of-class English access. They study until their assignments are done. This was discussed along with keeping up motivation to study in the interviews. When asked about this, the response from participants was that it was something that they had to do so they studied. This is seen in a comment from MS30 (MS30, lines 322 to 325):

MS30: そうですね勉強するというかこう一生懸命集中するときはもう自分の部屋に行ってするんですよだから全部終わらしてご飯とか食べて夜遅くからやりますねそれか家族が寝たあとに
MS30: *sou desu ne benkyou suru to iu kakou isshou kenmei shuuchuu suru toki ha mou jibun no heya ni itte surun desu yo dakara zenbu owarashite gohan to ka tabete yoru osoku kara yarimasu ne sore ka kazoku ga neta ato ni*
MS30: Well, when I when to get in a frame of mind to study, to concentrate with all my power, I go to my own room until I finish it up . . . late at night after I eat dinner or after everyone else has gone to bed

Participants are also aware of the other demands on their time and frequently mentioned setting a study schedule around their classes and part-time jobs, as seen in comments from MS32 when discussing her patterns of time use on the EATUS form during the time 1 interview (MS32, lines 21 to 29):

MS32: 午後が多いです
BV: 午後例えば

MS32: 例えばえーと水曜日はえっと１限授業が２限授業があって３限４限が空きで５限が授業あるんですけどその３と４の間にエッセイしたりジャーナル書いたりしてるんですけどあとは一家にいるときはえっと基本土曜日と日曜日はバイトがあってそのバイトが終わった時間が朝からやとえっと３時ぐらいに終わってそこから帰ってからなんで基本土日は夜からのほうが英語に触れるのが多いですね

MS32: *gogo ga oi desu*

BV: *gogo tatoeba*

MS32: *tatoeba e-to suiyoubi ha etto 1 gen jyugyou ga 2 gen jyugyou ga atte 3 gen 4 gen ga aki de 5 gen ga jyugyou aru n desu kedo sono 3 to 4 no aida essei shitari jya-naru kaitari shite run desu kedo ato ha- uchi ni iru toki ha etto kihon doyoubi to nichiyoubi ha baito ga atte sono baito ga owatta jikan ga asa kara yato etto 3 ji gurai ni owatte soko kara kaette kara nande kihon donichi ha yoru kara no hou ga eigo ni fureru no ga ooi desu ne*

MS32: There's a lot in the afternoon

BV: The afternoon, for example

MS32: For example, well, on Wednesday I have classes first hour and second hour, but then have free time third and fourth hour. Fifth hour I have a class, so during third and fourth I work on essays or write my journal, but... Other than that, when I am at home. Ah, basically on Saturday and Sunday I have a part-time job. Work finishes early in the morning at about 3 o'clock. From then I head home and then basically I come into contact with English late on Saturdays.

Similar to MS 30 and MS32, other participants set their out-of-class English access time, whether for study or for enjoyment, around their class and part-time job schedules.

Ending an episode. As is clear from the data collected using the EATUS form, the length of episodes varied according to purpose and location, but the mean episode was 1 hour 23 minutes in duration (see discussion of Longitudinal Study 2 EATUS results above).

Part-time job episodes, only 3% of the total out-of-class English access episodes for the Longitudinal Study 2 participants, end when the work period ends.

Out-of-class English access for enjoyment is also time related, either because it was taking place during commuting time or because the enjoyable activity was a television program or movie that lasted only a specific amount of time. In short, the decision to end these episodes was not made by the participant.

In contrast, deliberative decisions were made to end study episodes. Regarding how participants decided to end a deliberate out-of-class study episode, interview participants indicated that this decision was made based on some sense of completion of the study tasks they had set, satisfaction with their learning progress, or fatigue. For MS08, the ending varies. When it is an assignment, the episode ends when the task is completed. When it is an upcoming test, the episode ends when she is satisfied with her level of understanding (MS08, lines 117 to 124):

MS08: 課題課題とテストって何か違って課題はディスカッションの課題が多くてニュースレポートとか一旦書き終わるのが分かるからそれは終わりってわかるけどテストやったら自分の中で「あっ覚えたなぁ」って思ってもう１回やってからそれであぁ出来覚えてるってなったらもうそれで終わります

MS08: *kadai kadai to tesuto tte nani ka chigatte kadai ha disukashon no kadai ga oukute nyu-su repo-to to ka ittan kaki owaru no ga wakaru kara sore ha owari tte wakaru kedo tesuto yattara jibun no naka de "aa oboetanaa" tte omote mou ikai yatte kara sore de aa deki oboeteru tte nattara mou sore de owarimasu*

MS08: assignments . . . there's a difference between assignments and tests There are a lot of assignments for the discussion like news reports , Once I finish writing I can tell when I'm done, but if it's a test, I know when I think I can say to myself "I know it," I do it one more time. Then if I think I've got it, then I am done.

Similarly, as MS30 indicates, the study period continues until it is completed (MS30, lines 345 to 349):

MS30: 締め切りぎりぎりとかになったらもう意地でもずっとやり続けますけどそうですねもう明日提出とかになったらやりますね

BV: なぜ

MS30: 出さなければいけないから

MS30: *shimekiri girigiri to ka ni nattara mou iji demo zutto yari tsuzukemasu kedo sou desu ne mou asa teishuttsu toka ni nattra yarimasu ne*
BV: *naze*
MS30: *dekinakereba ikenai kara*
MS30: If it's close to the deadline, I keep doing it no matter what, but. Yeah, well, if I have to turn it in in the morning or something then I do it
BV: why
MS30: I have to do it

This view was shared by MS18, who commented about her writing assignments that she ended a study episode when she had finished her essay (MS18, lines 132 to 133):

MS18: エッセイの場合は多分私は自分の満足がいったらその文章に自分が自信があって満足がいったら終わると思います
MS18: *essei no baai ha jibun no manzoku ga ittara sono bunshou ni jibun ga jishin ga ate manzoku ga itara owaru to omimasu*
MS18: For an essay, I think it is probably when I am satisfied that I did my best, when I have confidence in my writing, and I am satisfied that is when I think I am done.

Other participants made similar comments regarding the ending of study episodes, regardless of whether the episode was for school or self-improvement.

Awareness of out-of-class English time use.

For the Longitudinal Study 2 interview participants, I also wanted to determine if they were aware of their time use. Their comments indicate that they are, with all the interviewed participants indicating that they had specific patterns for study and for enjoyment. For many, their out-of-class English access was at home or while commuting (see discussion of location of episodes above), when they would review for classes or listen to music. At home, where most out-of-class English episodes occurred, the participants fell into two patterns, either doing any study immediately after they got home, following dinner, or after some sort of relaxation.

Awareness of having a regular study time pattern was clear for these participants. As is clear from the temporal data (see Longitudinal Study 2 EATUS Results above), there was a regular daily pattern for the participants that showed a peak in out-of-class English episodes in the evenings on most weekdays. Participant MS43 indicated she was aware of this (MS43, line 138 and lines 144 to 145):

MS43: 家に帰って大体９時から１２時の間に勉強とか
. . .
MS43: あーこれはもうずっと昔から習慣で勉強するのは９時からスタートって自分で決めててもう体が慣れてて
MS43: *uchi ni kaette daitai 9 ji kara 12 ji no aida ni benkyou toka*
. . .
MS43: *a- kore ha mou zutto mukashi kara shuukan de benkyou suru no ha 9 ji kara suta-to tte jibun de kimetete mou karada ga narette*
MS43: I go home, and usually study from 9 until about 12
. . .
MS43: Oh, I have been following this study pattern from long ago. I decided to start at 9 and, well now my body is used to it

This regular study time pattern was seen for most of the other interviewed Longitudinal Study 2 participants. For some, this is study after they get home and have dinner, as expressed by MS04 (MS04, lines 114 to 117):

MS04: 帰って来て家帰って来てから
BV: 食べる前食べた
MS04: 食べた後
MS04: *kaete kite uchi kaet kite kara*
BV: *taberu mae tabeta*
MS04: *tabeta ato*
MS04: When I get back. After I get home.
BV: Before dinner. After eating.
MS04: After eating.

Others plan their out-of-class English access for study to occur after some form of relaxation, which might also be in English such as a favorite television program, as

seen in a comment from MS30 (see discussion of Out-of-class English for enjoyment below) when asked about her study pattern (MS30, lines 26 to 34):

MS30: うーんとドラマとかが多いんで多分夜やと思います
BV: あそうですか
MS30: 夜
BV: 夜といえば夜の
MS30: 夜の
BV: ６時９時
MS30: いやもっと遅くです
BV: 遅く
MS30: はい１１時とかそんなんやったと
MS30: *u-nto dorama to ka ga ooi n de tabun yoru ya to omoimasu*
BV: *ah sou desu ka*
MS30: *yoru*
BV: *yoru to ieba yoru no*
MS30: *yoru no*
BV: *6 ji 9 ji*
MS30: *iya motto osokudesu*
BV: *osoku*
MS30: *hai 11 ji to ka sonnan yatta to*
MS30: Hmm. There are many dramas, I think most of them are at night
BV: Oh, is that so
MS30: At night
BV: What do you mean by night
MS30: In the evening
BV: 6 o'clock 9 o'clock
MS30: No, later
BV: Later
MS30: Yes, 11 o'clock or so they're on

Some participants pointed out that they were aware that their class schedule drove their out-of-class English access time, as seen in a comment from MS17 (MS17, lines 55 to 57):

MS17: 月曜日と火曜日と水曜日がえっと授業的にいっぱい課題が出される授業がその３３つで月火水が多いのでその多分月火水が１番勉強量多いと思います
MS17: *getsyoubi to kayoubi to suiyoubi ga etto jyugyou teki ni ippai kadai ga dasareru jyugyou ga sono 3 3tsu de getsu ka sui ga ooi no de sono tabun getsu ka sui ga 1 ban benkyou ryou ooi to omoimasu*
MS17: Monday, Tuesday, Wednesday, well, as far as courses go, they give out a lot of assignments There are a lot of classes on those those 3, those 3

days, Monday, Tuesday, Wednesday, so I think probably the amount of studying is the most on those days.

Participants were aware of the way that their class schedules drove their out-of-class English use, both for when they study and when they choose not to study. This is seen in a comment from MS07 when discussing the patterns of time shown on her EATUS report during the time 1 interview. MS07 indicated her class schedules and fatigue drove her out-of-class English study time, using both English and Japanese to express this (MS07, lines 30 to 32 and lines 40 to 45):

MS07: で Friday は授業は日本の授業が多いから帰っても喋る時間全然 I'm very tired when I get home, so だから少ない金曜日は
. . .
BV: 水曜日も少ないですね
MS07: 水曜日はあっ何故かと言うと on Thursday がなんつーのその最初に始まる時期やんか時間がないから I feel so lazy でもう何か全然勉強したくなくなるっていうか水曜日は。あとーI は水曜日多いからか、帰ってきたらもうしんどいと思って I just sleep when I get home は〜って感じ
MS07: *de Friday ha jyugyou ha nihon no jyugyou ga ooi kara kaette mo shaberu jikan zenzen I'm very tired when I get home, so dakara sukunai kinyoubi ha*
. . .
BV: *suiyoubi mo sukunai desu ne*
MS07: *suiyoubi ha a' naze ka to iu to* on Thursday *ga nantsu- no sono saisho ni hajimaru jikan yan ka jikan ga nai kara* I feel so lazy *demo nani ka zenzen benkyou shitakunaru tt iu ka suiyoubi ha ato-* I *ha suiyoubi ooi kara ka kaette kitara mou shindoi to omotte* I just sleep when I get home ha-tte kanji
MS07: On Friday, I have a lot of classes in Japanese, and from when I get home I don't have any time to speak English. I'm very tired when I get home, so therefore, there's little on Friday
. . .
BV: Wednesday also has little time
MS07: Wednesday, well, if I had to say why, on Thursday, right at the start I have class and don't have any time so I feel so lazy. But if I had to say why don't I study on Wednesday . . .. Ah, I, I think that on Wednesday I have a lot of classes and when I get home I'm really tired, I just sleep when I get home, that's the feeling

Of interest is that participant MS07 had the greatest number of overall minutes of out-of-class English access for the participants in the Longitudinal Study 2, as shown in Figure 62 above), and consistently had time each day devoted to English for either study or enjoyment.

Motivators of out-of-class English access for study.

Participants in the Longitudinal Study 2 interviews were also asked about the specific triggers for their out-of-class English access episodes for study. For most, the main trigger is homework.

Even when they feel like not studying, the Longitudinal Study 2 participants voiced the sentiment that they did what must be done. This is seen in a comment from MS09 (MS09, lines 65 to 66):

MS09: え基本的にやってやりますね何かやりたくないって感じることはあんまりない
MS09: *ekihon teki ni yatte yarimasu ne nani ka yaritakunaitte kanjiru koto ha anmarinai*
MS09: Oh. Basically, I do, I do whatever it is, even when I feel like not doing it at all

When to study seems related primarily to the participants' schedules. MS16, when commenting on her out-of-class English time use, indicated the episodes were based on her schedule of her classes and her part-time job (MS16, lines 93 to 99):

MS16: ずっと夜が多いですね
BV: 夜
MS16: はい
BV: でそれは何故
MS16: っと学校にいる時間と何かバイトでちょっと遅くなったりで大体自分のスイッチが入るんがもうお風呂あがってでテレビもみ観終わってみたいにやっとみたいな感じなんで
MS16: *zutto yoru ga ooi desu ne*
BV: *yoru*

MS16: *hai*
BV: *desore ha naze*
MS16: *tto gakkou ni iru jikan to nani ka baito de chotto osoku nattari daitai jibun no suicchi ga hairun ga mou ofuro agatte de terebi mo mi kan owatte mitai ni yatto mitai na kanji nade*
MS16: it's all late at night, isn't it
BV: at night
MS16: yes
BV: why is that
MS16: Well, I have time in school, then I have some part-time work a little late, so usually I have some kind of switch, like after I take a bath, finish watching TV, then I think about doing it [study]

Participants were also asked about what makes it difficult to spend out-of-class time on English. Unsurprisingly, it was enjoying time with friends, as in the exemplary comment from MS22 about what makes it hard to study (MS22, lines 216 to 218):

MS22: 英語勉強する代わりにですか
BV: はい
MS22: 友達と遊びに行ったり
MS22: *eigo benkyou suru kawari ni desu ka*
BV: *hai*
MS22: *tomodachi to asobi ni ittari*
MS22: what do I do other than study English
BV: yes
MS22: go and play with friends

Order of homework varied, with some participants doing the enjoyable study before the tasks they find less enjoyable, as MS13 explains (MS13, lines 73 to 74):

order of HW

MS13: 初めに好きな宿題をやってそれにめっちゃ時間それあんまり好きじゃないのにめっちゃ時間かけてみたいな感じです
MS13: *hajime ni suki na shukudai wo yatte sore ni meccha jikan sore anmari suki janai no ni meccha jikan kakete mitai na kanji desu*
MS13: First, I do the homework I like, that takes a lot of time. Then I do the homework I don't really like and it feels like that takes even more time

In short, the motivators for out-of-class English access and the patterns for this out-of-class time use were those primarily related to the participants' schedules, whether for study or other activities, and the need to just "do" the tasks set for them because of the classes they were taking.

Out-of-class English for enjoyment.

For interviewed participants in the Longitudinal Study 2, music received the highest ratings for enjoyment, and an activity that appeared on all the participants' EATUS data. Most of the participants commented on listening to English music as part of their activities for enjoying English, making comments similar to MS01 above, or the one from MS07 (MS07, line 431):

MS07: 英語の音楽を聴いたらどっちかと言うと楽しさ私音楽好きだから
MS07: *eigo no ongaku wo kiitara dochi ka to iu to tanoshi sa watashi ongaku suki dakara*
MS07: I'd have to say it is a pleasure to listen to English music. Because I am a music lover.

Others use music in English to relax or unwind from their day, such as MS09, who falls asleep listening to English music (MS09, line 74):

MS09: 寝たり音楽聴いたりしてでまたもう 1 回始めるみたいな
MS09: *nettari ongaku kiitari shite de mata mou 1 kai hajimeru mitai na*
MS09: When I'm going to sleep, I listen to music, and once it begins that seems to be enough

By far the most frequent comment regarding English for enjoyment was listening to music, as in the comment from MS22 (MS22, line 38)

MS22: えっと英語の歌を聞いたり
MS22: *etto eigo no uta o kiitari*
MS22: well listening to English songs

In addition to music, participants reported watching television and YouTube. The use of YouTube is highlighted by a comment from (MS13, lines 302 to 304):

MS13: 何か音楽聴いたりとかうん友達で英語の音楽好きな子とかが居て何かこれ聴いてみいやとかって言われたら探そうみたいな YouTube で
MS13: *nani ka ongaku kiitari toka un tomodachi de eigo no ongaku suki na ko toka ga ite nani ka kore kiite miya to katte iwaretara sagasou mitai na* YouTube *de*
MS13: I listen to some music, well, and among my friends there are some who English music a lot, so when they say I ought to have a listen to something I look for it on YouTube

They also reported watching western television programs broadcast on one of the Japanese channels. For MS14, when asked about the other 50% of her time not devoted to study, talked about several television programs that were part of her out-of-class English access time (MS14, lines 102 to 107)

BV: 宿題ですね５０％ぐらいで他のは自分の楽しむそれは何
MS14: あの一海外ドラマと
BV: たと例えば
MS14: スーパーナチュラル
BV: OK
MS14: とかあとグリーとかあとはマーリン
BV: *shukudai desu ne 50% gurai de hoka no ha jibun no tanoshimu sore ha nani*
MS14: *ano- kaigai dorama to*
BV: *tato tatoeba*
MS14: *su-pa-nachuraru*
BV: *OK*
MS14: *to ka ato guri- toka ato ha ma-rin*
BV: Homework is about 50%, so what else do you do, for fun?
MS14: well, foreign dramas and
BV: for example
MS14: Supernatural
BV: OK
MS14: And Glee, and Marine

This was similar to the viewing habits of MS16 (MS16, lines 49 to 51):

MS16: っとテレビで私ケーブル繋いでて音楽の番組を良く観るんでんでやっぱ今レディーガガとか人気でそれいっつも見て楽しんでるん

MS16: *tto terebi de watashi ke-buru tsunaide te ongaku no bangumi wo yoku miru n de n de yappari ima redi-gaga to ka ninki de sore ittsumo mite tanoshinde ru n*

MS16: well, on television, because I have cable I can watch music programs, and, well right now it is Lady Gaga and popular people. That's what I am watching for fun.

The comments from all the Longitudinal Study 2 participants about their out-of-class English access for enjoyment specifically pointed to either music or television, and frequently both, as ways that they access English for something other than study.

Part-time jobs and out-of-class English access.

Part-time jobs made up only 3% percent of the episodes for the Longitudinal Study 2 participants and few of the participants reported out-of-class English episodes related to work. One who did was MS12, who worked part-time at a *juku* (cram school) teaching English (MS12, lines 225 to 226):

MS12: えーっとバイトをしてるんですけど塾で中学生とか高校生に英語教えてあげるバイトしてるんですけどそういう時になったらちょっと緊張しますね

MS12: *e-tto baito wo shiteru n desu kedo juku de chuugakusei to ka koukousei ni eigo oshiete ageru baito shiteru n desu kedo sou iu toki ni nattara chotto kinchou shimasu ne*

MS12: Well, my part-time job is teaching English to junior high and high school students at a *juku,* and I get a little nervous when I am working

For most of the students, if they had an English episode at a part-time job, it was more likely to be related to incidental access to English at work, as seen in a

comment from MS30 when she was discussing the various episodes on the EATUS summary she received (MS30, lines 60 to 62):

MS30: おもしろいえっととにかくこれは時間とこれは曜日と週間これ大体文法は一人で友達とそれとその他これは楽しむためにバイトバイトやってる
MS30: *omoshiroi etto tonikaku kore ha jikan to kore ha do nichi to shuukan kore daitai bunpou ha hitori de tomodachi to sore to sono ta kore ha ongaku tanoshimu tame ni baito baito yatteru*
MS30: Interesting. Well, anyway, this time, this is Saturday Sunday and the week. This is usually grammar alone or other things with friends, this is for listening to music, and doing work.

Though a few participants had part-time jobs where they had some out-of-class English access, for most their part-time jobs were unconnected and their English access episodes occurred around this and the other demands on their time, as seen in a comment from MS08 (MS08, lines 22 to 24):

MS08: 日曜日あの火曜日に結構授業が詰まっててテストが多いので多分月曜日と日曜日に多くて土曜日はアルバイトしてるんで多分少ないんだと思います
MS08: *nichiyoubi ano kayoubi ni kekkou jyugyou ga tsumattete tesuto ga ooi no de tabun getsuyoubi to nichiyoubi ni ookute doyoubi ha arubaito shiteru n de tabun sukunain da to omoimasu*
MS08: Sunday, well, Tuesday is full of classes and a lot of tests, so maybe Monday and Sunday I do a lot, Saturday I have a part-time job, probably that's why I don't do much then

In most other interviews, part-time jobs are mentioned similarly, as another demand on participants' time and unrelated to their out-of-class English access.

English and future goals.

The Longitudinal Study 2 participants also see English as necessary for their future goals. Though most were not sure exactly what they wanted to do after they

graduated in three to four years, all saw English as something they needed, as seen in the comment from MS38 (MS38, lines 101 to 102):

MS38: 英語をやっぱり話せないといけない、いけないって言うか英語は必要、第二、世界共通の言葉やし
MS38: *eigo wo yappari hanase nai to ikenai ikenai tte iu ka eigo ha hitsuyou. daini sekai kyoutsuu no kotoba yashi*
MS38: English, of course it wouldn't do to not be able to speak English, it wouldn't do or rather it's necessary, Secondly, it's also the common world language.

This sentiment is expressed by MS17 as well (MS17, lines 81 to 82):

MS17: 関係の仕事に就こうと思ってるんでそれにはやっぱり TOEIC の点数が必要っていう言葉を聞いたんで
MS17: *kankei no shigoto ni tsukou to omotteru n de sore ni ha yappari TOEIC no tensuu ga hitsuyou tte iu kotoba wo kiita n de*
MS17: Because I plan to get some job related to English. So of course I need to get a good TOEIC score and they say words and listening are necessary.

The same type of comment is seen from MS01, who points how she hopes to achieve her future goal of having a job using English (MS01, lines 270 to 274):

MS01: 今後はあのやっぱり将来は英語を使って働きたいと思っているのでその一TOEIC の点数ももうちょっと伸ばさないといけないしもっと英語のスキルを身に着けて色んなことをしていって うん成長していきたいなって思ってます
MS01: *kongo ha ano yappari shourai ha eigo wo tsukatte hatarakitai to omote iru no de sono- TOEIC no tensuu mo mou chotto nobasanai to ikenai shi motto eigo no sukiru wo mi ni tsukete ironna koto o shite itte un seichou shitei kitai natte omotemasu*
MS01: In the future, well, of course I think I want to use English in my future work. That, well, I have to raise my TOEIC score a little more and also improve various English skills and well, yes, that's what I want to do in my future to grow

Most participants at Site 1 and Site 2 have an image of using English in their future, as seen in the representative quotes from the three participants given above. However, while most of the interviewed Longitudinal Study 2 participants have some future

view of English in their lives, a few were less definite. MS08 knows her friends want to have jobs using English, but was less sure about it for herself (MS08, lines 196 to 199):

MS08: 何も何も考えてないですうーんでも周りの人がよく英語英語にかかわる仕事がに就きたいとか言うけどそれも何かあんまりまだはっきりしたものが無くてうん出版関係に就きたいなと思ってたり

MS08: *nani mo nani mo kangaete nai desu u-n demo mawari no hito ga yoku eigo eigo ni kakawaru shigoto ga ni tsukitai to ka iu ke do sore mo nani ka anmari mada hakkiri shitamo n ga nakute un shuppan kankei ni tsukita ina to omotte tari*

MS08: Nothing, I haven't thought about anything. Hmm. People around me want something with English, using English in their job, I think that's what they want to get. I haven't thought of anything clearly yet, but well, probably a job related to publishing I think

Though this type of comment was rare among the Longitudinal Study 2 participants, it did exist in several of the interviews. However, for most a view of English as part of their future is central to their current studies.

The comments regarding the out-of-class English access by the Longitudinal Study 2 participants show how the participants interpreted the EATUS form as expected. They also indicate how their view of their Ideal L2 Self, as expressed in their comments about their future goals, is linked to English. More importantly, their comments indicate that their out-of-class English time access episodes are driven in part by their schedules and in part by their future goals.

Time 2 Interview Results

The second interview with the Longitudinal Study 2 participants was held after summer holiday as all Longitudinal Study 2 participants agreed to continue the

EATUS data collection form through their summer holiday. This series of interviews focused on the participants' awareness of their time use.

Awareness of time use.

During the Time 2 interviews, participants were asked in general about their out-of-class time use on English as well as about how their time use might have changed. The general pattern that emerges from the interview data indicates that participants are aware of their time use and generally voice the sentiment that they need to study English more outside of class. One example of this is seen in comments from MS51 when talking about her time use during the study period (lines 310 to 313):

MS51: いやなんかやっぱ驚いたまーもうちょっと英語を勉強する時間を増やした方が良いと思いました
MS51: *iya nan ka yappari odoroita ma- mou chotto eigo wo benkyou suru jikan wo fuyashita hou ga ii to omoimashita.*
MS51: No, after all, I was surprised. I thought it would be good for me to increase the amount of time I spend on English study.

When asked about how she had spent her time, MS51 also said she knew she spent a lot of time listening to music (line 319):

MS51: 音楽聴いたりは結構多かったですね
MS51: ongaku kiitari ha kekkou ookata desu ne
MS51: Listening to music, well I had plenty of time on that.

Other participants also indicated that they felt they had made time for study. MS19 stated (MS19, lines 226 to 229):

MS19: あーえっと時間を書いたら自分がどんだけ勉強してるとかその英語に全然一日なんもしてないっていう日はあんまりないんだなっと思ってけっこう身近なところでちょっとだけでも英語が関わってるんだなと思いました

MS19: *a etto jikan wo kaitara jibun ga don dake benkyou shiteru to ka sono eigo ni zenzen ichi nichi nan 'mo shite nai tte iu hi ha anmari nai n da na tto omotte kekkou mijika na tokoro de chotto dake demo eigo ga kakawatteru n da na to omoimashita*

MS19: Ah, well, when I was writing my time use, I thought about how much I had studied. I think there wasn't one day where I didn't study English at all. I think that I did things related to English at many times.

Participants also recognized that they needed to concentrate in order to really learn English. MS04 commented (MS04, lines 170 to 173):

MS04: うーーん勉強した時間も大切だと思いますけどうんそのどれだけ自分がその時間集中したら集中せんかったら自分にも中にも入ってこないじゃないですかだからやっぱりうん学習の考え方うん英語学習は集中が必要だと思います

MS04: *u--n benkyou shita jika mo daisetsu da to omoimasu ke do un sono dore dake jibun ga sono jikan shuuchuu shitara shuuchuu senkattara jibun ni mo naka ni mo haitte konai janai desu ka dakara yappari un gakushuu no kangaekata un eigo gakushuu ha shuuchuu ga hitsuyou da to omoimasu*

MS04: Hmm. Though I think it is important when I am studying, well, when you are studying something intensively, don't you have to concentrate? So when you are studying you need to think about how you are learning, well, you need to concentrate when learning, I think.

Moreover, these participants recognize that time spent on other activities unrelated to school work detracted from the time they could spend on study and meeting their future goals. This was articulated by MS20 (MS20, lines 175 to 177 and lines 185 to 186):

MS20: それよりバイトの方優先してるのことの人みんなそうなってるバイトただただ 1 時間 800 円にしてもでも授業料 1 時間でこれ 2000 円以上すると思ってるの

. . .

MS20: バイトの 1 時間よりこっち勉強しっかりつけて将来良い仕事就くことが一番大事と思ってる

MS20: *sore yori baito no hou yuusen shiteru no koto no hito minna sou natteru baito tada tada 1 jikan 800 yen ni shite mo demo jugyou ryou 1 jikan de kore 2000 yen ijou suru to omotteru no*

. . .

MS20: *baito no 1 jikan yori kocchi benkyou shikkari tsukete shourai yoi shigoto tsuku koto ga ichiban daiji to omoteru*
MS20: There are those who place first priority on a part-time job. At a part-time job you make about 800 yen an hour, but if you think about tuition, it's more than 2,000 yen an hour.
. . .
MS20: Rather than place importance on one hour at a part-time job, you have to think about the good job you can get in the future.

Awareness of the value of time clearly exists among the study participants. Whether this awareness existed prior to the study of these students time use or not is not clear. However, many of the participants mentioned that they now try to make better use of their time, as illustrated by a comment from MS30 (MS30, lines 403 to 406):

MS30: はいあの時間をこう前までは時間が決まってなかったんですよいつするとか不定期だったんで一週間に一回とかそんな感じもありましたけどでも今はこう時間をこう何時から何時までと決めてしています
MS30: *hai ano jikan wo kou mae made ha jikan ga kimattenakata n desu yo itsu suru to ka futeiki data n de ishuu kan ni ikkai toka sona n kanji mo arimashita kedo demo ima ha kou jikan wo kou nanjikan kara nanjikan made to kimete shite imasu*
MS30: Yes, well about time use in this way. Before this, I didn't really decide how to use my time. When would I do it? It was irregular. I had the feeling that once a week would do. But now, I decide what time to start, what time to finish, and just do it.

This awareness of individual time use was noticed by most of the interviewed participants in Longitudinal Study 2. During their time completing the EATUS form, they observed how they used their time. Some used this to change their out-of-class time use of the target language.

Time use during summer vacation.

One aspect of the Time 2 interviews was to understand the differences in out-of-class English time use during the term versus during the vacation period. From

this, and the EATUS data, two patterns emerge for English use during vacation periods: no time on English and time allocated to English.

No time on English during vacation. When discussing their time on English during summer, a number of Longitudinal Study 2 interview participants indicated that they had not spent any time on English during their holiday. This is seen in comments from MS22, MS38 and MS 35, who, similar to others during the interviews that followed summer holiday, indicated that they had not studied English at all (MS22, line 9):

MS22: 夏休みは全然英語
MS22: *natsu yasumi ha zenzen eigo*
MS22: summer holiday, English, never.

From MS38 (MS38, line 9l):

MS38: 使ってないです全然
MS38: tsukattenai desu zenzen
MS38: I didn't use it. Never

And from MS35 (MS35, line 8):

MS35: 一切してない
MS35: *issai shitenai*
MS35: I didn't do it at all

Other participants gave more detail for why they had not used English during summer holidays, in spite of having an intention to study. MS16 indicated it was just laziness, saying (MS16, lines 4 to 6):

MS16: 夏休みまあダルダルとだらだらとはい
BV: で英語を使う機会ありましたか
MS16: なかったですね正直
MS16: *natsu yasumi maa darudaru to daradara to hai*
BV: *de eigo wo tsukau kikkai arimashitaka*
MS16: *nakatta desu ne shoujiki*
MS16: summer holiday, well, it was dull, I spent it lazily, yeah
BV: So did you have an opportunity to use English?

MS16: To be honest, none at all

They also discussed their lack of English use time during the summer holiday in terms of the weather, as seen in a comment from MS36 (MS36, lines 10 to 14):

MS36: いやそれはなかなか使えなくてあのー自分が自分がなんかやっぱ休みだからといって勉強してないってところもあるんですけど今年なんか言い訳かもしれないですけど今年暑かったんでなかなか暑さのせいでやる気が起きなくてできなかったりとかが多かったんで

MS36: *iya sore ha nakataka tsukaenakute ano- jibun ga jibun ga nanka yappa yasumi dakara to itte benkyou shitenai tte tokoro mo aru n desu kedo kotoshi nanka iiwake kamoshirenai desu kedo kotoshi atsukatta n de nakanaka atsusa no sei de yaru ki ga okinakute dekinakattari to ka ga ookatta n de*

MS36: No, I didn't really use it. Well, for myself, for myself, I'd have to say just because it was vacation I didn't study any place at all. This year, this might be said as an excuse, but this year was so hot. Because it was so hot I wasn't motivated at all. I couldn't get up much to do it.

This does not mean that study participants did not study during summer vacation, just that English was not a priority for their studies. A comment from MS51 illustrates this (MS51, lines 42 to 45).

MS51: いや探してないです夏休み中には
BV: なんで
MS51: うーんなんか夏休みはそんなほかの事いろいろやってたんで英語はあんまり使ってなかった

MS51: *iya sagashite nai desu natsu yasumi ni ha*
BV: *nan de*
MS51: *u-n nanka natsuyasumi ha sonna hoka no koto iroiro yatteta n de eigo ha anmari tsukattenakatta*

MS51: No, during summer vacation, I didn't really find chances to.
BV: Why?
MS51: Hmm. What do I say? I had other things to do during summer vacation. I almost didn't use English at all.

Similarly, students indicated that part-time jobs or other study took up their time. For example, MS38 had no time for English because of work (MS38, lines 13 to 14).

MS38: なんか夏休みはアルバイトばっかりしてたんですよだからあの一英語に触れる時間が全然なかった
MS38: *nanka natsu yasumi ha arubaito bakkari shiteta n desu yo dakara ano-eigo ni fureru jikan ga zenzen nakatta*
MS38: What to say? I only did a part-time job during summer vacation. Therefore, I had no time to give to English at all.

Similarly, MS32 studied for a qualification examination rather than study English (MS32, lines 45 to 48):

MS32: 話さないといけないけどけど今年の夏休みは本当に家でずっと国家資格の勉強ばっかりして後学校で講座があったんでそれに行ったりしてたんで話す機会が
MS32: *hanasanai to ikenai kedo kedo kotoshi no natsu yasumi ha hontou ni uchi de zutto kokka shikaku no benkyou bakkari shite ato gakkou de kouza ga atta n de sore ni ittari shita n de hanasu kikkai ga*
MS32: I know I should have talked, but during summer holiday I studied for a Japanese national qualification exam all the time at home, or I went to school for lectures. There were no opportunities to speak English.

Summer vacation for some participants was not a time to spend on English.

Time use on English during summer. Participants who maintained the EATUS during the summer vacation reported they used English for a variety of purposes. Some students set aside time during summer vacation to use English either purely for enjoyment, as seen in comments from MS43 (MS43, lines 9 to 11):

MS43: 使う機会はなかったですねあの洋画をそのまま日本語で見らずに聞く形はいっぱいあったんですけど英語しゃべるっていう機会はなかったです
MS43: *tsukau kikkai ha nakatta desu ne ano youga wo sono mama nihongo de mirazu ni kiku katachi ha ippai atta n desu kedo eigo shaberu tte iu kikkai ha nakatta desu.*
MS43: I had no chance to use English. Hmm, I watched western movies, without using looking at the Japanese [subtitles]. I listened to them, but I didn't have any chance to speak English.

Other participants commented on deliberative use of movies and television programs to combine enjoyment and study, as seen in a comment from MS39 (MS39, lines 13 to 17):

MS39: 映画は見た
BV: あー例えば
MS39: Gossip Girl ドラマ
BV: ふーんそれ良かった英語で見た
MS39: 英語で見た
MS39: *eiga wo mita*
BV: *a- tatoeba*
MS39: Gossip Girl *dorama*
BV: *Fu-n sore yokatta eigo de mita*
MS39: *eigo de mita*
MS39: I watched movies.
BV: Ah, for example
MS39: The drama Gossip Girl
BV: Hmm, that's good. You watched in English
MS39: I watched in English

Others, however, had deliberate study of specific English during their summer vacation in addition to English solely for enjoyment, as a comment from MS47 illustrates (MS47, lines 15 to 21):

MS47: 夏休みはそうですね TOEIC の勉強始めようかなと思って参考書かって TOEIC の勉強をしたり英検もそろそろ 2 級取ってないんで取らないとなーそっちの参考書も勉してて後やっぱちょっと夏休みだったんで遊んでたんで DVD 最近洋画をちょっとクラスの人がけっこう紹介してくれるようになったんでそれを英語でそのまま聞いてできるだけ字幕も出てるんですけどできるだけリスニング聴たえようかなみたいなことをしてました
MS47: *natsu yasumi ha sou desu ne TOEIC no benkyou hajime you ka na to omotte sankousho katte TOEIC no benkyou wo shitari eiken mo sorosoro 2 kyuu totte nai n de toranai to na- socchi no sankousho mo benkyou shitete ato yappari chotto natsu yasumi data n de asondeta n de DVD saikin yoga wo chotto kurasu no hito kekkou shoukai shite kureru you ni natta n de sore wo eigo de sono mama kiitte dekiru dake jimaku mo deteru n desu kedo dekiru dake risuningu kiitaeyou kana mitai na koto wo shitemashita*
MS47: Summer vacation, is it. I thought I would start to study for TOEIC and bought a reference book to study with. And isn't it too long before I take the level 2 *Eiken* test. I haven't passed it. So I studied that

reference book. After that, well, since it was summer vacation, I also had fun. I watched recent western movies on DVD that a friend from class suggested. When I did, I tried to listen to the English and only looked at the subtitles if I couldn't hear what I was listening to.

A few continued habits of out-of-class English use during the summer holiday, as seen in a comment from MS46 (MS46, lines 4 to 8):

MS46: 普通でした
BV: 普通英語勉強する時間ありましたか
MS46: あーはい本読んでました
BV: 本どんな本英語の学習のための本またはなにか小説
MS46: 単語帳とか英語についての本
MS46: *futsuu deshita*
BV: *futsuu eigo benkyou suru jikan arimashita*
MS46*:* *a- hai hon yondemashita*
BV: *hon donna hon eigo no gakushuu no tame no hon mata ha nani ka shosetsu*
MS46: *tangochou to ka eigo ni tsuite no hon*
MS46: I did it as usual.
BV: As usual. You had time you usually studied English.
MS46: Ah, yes. I read a book
BV: What kind of book? A book for studying English, or some novel?
MS46: A vocabulary notebook, a book about English

Similarly, MS17 comments on studying English daily during summer holiday (MS17, lines 8 to 11):

MS17: 毎日はちょっとは勉強しようと何か英語に関することをしようかなって思ってたんですよ
BV: それ
MS17: TOEIC の勉強を
MS17: *mainich ha chotto ha benkyou shiyou to nani ka eigo ni kansure koto wo shiyou kana tte omotteta n desu yo*
BV: *sore*
MS17: *TOEIC no benkyou wo*
MS17: I thought I would do a little English study every day, do something related to English every day.
BV: That was
MS17: study for TOEIC

Other participants also commented on studying for particular qualifying exams such as TOEIC, as a comment from MS19 illustrates (MS19, lines 4 to 8):

MS19: 単語カード作ってなんだろある分全部はして TOEIC に出るって言う単語を勉強しました
MS19: *tango ka-do tsukutte nandaro aru bun zenbu ha shite TOEIC ni deru tte iu tango wo benkyou shimashita*
MS19: I made word cards. What can I say, all those I studied were words that were said to appeared on the TOEIC

A few of the interview participants reported using English for work during the holidays, as illustrated by comments from MS04 (MS04, line 10):

MS04: あでもバイト短期のバイトしてそれで
MS04: *a demo baito tanki no baito shite sore de*
MS04: Even though my part-time job was short term, I used it there.

A few reported English use to help a sibling study for exams, as a comment by MS32 illustrates (MS32, lines 22 to 23):

MS32: 英語はちょっと勉強した妹が受験生なんで高校の受験するんでなんか教えてって言われたら教えてましたはい
MS32: *eigo ha chotto benkyou shita imouto ga jukensei nande koukou no juken suru n de nanka oshiete tte iwaretara oshietemashita hai*
MS32: I studied English a little. My younger sister is preparing for high school entrance exams. She asked me to teach her so I did. Yes.

Only two of the participants reported any use of English unrelated to work or helping with study. One participant, MS07, who primarily used English during the time 2 interview, took a holiday to Korea with a friend from Canada and one spoke with people on the phone in English (MS07, lines 66 to 69).

BV: so you had some time, did you use any English in Korea
MS07: yeah because I have I have a friend who I met in Canada and we just met up and I had to speak English all the time she she is a little bit maybe she can speak a little bit Japanese but I was speaking all the time in Korea

MS19 mentioned, in passing, talking on the phone in English (MS19, lines 7 and 8):

MS19: も見てえっと後電話したかな電話しました英語で
MS19: mo mite etto ato denwa shitaka na denwa shimashita eigo de
MS19: I watched [English movies]. Ehh, after that, used the phone, I used English on the phone.

Some participants in Longitudinal Study 2 used English during the summer holiday. However, for the most part the participants that agreed to continue to maintain records of their English use during the summer holiday period did not have as many episodes or spend as much time as they on English access as they had during the term (see EATUS Results for Longitudinal Study 2 above). Many indicated that they felt they had forgotten some English during the holiday, as seen in a comment from MS46 (MS46, lines 277 to 278):

MS46: 夏休みは英語忘れろっみたいなことをいってたんですけど絶対忘れる
MS46: *natsu yasumi ha eigo wasurerommitai na koto wo zettai wasureru*
MS46: I was warned that I would forget English during summer vacation. I certainly did.

There was also some regret of the limited amount of time spent on English during this period, as seen in a comment from MS36 (MS36, lines 291 to 293):

MS36: やっぱり今回の面接でも夏休み英語を使ってなかったってことにやっぱり後悔しましたしうん
MS36: *yappari konkai no mensetsu demo natsu yasumi eigo wo tsukatte nakatta tte koto ni yappari gokaishmashita shi un*
MS36: Also, during this interview, I realized that I didn't use English during summer vacation and I regret it.

As can be seen from the selected comments, participants regretted their lack of English access time during summer holiday. As noted in the EATUS results above, most reported episodes were the use of English for enjoyment, if they made use of English at all during this time.

Intention, future plans, and English time use.

Discussion of the use of English during summer vacation also led to a number of participants indicating they planned to spend more time on English during the future, whether during regular classes, as indicated by MS38 (MS38, lines 71 to 72):

MS38: もうちょっと授業中授業とかも真剣に聞いてなんか１時間の授業をもうちょっと大切にしていこうかなーって言うのが
MS38: *mou chotto juugyou chuu juugyou to ka mo shinken ni kiitte nanka 1 jikan no juugyou wo mou chotto taisetsu ni shitei kou ka na- tte iu no ga*
MS38: I plan to take lessons a little more seriously. What can I say? I'd say I have to do more for a one-hour class

Other participants indicated they planned to do more in the future, as comments from MS16 indicate（MS16, lines 40 to 42):

MS16: 来年そうですね TOEIC ですかね一応今でも教職とかでもう 500 以上とか言われてるんでそれを目指してるんですけど
MS16: *rainen sou desu ne TOEIC desu ne ichiou ima demo kyoushoku to ka de mou 500 ijou toka iwareteru n de sore wo mezashiteru n desu kedo*
MS16: About next year, well for the time being there's TOEIC. For the teaching course, I've heard I have to get more than 500 points, so I'm aiming for that.

Participants also indicated that although they didn't go anywhere during the recent holiday, they planned to go overseas next year. A comment from MS22 illustrates this (MS22, lines 62 to 63):

MS22: 夏休みは行く予定じゃなかったんですよ海外は来年に行こうとしてる感じです
MS22: *natsu yasumi ha iku yotei jyanakatta n desu yo kaigai ha rainen ni ikukou to shiteru kanji desu*
MS22: I had no plan to go anywhere during summer vacation, but next year I feel like I'll go overseas.

Participants employed time differently during summer vacation than during the regular school term. They are aware of this, based on their comments, and some

tried to use the long period of non-structured time to use English for enjoyment or to study for specific goals. However, in spite their stated intentions, others did not turn the habits of study during the term into study during the summer holidays.

Understanding the Ideal L2 Self through interviews.

Two sets of questions in the Time 2 interview targeted aspects of the "Ideal L2 Self." One set focused on the participants' view of how English was integrated into their "Ideal L2 Self" and their future. The first questions in this set can be classified as self-referential. These questions were:

1. 英語はどのようにあなたの未来の理想の自分の一部になっていると思いますか。*eigo ha dono you ni anata no shourai no risou no jibun no ichibu ni natte iru to omoimasuka?* How do you see English as being a part of your ideal self in the future?

2. 英語はどのようにあなたの未来の人生の一部になっていると思いますか。*eigo ha dono you ni anata no shourai no jinsei no ichibu ni natte iru to omoimasuka?* How do you see English as being a part of your life in the future?

3. 英語を勉強することであなたはよりよい人間になれると思いますか。*eigo wo benkyou suru koto de anata ha yori yoi ningen ni nareru to omoimsuka?* Has studying English made you a better person?

The second set of questions addressed the issue of the Ideal L2 Self through descriptions of a person with good English ability and role models of good English users. This set of questions can be classified as other referential. The questions were:

4. 英語が上手な人とはどのような人か描写できますか。*eigo ga jouzu na hito to ha donoyou na hito ka byousha dekimasuka?* Can you describe what a person with good English ability is like?

5. 英語が上手な人は、あなたのロールモデルになれると思いますか。*eigo ga jouzu na hito ha, anata no ro-ru moderu ni nareru to omoimasuka?* Do you have any English role models? That is, any role models who are good in English?

6. 英語能力がある人はどのような人なのか明確なイメージがありますか。*eigo nouryoku ga aru hito ha dono you na hito nanoka meikaku na ime-ji ga arimasuka?* Do you have a clear image in your mind of what a person with good English ability is like?

These two sets of questions are addressed separately.

Self-referential comments and the Ideal L2 Self. The first set of questions put to Longitudinal Study 2 interview participants addressed the integration of English into their image of their ideal self. These questions were (a) How do you see English as being a part of your ideal self in the future? (b) How do you see English as being a part of your life in the future? and (c) Has studying English made you a better person?

Future goals and English study. Future goals, both in terms of employment and study abroad, were indicated as important to interview participants and their self-image. They viewed of English as important for their future employment goals. One work related goal for interview participants was expressed as a job in the travel sector, as in comments from MS17 (MS17, lines 47 to 50):

MS17: うーんまだ将来の目標が見つかってないので何か一応今まではキャビンアテンダントをしたかったんですけど何かいろいろ考えてまだ分からないんで英語をうーーんせっかく 4 年間やるんだったら英語を使える仕事したい

MS17: *u-n mada shourai no mokuhyou ga mitsukattenai no de nani ka ichiou ima made wa kyabin atendanto wo shitakatta n desu kedo nani ka iroiro kangaete mada wakaranai n de eigo wo u--n sekkaku 4 nenkan yaru n dattara eigo wo tsukaeru shigoto shitai*

MS17: Mmm. I haven't found my future goal yet, but tentatively up to now I thought about becoming a cabin attendant. I've been thinking about different things but I still don't know. As for English, if I'm going to study it for 4 years, I'd like to find work where I can use English

MS38 also sees a future in the travel industry (MS38, lines 29 to 30):

MS38: 自分がなりたい将来がホテルスタッフかグランドスタッフの飛行機関係だからうーんそれ使えるようにそれその仕事ができるようになってればなーっていう

MS38: *jibun ga naritai shourai ga hoteru sutaffu ka gurando sutaffu no hikouki kankei dakara u-n sore tsukaeru you ni sore sono shigoto ga dekiru you ni nattereba na- tte iu*

MS38: For myself, what I'd like to do in the future is to be hotel staff or ground staff that's airline related, so. Hmm. That's. To be able to use it. To be able to do that work. I'd say that would be good.

Others see English as related to a future career in education, as in comments from

MS43 (MS43, lines 43 to 44 and 52 to 57)

MS43: そうですね目標は英語の教員なんでまー役に立つかなって

. . .

MS43: 中学校ですね

BV: なぜ

MS43: 高校はもうほんとに英語の授業っていう形だったんですけど中学校から英語習い始めて中学校の授業だとまだ英語を使ってゲームしたりとかただ教科書するんじゃなくてっていう形で触れ合えたんでそういう形がおもしろいかなっていう

MS43: *sou desu ne mokuhyou wa eigo no kyouin nan de ma- yaku ni tatsu ka na tte*

. . .

MS43: *chuugakkou desu ne*

BV: *naze*

MS43: *koukou wa mou honto ni eigo no jugyou tte iu katachi data n desu kedo chuugakkou kara eigo narai hajimete chuugakkou no jugyou da to mada eigo o tsukatte ge-mu shitari toka tada kyoukasho suru n*

janakute tte iu katachi de fureaeta n de sou iu katachi ga omoshiroi ka na tte iu

MS43: Let me see. My goal is to become an English teacher, well. I want [English] to be useful

. . .

MS43: that's in junior high school

BV: why

MS43: In high school the English classes are said to be like [real] classes, but in junior school [students] are just starting to study English you can do things like use English in games and not just study the textbook so you can really connect [with the students] I think that would be interesting

A connection to the future was also made by MS47 (MS47, lines 40 to 47):

MS47: あー難しいですね未来ですかちょっとまだ明確にっていうのはわかんないですけど最近教員免許ここ取れるじゃないですかインテンシブにいるんで教員免許を取って先生っていうのもやってみたいですね今英語とかも小学生でも勉強してるじゃないですか小学生はまた教員免許別にいるんですけど中学と高校ならここで取れるって聞いたんでたぶん将来まー先生になってなくても塾の講師とかは一回してみたいですね英語使って

MS47: *a- muzukashii desu ne mirai desu ka chotto mada meikaku ni tte iu no wa waka n nai desu kedo saikin kyouin menkyo koko toreru jyanai desu ka intenshibu ni iru n de kyouin menkyo o totte sensei tte iu no mo yatte mitai desu ne ima eigo toka mo shougakusei demo benkyou shiteru jyanai desu ka shougakusei wa mata kyouin menkyo betsu ni iru n desu kedo chuugaku to koukou nara koko de torero tte kiitan de tabun shourai ma- sensei ni nattenakute mo juku no koushi toka wa ikkai shite mitai desu ne eigo tsukatte*

MS47: Oh, that is difficult. The future? I cannot definitely say what I want to do yet, but recently, I thought about a teaching license — see, I'm able to get one here — I'm in the intensive course, if I get a license I think I'd like to try teaching. Now, you know, even elementary school students study English. However, there is a different teaching license for elementary school teachers. As far as junior and senior high school teaching licenses go, I heard that I can get them here. Maybe in the future, well, even if I don't become a teacher I'd like to teach at a cram school using English

And from MS30, who plans to be a teacher (MS30, lines 41 to 42):

MS30: 一応あのー英会話だけの塾みたいな講師がいいなっとおもってまして

MS30: *ichou ano- eikaiwa dake no juku mitai na koushi ga iina tto omottemashite*

MS30: For the time being. Well, I think it would be good to be an English conversation teacher, even if just at a cram school

Even those who were less specific about their job plans had a general view of employment using English as an important part of their future, as in comments from MS46 (MS46, lines 46 to 52):

MS46: 一部例えば理想の一部
BV: 例えば仕事の際には英語を毎日少しは使ってるとか
MS46: 将来海外に旅行したり住んだりしたいんで英語は必要になってくると思うんであとやっぱりこれからこれからの時代外国にやっぱり行って仕事する機会が増えると思うから今英語勉強しています
MS46: *ichibu tatoeba risou no ichibu*
BV: *tatoeba shigoto no sai ni wa eigo o mainichi sukoshi wa tsukatteru toka*
MS46: *shourai kaigai ni ryokou shitari sundari shitai n de eigo wa hitsuyou ni natte kuru to omou n de ato yappari korekara korekara no jidai gaikoku ni yappari itte shigoto suru kikai ga fueru to omou kara ima eigo benkyou shite imasu*
MS46: Partly. For example, one part of an idea
BV: For example. As far as work goes, using a little bit of English on a daily basis.
MS46: In the future, I'd like to travel overseas, maybe live overseas. I think English is going to be necessary. Moreover, yeah, from now on, in the coming era opportunities for travelling and working overseas are going to increase so now I'm studying now.

These general views were also apparent in comments from MS32 (MS32, lines 69 to 76):

MS32: 例えば例えば うんえーっと例えば将来えっと大企業まではいかないと思うんですけど会社で日本人外国人がいたとしてその人と英語が堪能に話せるように今勉強今必死必死というか今必死に勉強して自分に英語の能力をインプットしてそれを未来に 使えるようになんていったらいいかわかんないですけど
MS32: *tatoeba tatoeba un e-tto tatoeba shourai etto dai kigyou made wa ikanai to omou n desu kedo kaisha de nihonjin gaikokujin ga ita to shite sono hito to eigo ga kan'nou ni hanaseru you ni ima benkyou ima hisshi hisshi to iu ka ima hisshi ni benkyou shite jibun ni eigo no nouryoku wo inputto shite sore wo mirai ni tsukaeru you ni nante ittara ii ka wakan' nai desu kedo*

MS32: For example. Hmm. Well. For example, in the future, I don't think I will work for a big company but at the company Japanese. If there's a foreigner in order to be able to talk to them in English I'm really studying English hard now. I'm putting English into me so that in the future I'll be able to use it. Anyway, I'm not really sure what to say.

The idea of future employment was one aspect of the Ideal L2 Self that appeared in the comments from interview participants and one that could be an initial driver of university choice which can lead to a basic desire to improve English skills, as seen in a comment from MS22 (MS22, lines 41 to 43):

MS22: え一大学はいるときは英語の仕事に着きたいと思ったからその英語を選んだじゃないですか今は英語
をある程度分かったら良いかなっと思っています
MS22: *e- daigaku hairu toki wa eigo no shigoto ni tsukitai to omotta kara sono eigo o eranda jyanai desu ka ima wa eigo o aru teido wakattara yoi ka na tto omotte imasu*
MS22: Well. When I entered university I thought I wanted to get a job with English and that's why I chose English. Now, I think that it's okay if you just know enough English.

Related to participants ideas regarding English for their future employment is that they see English as necessary for overseas study and travel, as in comments from MS17 (MS17, lines 53 to 54):

MS17: 仕事だけじゃなくていろんな海外の友達を作りたい
MS17: *shigoto dake ja nakute ironna kaigai no tomodachi o tsukuritai*
MS17: Not just for work. Lots of things. I want to make overseas friends.

These comments point to another view expressed by interview participants regarding English, that is it will allow them to travel overseas for study and enjoyment. MS46, for example, sees English as allowing her to travel overseas (MS46, lines 70 to 71):

MS46: その将来海外に住みたいから英語を勉強してる
MS46: *sono shourai kaigai ni sumitai kara eigo o benkyou shi teru*

MS46: Regarding my future, because I want to live overseas, I'm studying English.

For MS47, it is a view of being able to live overseas (MS47, lines 51 to 56):

MS47: 人生の一部ですかどうですかね人生の一部まーたぶん前に比べてまだ積極的に旅行とかに行こうかなって思ってると思いますなんか英語圏にちょと昔に比べたら喋れるんじゃないのみたいな自信がついてきてるんでちょっと外国に行って行って見ようかなってそういう感じですはいなんかちょっと答えとしてあれですかね

MS47: *jinsei no ichibu desu ka dou desu ka ne jinsei no ichibu ma- tabun mae ni kurabete mada sekkyoku teki ni ryokou toka ni ikou ka na tte omotteru to omoimasu nanka eigoken ni chotto mukashi ni kurabetara shabereru n janai no mitai na jishin ga tsuite kiteru n de chotto gaikoku ni itte itte miyou ka na tte sou iu kanji desu hai nanka chotto kotae to shite are desu ka ne*

MS47: Part of my life? How about that? A part of life. Maybe. I think, in comparison with before, I think, I really think I'm going to travel. Somehow, in English speaking countries, I mean in comparison with before it looks like I can speak a bit more English, as I'm gaining confidence. I'd like to go overseas. I feel like I'd like to head overseas. Yeah, that's about the answer I have.

Image of an Ideal L2 Self and English study. English is also linked to self-image for some interview participants, as seen in comments from MS43 and MS20, who link English speaking to self-satisfaction. From MS43, we hear (MS43, lines 61 to 64):

MS43: 人生人生 うーんまーなんですかね日本語を話しているようにその英語も話せるようななんか２つの言葉をしゃべれるようなかんじの一部にはなってほしいですけど

MS43: *jinsei jinsei u-n ma- nan desu ka ne nihongo o hanashite iru you ni sono eigo mo hanaseru you na nanka futatsu no kotoba o shabereru you na kanji no ichibu ni ha natte hoshii desu kedo*

MS43: Life. Life. Hmm. Well. What is it? To be able to speak English like I speak Japanese. I'd like to feel that being able to speak two languages could be part of me.

MS20's link to self-satisfaction is also clear (MS20, lines 120 to 124):

MS20: 自己満足ですかやっぱり英語しゃべれたらかっこいいなって思いますし自分の視野も広げてるし人とのコミュニケーションやっぱり旅行日本語使えなくてもだから世界のほとんど英語使ってるからそれ自分にプラスになります
MS20: *jiko manzoku desu ka yappari eigo shaberetarakakko ii na tte omoimasu shi jibun no shiya mo hirogeteru shi hito to komyunike-shon yappari ryokou nihongo tsukaenakute mo dakara sekai no hotondo eigo tsukatteru kara sore jibun ni purasu ni narimasu*
MS20: Is it self-satisfaction? Still, I think it is cool if you can speak English, and it also widens our horizons, lets us communicate with other people also travel. You can't use Japanese and most of the world uses English it, so it [English ability] would be an asset.

For interviewed participants, their view of self is linked to using English in some way, with some expressing the sentiment that if given the choice between being someone who can use English and someone who cannot, it is better to have English skills, a sentiment expressed by MS35 (MS35, line 84):

MS35: だってできる人かできない人だったらできる人が絶対良いから
MS35: *datte dekiru hito ka dekinai hito dattara dekiru hito ga zettai yoi kara*
MS35: If there's a choice between being a person that cannot [use English] and one that can, of course it is better to be able to use it.

Expectation of ability to use English. Interview participants also connect English use to an ideal self in terms of being able to have conversations with people, as seen in comments from MS39 (MS39, lines 129 to 131):

MS39: どういう風に道に迷ってる人がいたら助けてあげれるしそういうときに英語がしゃべれないと助けてあげれないから
MS39: *dou iu fuu ni michi ni mayotteru hito ga itara tasukerte agereru shi so iu toki ni eigo ga shaberenai to tasukete agerenai kara*
MS39: How If someone has lost their way, and you want to provide some assistance, well if you don’t speak English then you cannot give them any help.

This sense of expectation was also expressed by MS43 (MS43, lines 155 to 159):

MS43: イメージだとやっぱり日常会話ができるっていう人ですかね道に迷ってる人っていうのはまーなんとか伝わるとは思うんです

よ地図とか持ってるはずなんでそこは会話じゃなくてなんかもう単語だけでなんとか行けると思うんで普通に会話しようと思えばある程度英語能力ある人だと思います

MS43: *ime-ji da to yappari nichijou kaiwa ga dekiru tte iu hito desu ka ne michi ni mayotteru hito tte iu no ha, ha- nan to ka tsutawaru to ha omou n desu yo chizu toka motteru hazu nande soko ha kaiwa jyanakute nanka mou tango dake de nantoka ikeru to omou n de futsuu ni kaiwa shiyou to omoeba aru teido eigo nouryoku aru hito da to omoimasu*

MS43: What image? It would have to be a person who could have an everyday conversation. For example, if there is someone on the street who is lost you'd like to help them and you can't be expected to have a map so in that case I think even if you can't converse, if you can use a few words you can get somewhere In general, conversation I guess, to be a person with enough English

It also appears in comments about using English to help society, as from MS17 (MS17, lines 204 to 205):

MS17: うーーん良い人間社会に出たらちょっとくらい役立つかなって思います

MS17: *u—n yoi ningen shakai ni detara chotto kurai yakudatsu kanatte omoimasu*

MS17: Hmm. A good person. I think it would be a little beneficial after getting out into society.

English as a way to know yourself. Participants also discuss English as a way to know themselves, as in a comment from MS04 (MS04, lines 98 to 100):

MS04: 色々知る機会が増えたりしてまあ友達も増えたりして海外の後はうーん色んな事が知れるから英語を学ぶことは自分にちってプラスになると思う

MS04: *iroiro shiru kikai ga fuetari shite ma- tomodachi mo fuetarishite kaigai no ato ha u-n irona koto ga shireru kara eigo wo manabu koto ha jibun ni chotte purasu ni naru to omou*

MS04: You have more and more opportunities to know things, make overseas friends. Moreover, well, you'll be able to learn a lot of things so studying English is a bit of a plus I think

They also connect English ability to positive changes in their personality, as seen in comments from MS44 (MS44, lines 131 to 134):

MS44: うーんどういう風にうーんやっぱり自分はなんかまだ恥ずかしがりやというかシャイな部分があると思うんでこの 4 月からその ProgramName に入ってから英語使い出して結構オープンになってきたとは思うんですよそれではい変わってきてると思います

MS44: *u-n do iu fuu niu-n yappari jibun ha nanka mada hazukashigari ya to iu ka shai na bubun ga aru to omou n de kono shi gatsu kara sono [ProgramName] ni haitte kara eigo tsukai dashite kekkou o-pun ni natte kita to ha omou n desu yo sore de hai kawatte kite to omoimasu*

MS44: Mmm. How can I explain it? Mmm. Of course, I'd have to say that I am a little shy [in Japanese] or maybe I'd say I think part of me is. But since this April, when I entered the [ProgramName], I have begun to use English and become more open. That's it, yes, I think it has changed me.

Comments such as these indicate that Longitudinal Study 2 interview participants are aware of the connection between English learning and changes in themselves.

English as a way to know the world. Interview participants also comment that they value English as a way to experience the world. This can be seen in comments from MS36 (MS36, lines 138 to 140):

MS36: やっぱりあの一やっぱり外国の方とコミュニケーションできるってことはそれなりに外国の文化を知れたりとかいろんないろんな全然知らなかったこと知れるってことなので

MS36: *yappari ano- yappari gaikoku no kata to komyunike-shon dekiru tte koto ha sore nari ni gaikoku no bunka wo shiretari to ka irona irona zenzen shiranakatta koto shirerutte koto na no de*

MS36: Of course, well, of course to communicate with foreigners, and, through that to understand things like the culture of other countries, or learn many, many different things that you didn't know before.

Participants also see English as a universal language that will help them improve their understanding of the world, as in the comment from MS30 (MS30, lines 230 to 23):

MS30: 世界共通語なんで英語がもう知り合う人が多くなる話せる人が多くなると思いますし自分の幅世界が広がると思います

MS30: *sekai kyoutsuu go nan de eigo ga mou shiriau hito ga ooku naru hanaseru hito ga ooku naru to omoimasu shi jibun no haba sekai ga hirogaru to omoimasu.*
MS30: English is the universal language. I think you can get to know more people, talk to a lot more people. I think your understanding, your world broadens.

Self-image, therefore, is linked to their ability to use English for interview participants in a number of ways. Their Ideal L2 Self can, based on these and other comments, be seen as integrating English into their self-image.

Reference to others as role models of ideal English speakers. The second set of questions related to the Ideal L2 Self addressed about this issue through reference to others. These questions asked for descriptions of a person with good English ability and about people who served as role models for them of good English users. The questions were: (a) Can you describe what a person with good English ability is like? (b) Do you have any English role models? That is, any role models who are good in English? and (c) Do you have a clear image in your mind of what a person with good English ability is like?

Fluency in speaking. The most frequent description of a person with good English ability from study participants generally included a reference to speaking English with some degree of fluency. Fluency in speaking was identified in a number of comments, such as those from MS16 (MS16, line 132)

MS16: はいやっぱり流暢に話して
MS16: *hai yappari ryuuchou ni hanashite*
MS16: Yes, of course to speak fluently

As well as comments from MS17 (MS17, lines 156 to 157):

MS17: 難しい質問 上手って喋るのが

MS17: *muzukashi shitsumon jouz utte shaberu no ga*
MS17: A difficult question. To be able to speak well

And from MS04, there is the comment that speaking fluency is the mark of English ability (MS04, lines 105 to 110):

MS04: 上手な人っていうのはスピーキングってことですか
BV: うん例えばない
MS04: スピーキングとかうんスピーキングができる人とかまあ文法うんスピーキングがうまい人は自分が今できない状態やからその人を見てその人を目標にしてその人みたいにうまく話したいなって思います
MS04: *jouza na hito tte iu no ha supi-kingu tte koto desku ka*
BV: *un tatoeba nai*
MS04: *supi-kingu to ka un supi-kingu ga dekiru hito to ka maa bunpou un supi-kingu ga umai hito ha jibun ga ima dekinai joutai yakara sono hito wo mite sono hito wo mokuhyou ni shite sono mitai ni umaku hanashitai na tte omoimasu*
MS04: A person with good ability, would that be speaking
BV: Mm, isn't there an example
MS04: speaking, or, hmm, can speak or, well, grammar. Hmm, a person that can speak well. Someone that has better speaking than I have now. When I see them, someone who speaks well, I think I want to be able to speak like that

Others mentioned specific examples of Japanese people that they hoped to emulate, as did MS30, who cited a chance encounter at an Australian zoo as inspiring her to study English more (MS30 lines 302 to 308):

MS30: 英語が上手な人で尊敬できる人いたかな今は思いつかないですけどそやな身近ではないですけどこの間オーストラリアに留学行ったときになんか動物園みたいなところでたまたまそのニュージーランドのだんなさんと日本人の女の人がいたんですよまーその人とこう日本語で喋ってたんですけどその人も英語がペラペラでそうですね
そのときはすごいなって思いました
MS30: *eigo ga jouzu na hito de sonkei dekiru hito ita ka na ima ha omoitsukanai desu kedo soyana mijika de ha nai desu kedo kono aida o-sutoraria ni ryuugaku itta toki ni nan ka doubutsuen mitai na tokoro de tamatama sono nyu-zi-rando no danna san to nihonjin no onna no hito gi ita n desu you ma- sono hito to kou nihongo de shabetteta n*

desu kedo son hito mo eigo ga perapera de sou desu ne son toki ha sugoi na tte omimashita

MS30: Can I describe a person I respect that has good English? Nothing comes to mind right now. Well. It isn't recent, but when I went to Australia to study, what do I say, when I went to the zoo, by chance there was a guy from New Zealand with a Japanese woman. Hmm, they were speaking Japanese, but she was also speaking English fluently. Well, at the time I thought that it was amazing

In addition to the ability to speak English fluently, participants pointed to specific people in their descriptions of people with good English speaking skills, frequently classmates, who they wanted to emulate. One group of comments referred primarily to current classmates' confidence during speaking, or pointing out that self-confidence was something they expected from good speakers of English, as seen in comments from MS17 (MS17, lines 219 to 221):

MS17: クラスメイトの人でもちろん英語はスラスラ喋れるしうーーん何か海外のことだったら何でも興味を持ったりするところがなんか私もそうなろうっていう風に思いますよく最近よく

MS17: *kurasumeito no hito de mochiron eigo ha surasura shabereru shi u—n nani ka kaigai no koto dattara nani demo kyoumi wo mottari suru tokoro ga nan ka watashi mo sou narou tte iu fuu ni omoimasu yoku saikin yoku*

MS17: of course, my classmates can speak English smoothly. Mmm, as far as overseas goes I am interested in other countries, so if, what is it, I think I will be able to be like that. Recently a lot

We also see this in comments from MS19 (MS19, lines 178 to 181):

MS19: えーどやろほんま StudentNameA さんとかしかイメージ結うかなんですけどどんなかんじやろうーんなんかプレゼン StudentNameA さんが授業でしたときにすごい自信に満ち溢れてる感じがしたからそういうイメージ

MS19: *e- do yaro honma StudentNameA san to ka shika ime-ji yuu ka nan desu kedo donna kanji yaro u-n nan ka purezen StudentNameA san ga jyuugyou deshita toki ni sugoi jishin ni michi afureteru kanji ga shita kara sou iu ime-ji*

MS19: Uhh, what to say. Really, only with StudentNameA, that's the image I want to put up, but, what's the feeling. Well, when making a

presentation in class, it felt like StudentNameA was overflowing with confidence, that's the image.

They also found role models in older students (*senpai*) at their universities, as seen in the comment from MS36 (MS36, lines 167 to 172):

MS36: そうですねうーんやっぱり今日もハロウィーンパーティーがあるんですけど今夜にそれに集まってくる先輩もプレゼンテーション ProgramName の授業とかそれ以前の ProgramName じゃないやなんやったけオープン何とかオープンキャンパス先輩の名前は思いだせないですけどその先輩のような日本語違う英語スラスラ言える人のようになりたい

MS36: *sou desu ne u-n yappari kyou mo harowi-n pa-ti- ga aru n desu kedo konya ni sore ni atsumatte kuru senpai mo purezente-shon ProgramName no juugyou toka sore izen no ProgramName jyanai ya nani yatta ke o-pun nani to ka o-pun kyanpasu senpai no namae ha omoi dasenai deskedo sono senpai no you na nihongo chigau eiogo surasura ieru hito no you ni naritai*

MS36: Well, hmm. Well, there is a Halloween party tonight. Among the bunch of graduates who are coming tonight, some were in the [ProgramName] presentation class and some students who weren't in the [Program Name] but was if I remember at the open whatever, the open campus—I forgot his name—anyway I'd like to have fluency like his with Japanese, I mean English

Others cited classmates from high school, linking this to their own personal effort, citing them as providing a purpose for their study of English, and providing a reason for them to select a specific program of study, as seen in a comment from MS38 (MS38, lines 142 to 147):

MS38: なんか私の友達が高校の時の友達が留学いったんですよ１年のときに違う２年生のときに１年間それで帰ってきたらすごいペラペラでなんかすごく私もあんな風になりたいっていうのでもっとなんか英語を勉強しようと思ってここの大学だと英語で授業受けれるじゃないですかだからもっと英語に触れる機会が増えると思って選んだのもあるんで結構そういうのははい

MS38: *nan ka watashi no tomodachi ga koukou no toki no tomodachi ga ryuugaku itta n desu yo 1 nen no toki ni chigau 2 nen sei no toki ni 1 nen kan sore de kaette kitara sugoi perapera de nan ka sugoku watashi mo anna fuu ni naritai tte iu no de motto nan ka eigo wo benkyou shiyou to omotte koko no daigaku da to eigo de jyugyou ukereru jyanai*

desu ka dakara motto eigo ni fureru kikai ga fueru to omotte eranda no mo aru n de kekkou sou iu no ha hai

MS38: What can I say? My friend, during high school, my friend studied abroad during her first year. That's wrong, during her second year, after one year abroad she came back and she was amazingly fluent. What can I say? Amazing. I thought I also wanted that to be like that, so I planned to study English more and this university had courses taught in English, so, I thought I would have more opportunities to try to use English, so I chose it. Yes, I can say there are certainly some

The most common description given of other students regarding their English skills from study participants was "amazing" (*sugoi*). These "amazing" examples serve as role models for Longitudinal Study 2 participants.

Personal qualities in role models. English ability was also linked to personal qualities by interview participants. This was highlighted in a number of comments, including one about "effort" from MS47 (MS47, lines 156 to 159):

MS47: 英語が上手な人ですか英語が上手な人はうーん
どうだろななんか努力したのかなっていうそういうイメージくらいですかね勉強したからやっぱできてるもんだと自分は思います

MS47: *eigo ga jouzu no hito desu ka eigo ga jouzu na hito ha u-n dou daro na nan ka dorokushita nokana tte iu sou iu ime-ji kurai desu ka ne benkyou shita kara yappa dekiteru mon da to jibun ha omoimasu*

MS47: Someone who has good English? Someone with good English. Hmm. Let me see. It has to be effort, I guess that's the image it has to be, isn't it. Because they studied, of course they can [use English], is what I think myself.

Other qualities that emerged from the interview data were a certain degree of assertiveness and a lack of shyness, as in a comment from MS36 (MS36, line 148)

MS36: あと積極性がある

MS36: *ato sekkyokusei ga aru*

MS36: Moreover, being active

Participants also included the qualities of "dignity," a "feeling" or desire to be seen as "intelligent," an "innate ability," and "boldness," as in the comments from MS20, MS22, MS38, and MS44. First, from MS20, we hear (MS20, line 130):

MS20: どういうかなうーん気品ある人
MS20: *dou iu kana u-n kihin aruhito*
MS20: How can I say it? Hmm. A person with dignity.

MS22 says it is related to feeling intelligent (MS22, line 124):

MS22: 英語できたら賢いってかんじします
MS22: *eigo dekitara kashikoi tte kanji shimasu*
MS22: If you can use English, you feel smart.

For MS38, English is an innate ability (MS38, line 135):

MS38: だからそんな感じで生まれ持った能力だと思います
MS38: *dakara sonna kanji de umare motta nouryoku da to omoimasu*
MS38: Therefore, that's the feeling. I think, it's an ability you are born with.

Finally, MS44 indicates that is a form of bravery (MS44, lines 141 to 142)

MS44: うーんやっぱり結構大胆であったり積極的であったりするのではないかなと思います
MS44: *u-n yappari kekkou daitan de attari sekkyoku teki de attari suru no de ha nai ka na to omoimasu*
MS44: Hmm, still, you probably need a lot of boldness and have to be positive

These feelings were expressed in similar ways by the other Longitudinal Study 2 participants in their interviews.

For a number of participants, people who enjoyed speaking English provided the best possible role models because they wanted to emulate them, as seen in the comment from participant MS32 (MS32, lines 175 to 178):

MS32: うーんもし周りに英語が堪能に喋れる人がいると自分もこうなりたいなって思って目標ができるしそれに向かって一生懸命その人になりたい、なりたいって思ってるとそれに向かって自分を進めていけるんで

MS32: *u-n moshi mawari ni eigo ga tanou ni shabereru hito ga iru to jibun mo kou naritai na tte omotte mokuhyou ga dekiru shi sore ni mukatte isshou kenmei sono hito ni naritai, naritai tte omotteru to sore ni mukatte jibun wo susumete ikeru n de*

MS32: Hmm. I think that if you are around someone who enjoys speaking English, I think you want to be like them. You can set a goal and you can do all you can to reach that goal. You want to be like that person, really want to, I think, and this pushes you to make progress towards your goal.

Comments such as these help clarify the personality characteristics that Longitudinal Study 2 participants see as important for Japanese who want to speak English well.

Goal setting and jobs as role models. Participants also discussed role models in terms of what they could do with English, in particular to speak with native speakers of the language, to be able to use English in their job, and personal goals. This can be seen in comments from MS43 (MS43, lines 177 to 180):

MS43: 自分の目標としてはインテンシブの先生のようにも
やっぱ使いたいですよね英語をなんかもう
やっぱり言ってるようにしゃべりたいっという思いが一番強く
て日本人でうまい人をモデルにするっていうのはないです

MS43: *jibun no mokuhyou to shite ha intenshibu no sensei no you ni mo yappa tsukai tai desu yo ne eigo wo nanka mou yappari itteru you ni shaberitai tto iu omoi ga ichiban tsuyokute nihonjin de umai hito wo moderu ni suru tte iu no ha nai desu*

MS43: As for a personal goal, I'd like to be like the intensive [program] teacher. I guess I want to use it, English. Yeah I imagine just like you mentioned I really think speaking is the most important I don't have any particular Japanese person who I think is a good model.

This is echoed by MS30 (MS30, lines 288 to 290):

MS30: やっぱり英語ができる人はなんていうかなキャリアウーマンっ
て言います仕事してる女の人のイメージかなうーん仕事バリバ
リやってそうなイメージ

MS30: *yappari eigo ga dekiru hito ha nan te iu ka na kyariawoman tte iimasu shigoto shiteru onna no hito no ime-ji ka na u-n shigoto baribari yatte sou na ime-ji*

MS30: After all, how can I put it? People who can speak English, a so-called career woman, who works. The image of a woman, I guess, yeah, doing work energetically, that's the image.

And by MS07 (MS07, lines 226 to 232):

MS07: えっとー誰やろう I never think about it hmm 考えたことがない誰がうるかな mmmm translator とかは凄いと思うけど mmm あの求まれへん絶対
BV: えっとーどうじに ｜ついて｜
MS07: | movie | とかとかで translator するん ｜ とか ｜
BV: | ahh |字幕スパ付けてる人
MS07: とかアアやっぱりそこでコミュニケトする人が凄いと思う
MS07: *etto- dare yarou I never think about it hmm kangaeta koto ga nai dare ga uru kana mmmm translator toka ha sugoi to omou kedo mmm ano motomare hen zettai*
BV: *etto- douji ni ｜tsuite ｜*
MS07: | *movie* | *toka toka de translator surun* | *toka* |
BV: | *ahh* | *jimakusupa tsuketeru hito*
MS07: *to ka aa yappari soko de komyuniketo suru hito ga sugoi to omou*
MS07: well, who would it be? I never think about it, hmm, I've never thought about it, who would it be? mmmm a translator, though I think that is amazing, but, mmm, but there's no way I can expect that
BV: well, and at the same time
MS07: movies, for example, like translating
BV: ahh, someone who does the subtitles
MS07: like that, or, ah, of course, I think someone who can communicate like that is amazing

As can be seen from these comments from interview participants, the idea of good English ability, though varied, centered on aspects of speaking, the ability to use the language to communicate, and some degree of confidence in using English.

Making use of opportunities as role models. Making use of opportunities to use English was also given in answer to the questions about role models, as in comments from MS46 and MS22. First, MS46 said (MS46, lines 190 to 195):

MS46: 例えばやっぱ英語が上手だったらそのやっぱ外人のネイティブの友達ができたりネットワークが広がるじゃないですかやっぱ

楽しいじゃないですかそういうのって英語がペラペラな人はなんか友達にもいるんですけど英語喋る子がいてすごく楽しんでるんですよいろんな国の子と遊びに行ったりだから良いなって思うんですよ

MS46: *tatoeba yappa eigo ga jouzu na dattara sono yappa gaijin no neiteibu no tomodachi dekitari nettowa-ku ga hirogaru jya nai desu ka yappa tanoshii jya nai desu ka sou iu no tte eigo ga perapera na hito ha nan ka tomodachi ni mo iru n desu kedo eigo shaberu ko ga ite sugoku tanoshinderu n desu yo ironna kuni no ko to asobi ni ittari dakara yoi na tte omou n desu yo*

MS46: For example. Still, if you are good at English, then it's also possible to make friends with foreigners who are native speakers and you can like widen your network? Isn't it also more enjoyable? If you are like that, speak English fluently, what do you say, you'll have friends. Like if there is a girl that speaks English, is very comfortable in English, then they can go and hang out with girls from many countries. That's really good, I think.

MS22 indicated that the hesitancy to speak in front of others might be because of their cultural upbringing (MS22, lines 141 to 143):

MS22: 特に誰っていうのはないですけど普通になんかそこらへんで見かけるなんか日本人でその外人とけっこうしゃべっていたらいいなって思います

MS22: *toku ni dare tte iu no ha nai desu kedo futsuu ni nan ka sokorahen de mikakeru nan ka nihonjin de sono gaijin to kekkou shabette itara ii na tte omoimasu*

MS22: No one in particular. However, in general when Japanese see foreigners in their neighborhood, I think they would really like to speak with them

The suggestion to make opportunities to use English is important is also made to becoming able to use English fluently, as in a comment from MS47 (MS47, lines 167 to 169):

MS47: そうですねなんかもっと自分より積極的にさっきも言ったようなボランティアとかそういう外国の方と喋る機会を設けていたりするような人だと思います

MS47: *sou desu ne nanka motto jibun yori sekkyoku teki ni sakki mo itta you na borantheia to ka sou iu gaikoku no kata to shaberu kikai wo moukete itari suru you na hito da to omoimasu*

MS47: Well, what can I say? Be more active, just like you mentioned a second ago, like volunteering, I think to be the kind of person that creates opportunities to speak with foreigners

The composite view of the qualities of good English speaker. A composite of a good English speaker emerges from the interviews with Longitudinal Study 2 participants. This is someone who enjoys English, uses English with others, and has the confidence to use the language not only in their jobs but also to meet others. These characteristics are also expressed in terms of an ideal image of someone they want to emulate. They are, for the most part, characteristics that interview participants have integrated or intend to integrate into their self-image.

Influence of project on study participants.

Any research project must take into consideration how the research itself can change the behavior of study participants. Therefore, two questions in the Time 2 interview were directed at understanding how the regular collection of time use data using the EATUS form had changed their behavior. These questions were:

1. この研究プロジェクトに参加することであなたの英語学習についての考え方はどのように変わりましたか。 *kono kenkyuu purojekuto ni sanka suru koto de anata no eigo gakushuu ni tsuite no kangaekata ha dono you ni kawarimashitaka.* In what ways do you think participating in this research project has changed your thinking about studying and learning English?

2. この研究プロジェクトに参加することは、あなたにどのような影響を与えましたか。*kono kenkyu purojekkto ni sanka suru koto ha, anata ni dono you na eikyou wo ataemashitaka.* In what ways has participating in this research project affected you?

Study participants generally felt that participating in this research project had changed them in some ways. The most commonly cited change among study participants was in increased awareness of study patterns and study habits. MS16 refers to this as an increased consciousness (MS16, lines 220 to 223):

MS16: 自分からしようっていう意識も意欲もよくっていうか頑張ろうっていう気持ちも出ないやらんかったらもしこのプロジェクトをやらなかったら出てなかったかもしれないとはい思いました
MS16: *jibun kara shiyou tte iu ishiki mo iyoku mo yoku tte iu ka ganbarou tte iu kimochi mo de nai yara n kattara moshi kono purojekkuto wo yaranakattara detenakatta kamoshirenai to hai omoimashita*
MS16: For myself, I think I became both more conscious of my efforts and increased my will to work hard, that's the feeling I might not have had without this project. Yes, I think that it did.

Consciousness of study patterns and study habits was also noted by interview participants, as seen in comments from MS30 (MS30, lines 397 to 398):

MS30: そうですねその前のプリントあの一英語した時間とか書き出したじゃないですかあれで自分がいかに勉強してないのかとか分かりました
MS30: *sou desu ne sono mae no purinto ano- eigo shita jikan to ka kakidashita jyanai desu ka are de jibun ga ikani benkyou shite nai no ka to ka wakarimashita*
MS30: Well, that paper from before ah I had to write down the time I did English because of that I realized how much I didn't study.

This awareness also led study participants to alter their out-of-class English usage, as explained by MS36 (MS36, lines 268 to 271):

MS36: どのようにやっぱりうーん記録をつけるじゃないですかだから一日一回は一回３０たとえ３０分ぐらいでも一日一回はやろうかなやろうかな英語の使い方か勉強の仕方が変わりました
MS36: *dono you ni yappari u-n kiryoku wo tsukeru jyanai desu ka dakara ichinichi ikkai ha ikkai 30 tatoe 30 pun gurai demo ichinichi ikkai ha yarou kana yarou kana eigo no tsukaikata ka benkyou no shikata ga kawarimashita*
MS36: How, well, hmm, isn't it that I made a record? Therefore, one time a day, one time 30, for example, I did it about 30 minutes, once a day I did it. The way I used English and studied changed.

Awareness of the importance of effort was also noted by participants, as seen in comments from MS44 (MS44, lines 256 to 259):

MS44: うーんやっぱり英語するにあたってその英語能力が上がるためには毎日の努力が必要なんだなと思いました
MS44: u-n yappari eigo suru ni atatte sono eigo nouryoku ga agaru tame ni ha mainichi no doryoku ga hitsuyou nan da na to omoimashita
MS44: Hmm, to use English, to raise my English ability, I thought that I have to put in more effort everyday.

The daily effort of completing the EATUS form also forced participants to address their own perceptions of the out-of-class English use, making them in effect see through the small lies that everyone tells themselves about their own effort, as seen in a comment from MS43 (MS43, lines 303 to 306):

MS43: もっと英語に触れたいと思いましたね毎日自分がどう英語と触れ合ったか書いてて嘘はかけないんでなんかなんですか
MS43: *motto eigo ni furetai to omimashita ne mainichi jibun ga dou eigo to fureatta ka kaite te uso ha kakenainde nanka nan desu ka*
MS43: I thought I needed more contact with English, right? Everyday, I had to write about my English contact and, well, I couldn't write a lie could I?

Participants also reported an increase in motivation to study because of the EATUS data collection, as seen in comments from MS01 and MS46 (MS01, line 291):

MS01: 影響影響うーーーんやる気が湧く湧きましたね
MS01: *eikyou eikyou u---n yaruki ga waku wakukimashita ne*
MS01: Influence. Influence. Hmm, my motivation rises. It rose.

Similarly, MS46 said (MS46, lines 290 to 293):

MS46: だからさっきとほとんど一緒なんですけどなんかモチベーション上がりました自分の今までの英語力のなさに気付いてもっとなんか日ごろから英語を積極的に使うようにしないと思いました
MS46: *dakara sakki to hotondo isshou nan desu kedo nan ka mochibe-shon agarimashita jibun no ima made no eigo ryoku no nasa ni kizuite motto*

nan ka hi goro kara eigo wo sekkyoku teki ni tsukau you ni shinai to omimashita

MS46: So, it's just the same as a minute ago, but, how can I say it, my motivation rose. Now I realize my lack of English proficiency up to now, well, I think I really have to use English more.

The increased awareness of individual English use patterns also led to changes in behavior for the study participants, as reported by MS44, who increased the time spent on English outside of class (MS44, lines 265 to 266):

MS44: うーんどのような影響うーん
うーん毎日の朝の電車の中で英語の音楽を聞いたりっていう時間が増えました

MS44: *u-n dono you na eikyou u-n*
u-n mainichi no asa no densha no naka de eigo no ongaku wo kiitari tte iu jikan ga fuemashita

MS44: Hmm. Hmm. What influence, hmm. Hmm. I'd say that think I listened to more English every morning on the train

However, awareness did not translate into action for other study participants. These sentiments were not universal for the interviewed Longitudinal Study 2 participants, as a few indicated that the project had had no influence on their behavior, as seen in a comment from MS22 (MS22, lines 219 to 220):

MS22: 影響特に何も変わってないと思います

MS22: *eikyou toku ni na ni mo kawattenai to omoimasu*

MS22: Influence. I think nothing in particular changed

However, most took the view that participation in this study made them more aware of their English use patterns and the need to study and use English outside of class time, as seen in comments from MS01 (MS01, lines 277 to 280):

MS01: もうちょっと時間を費やしてるかなとか思ってたんですけど案外書き出してみたら何か一日のほんの少しの時間しか費やしてなかったんでまだまだ勉強しないといけないんだなあと思いました

MS01: *mou chotto jikan wo tsuiyashiteru ka na to ka omotta n desu kedo angai kaki dashite mitara nani ka ichinichi no hon no sukoshi no jikan shika tsuiyashite nakatta n de mada mada benkyou shinai to ikenai n da naa to omoimashita*

MS01: I had thought I had spent a little more time. But surprisingly, when I looked at what I was writing, I realized that on some days I spent very little time. I thought that I have to study even more.

The influence of the research project on these participants seems clear. They credit it with increasing awareness of their study habits, for the most part, making them realize they were not spending as much time on English as they had thought they were, and pushing some to change their out-of-class English use patterns in order to spend more time on English for both study and enjoyment.

Expected versus Actual Out-of-Class English Time Use, Longitudinal Studies 1 and 2

I also wanted to determine if the participants' actual out of class time use met guidelines for the ratio of in-class and out-of-class time. The expectation of out-of-class time use on study by Japanese students is similar to that of other nations (see Chapter 2, Literature Review). MEXT (2002, 2009b) guidelines for university credits have suggested a 1:2 ratio, with one credit hour, generally seen as equivalent to one class hour, requiring two hours of out-of-class work, or homework, for the subject. Universities also have guidelines and provide these to students. For first- and second-year students at Sites 1 and 2, the number of English courses in each week was set by the curriculum and both schools had general guidelines for students concerning the expected number of study hours outside of class necessary for each credit. The guidelines at Site 1 stipulated two hours of homework for every 90-minute

class period each week. Site 2 guidelines stipulated one hour of out-of-class work for every 50-minute class period.

As the number of class hours for the Site 1 and Site 2 participants was determined by the curriculum at both institutions, it is possible to compare the participants' out-of-class time use in relation to the institutional and national guidelines. At Site 1, first-year students had 21 hours in English classes and second-year students had 14 hours in English classes. At Site 2, first-year students had 14 hours a week in English classes and second-year students had 10 hours a week in English classes. Site 2 second-year students could also take elective courses in English.

Knowing this allowed me to determine how closely the participants' out-of-class English time allocation for the purpose of study followed MEXT and institutional guidelines (see Table 59). For Longitudinal Study 1, out of 250 participant weeks (= weeks with data reported X number of participants), only 4 participant weeks (1.06%) characterized for the purpose of school met or exceeded the criteria set by MEXT guidelines and 16 (6.04%) of the participant weeks met the relevant school guidelines. Extending the data set to include all types of episodes, out of 311 participant weeks of data, only 61 participant weeks (19.61%) met or exceeded the government criteria and only 59 (18.97%) of the participant weeks met the relevant school criteria.

For Longitudinal Study 2, out of 385 participant weeks of data, only 4 participant weeks (1.04%) characterized as for the purpose of school met or exceeded the criteria set by MEXT guidelines and only 22 (5.71%) of the participant weeks met or exceeded the criteria set by the respective schools. Extending the data set to include

all types of episodes, out of 515 participant weeks of data, only 86 (16.70%) met or exceeded the government criteria and only 91 (17.67%) of the participant weeks met the relevant school criteria.

Table 59. *Percent of Weeks Meeting Institutional and MEXT Guidelines for Longitudinal Studies 1 and 2, All Participants*

Study	Site	Year in School	School minutes	MEXT minutes	Participant weeks					
					School guidelines			MEXT guidelines		
						Meeting expectations			Meeting expectations	
					k	*k*	%	*k*	*k*	%
LS1	1	2	1,120	1,680	38	0	0	38	0	0
	2	1	840	1,400	199	15	7.54	199	4	2.01
	2	2	600	1,000	13	1	7.69	13	0	0
LS2	1	1	1,680	2,250	90	0	0	90	0	0
	1	2	1,120	1,680	78	0	0	78	0	0
	2	1	840	1,400	217	22	10.00	217	4	1.84

Note. Participant weeks = Number of participants × number of weeks of data; School Minutes = Expected out-of-class minutes according to school guidelines; MEXT minutes = Expected out-of-class minutes according to MEXT (2009b) guidelines; Meeting expectations = Participants weeks equal to or exceeding the number specified by the relevant guidelines; *k* = number of episodes; LS1 = Longitudinal Study 1; LS2 = Longitudinal Study 2.

On a participant basis, for Longitudinal Study 1, four of 47 participants (8.51%) had participant weeks where their school-related, (e.g., coded as for school) out-of-class hours matched or exceeded MEXT guidelines, and only six of 47 participants (12.77%) had participant weeks that met or exceeded the relevant school guidelines. Expanding the scope to include all types of episodes, 20 of 47 participants (42.55%) had participant weeks that met or exceeded the criteria set by the MEXT guidelines and only 17 out of 47 (36.17%) had participant weeks that met or exceeded the relevant school criteria.

Regarding Longitudinal Study 2, on a participant basis, two of 46 participants (4.35%) had weeks where their school-related, (e.g., coded as for school) out-of-class

hours matched or exceeded MEXT guidelines, and seven of 46 participants (15.22%) matched or exceeded the relevant school guidelines. Expanding the scope to include all types of episode, 14 of 46 participants (30.43%) had participant weeks that exceeded the governmental guidelines and 18 of 46 participants (39.13%) had participant weeks that met or exceeded the relevant school criteria. This is clearly seen in Figure 94, which displays the minutes per week for episodes for study for each Site 1 and Site 2 participant in Longitudinal Study 2 along with the MEXT and institutional expectations, and Figure 95, which displays the minutes per week all episodes. Each dot represents one participant.

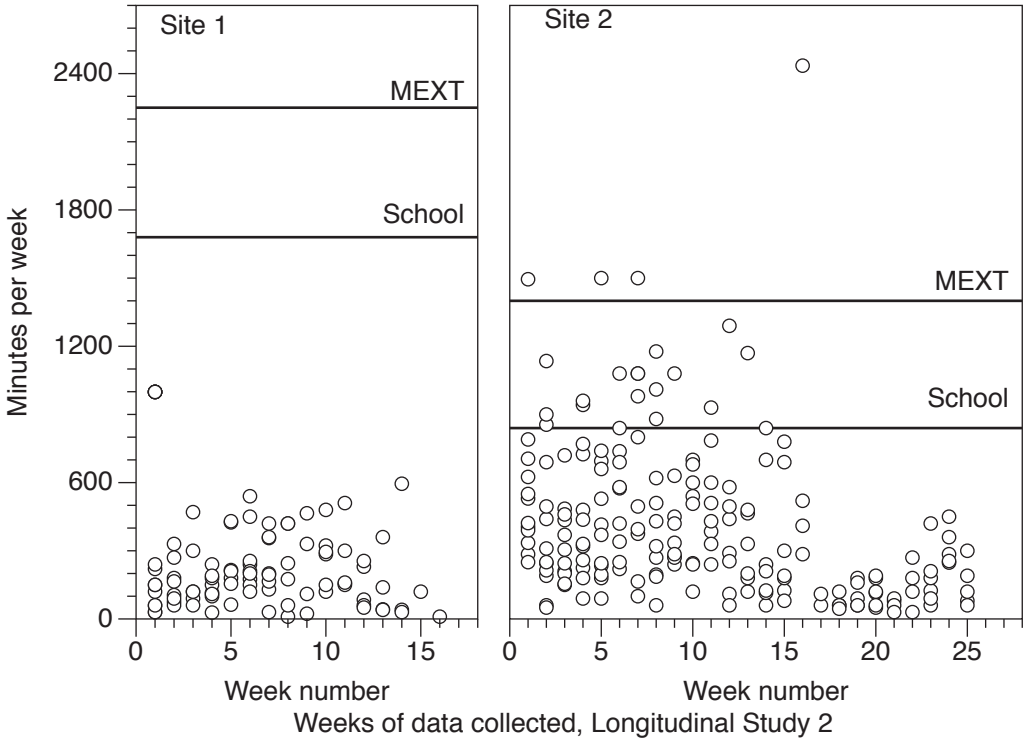

Figure 94. Comparison of time allocated "for study" by Longitudinal Study 2 participants with MEXT (2011) and institutional guidelines for the ratio of in-class to out-of-class study by site.

Note. Each dot represents the total number of out-of-class minutes reported by a participant for the week in the study; MEXT = Japan's Ministry of Education, Sports, Technology, & Culture; Week = week number in the study.

Examination of individual profiles of time use showed that only one of the participants in either longitudinal study met MEXT or institutional guidelines when only time for the purpose of school was considered. In Longitudinal Study 1, participant PS-0015 (second-year, Site 2) submitted two weeks of EATUS forms and had one week where the out-of-class English time use met MEXT and institutional guidelines (50% of total weeks). Unfortunately, this participant declined the request for an interview. In Longitudinal Study 2, participant MS-0018 (first-year, Site 2), submitted 10 weeks of EATUS forms, of which three weeks met the criterion established by MEXT (30%) for out-of-class time for the purpose of study, and participant MS-017 (first-year, Site 2) submitted 14 weeks of EATUS forms, of which four weeks met the criterion (28.6%) for out-of-class time for the purpose of study.

When all episodes regardless of the purpose are considered, 30 of the participants in one of the longitudinal components had at least one week where their out-of-class time use met the MEXT guidelines and overall there were 42 weekly records that met the institutional guidelines. Four of these participants met institutional guidelines for out-of-class time use for each week they were in the study when all episodes, regardless of purpose are considered. Three of these participants were in Longitudinal Study 1. Of these, three submitted only limited data: PS-0016 (Site 2, first-year) submitted two weeks of EATUS form, PS-0052 (Site 2, first-year) submitted three weeks of data, and PS-0038 (Site 1, second-year) submitted only three weeks of data. One participant met the guidelines for each week in the study from Longitudinal Study 2. MS-0007 (Site 2, first-year) submitted 23 weeks of data. A small number of participants also met out-of-class time use criterion for at least 90% of their time in the study. In Longitudinal Study 1, PS-0023 (Site 2, first-year)

submitted 19 weeks of data, of which 18 weeks met the out-of-class time allocation guidelines (94.7%) and PS-0018 (Site 1, second year) submitted 12 weeks of data, of which 11 meeting the criterion (91.7%). In Longitudinal Study 2, MS-0018 (Site 2, first-year) submitted 10 weeks of data, of which nine met the in-class versus out-of-class time use ratio set by MEXT and institutional guidelines (90%). Even with this more generous use of all out-of-class English time use episodes regardless of purpose (for school, for part-time job, for self-improvement, for enjoyment), only a few participants met MEXT or institutional guidelines regarding the ratio of in-class to out-of-class time use on English.

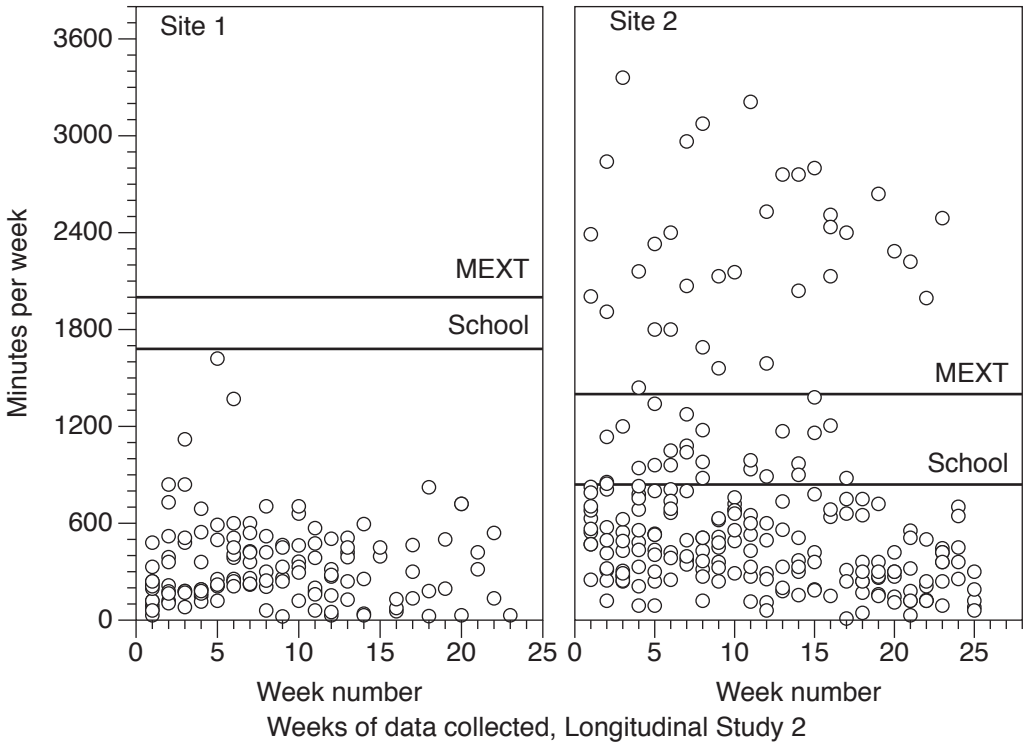

Figure 95. Comparison of actual time allocation for all episodes by Longitudinal Study 2 participants with the MEXT (2011) and institutional guidelines for in-class to out-of-class study by week of the study (weeks 1 to 25) by site.
Note. Each dot represents the total number of out-of-class minutes reported by a participant for the week in the study; MEXT = Japan's Ministry of Education, Sports, Technology, & Culture; Week = week number in the study.

Longitudinal Study 2 Conclusion

The Longitudinal Study 2 results are, for the most part, similar to those found for the Longitudinal Study 1. Together, the data provide a view of time use during most of the year for Japanese university students. Three points stand out: the general time use patterns identified, the purpose of the out-of-class English access episodes for these participants, and the participants regarding their out-of-class English access and the motivators for this time use. These three points are discussed below.

Patterns of Out-Of-Class English Access for Longitudinal Study 2 Participants

To review, the research questions for this study are:

RQ1: What temporal patterns occur in the allocation of out-of-class time to English?

RQ2: What types of variability exist between participants in the temporal features of out-of-class time use allocated to English?

RQ3: What are the contextual characteristics of English-related episodes?

RQ4: What type of activities do participants engage in during the episodes?

RQ5: What types of variability are evident in the time use patterns according to gender, types of activities, and contextual characteristics of the episodes?

RQ6: To what extent do participant interviews corroborate their time use data?

RQ7: What feelings about uses of time are salient in participant interviews?

The data from the Longitudinal Study 2 results address RQ1 by indicating the temporal patterns of out-of-class English access time for these participants. One point that is clear is that the Longitudinal Study 2 participants, similar to the Longitudinal Study 1 participants, had a greater percentage of out-of-class English access time from Monday to Thursday than on weekends, with Friday being the day with the lowest percent of out-of-class English access episodes and time allocation.

Regarding RQ2, as in Longitudinal Study 1, the weekday out-of-class English time use was generally consistent, but the individual allocations to the time use show a great deal of variation in time use patterns for the Longitudinal Study 2 participants. During the term, out-of-class English access time was regular and consistent, with the peaks near exams anticipated from the results of other time use studies (see Chapter 2, Literature Review). However, though individual time use is consistent, wide variation is seen in their comparative time use. The variation is most noticeable for the participants' cumulative minutes. Some participants show much greater English access each week in both number of episodes and the length of time. Moreover, in-term out-of-class time use, varied but individually consistent for these participants, is only one aspect of the time use. Though the limited number of participants submitting data for the summer months precludes generalizations, its importance in the overall minutes of out-of-class English access needs to also be considered. This information shows how learners can, on a week-by-week basis, either begin to lag behind classmates or pull ahead. This has clear implications for language education (see Chapter 7, Discussion and Chapter 8, Conclusion). In other words, the results for

the Longitudinal Study 2 further highlight the general temporal patterns and the temporal features of out-of-class English access that can be expected from a similar group of Japanese university students.

Examination of the contextual characteristics of the episodes, to address RQ3, shows that low anxiety was not an artifact of Longitudinal Study 1 as it was consistently low with the Longitudinal Study 2 participants as well. This low anxiety regarding the out-of-class English access episodes suggests that learners do not worry about their language performance during study or other out-of-class episodes involving study and that this affective factor is unrelated to the actual time allocation to language study.

Regarding RQ4, which focuses on the types of activities, the Longitudinal Study 2 confirms the data from the Longitudinal Study 1 and extends it to cover the first semester of the Japanese school year, suggesting that Japanese university students engage in a limited range of activity types during their out-of-class English access time regardless of the term of study. Episodes are primarily related to homework, including study for class, self-improvement, which the participants view as qualifying exams, and enjoyment. Listening to English music was an activity noted on nearly all of the participants' EATUS forms and commented upon in the interviews. Its importance to language study clearly needs to be further examined.

Concerning RQ5, similar to the data from the Longitudinal Study 1, the data from the Longitudinal Study 2 shows individual variability for the in-term data, but the majority of participants have the same pattern of time use for the types of activities and contextual characteristics as those found in Longitudinal Study 1.

However, the limited number of male participants precludes discussion of variability by gender.

RQ6 focuses on the corroboration between interviews and time use. The two interviews with the Longitudinal Study 2 indicate that learners are generally focused on immediate course driven activities but aware of their long-term goals regarding English language learning. Furthermore, the data from the interviewed Longitudinal Study 2 participants were found to corroborate the data collected using the EATUS form the use of this instrument to collect time use data from Japanese university students.

Finally, regarding the salient feeling about time use (RQ7), data from the interviews indicate that the Longitudinal Study 2 participants share the same general opinion about their time use as the Longitudinal Study 1 participants: it is helping them to achieve their individual goals regarding English.

For these Longitudinal Study 2 participants, who, similar to their Longitudinal Study 1 counterparts, are highly motivated language learners in English-targeted university programs, interest in English arose before they entered university. In general, this initial interest was unconnected to any specific long-term future objectives or goals but to the influence of a specific teacher, usually in junior high school, or early exposure traced to their parents' sending them to English programs at an early age. These participants did not develop a goal for English as part of their future when they began to study the language, though many had a vaguely defined future career in mind now that seems to be a factor in their current English study.

The Longitudinal Study 2 participants see themselves as similar to their peers and do not consider English to set them apart from others. In addition, most

Longitudinal Study 2 participants reported that their parents did not had any real opinion about the desirability or utility of learning English, though a few participants mentioned a shared interest with one of their parents in English, especially a shared interest in consuming English media such as music, TV, and movies. Just as important seems to be the influence of some other family member, such as a sibling or an older relative, that might have either spurred them to study or inspired them through example.

Most out-of-class English access episodes were controlled by the participants' circumstances: course schedules, homework assignments, tests, part-time jobs, and commuting. It is unlikely that the L2 motivational self system informs this type of schedule driven behaviors. The impact of the L2 motivational self system seems to be centered on the participants' initial orientations towards English, particularly their junior high school English learning experiences or the influence of specific individuals, whether teachers or parents. As such, the L2 self might be viewed as having been set before they entered university and helped them to decide to pursue English study more deeply at the university level. Interviews with the Longitudinal Study 2 participants, along with those from the Longitudinal Study 1 participants, suggests that the L2 motivational self system plays a role in junior high school, when most of the participants indicated that they became interested in using English. This is highlighted by the interviewed participants who commented on a turning point in their degree of interest in English, often the influence of a second-year junior high English teacher or a specific friend on them. A significant event such as having the chance to visit another country, even briefly, was also influential on these participants' view of English and their motivation to study the language.

The discussion that follows the results in Chapter 6, Cross-sectional Study, which reviews the procedures for the cross-sectional study and provides the results for these participants regarding their time use and the motivational survey, is informed by the conclusions I have drawn from the Longitudinal Study 1 (Chapter 4) and Longitudinal Study 2 (Chapter 5) participants.

CHAPTER 6

CROSS-SECTIONAL STUDY: TIME USE AND MOTIVATION

This chapter discusses the cross-sectional study for this project. The cross-sectional study had two parts, out-of-class time use and a motivational survey. First, the chapter discusses the cross-sectional study recruitment and the procedures followed by my representatives at the universities in Japan to administer first the motivational survey and then distribute and collect the EATUS form from those who agreed to participate in the study. Following this, the chapter outlines the cross-sectional data analysis procedures for the EATUS. Next is a review of the development of the motivational survey. (See Chapter 3, Methods, for a discussion of instrument development.) The cross-sectional study participants used the EATUS form used with the two groups of longitudinal study participants (see Chapters 4 and 5) to maintain a record of their out-of-class English access. I then discuss the data collected about the out-of-class English access using the EATUS for the cross-sectional participants. Simultaneously, I compare the time use of these participants to that of the Longitudinal Study 2 and the Longitudinal Study 1 participants. Then, I present and analyze the data obtained from the motivational survey that was administered to the cross-sectional participants. Finally, I analyze the motivational models (see Chapter 3) and present the results on the relationship between participants' time use and the replacement of Intention to Learn with actual time use.

Cross-Sectional Study Recruitment and Procedures

Participants for the cross-sectional study were recruited from intact groups at 11 universities in central and western Japan. English teachers at these institutions, native speakers of Japanese and native speakers of English, were contacted and asked to request their students to participate in the study. The 34 teachers who agreed to ask their students to participate were sent instructions on administering the motivational survey and the EATUS form (see Appendix J), a copy of the motivational survey and EATUS form in English, and the number of requested informed consent information sheets, motivational surveys, and EATUS forms in Japanese, plus five to 10 extra sets depending on the number initially requested (see Appendices C and D).

Two-thousand sets of consent forms, surveys, and EATUS forms were sent out. Data collection was scheduled during November through December 2011. To improve the reliability and validity of the data collection, I requested that the data be collected only over a normal school week with no holidays, special events (school festivals), or tests. Because the teachers had their own schedules of instruction to follow, this data collection ran for several weeks, (see Table 60).

Delays by the participants in returning the EATUS form to the teachers also meant that some participants supplied more than one week of episodes for the cross sectional portion of Longitudinal Study 2, with a few participants returning EATUS forms long after the end of the one-week collection period.

Cross-Sectional Study Participant Data Collection

Participants for the cross-sectional data collection (n = 1,399) consist of convenience samples drawn from intact classes at 11 co-educational and women's

Table 60. *Cross-Sectional Study Dates for Data Collection by Teacher*

	Dates		
Teacher	Earliest	Latest	Span
1	3-Dec-11	18-Jan-12	6W 4D
2	2-Jan-12	2-Feb-12	4W 3D
3	14-Dec-11	21-Dec-11	1W 0D
4	7-Dec-11	12-Jan-12	5W 1D
5	13-Dec-11	20-Dec-11	1W 0D
6	11-Dec-11	22-Jan-12	6W 0D
7	3-Dec-11	15-Jan-12	6W 1D
8	12-Dec-11	21-Dec-11	1W 2D
9	1-Dec-11	20-Dec-11	2W 5D
10	13-Dec-11	20-Dec-11	1W 0D
11	19-Jan-12	29-Jan-12	1W 3D
12	12-Dec-11	21-Dec-11	1W 2D
13	30-Nov-11	22-Dec-11	3W 1D
14	12-Dec-11	19-Dec-11	1W 0D
15	13-Dec-11	20-Dec-11	1W 0D
16	14-Dec-11	21-Dec-11	1W 0D
17	7-Jan-12	19-Jan-12	1W 5D
18	6-Dec-11	20-Dec-11	2W 0D
19	12-Dec-11	18-Dec-11	0W 6D
20	6-Dec-11	10-Jan-12	5W 0D
21	12-Dec-11	19-Dec-11	1W 0D
22	7-Dec-11	13-Jan-12	5W 2D
23	7-Dec-11	18-Dec-11	1W 4D
24	6-Dec-11	14-Dec-11	1W 1D
25	13-Jan-12	30-Jan-12	2W 3D
26	12-Dec-11	18-Dec-11	0W 6D
27	10-Jan-12	19-Jan-12	1W 2D
28	6-Dec-11	16-Dec-11	1W 3D
29	1-Dec-11	10-Jan-12	5W 5D
30	10-Dec-11	20-Dec-11	1W 3D
31	9-Dec-11	13-Jan-12	5W 0D
32	15-Dec-11	17-Jan-12	4W 5D
33	7-Dec-11	14-Dec-11	1W 0D
34	10-Dec-11	20-Dec-11	1W 3D
Total	30-Nov-11	2-Feb-12	9W 1D

Note. W = Weeks; D = Days; Dates indicate the earliest and latest dates on returned EATUS forms for participants from classes supervised by each teacher; Nov. = November; Dec = December; Jan = January; FEB = February.

four-year universities in Japan. Efforts were taken to ensure that participants came from a variety of universities and majors. A few participants completed only the EATUS form but did not take the motivational survey, which was administered in class. Many more participants completed the motivational survey, but did not return

the EATUS form to the course instructor. Of the total number of participants, more than half (n = 757) only returned the motivational survey. Not all of these were valid submissions (no data). The other participants (n = 642) submitted both the motivational survey and at least one week of data using the EATUS form. Participant retention for the EATUS form was 45.88%. No data are available on the retention of the population for this study, but 2,000 sets of materials were distributed to teachers. No follow-up analyses were conducted to determine whether there were qualitative differences between those who chose to participate and those who refrained. Data from the 642 participants is used for the discussion of the cross-sectional participants' out-of-class English access and for the discussion of the model of the L2 motivational self system. Data from the participants that only returned the motivational survey is used for confirmatory examination of the model of the L2 motivational self system. Though the participation return rate may seem low, the rate for the motivational survey based on the number of copies distributed to teachers was 69.95%.

The informed consent information was distributed with the motivational survey and copies of the EATUS form. The informed consent form provided the information about the project's purposes and asked those willing to participate to create a unique code (see Chapter 3) and return the survey after completion and the EATUS form one week later. To maintain confidentiality, participants created a unique code made up of a number of elements extracted from pre-existing data for the student. The raw data was seen by the PI and the course instructors who agreed to ask students to participate in the study and provided them with copies of the motivational survey, which was collected on that day, and requested that they maintain the EATUS

for one week. Data from those who submitted the motivation survey and EATUS are included in the study of out-of-class English access.

Cross-Sectional Study Data Analysis Procedures

Majors and year in school for cross-sectional study participants.

The motivational survey included a place to write in the participants' major department and year in school. Codes were assigned to the various majors in order to facilitate data comparison (see Table 61). Two levels of coding were assigned: a code for the major area and a code for the specific area. Majors related to English were given the area code 1. This included the majors of English, English language and literature, English language studies, English literature, tourism, international English, international communication, international cultural cooperation, multicultural communication, and media studies. Students majoring in these courses of study have a high level of interest in learning English based on the emphasis on English in each of these 10 majors. Other majors have a much lower emphasis on English in the programs, even when labeled as international courses, and were given codes that separated them into broad area categories and then specific major categories. The other area codes are related to the humanities (humanities and Japanese language and culture), business (economics, commerce, international economics, international management, general economic planning), psychology (psychology and communication, childhood development, life design), science and engineering (science, electrical engineering, information management, environmental studies), law, and health (sports management, human health). Information regarding the participants' year in school by site appears in Table 62.

Table 61. *Area and Major Codes Assigned and Number of Participants Completing Motivational Survey (*N = *1,399)*

Area	Major	Major *n*	Area *n*
English-language related	Media	3	576
	English	126	
	English language and literature	22	
	English language	46	
	English literature	6	
	Tourism	36	
	International studies and English	183	
	International communication	106	
	International cultural cooperation	42	
	Multicultural communication	6	
Science related	Environmental systems	27	44
	Information systems	11	
	Electrical engineering	3	
	Human sciences	3	
Business related	Management	202	539
	Economics	151	
	International management	15	
	International economics	43	
	Commerce	21	
	General economic planning	28	
	Life design	79	
Psychology	Psychology & communication	63	88
	Child education and welfare	25	
Sports	Sports management	98	98
Japanese studies	Japanese language and culture	9	9
Health	Human health	39	39
Law	Law	4	4
Blank	Blank	2	2
Total		1,399	1,399

Table 62. *Cross-Sectional Study Participants by Year in School*

	1		2		3		4		Other		Blank		Total
Site	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
1	361	88.26%	34	8.31%	4	.98%	4	0.98%		x	6	1.47%	409
2	143	46.28%	145	46.93%	8	2.59%	7	2.27%	3	.97%	3	0.97%	309
3	147	60.74%	86	35.54%	7	2.89%	1	.41%			1	0.41%	242
4	61	96.83%									2	3.17%	63
5	17	94.44%	1	5.56%									18
6	29	70.73%	10	24.39%	1	2.44%					1	2.44%	41
7	51	57.30%	37	41.57%							1	1.12%	89
8	41	41.00%	54	54.00%	1	1.00%					4	4.00%	100
9	39	86.67%	3	6.67%			3	6.67%					45
10	44	89.80%	1	2.04%							4	8.16%	49
11			31	88.57%	1	2.86%	1	2.86%			2	5.71%	35
Total	933	66.64%	402	28.71%	22	1.57%	16	1.14%	3	0.21%	24	1.71%	1400

EATUS episode data processing for cross-sectional study.

Cross-sectional study participants used the EATUS form to report out-of-class episodes that were related to English. Data for participants in the cross-sectional study vary widely, from one day to several weeks, depending on when they returned the EATUS form to their course instructor. For cross-sectional data, I used similar episode processing procedures. Participants in the cross-sectional study were asked to report one week of out-of-class time use data on the EATUS sheet at 11 university sites. At the 11 sites involved in the cross-sectional portion of Longitudinal Study 2, 34 teachers administered the survey and requested that their students maintain the EATUS form for one week. Because of delays in collected the EATUS forms, including forms left at home and teachers forgetting to collect them, some participants provided several weeks of data. Therefore, the number of dates with episodes for individual students varied from zero to 50. Figure 96 presents this information for the 34 teachers who administered the motivational survey and collected the EATUS data forms. Specific information about the composition of the classes where the cross-sectional study was administered was not collected.

Again, the common denominator for comparative purposes is data compiled on a weekly basis. For participants with a full data set, with episodes on each day and a data collection span in round weeks, the calculation of the number of weeks and summarization of that data is straightforward. However, as in the Longitudinal Study 1 and Longitudinal Study 2, for most participants not every day includes out-of-class English episodes. Two possible reasons for days without episodes: episodes either did not occur (valid data) or they did occur but were not recorded (missing data). Days without episodes (DWE) should be included when compiling and amalgamating data,

such as when calculating the number of episodes per day or the number of weeks of data. Conversely, days with unreported episodes (DWUE) should be excluded when compiling and amalgamating data. Unfortunately, participants were not asked to report days without episodes.

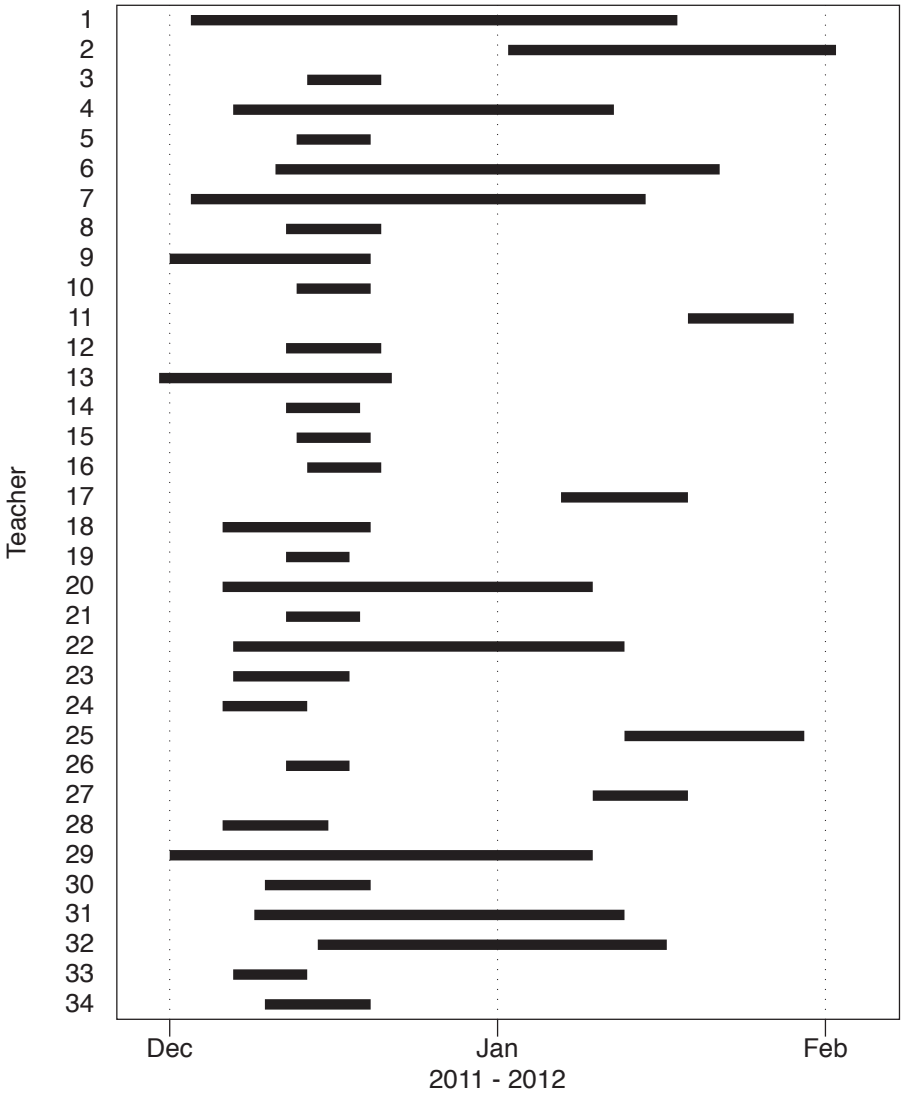

Figure 96. Weeks of data for cross-sectional study participants by teacher.

As in Longitudinal Study 1 and Longitudinal Study 2, rather than treating all lacunae as missing data, I again followed the procedures explained in Longitudinal Study 1 for EATUS data processing. I examined individual data records for evidence

that would indicate whether a multi-day lacuna was a gap in data reporting (DWE) or a period of unreported episodes (DWUE). For example, for a given multi-day lacuna occurring in a longitudinal dataset, I visually inspected the EATUS form to verify whether the dates for that lacuna fell between two other sequentially recorded and valid episodes. (See Chapter 4, Longitudinal Study 1, EATUS Data Processing for Longitudinal Study 1 for an explanation of the definitions for the EATUS data processing and the procedures used to calculate these.)

The definitions used in Longitudinal Study 1 and Longitudinal Study 2 were again used for the cross-sectional study participants. Those central to the cross-sectional study are:

Minutes per episode day is the total number of minutes recorded divided by the number of days within the collection period with episodes reported.

Minutes per day is the total number of minutes recorded divided by the total number of days between the initial and final episode dates.

Minutes per week is the total number of minutes recorded in a week.

Minutes per adjusted week is an adjusted number of minutes based upon the data participants recorded for spans longer than one week but less than two weeks.

EATUS episode description processing.

Processing of the data on the EATUS forms for the cross-sectional study participants followed the procedures outlined for Longitudinal Study 1 (see Chapter 4, Longitudinal Study 1, EATUS episode description processing). Episode descriptions were entered as they had appeared on the EATUS form. The descriptions were then

edited, if in English, to correct any problems in grammar or spelling. Entries in Japanese were translated into English, with no distinction made for the different kanji used for the same type of episode (i.e. the kanji 聴く and 聞く, and the hiragana きく, which are all read as *kiku*, were translated as "listen" in the episode descriptions). Any text that might be used to identify the course was changed into a more generic term such as "reading" or "grammar." All proper names of institutions, teachers, or students were eliminated.

I then employed the same lexical analysis procedures used for the EATUS data for the Longitudinal Study 1 and Longitudinal Study 2 and followed the same list of words to exclude items from lexical analysis (see Chapter 4, EATUS episode description processing). Lexical items not excluded by this stop list were considered to provide information about the content of episodes. These were then analyzed in more depth. The results of this analysis appear in the discussion of the Cross-sectional Study EATUS Results.

Results of the two parts of the cross-sectional study are discussed here. First, I discuss the results for the cross-sectional study participants (n = 642) who returned the EATUS data with their out-of-class English access time data and compare this information to the data obtained in the Longitudinal Study 2 and the Longitudinal Study 1. The data obtained from all three aspects of this study informs the discussion in Chapter 7. Following this I discuss the motivational survey and the various steps taking in the analysis of the data obtained. Finally, I consider the connections between the out-of-class time use and the motivational survey. This information also informs the discussion in Chapter 7.

Motivational Survey Instrument

My ultimate aim for the administration of a motivational survey to the cross-sectional study participants was to examine to what degree this set of the data and this instrument supported the structural equation model generated by Taguchi et al. (2009) (hereinafter intention to learn model or Taguchi ILM). However, before engaging in structural equation modeling, I performed a number of additional analyses in order to gain better insight into the characteristics of the dataset and to help guide future decisions regarding interpretation of results or any decisions related to exploratory procedures.

Background to the motivational survey instrument.

The motivational survey instrument for this study was based upon Taguchi et al.'s work (2009). Taguchi and colleagues undertook a multistage project to develop and pilot a motivational questionnaire to investigate the L2 motivational self system that had been proposed by Dörnyei (2005). They began with 67 items in their Japanese version that targeted 15 presumed latent traits and 6 items that targeted their "criterion measure," ostensibly the intention to learn. After piloting the survey, statistical analysis supported the reduction of predictor items to 63, which targeted nine latent traits, and four items that targeted the criterion measure. Structural equation modeling resulted in a solution that had 26 indicators that loaded on seven different latent traits, and three indicators that loaded on the criterion measure. This resulted in an eight-trait model (see Table 63).

Table 63. *Taguchi et al.'s (2009) Factors and Factor Reliabilities*

Factor	Indicators	Cronbach α
Attitudes toward the L2 community	4	.90
Instrumentality-Promotion	5	.82
Instrumentality-Prevention	5	.73
Parental Encouragement	4	.83
Ideal L2 Self	5	.89
Ought-to L2 Self	4	.76
Attitudes to Learning English	4	.90
Criterion measures	4	.83

Note. Taguchi et al. (2009) were not consistent in their factor labels. "Parental influence," to cite one example, is also labeled "Family influence."

Motivational instrument development.

I developed a similar motivational survey instrument in order to evaluate how well Taguchi et al.'s (2009) results fit my group of participants and to determine to what degree the model would fit were the criterion measure, intention to learn, replaced by actual behavioral observations in the form of recorded out-of-class English-related time use. I began the process by reviewing the definitions used by Taguchi et al. during their item generation. I then referred to Dörnyei's (2009) discussion of his three original key elements of the L2 Motivational Self System, the Ideal L2 Self, the Ought-to L2 Self, and L2 Learning Experience. Subsequently, I developed my own definitions for each of the eight proposed latent traits to which I referred when generating and evaluating survey items (see "Definitions of Constructs for the L2 Motivational Self System" in Chapter 2. To preserve comparability I adopted all of the items that had been retained in Taguchi et al.'s (2009) final structural equation model (see Chapter 3).

My initial motivational survey included 65 items that targeted eight factors, seven to be used as predictors (Attitude Toward the Target Language and Culture; Instrumental Promotion; Instrumental Prevention; Influence of Significant Others; the

Ideal L2 Self, the Ought-to Self; and Attitudes toward Learning English, which Taguchi et al. (2009) labeled the L2 Learning Experience) that loaded either directly or indirectly onto the outcome factor (Intention to Learn English or Time Use) in Longitudinal Study 1 (see Chapter 3, Methods). After piloting with a small sample (*n* = 190), two poorly working items were eliminated. The final survey included 63 items in total.

Survey administration.

The survey was administered between November, 2011 and January, 2012 at the 11 sites. The protocol was for teachers to administer the motivational survey first, and then ask students to report out-of-class time use on the EATUS during the following week. There are three main reasons why collection periods at several of the sites ran for multiple weeks. First, some teachers collected data from several different classes that met on different days of the week. Second, some sites had more than one teacher who administered the survey. Third, some participants recorded more than one week's worth of out-of-class English-related time use. I did no follow-up examination to determine the effects of these three conditions on the outcomes.

Cross-Sectional Study Results

Results of the two parts of the cross-sectional study are discussed here. First, I discuss the results obtained on the EATUS from the cross-sectional study participants (*n* = 642) about their out-of-class English access time data and compare this information to the data obtained in the Longitudinal Study 2 and Longitudinal Study 1. The data obtained from all three aspects of this study on out-of-class English access

time informs Chapter 7, Discussion. Following this I discuss the motivational survey and the various steps taking in the analysis of the data obtained. Finally, I consider the connections between the out-of-class time use and the motivational survey. This information also informs the discussions in Chapter 7.

EATUS Results for Cross-Sectional Study

The EATUS form, used for all aspects of the episode data collection for this study, has places for participants to record a number of different points regarding each episode in addition to the description (see above). In addition to writing the date, time, and a brief episode description, participants indicate a level of anxiety and enjoyment (by writing a number from 1 to 5 in the space provided), then mark the purpose, the location, and the people present during the episode (see discussion of the EATUS construction in Chapter 3, Methods). Each of these provides information about the characteristics of the participants' out-of-class English access episodes. In the discussion that follows, I provide the time and day data, as calculated from the date, start, and end times provided by the participants for the episodes. Next, I give general data for the purpose, location, and person with during the episodes, as indicated by participants on the EATUS form. Then, I provide the episode description data obtained from the study participants. Unless otherwise indicated, the data is for all cross-sectional study participants that returned the EATUS form (n = 642), regardless of the total number of weeks of data provided on the EATUS form.

Cross-sectional study data collection span.

Participants in the cross-sectional study were asked to report one week of out-of-class time use data on the EATUS form. However, delays by participants in returning the data and delays by teachers in collecting the data sheet meant that some of the cross-sectional study participants maintained the EATUS for longer than the one-week period requested (see Figure 96 above). Figure 97 shows the number of days with out-of-class English use data provided on the EATUS forms from participants in the cross-sectional study. For the cross-sectional study participants (*n* = 642), 139 reported seven days with out-of-class English use, 83 reported six days with out-of-class English use, and 65 reported eight days of out-of-class English use. For cross-sectional data, I used similar procedures for data processing as I did in Longitudinal Study 1 and Longitudinal Study 2 to calculate the mean reference week (see Chapter 4, Longitudinal Study 1 for definitions). As can be seen, 144 participants in the cross-sectional data collection returned the EATUS with no days of out-of-class

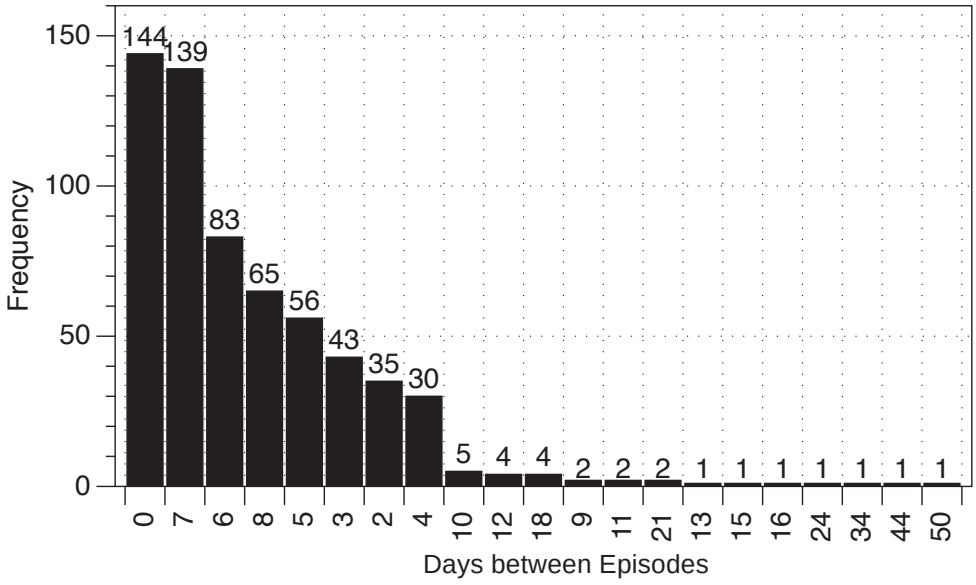

Figure 97. Days between first and last episode, arranged I order of highest frequency to lowest frequency for the number of days of data provided, by the cross-sectional study participants.

English access during the data collection period. These participants I label the no episode group (NEG). Many students reported only one day during the collection period with out-of-class English access. Others reported more days with episodes. Still others collected data for more than a one-week period. The proportion of participants that conformed to the instructions to collect one week of data on the EATUS form regarding their days of out-of-class English use was 85.53%.

Another 65 participants reported spans of eight days between their earliest and latest episodes. Recognizing the fact that many students had not reported canonical one-week collection periods (e.g., starting at midnight of day one and ending at midnight of day seven), but rather collected data from the end of class on day one through to the beginning of class one week later (on day eight), I processed data from those participants in the same way as the data from the one to seven day data collection participants. Since most class in Japan meet once a week, students might have understood the data collection period to include both the post-class portion of the day they received the EATUS form as well as the pre-class portion of the final day before they returned the form to their teacher, resulting in eight days of data. If this extra eighth day is included in the data considered a one-week period, the proportion of participants that conformed to the instructions to collect data on the EATUS form regarding their days of out-of-class English for a one-week period reaches 95.98%.

In cases where participants had fewer than 8 days with data during the reported span, I treated the days of missing data as instances of days without episodes (DWE) rather than as days with unreported episodes (DWUE) because the former is the more conservative option. For example, if a student reports out-of-class time use on two days during a seven-day period, the number of minutes would be divided by

seven (i.e., the two days with episodes plus the five days without episodes) to arrive at the average minutes per day. Conversely, treating the missing data as days with unreported episodes, the same number of minutes would be divided by two and then multiplied by seven, thereby inflating the average number of minutes per day.

In the case of longer collection spans, I had to make a determination whether days without episodes were to be treated as days with unreported episodes (DWUE) or days without episodes (DWE). To do so, I employed the same procedures used with Longitudinal Study 1 (see Chapter 4) and Longitudinal Study 2 (see Chapter 5) to make this determination.

Lack of precision in data entry.

One issue with all self-reported time use data (see Chapter 2) is the tendency of participants to estimate the start and end times in the time diary. This lack of recording precision is seen in this study in the frequency of episode durations. Most episode durations are given in round numbers. Of the 2,987 durations recorded in the cross-sectional data, only 0.17% consisted of those not ending in either a "5" or "0." This can be seen in Figure 98, which lists the top 25 durations in minutes for the cross-sectional study participants, Figure 99 provides the most frequent start and end minutes during an hour for the cross-sectional study participants. Most start and end times fall on round numbers. This is a strong indication that there is little precision in recording this information by participants. This lack of precision extends to all the datasets, as can be seen in Figure 100, which shows the percent of episodes by each duration in hours and minutes in order of frequency for all datasets.

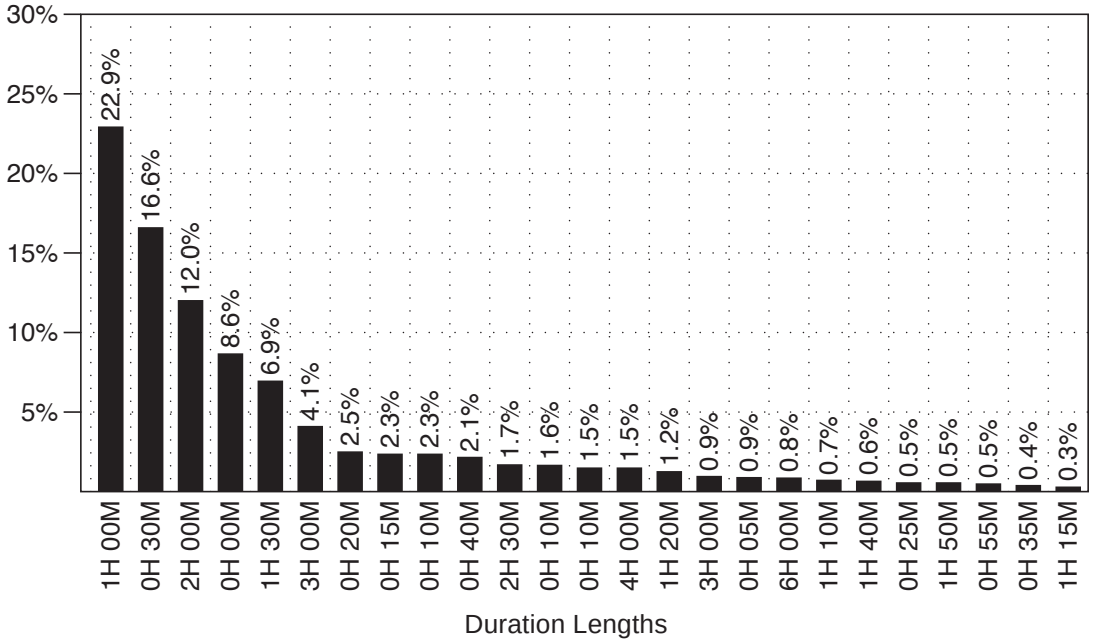

Figure 98. Top 25 duration lengths for episodes for cross-sectional study participants.
Note. H = hours; M = minutes.

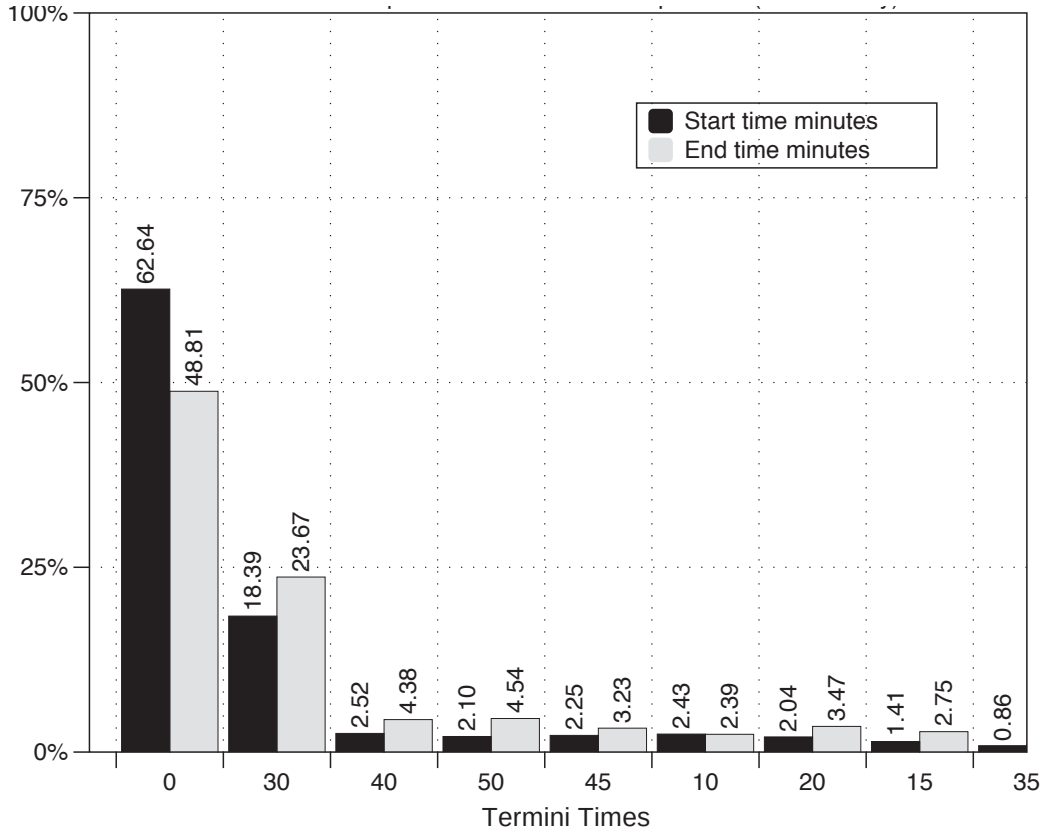

Figure 99. Most frequent episode termini minutes for cross-sectional study participants.

Regardless of the dataset (Longitudinal Study 1, Longitudinal Study 2, cross-sectional main), the most frequent duration reported was one hour, followed by 30-minutes, two-hours, and one-hour 30-minutes. This lack of precision in reported time study data has been noted in other studies (see Chapter 2, Literature Review).

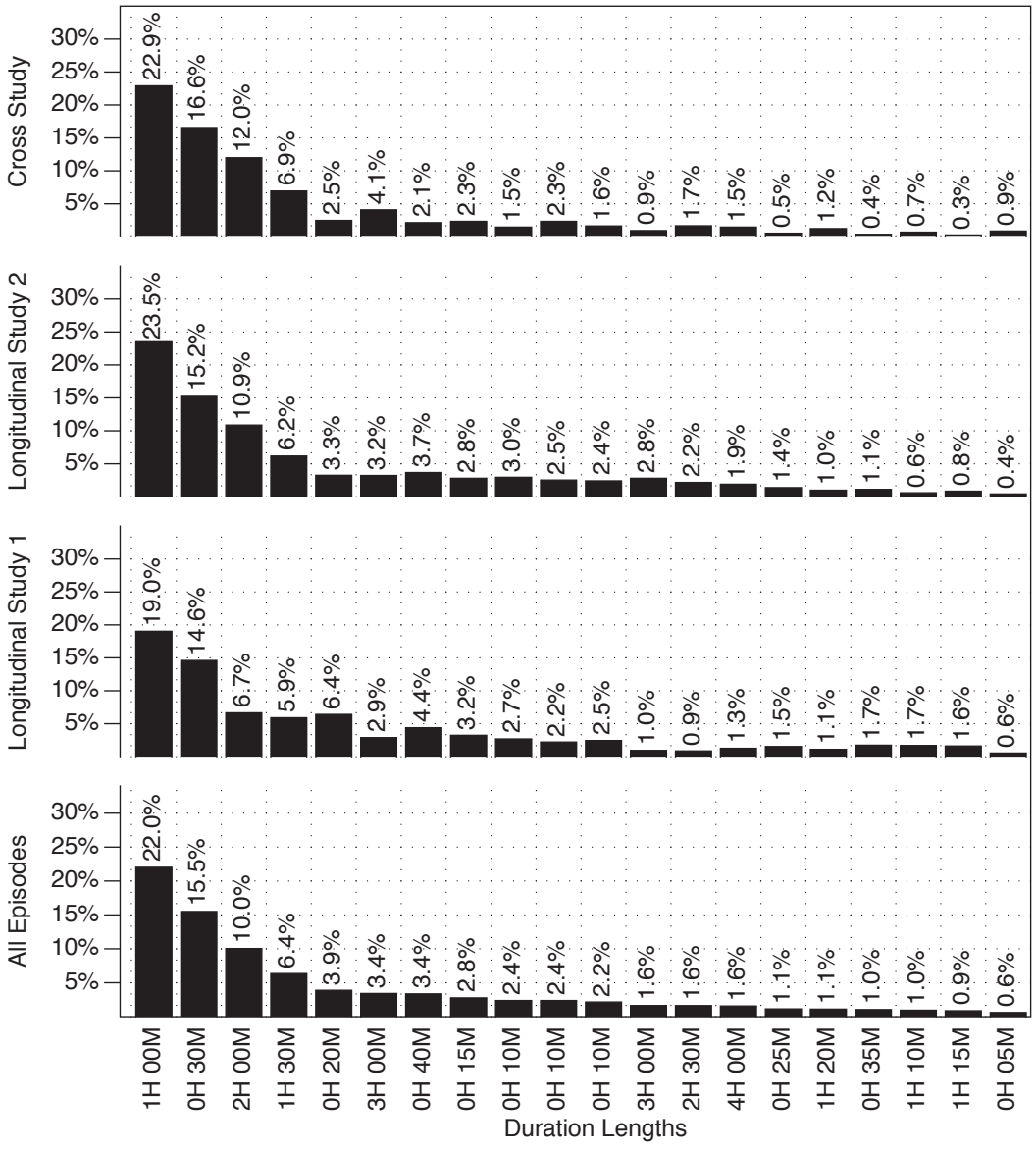

Figure 100. Percent of episodes for each reported duration in hours (H) and minutes (M) for the all datasets.

Note. H = hours; M = minutes.

Cross-sectional study temporal data.

Day of week for cross-sectional study.

The cross-sectional study was then examined to determine the distribution of minutes by day of week for the cross-sectional study participants (see Figure 101). This data indicates that the distribution of episodes for the cross-sectional study participants was similar to that found in the longitudinal data distribution collected in Longitudinal Study 1 and Longitudinal Study 2. The distribution in percent of all minutes is given in Figure 102.

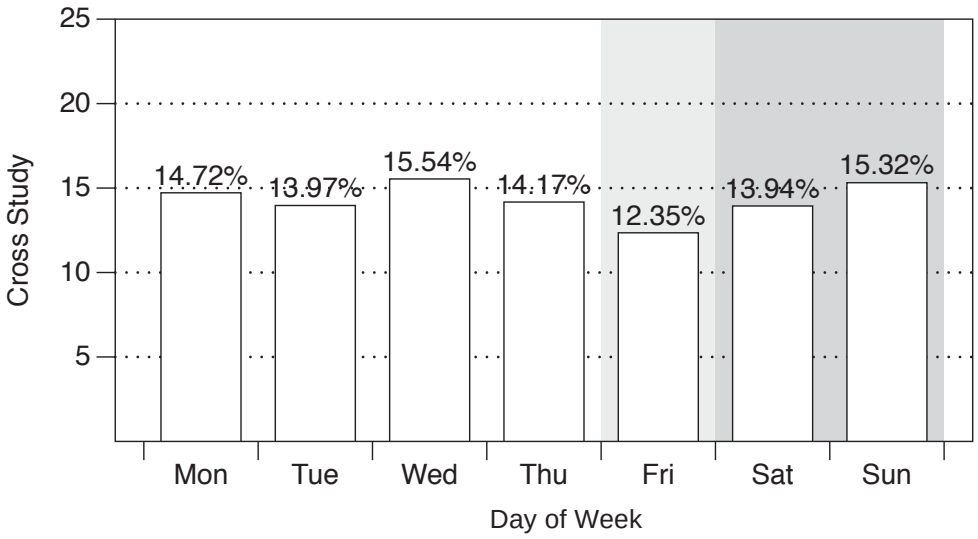

Figure 101. Distribution of minutes by day of week for all participants (*n* = 642) in cross-sectional study.
Note. Based upon amalgamated minutes.

As can be seen, there is generally even distribution of the episodes during the week, with the lowest percent of episodes occurring on Friday (12.35%). This was similar to the distribution of minutes per day for the Longitudinal Study 2 (11.36% on Friday) (see Chapter 5) and Longitudinal Study 1 (11.06% of Friday) (see Chapter 4). Although the three datasets do not show identical distribution patterns, they conform

to the results from other time use studies, especially if you view Friday as the first day of the weekend and Sunday as when students prepare for their Monday classes (see Chapter 2, Literature Review).

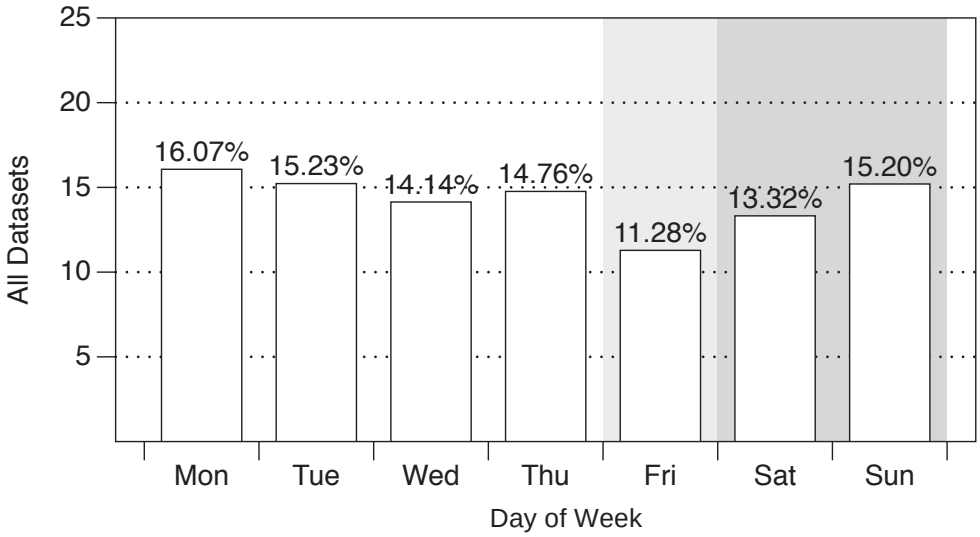

Figure 102. Distribution of minutes by day of week for all participants for all datasets (Longitudinal Study 1, Longitudinal Study 2, cross-sectional study).
Note. Based upon amalgamated minutes.

In the cross-sectional study, I was also able to examine patterns of time use based on gender. Figure 103 shows the total number of minutes and the total number of episodes for male and female participants by day of week. Though there is some variation in the patterns of out-of-class English access, these are not significant.

The proportion of total minutes by day of week for the cross-sectional participants was also examined (see Figure 104). The participants in the cross-sectional study who only submitted out-of-class English episode data for one day appear as outliers in this data display as 100% of their out-of-class time occurred on one day. This affects both views of the proportion of total minutes including the

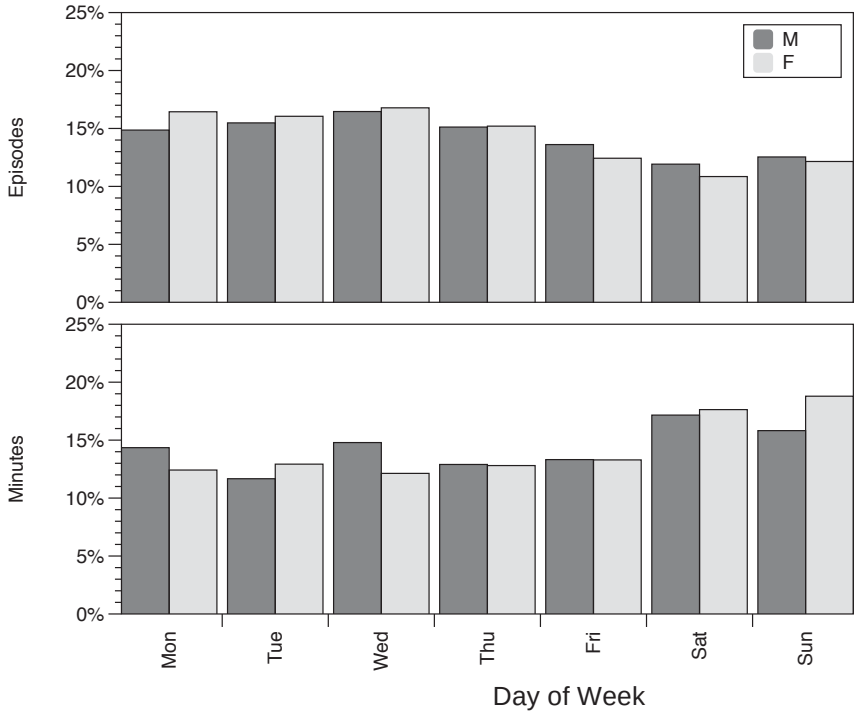

Figure 103. Male and female participants' out-of-class English access time in percent of episodes and minutes per day.

Note. M = male; F = female.

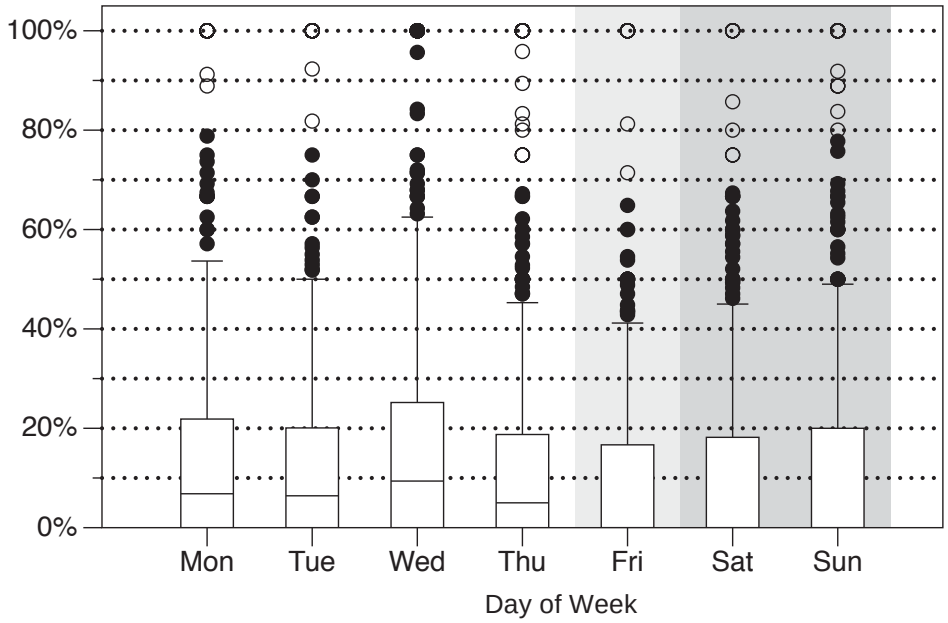

Figure 104. Proportion of total minutes by day of week for cross-sectional study.

Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal line indicates the median, points indicate outliers, and hollow circles indicate extreme outliers (3 X IRQ).

cross-sectional study data. Figure 105 provides the proportion of total minutes by day of week for all datasets.

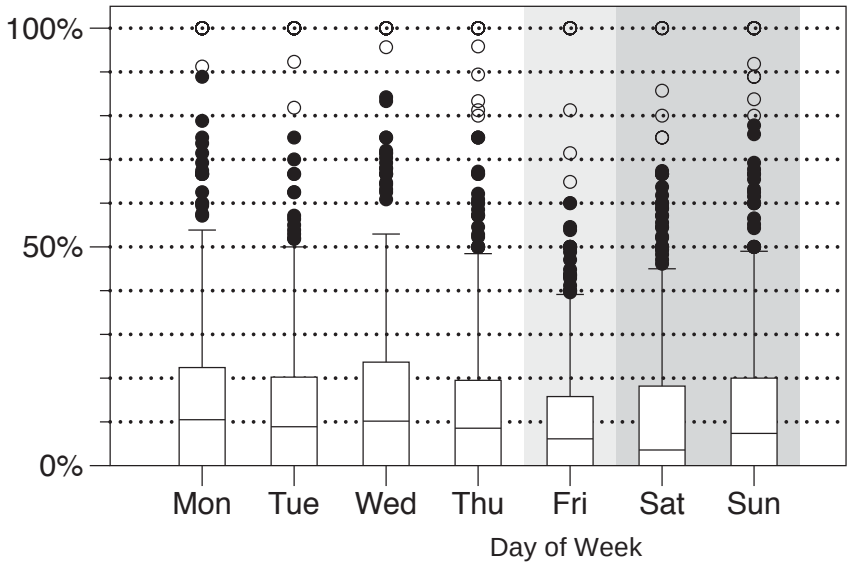

Figure 105. Proportion of total minutes by day of week for all datasets (Longitudinal Study 1, Longitudinal Study 2, cross-sectional study).
Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal line indicates the median, points indicate outliers, and hollow circles indicate extreme outliers (3 X IRQ).

Time of day for out-of-class episodes for cross-sectional study.

The time of day of episodes for the cross-sectional study participants is displayed in Figure 106. Each bar indicates a five-minute period of time during the day. This daily time use pattern for out-of-class English access is similar to that displayed by Longitudinal Study 1 and Longitudinal Study 2 participants. Figure 107 provides the time of day of out-of-class English access episodes for all datasets. Each bar represents five minutes.

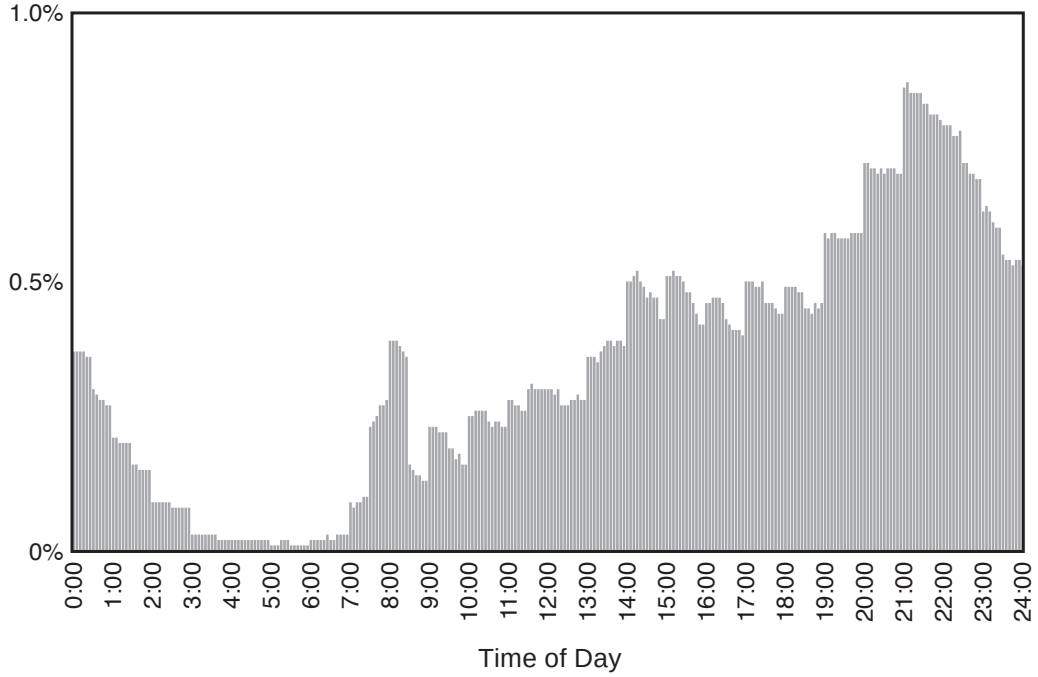

Figure 106. Percent of episodes by time of day for participants in the cross-sectional study.

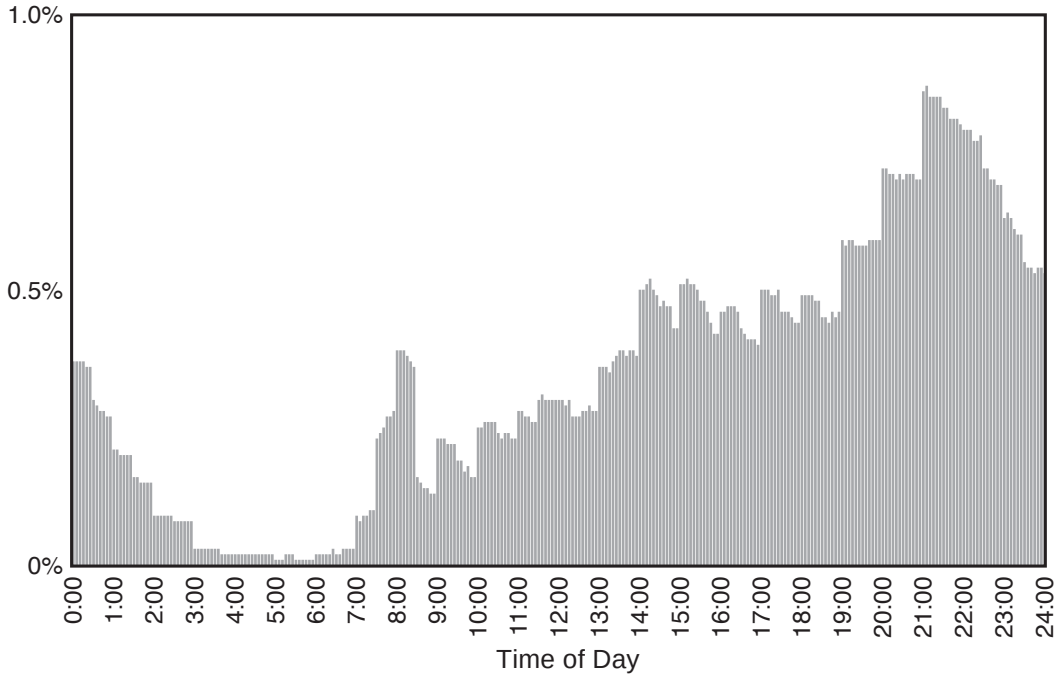

Figure 107. Percent of episodes by time of day for participants in all studies (Longitudinal Study 1, Longitudinal Study 2, cross-sectional).

The similarity in the time of day for episodes suggest that these participants, regardless of the study in which they took part, have similar out-of-class English access time use patterns.

Weekday versus weekend time use for cross-sectional study.

The cross-sectional study participants' out-of-class English access time use was also examined for the differences between weekday and weekend time use. Figure 108 shows the average number of episodes per five-minute interval by weekday (Monday - Friday) versus weekend day (Saturday - Sunday) for cross-sectional study participants. The weekday pattern is characterized by the spike near 08:00, which coincides with many cross-sectional participants' commuting times as Japanese universities are not the same as the residential universities common in North America. The weekend pattern lacks the early morning spike, but includes more mid-day episodes, as would be expected on days without classes. Out-of-class English access time is highest for this group of participants in the evenings, regardless of whether it is a weekday or weekend day.

This is only one possible pattern for the participants' time use. Figure 109 shows the average number of episodes per five-minute interval by the alternate weekday pattern (Monday - Thursday) versus weekend day (Friday - Sunday) for cross-sectional study participants. This alternative weekday/weekend pattern deemphasizes the early morning commuter spike, but shows an increased number of weekday episodes in the evening hours. Friday marks the transition between the school-centered weekdays and other-directed weekend days, with the main change occurring at the end of the school day. These patterns are quite similar to those shown

by the participants in Longitudinal Study 1 (see Chapter 4) and Longitudinal Study 2 (see Chapter 5).

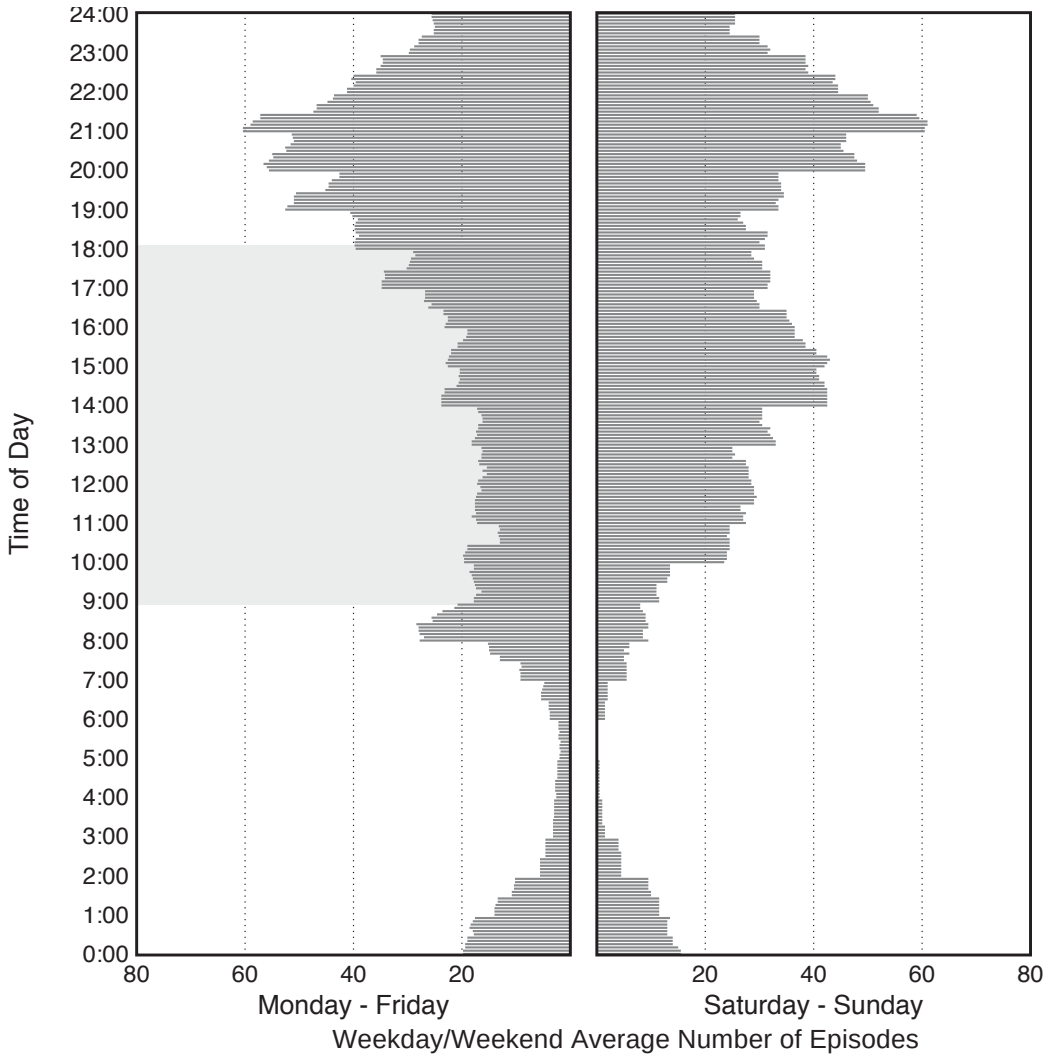

Figure 108. Time of day for episodes in five-minute intervals following a Monday to Friday weekday and Saturday to Sunday weekend for cross-sectional study participants.

Note. Shaded area equals time participants would normally be at school and in classes on weekdays.

The proportion of total minutes for weekday days versus weekend days was also examined for two patterns. In one pattern, the weekdays are Monday to Friday and the weekend is Saturday and Sunday. In the other, the weekdays are Monday to

Thursday, and the weekend includes Friday, Saturday, and Sunday. There is little distinction between the Monday to Friday and Monday to Thursday weekday patterns, as can be seen from the box plots shown in Figure 110.

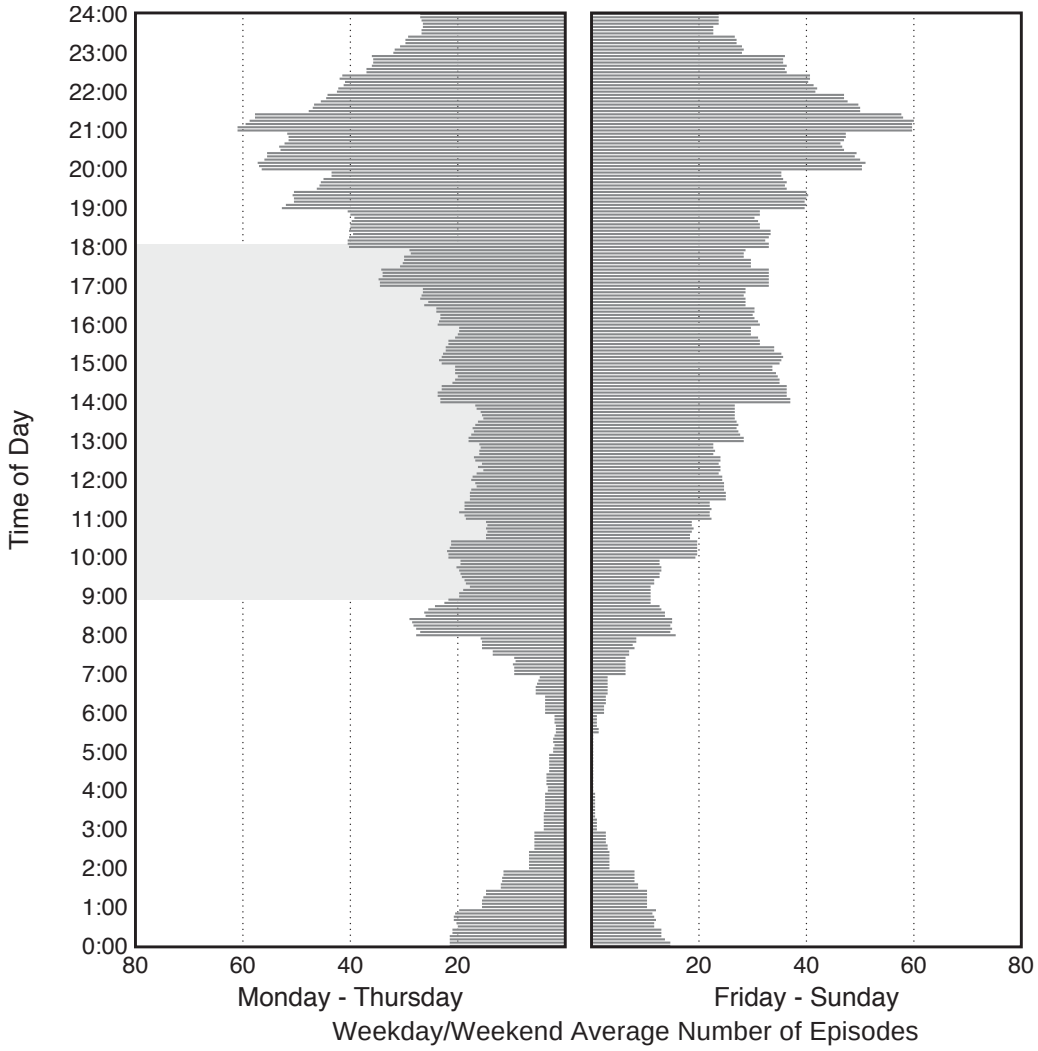

Figure 109. Time of day for episodes in five-minute intervals following a Monday to Thursday weekday and Friday to Sunday weekend for cross-sectional study participants.
Note. Shaded area equals time participants would normally be at school and in classes on weekdays.

As in Longitudinal Study 1 and Longitudinal Study 2, there was a clear distinction between the proportions of episodes occurring on weekdays and those

occurring on weekends, but the proportions are much more distinct for the cross-sectional data. Figure 111 displays this information for all datasets. Again, this distinction between the weekday day and weekend day patterns was in line with other time use research (see Chapter 2, Literature Review).

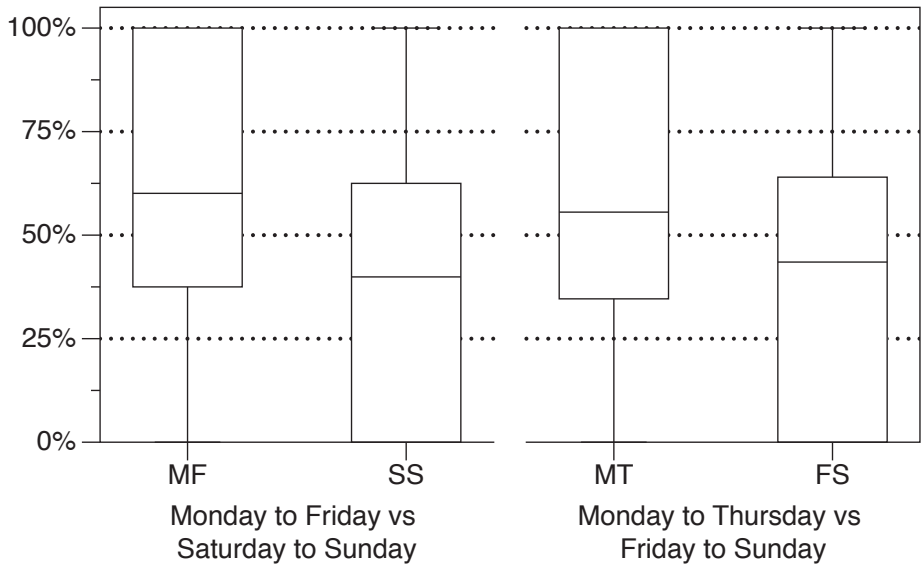

Figure 110. Proportion of total minutes by weekday vs. weekend for cross-sectional study.
Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal line indicates the median, points indicate outliers, and hollow circles indicate extreme outliers (3 X IRQ). MF = Monday to Friday; SS = Saturday & Sunday; MT = Monday to Thursday; FS = Friday to Sunday.

Cross-sectional study data and contextual features.

As in the Longitudinal Study 2 and Longitudinal Study 1, cross-sectional study participants were asked to provide data on several contextual features of the episodes, purpose, location, and persons present for the episode.

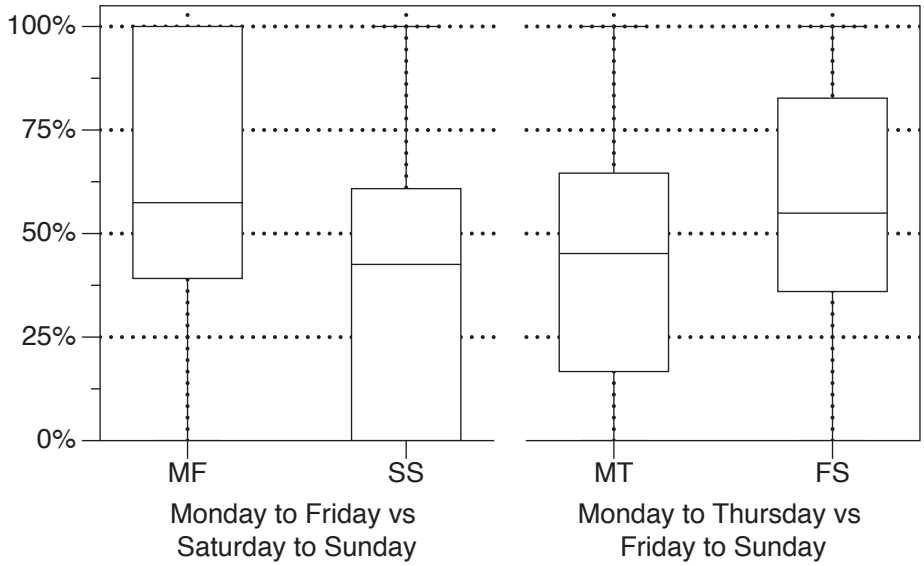

Figure 111. Proportion of total minutes by weekday vs. weekend for all datasets.
Note. Boxes indicate interquartile ranges (IQR), whiskers indicate 1.5 times the IQR, the horizontal line indicates the median, points indicate outliers, and hollow circles indicate extreme outliers (3 X IRQ). MF = Monday to Friday; SS = Saturday & Sunday; MT = Monday to Thursday; FS = Friday to Sunday.

Episode by purpose data, cross-sectional study.

The purpose of episodes was one of the data points with categories for participants to select. Table 64 displays the average number of minutes per episode by purpose for the cross-sectional study participants along with the number of episodes and the percent of total episodes. As in the Longitudinal Study 2 and the Longitudinal Study 1, the longest episodes of out-of-class English access involved part-time jobs, with the average length of episode reaching 2 hours and 35 minutes, but accounted for the lowest number of out-of-class English episodes for the choices provided on the EATUS (k = 145) and showed the largest standard deviation of (2 hours and 24 minutes) (see Figure 112). Episodes involving activities related to enjoyment averaged the second longest at 1 hour and 28 minutes and were the most frequent for this group of participants (k = 1,218; 41%). By far, the most common activity marked

for the purpose of enjoyment was listening to music. Episodes involving activities related to school (e.g., homework, studying for tests) were the less common (*k* = 905; 30%) for the cross-sectional study participants than they were for the Longitudinal Study 2 participants. The error bars indicate the standard deviation in length for each type of episode by purpose. Unshaded areas represent the categories on the EATUS form.

Table 64. *Average Number of Minutes per Episode by Purpose of Episode for Cross Study*

Purpose	*M*	*SD*	*k*	%
None given	0h 36m	1h 05m	236	8%
For school	1h 18m	1h 16m	905	30%
Part-time job	2h 35m	2h 24m	145	5%
Self-improvement	1h 05m	0h 53m	481	16%
Enjoyment	1h 17m	1h 09m	1,218	41%
Multiple given	1h 45m	0h 15m	2	0%
All episodes	1h 16m	1h 17m	2,987	100%

Note. k = number of episodes; h = hours; m = minutes.

When the data from Longitudinal Study 1, Longitudinal Study 2, and cross-sectional study, as well as all datasets are displayed together, the pattern of time use by purpose appears generally stable (see Figure 113). This information indicates that the general pattern regarding the purpose of the time use for students in Japan might be relatively stable regardless of the institution or course of study. Unshaded areas represent the categories on the EATUS form.

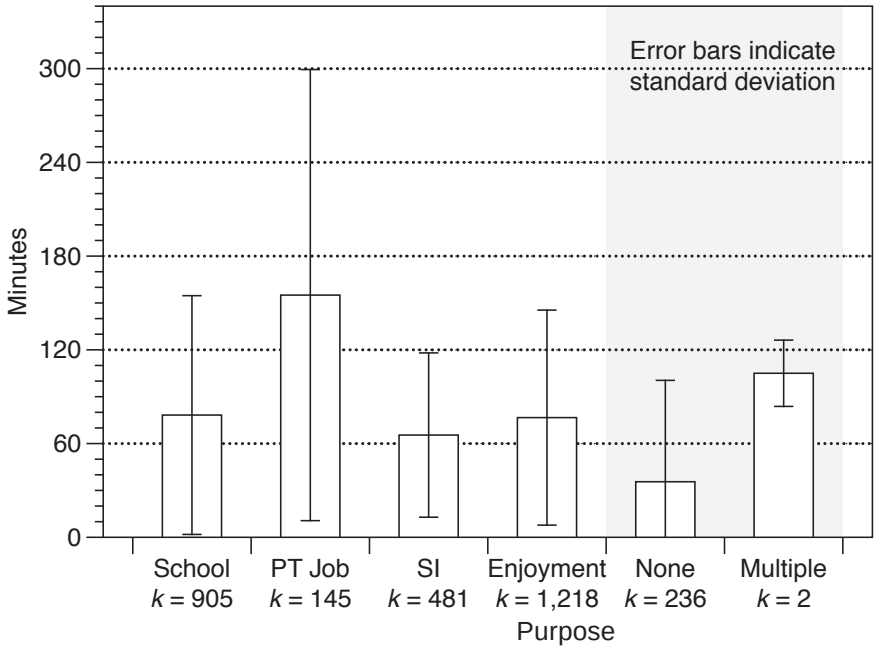

Figure 112. Mean episode length by purpose of the occurrence for the cross-sectional study.
Note. k = number of episodes; PT Job = part-time job; SI = Self-improvement.

Episode by location data, cross-sectional study. Location of the episode was also selected by the participants on the EATUS form. As with purpose, participants were instructed to select one of six locations, but some selected none or marked multiple locations. The number of episodes and the percent for each location appear in Table 65. Figure 114 shows the average number of minutes per episode by location of occurrence for the cross-sectional study. Episodes at home comprised 39% (k = 1,530). As in the Longitudinal Study 2, commuting was the second most common location for out-of-class English access episodes. Unshaded areas represent main categories. For each category there is a large standard deviation in length. The longest episodes were associated with part-time jobs and the episodes included activities such as tutoring younger students in English and waiting on tables in a

restaurant. It is not clear from the episode descriptions whether times represent the total amount of time spent at work rather than the total amount of time actively engaged with English.

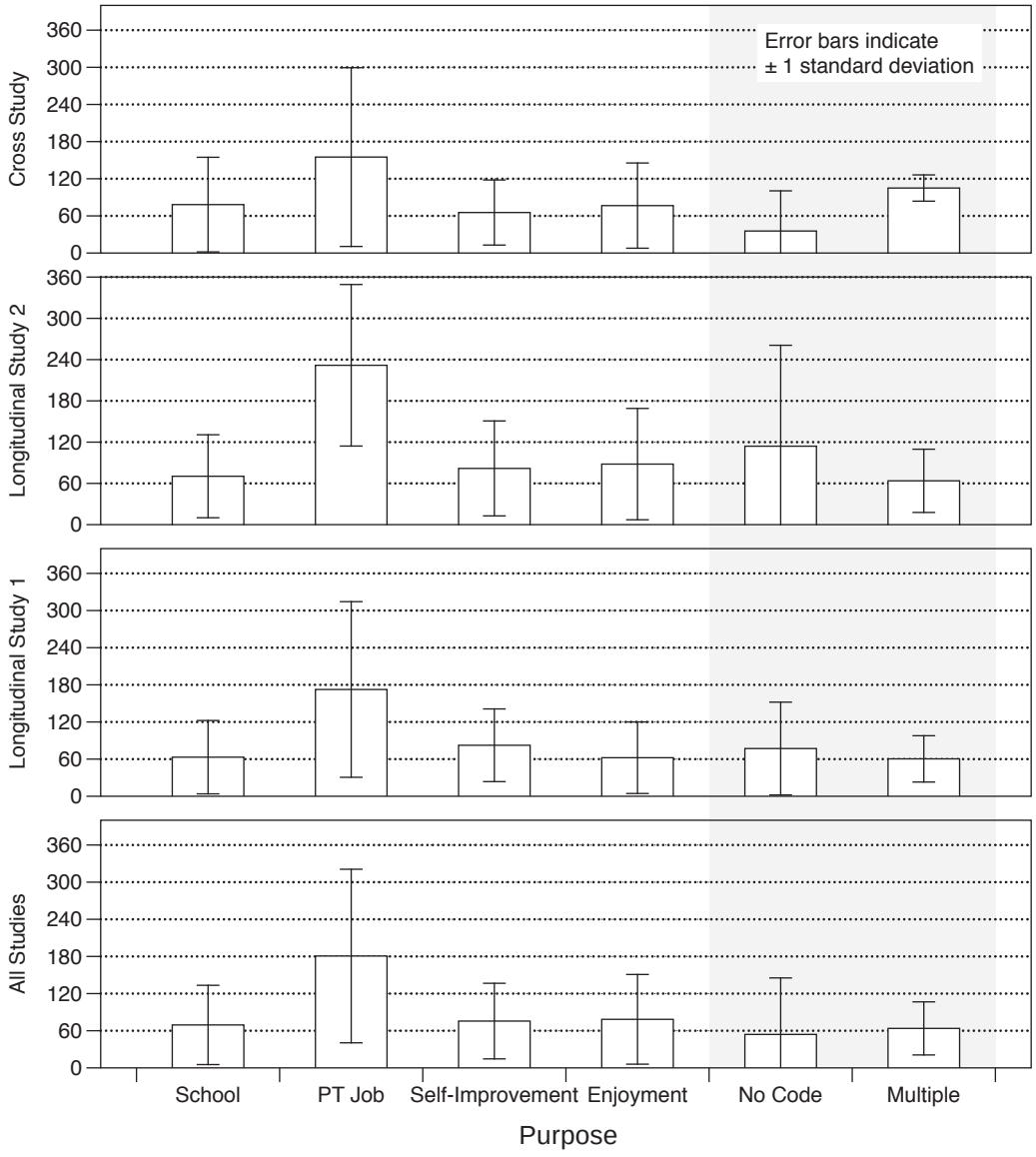

Figure 113. Mean episode length by purpose of the occurrence for all datasets (*K* = 8,836).

Note. Cross-sectional study *k* = 2,987; Longitudinal Study 2 *k* = 3,322; Longitudinal Study 1 *k* = 2,529. PT Job = part-time job.

Table 65. *Location of Episodes by Number and Percent for Cross-sectional Study* (k = *2,987)*

Location	*k*	%
At home	1,530	39%
At school, special	119	4%
At school, other	280	10%
At PT job	165	6%
Commuting	554	19%
Other	100	3%
None selected	236	8%
Multiple selected	3	0%
Total	2,987	100%

Note. *k* = number of episodes; School, special = special location at the school for English-language use (café, language lab, self-access center, etc.); School, other = location at the school not specifically set up for English use; PT job = part-time job.

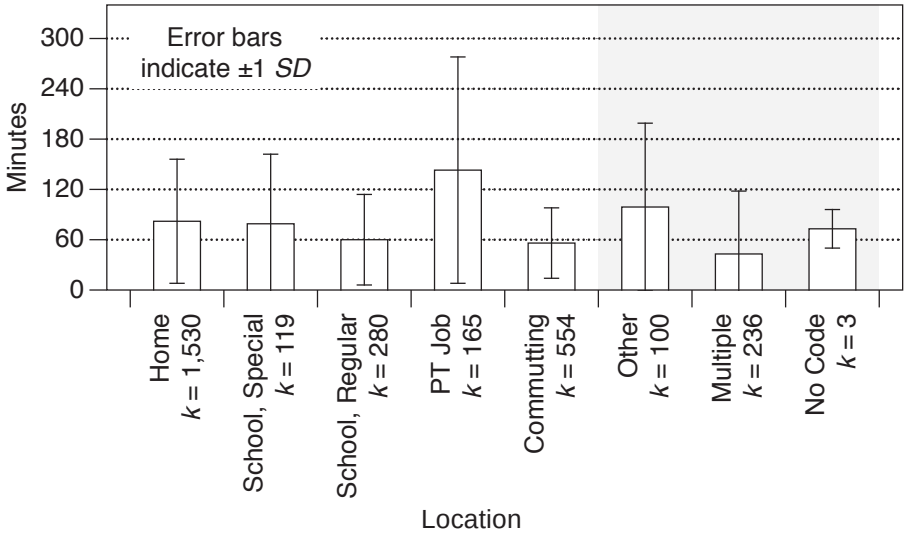

Figure 114. Mean number of minutes per episode by location of episode occurrence for cross-sectional study (*k* = 2,987).
Note. PT Job = part-time job.

Figure 115 shows the average number of minutes per episode by location of occurrence for all datasets. Unshaded areas represent main categories. For each category there is a large standard deviation in length. The longest episodes were associated with part-time jobs, with an average length of 2 hours and 23 minutes. The part-time jobs category includes such activities as tutoring younger students in

English and waiting on tables in a restaurant, and the times represent the total amount of time spent at work rather than the total amount of time actively engaged with English. Most of the episodes occurred at home (*k* = 1,530) and had an average duration of 1 hour and 22 minutes. The second most frequent location was commuting (*k* = 554), with a mean duration of 56 minutes. The category "Other" included such places as coffee houses and fast food restaurants. Special areas (for language study) at school were only listed 119 times. At these varied sites, the special areas set aside for language study do not appear to be attracting many students.

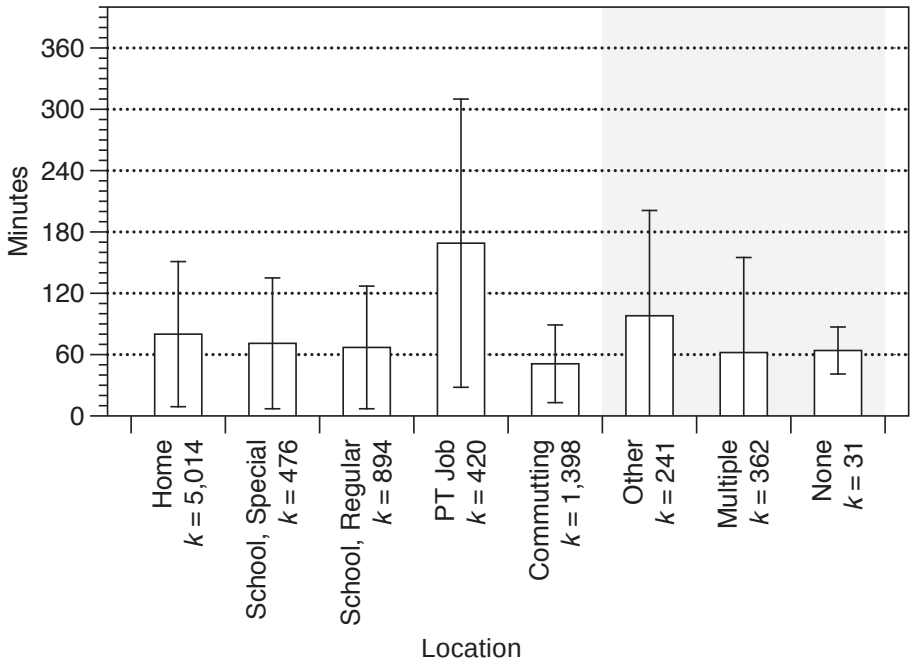

Figure 115. Mean number of minutes per episode by location of episode occurrence for combined datasets (*K* = 8,836), excluding episodes without location data.
Note. k = number of episodes; PT Job = part-time job.

When the data from Longitudinal Study 1, Longitudinal Study 2, and cross-sectional study, as well as all datasets are displayed together, the pattern of time use by location appears to be consistent (see Figure 116). The information, therefore,

indicates that the general pattern regarding the location of the time use for students in Japan might be relatively stable regardless of the institution or course of study. Unshaded areas represent the categories on the EATUS form.

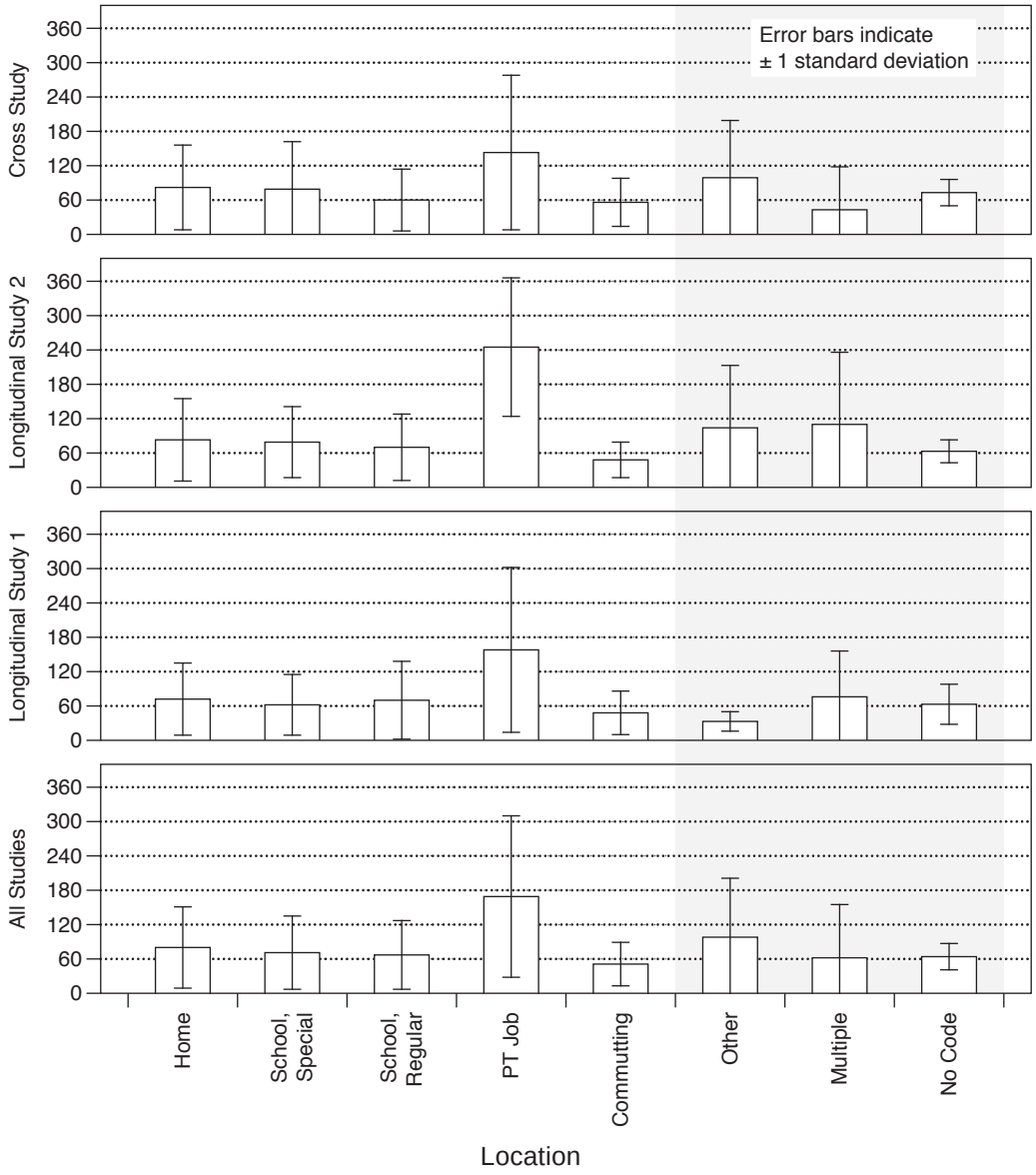

Figure 116. Mean episode length by location of the occurrence for all datasets (*K* = 8,836), excluding episodes without location data.
Note. PT Job = part-time job.

Episode by person data, cross-sectional study. Data were also collected regarding the persons present during the out-of-class English access episode for the cross-sectional study participants (see Table 66). The most frequent category was "Alone" (*k* = 2,801) episodes and a mean duration of 1 hour and 19 minutes, which comprised nearly 73% of the total episodes for the cross-sectional study participants, slightly less than that of the Longitudinal Study 2 participants.

Table 66. *Average Number of Minutes per Episode by Persons Present During Episode for Cross-sectional Study*

Person	*M*	*SD*	*k*	*%*
No code given	0h 45m	1h 11m	269	9%
Alone	1h 14m	1h 27m	2,168	73%
With friends	1h 28m	1h 40m	304	10%
Other	1h 50m	0h 00m	246	8%
Multiple given			0	0%
All episodes	1h 16m	0h 00m	2,987	

Note. *k* = number of episodes; h = hours; m = minutes.

In Figure 117, the error bars indicate the standard deviation in length for each type of episode by purpose. Unshaded areas represent the categories on the EATUS form. Figure 118 displays the information regarding the average length of minutes by the persons present during the episode for all datasets. Unshaded areas represent the categories on the EATUS form.

When the data from Longitudinal Study 1, Longitudinal Study 2, and cross-sectional study, as well as all datasets are displayed together, the pattern of time use by persons present appears to be consistent (see Figure 119). This suggests that the general pattern regarding the persons present during episodes of out-of-class English access time for students in Japan might be relatively stable regardless of the

institution or course of study. Unshaded areas represent the categories on the EATUS form.

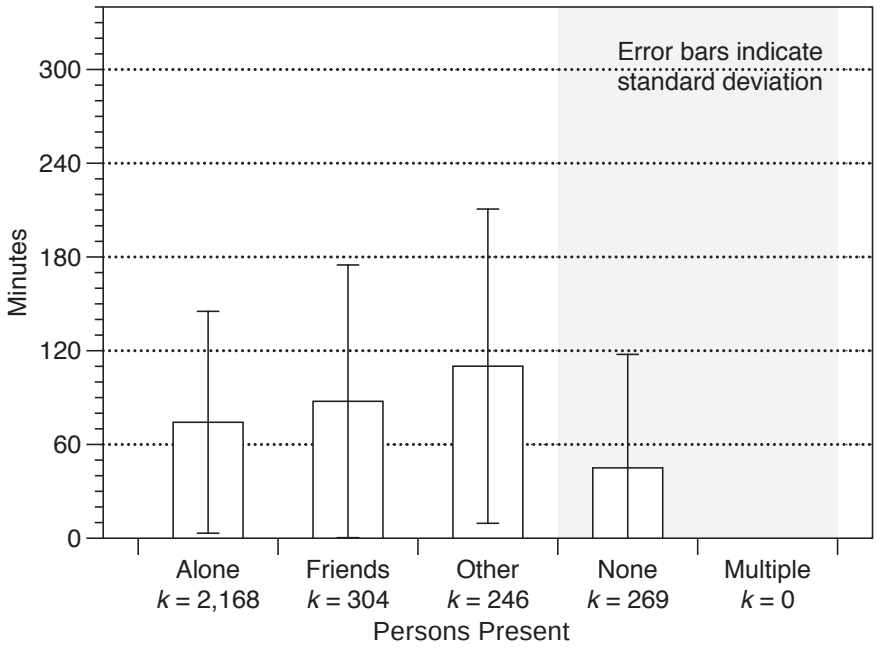

Figure 117. Mean episode length by persons present for cross-sectional study (*k* = 2,987).
Note. k = number of episodes.

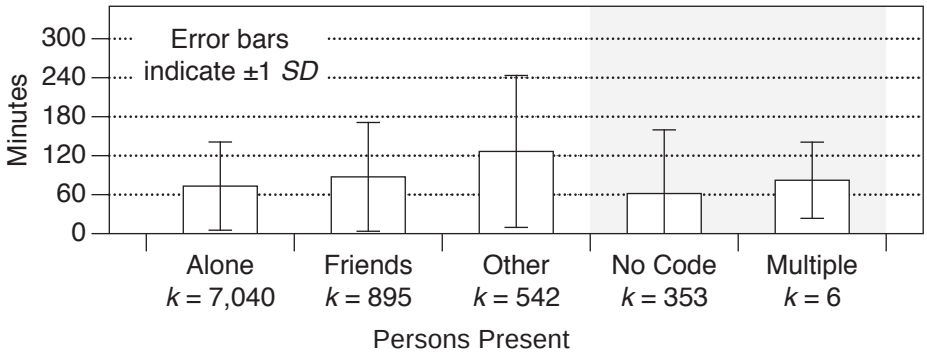

Figure 118. Average episode length by person for all datasets (*K* = 8,836), excluding episodes without persons present data.
Note. k = number of episodes.

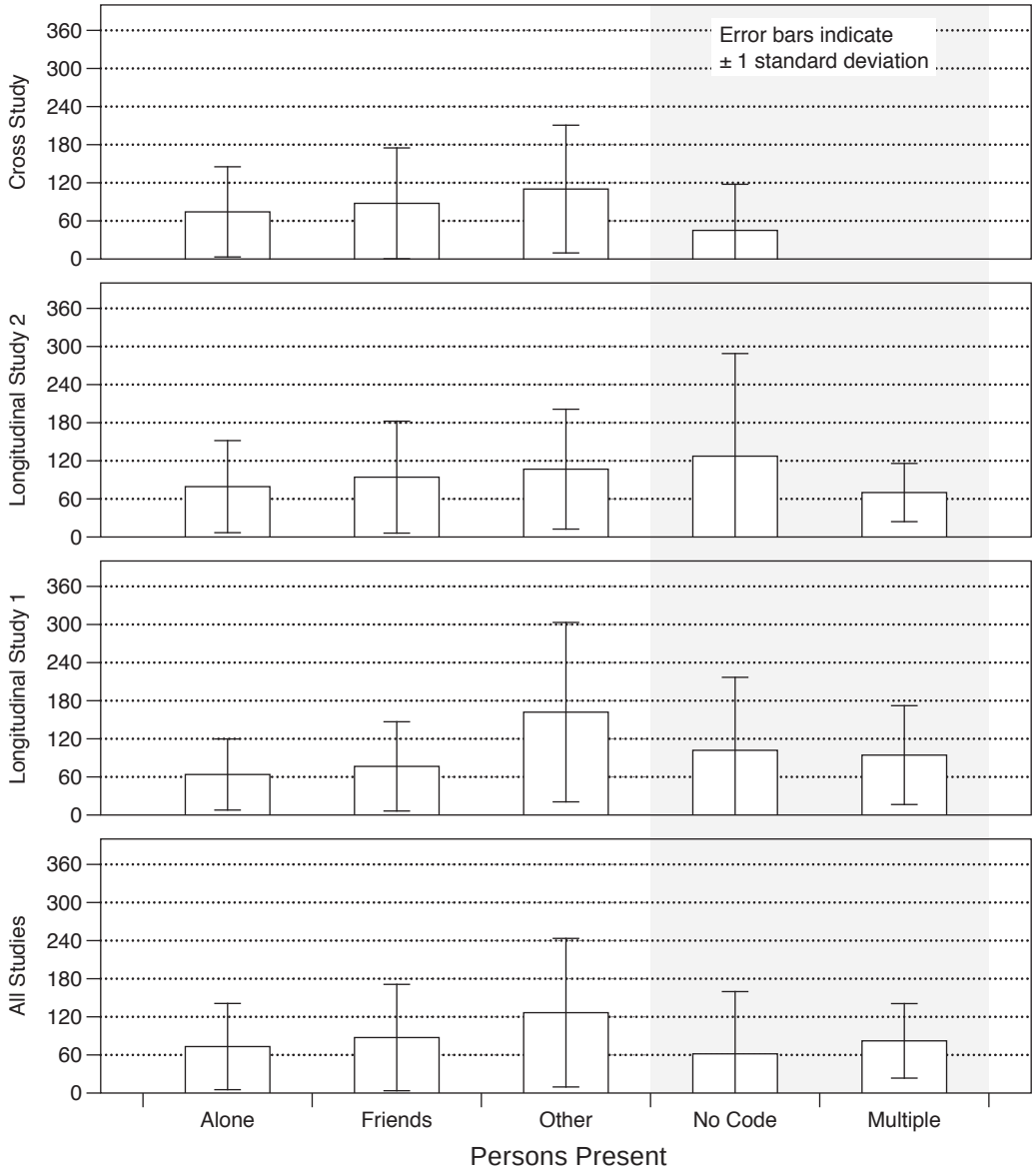

Figure 119. Mean episode length by persons present for all datasets (*K* = 8,836), excluding episodes without persons present data.

EATUS episode descriptions in cross-sectional study.

The lexical analysis of the EATUS activity descriptors for the cross-sectional study followed the same procedures as those used for Longitudinal Study 1 and Longitudinal Study 2 (see Chapters 4 and 5). The categories developed for Longitudinal Study 1 were applied to the episode descriptors supplied by the

participants using the codebook. The major code areas, their categories, and the complete definitions for the categories in the major code areas appear in Chapter 4.

Quite similar trends were seen in the cross-sectional data (see Figures 120 & 121). For the EATUS episode descriptions, the words "English," "listen," "music," and "Western" were frequently used by participants at all sites. Some words related to the "business of study" show peaks at specific sites: "prepare" at Site 4; "conversation" at Site 5; "test" and "study" at Site 7; "read" and "TOEIC" at Site 10; and "part," "time," and "job" at Site 11, which on the EATUS sheet was found to be "part-time job" or "part-time" for these participants. However, by far the most common words are those related to the phrase "listen to English music," which appeared on EATUS forms from participants at all sites, and those related to study. In other words, students at different sites with different curricula used similar words to describe the episode contents. It might be tempting to argue that this is an artifact of the place of administration, i.e., in English classes, but as the focus is on out-of-class time, references to listening to music or watching DVD appear to be unrelated to the course and are more likely an accurate depiction of the average Japanese student's contact with English. References are frequently to words directly linked to the "business of study." The lexical data collected using the EATUS suggest that the participants' out-of-class time use is curricular-driven, but references to consumption of English might indicate the desire on the part of the participant to become "internationally-minded" or simply to be consuming what is currently widely available in the Japanese marketplace—western music, fashion, movies—without any conception as to how it is reflected in their selves.

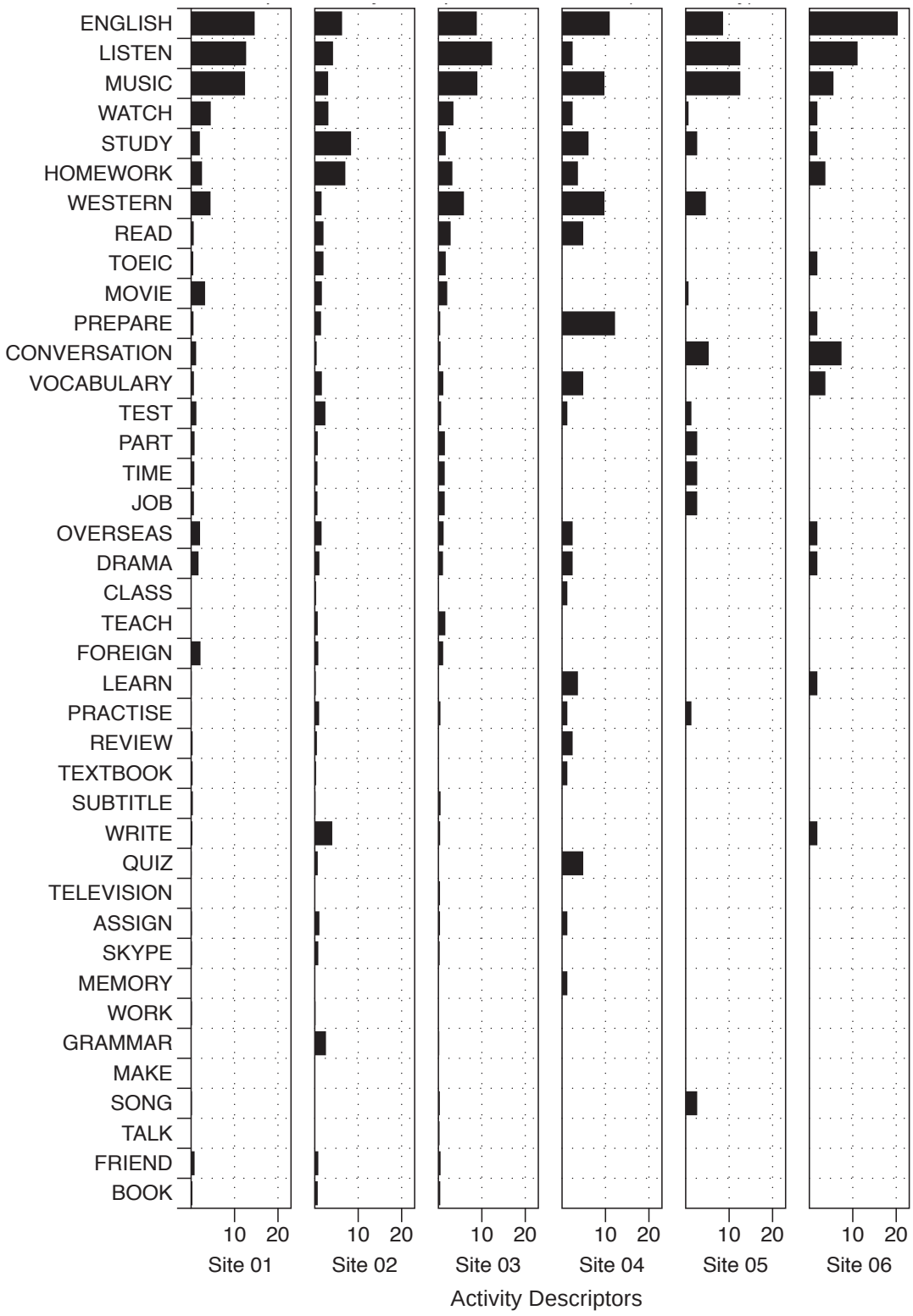

Figure 120. Frequent activity descriptors by percent for word family for episode descriptions on EATUS for Sites 1 to 6 for cross-sectional study.

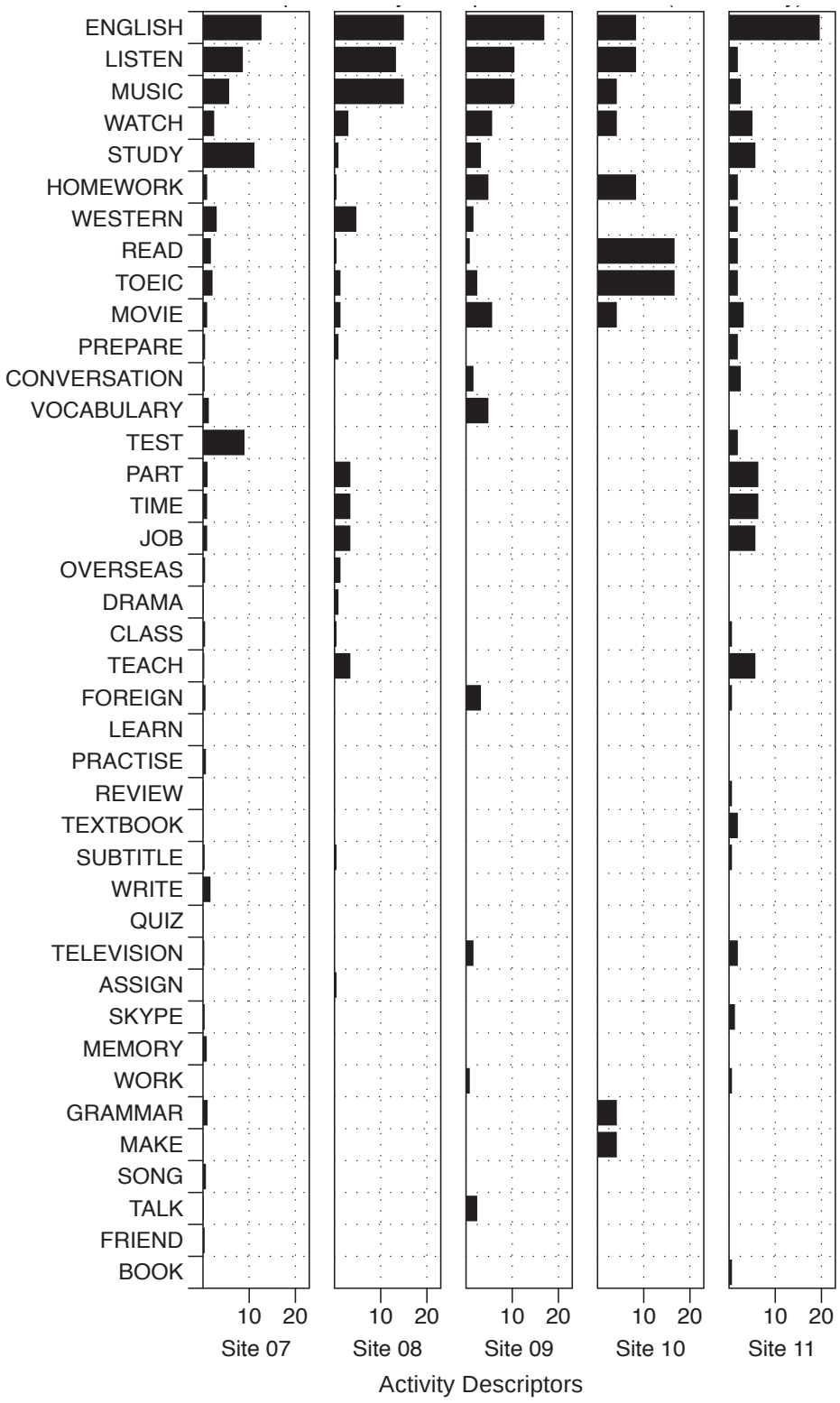

Figure 121. Frequent activity descriptors by percent for word family for episode descriptions on EATUS for Sites 7 to 11 for cross-sectional study.

As in Longitudinal Study 2 and Longitudinal Study 1 (see Chapter 4), the episode descriptions were also placed into the episodic activity codes for the cross-sectional study data. The percentages codes given to each of the major code subcategories for all cross-sectional study episode description data are provided in Figure 122. As explained earlier, due to the types of codes developed, one episode could receive multiple activity codes. The most common type of activity—listening to English music—was coded "four skills/listening" (8.47% for cross-sectional study), "international/culture" (7.92%), and "media & technology/music" (6.04%) according to the codes developed for this portion of the EATUS analysis. The diameter of the circle indicates the relative proportion of that code to the total number of codes assigned. As codes are not mutually exclusive (i.e., multiple codes can be assigned to a single episode), sizes are not absolute. Nevertheless, the activity codes can be considered rough indicators of relative frequency of the types of activities for the cross-sectional study participants. The percentages codes given to each of the major code subcategories by site for the cross-sectional study episode description data are provided in Figures 123 and 124. The percentages of codes given to each of the major code subcategories for the episode description data are provided by study (longitudinal 1, longitudinal 2, cross-sectional) in Figure 125.

Differences in the percentages of codes given to each of the major code subcategories for the episode description data are seen between sites in the cross-sectional study data and between all three studies. For the cross-sectional study sites, the percent of total codes assigned at the sites shows some variation. For instance, at Site 4 and Site 11, "video" replaces "music" as the highest percent of

codes related to media and technology. "Test" and "study" are more commonly used at Site 7, and "writing" is absent from most of the sites entirely.

Differences can also be seen for percent of activity codes by subcategories in the data from the Longitudinal Study 1, the Longitudinal Study 2, and the cross-sectional study. In the cross-sectional study, 22.64% of activity codes were for "listening," 19.79% for "culture," and 12.62% for "music," indicating that for the cross-sectional study participants, activities such as "listening to Western music" must have made up a great portion of their overall out-of-class English access episodes. Given that the cross-sectional study participants represent a much wider range of majors than Longitudinal Study 2 and Longitudinal Study 1 participants, who came from departments with a focus on English study, these differences are not unexpected and suggest that for most Japanese university students, English is not really studied as much as it is accessed for enjoyment.

Analysis of Affective and Contextual Variables for Cross-sectional Study

Analysis procedures for affective and contextual variables, cross-sectional study.

Briefly, to review the analysis procedures (see Chapter 4), I first determined if the assumptions for ANOVA were met for the cross-sectional data. If these were met, then the ANOVA procedure was applied. If these were not met, as skewed distributions can attenuate the significance of certain statistical tests, I conducted various transformations (e.g., square root, log, inverse, and others) to see if the assumptions could be met with a transformed variable. I then examined the various transformations to the data suggested to meet the assumptions. If the assumptions

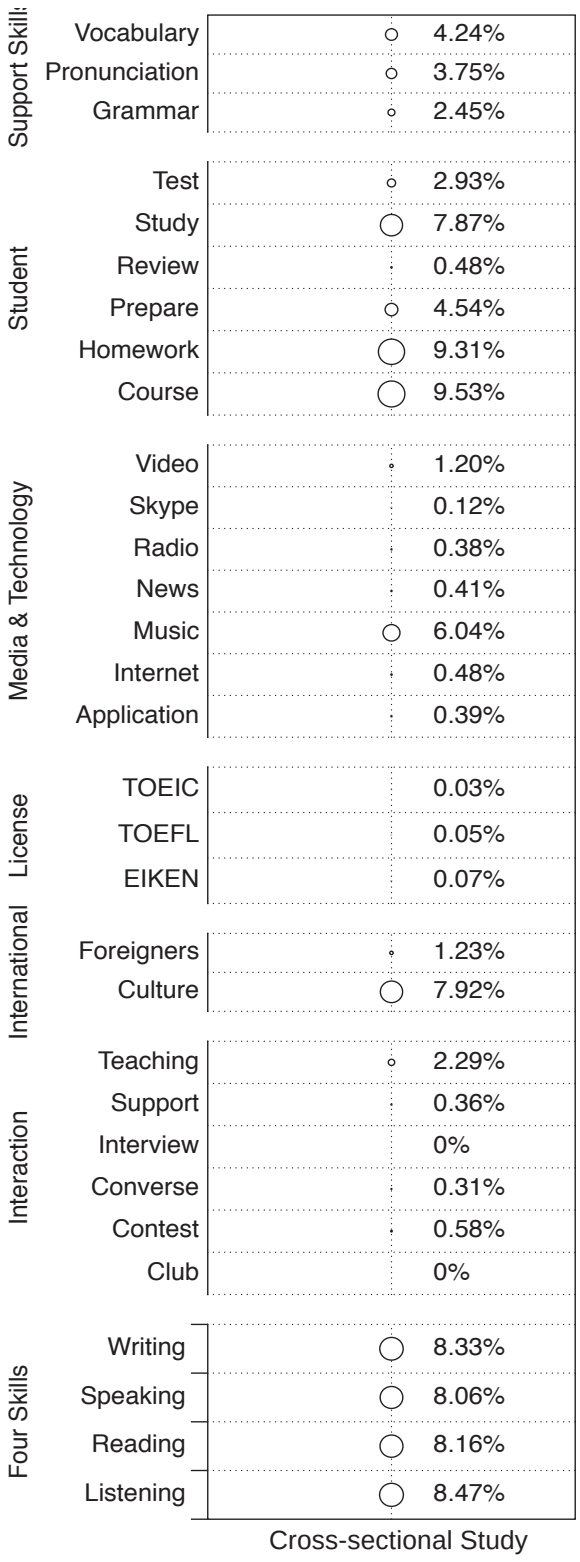

Figure 122. Percent of total codes assigned episode activity descriptors for cross-sectional study.

Note. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

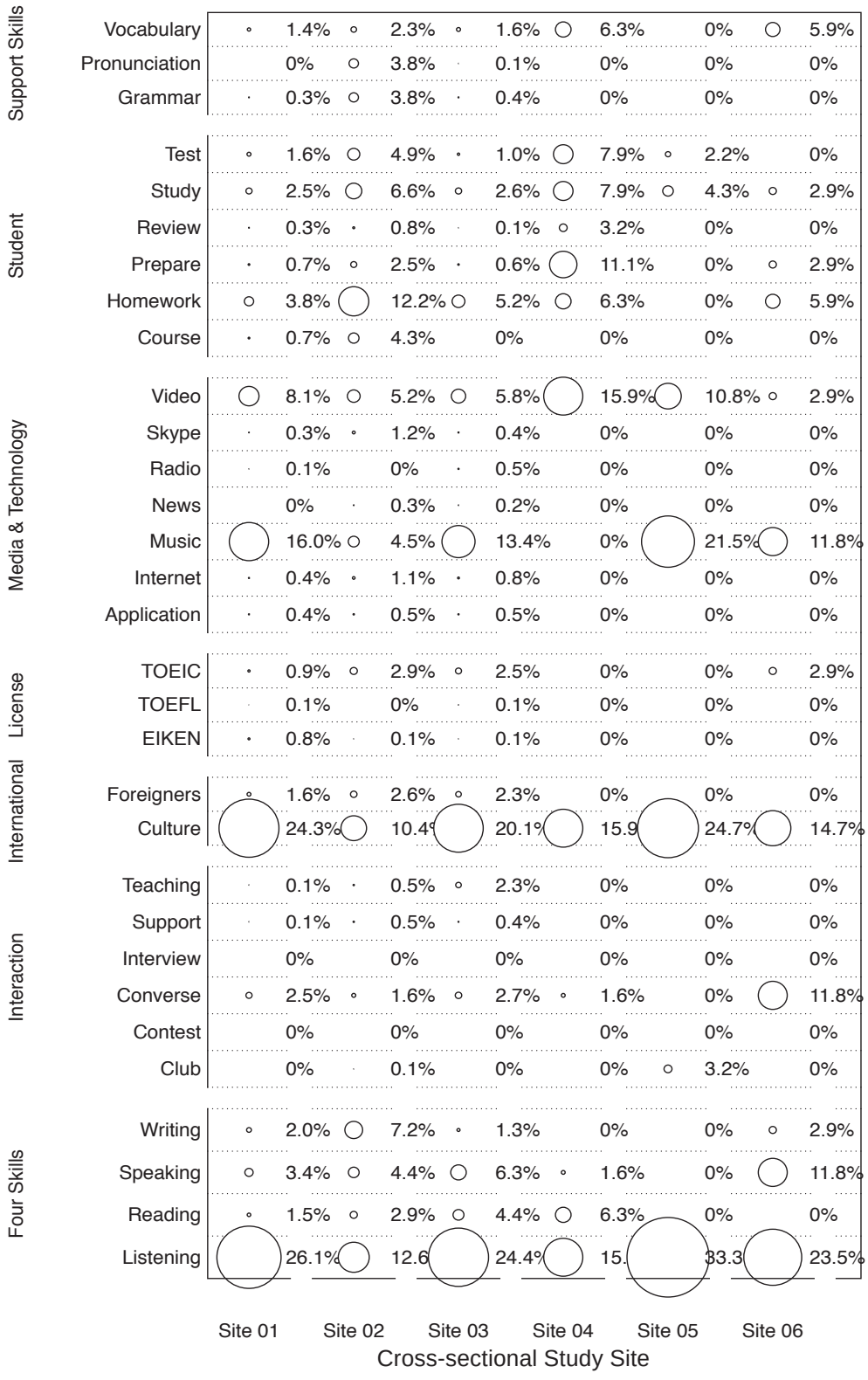

Figure 123. Frequent activity descriptors by activity codes sites 1 to 6 of cross-sectional study in percentage of total codes given.

Note. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

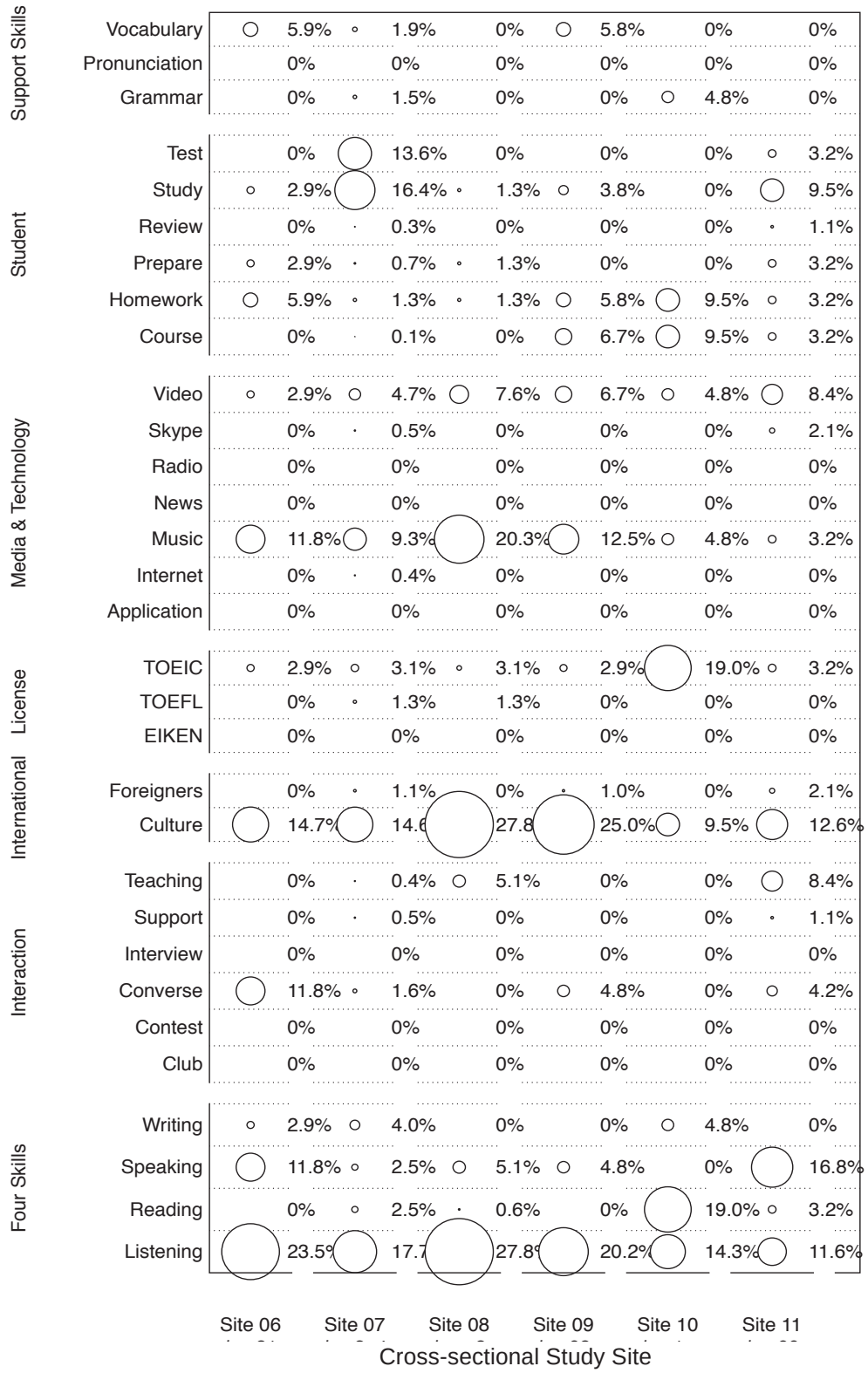

Figure 124. Frequent activity descriptors by activity codes for sites 6 to 11 of cross-sectional study in percentage of total codes given.

Note. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

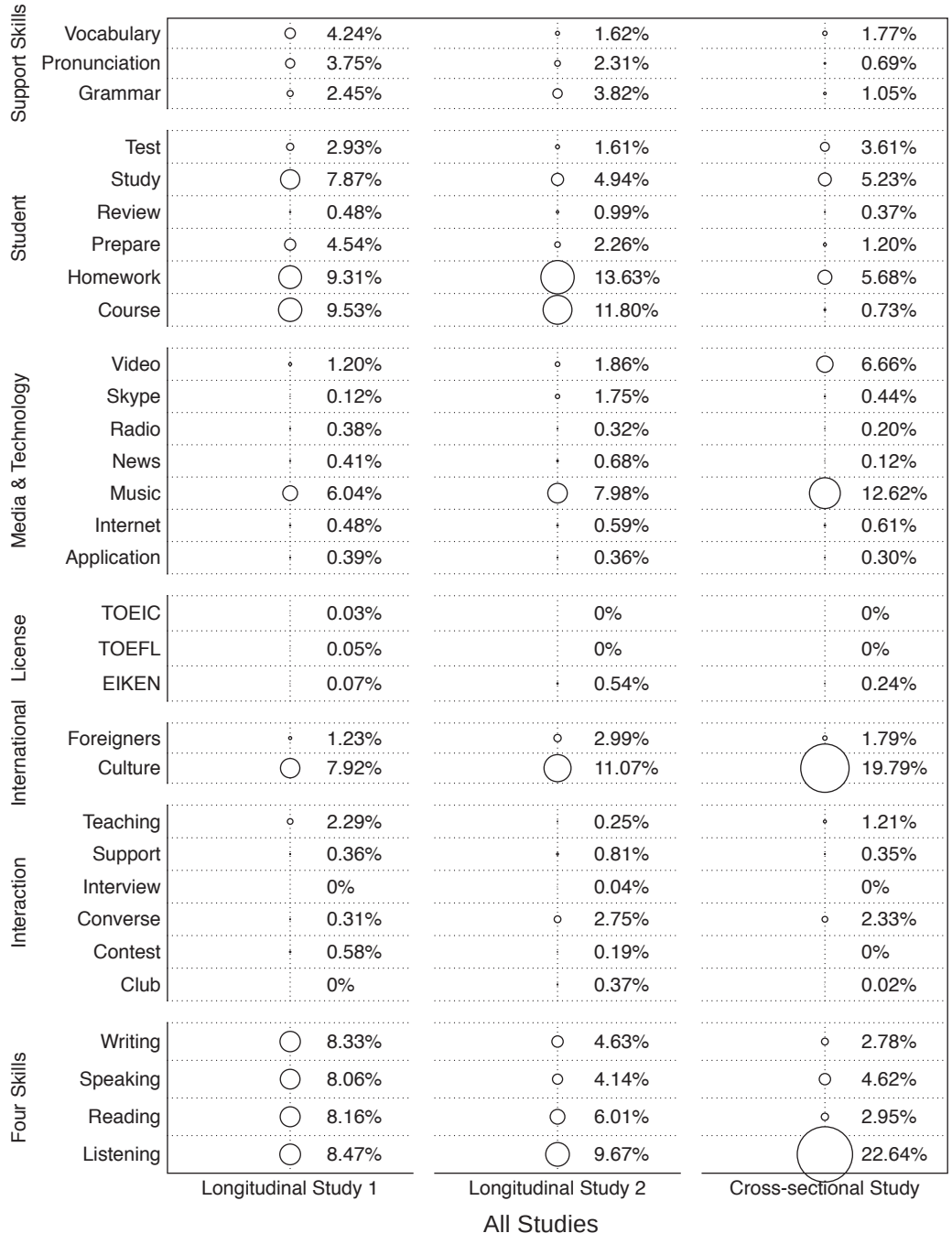

Figure 125. Frequent activity descriptors by activity codes for all datasets in percentage of total codes given.

Note. TOEIC = Test of English for International Communication; TOEFL = Test of English as a Foreign Language; EIKEN = Test of Practical English Proficiency.

were not met, I then applied the Kruskal-Wallis nonparametric procedures. For post-hoc comparisons, I applied the Mann-Whitney *U* test.

Descriptive statistics for affective and contextual variables, cross-sectional study.

The data from the cross-sectional study participants regarding the affective variables of the episodes (enjoyment, anxiety) were first screened using the branching procedures outlined above (see Chapter 4, Analysis procedures for affective and contextual variables). This screening indicated large deviations from normality with regards to enjoyment and very large deviations from normal distributions for the anxiety variable. I decided to transform the anxiety variable using a log 10 transformation and reassessed the skew and kurtosis. Although the transformation resulted is a more normal distribution of scores, I determined that nonparametric procedures would be more appropriate for both enjoyment and anxiety and, therefore, applied the Kruskal-Wallis test.

As can be seen in Table 67, the skew for the enjoyment by purpose variables in the cross-sectional study were similar to those from the longitudinal studies, ranging from -0.35 (for part-time job) to -1.83 (for enjoyment), while kurtosis ranged from -1.02 (for part-time job) to 3.43 (for enjoyment). Skew and kurtosis for the anxiety by purpose, show significant skew for the purpose of enjoyment (skew = 2.25), as does the skew for the purpose of enjoyment for the anxiety log 10 transformation (skew = 1.39). The skew and kurtosis for the affective variables enjoyment and anxiety by the contextual variables location had lower levels of skew, but these remained high enough to suggest that nonparametric procedures were appropriate. For enjoyment by location, skew ranged from -0.02 (commuting) to -1.07 (commuting). For anxiety by location, skew ranged from 0.13 (part-time job) to 1.98 (commuting). In the anxiety log 10 transformation by location, skew ranged from

-0.02 (school, other) to 1.58 (commuting). For the affective variable enjoyment and persons present, skew ranged from -0.36 (alone) to -0.89 (with others). For the affective variable anxiety by the contextual variable persons present, skew ranged

Table 67. *Descriptive Statistics for Contextual Variables by Affective Variables for Cross-Sectional Study*

	Enjoyment			
	Purpose			
	School	PT job	Self-improvement	Enjoyment
N	875	145	481	1,216
M	2.39	3.57	3.06	4.47
SEM	0.04	0.11	0.06	0.03
99.5% *CI* for *M*				
LL	2.28	3.26	2.89	4.40
UL	2.51	3.88	3.24	4.54
Var.	1.30	1.61	1.66	0.72
SD	1.14	1.27	1.29	0.85
Skew	0.57	-0.35	-0.07	-1.83
SES	0.09	0.21	0.12	0.07
Kurt.	-0.30	-1.02	-0.99	3.43
SEK	0.17	0.41	0.23	0.15

	Location				
	Home	School, special	School, other	Part-time job	Commuting
N	1,529	114	256	165	553
M	3.42	3.35	3.00	3.56	4.01
SEM	0.04	0.14	0.09	0.11	0.05
99.5% *CI* for *M*					
LL	3.31	2.96	2.75	3.25	3.86
UL	3.52	3.74	3.26	3.87	4.16
Var.	2.03	2.02	1.94	1.71	1.48
SD	1.43	1.42	1.39	1.31	1.22
Skew	-0.32	-0.25	-0.02	-0.40	-1.07
SES	0.06	0.23	0.16	1.20	0.11
Kurt.	-1.23	-1.34	-1.22	-1.04	-0.10
SEK	0.13	0.46	0.31	0.40	0.21

	Persons present		
	Alone	Friends	Others
N	2,166	285	234
M	3.44	3.75	.92
SEM	0.03	0.08	0.09
99.5% *CI* for *M*			
LL	3.35	3.51	3.66
UL	3.53	3.98	4.19
Var.	2.01	1.69	1.57
SD	1.42	1.30	1.25
Skew	-0.36	-0.66	-0.89
SES	0.05	0.16	0.18
Kurt.	-1.19	-0.75	-0.44
SEK	0.11	0.31	0.36

Table 67 (Continued). *Descriptive Statistics for Contextual Variables by Affective Variables for Cross-sectional Study*

	Anxiety				Anxiety Log 10[a]			
	Purpose							
	School	PT job	Self-improvement	Enjoyment	School	PT job	Self-improvement	Enjoyment
N	875	145	481	1,216	875	145	481	1,216
M	2.54	2.71	2.31	1.46	0.34	0.36	0.29	0.10
SEM	0.05	0.12	0.06	0.03	0.01	0.02	0.01	0.01
99.5% *CI* for *M*								
LL	2.41	2.37	2.13	1.37	0.31	0.30	0.26	0.09
UL	2.67	3.05	2.49	1.54	0.36	0.43	0.33	0.12
Var.	1.74	1.91	1.70	0.93	0.06	0.07	0.07	0.04
SD	1.32	1.38	1.30	0.97	0.25	0.26	0.26	0.20
Skew	0.36	0.14	0.58	2.25	-0.24	-0.37	-1.52	1.39
SES	0.09	0.21	0.12	0.07	0.09	0.21	0.12	0.07
Kurt.	-0.99	-1.29	-0.81	4.35	-1.38	-1.37	-1.52	1.39
SEK	0.17	0.41	0.23	0.15	0.17	0.41	0.23	0.15
	Location									
	Home	School, special	School, other	PT job	Commuting	Home	School, special	School, other	PT job	Commuting
N	1,529	114	256	165	553	1,529	114	256	165	553
M	2.07	2.44	2.22	2.67	1.53	0.24	0.32	0.28	0.36	0.11
SEM	0.03	0.13	0.08	0.12	0.05	0.01	0.02	0.02	0.02	0.01
99.5% *CI* for *M*										
LL	1.97	2.07	2.01	2.35	1.40	0.22	0.25	0.24	0.29	0.09
UL	2.17	2.80	2.43	3.00	1.67	0.26	0.39	0.33	0.42	0.14
Var.	1.68	1.71	1.37	1.95	1.18	0.07	0.06	0.06	0.07	0.05
SD	1.30	1.31	1.17	1.40	1.09	0.26	0.25	0.24	0.26	0.22
Skew	0.92	0.45	0.56	0.13	1.98	0.43	-0.13	-0.02	-0.33	1.58
SES	0.06	0.23	0.16	0.20	0.11	0.06	0.23	0.16	0.20	0.11
Kurt.	-0.36	-0.93	-0.63	-1.34	2.74	-1.39	-1.45	-1.49	-1.49	0.88
SEK	0.13	0.46	0.31	0.40	0.21	0.13	0.46	0.31	0.40	0.22
	Persons present							
	Alone	Friends	Others		Alone	Friends	Others	
N	2,166	285	234		2,166	285	234	
M	2.00	2.23	2.06		0.14	0.16	0.32	
SEM	0.03	0.08	0.10		0.01	0.02	0.02	
99.5% CI for M								
LL	1.92	2.00	1.78		0.13	0.11	0.27	
UL	2.08	2.46	2.34		0.15	0.21	0.37	
Var.	1.64	1.64	1.72		0.05	0.06	0.05	
SD	1.28	1.28	1.31		0.23	0.25	0.23	
Skew	0.99	0.75	0.91		1.19	1.09	-0.16	
SES	0.05	0.16	0.18		0.06	0.16	0.19	
Kurt.	-0.26	-0.50	-0.49		-0.23	-0.58	-1.19	
SEK	0.11	0.31	0.36		0.11	0.32	0.37	

Note. Anxiety Log 10 = Anxiety variable, log 10 transformed; PT job = part-time job; SEM = standard error of measurement; CI = confidence interval; LL = lower limit; UL = upper limit; Var. = variance; SD = standard deviation; *SES* = standard error of skewness; Kurt. = Kurtosis; *SEK* = standard error of kurtosis.

[a]See Chapter 4 for a discussion of the Anxiety Log 10 transformation.

from 0.75 (with friends) to 0.99 (alone). For the anxiety log 10 transformed by persons present, skew ranged from -0.16 (with others) to 1.19 (alone). Though the skew for the affective variables (enjoyment, anxiety) by the contextual variables location and persons present were within acceptable ranges for the ANOVA procedure for the cross-sectional study episode data, I decided that the nonparametric procedures were appropriate for all comparisons.

Nonparametric procedures applied to cross-sectional comparisons of affective and contextual variables.

I applied the Kruskal-Wallis nonparametric procedures to all comparisons for the affective and contextual variables for the cross-sectional study. When the standard error of skewness (*SES*) exceeded two times skewness, the Kruskal-Wallis nonparametric procedures are reported. These results are reported below for each of the six comparisons.

Affective variables by purpose nonparametric procedures, cross-sectional study. The descriptive statistics for the affective variable enjoyment by the contextual variable purpose data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the purpose categories "for school" (skew = .57, *SES* = .09) and "for enjoyment" (skew = -1.83, *SES* = .07), indicating that nonparametric procedures were appropriate.

The descriptive statistics for the affective variable anxiety log 10 by the contextual variable purpose data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and

the purpose categories for school (skew =.56, *SES* = .06), for self-improvement (skew = .39, *SES* = .12), and for enjoyment (skew = 2.12, *SES* = .09) indicating that nonparametric procedures were appropriate.

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of enjoyment. I excluded cases that had not been coded for purpose (k = 75) or that had been assigned multiple codes (k = 2). The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 2{,}661) = 1{,}193.616$, $p < .001$, $\eta^2 = 0.449$. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .45, indicating that purpose exerted a very strong effect on the enjoyment ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for purpose by the affective variable enjoyment. Significant differences were found between school part-time job, school and self-improvement, school and enjoyment. Significant differences were also found between part-time job and self-improvement and enjoyment. Significant differences were also found between self-improvement and enjoyment. (See Table 68 for effect sizes for pairwise comparisons of affective variables by location.)

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of anxiety. I excluded cases that had not been coded for purpose (k = 75) or that had been assigned multiple codes (k = 2). The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 2{,}628) = 527.476$, $p < .001$, $\eta^2 =$

0.201. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .20, indicating a moderate relationship between purpose and anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for purpose by the affective variable anxiety. Significant differences were found between school and self-improvement and between school and enjoyment. Significant differences were also found between part-time job and self-improvement and enjoyment. Significant differences were also found between self-improvement and enjoyment. (See Table 68 for effect sizes for pairwise comparisons of affective variables by purpose.)

Table 68. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables by Purpose*

	Part-time job		Self-improvement		Enjoyment	
			Enjoyment			
School	-0.19	*	-0.18	*	-0.63	*
Part-time job			-0.08	*	-0.17	*
Self-improvement					-0.41	*
			Anxiety			
School	-0.02	NS	-0.06	*	-0.41	*
Part-time job			-0.05	*	-0.25	*
Self-improvement					-0.30	*

Note. * = significant at the .005 level

Affective variables by location nonparametric procedures, cross-sectional study. The descriptive statistics for the affective variable enjoyment by contextual variable location data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the location categories "at home" (skew = -.32, *SES* = .06) and "commuting" (skew = -1.07, *SES* = .11) indicating that nonparametric procedures were appropriate.

The descriptive statistics for the affective variable anxiety by the contextual variable location data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the location categories at home (skew = .77, *SES* = .05), at school, special (skew = .76, *SES* = .22), at school, other (skew = .34, *SES* = .13), and commuting (skew = 2.03, *SES* =.12) indicating that nonparametric procedures were appropriate.

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of enjoyment. The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 2{,}661) = 1{,}193.616$, $p < .001$, $\eta^2 = 0.449$. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .45, indicating that purpose exerted a very strong effect on the enjoyment ratings. A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of anxiety. I excluded cases that had not been coded for purpose ($k = 75$) or that had been assigned multiple codes ($k = 2$). The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 2{,}628) = 527.476$, $p < .001$, $\eta^2 = 0.201$. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .20, indicating a moderate relationship between purpose and anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney *U* test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for location by the affective variable enjoyment. Significant differences were found between home and an unspecified location at school (school, other) and between home and commuting. Significant

differences were also found between school, special and commuting. Significant differences were found between school, other and part-time job and school, other and commuting. Significant difference was also found between part-time job and commuting. (See Table 69 for effect sizes for pairwise comparisons of affective variables by location.)

Table 69. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables by Location*

	School, special	School, other	PT Job	Commuting
		Enjoyment		
Home	-0.01	-0.09 *	-0.01	-0.17 *
School, special		-0.05	-0.01	-0.09 *
School, other			-0.07 *	-0.20 *
Part-time job				-0.10 *
		Anxiety		
Home	-0.07 *	-0.06 *	-0.11 *	-0.19 *
School, special		-0.03	-0.02	-0.17 *
School, other			-0.06 *	-0.19 *
Part-time job				-0.21 *

Note. School, special = a special place at school for English study; School, other = another location at school.
* = significant at the .005 level

A Kruskal-Wallis test was conducted to evaluate differences among the four episode purposes (for school, for part-time job, for self-improvement, for enjoyment) on median change in rating of anxiety. I excluded cases that had not been coded for purpose (k = 75) or that had been assigned multiple codes (k = 2). The test, which was corrected for tied ranks, was significant, $\chi^2(3, N = 2{,}628) = 527.476$, $p < .001$, $\eta^2 = 0.201$. The proportion of variability in the ranked dependent variable accounted for by the purpose variable was .20, indicating a moderate relationship between purpose and anxiety ratings. Pairwise comparisons were conducted using the Mann-Whitney U test with the significance level set at $p < .005$ to control for multiple comparisons. Several

significant pairwise differences were observed for location by the affective variable anxiety. Significant differences were found between home and a location at school for English use (school, special), home and an unspecified location at school (school, other), home and part-time job, and between home and commuting. Significant differences were also found between school, special and commuting. Significant differences were found between school, other and part-time job and school, other and commuting. Significant difference was also found between part-time job and commuting. (See Table 69 for effect sizes for pairwise comparisons of affective variables by location.)

Affective variables by persons present nonparametric procedures, cross-sectional study. The descriptive statistics for the affective variable enjoyment by contextual variable persons present data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable enjoyment and the persons present categories alone (skew = -.36, *SES* = .05), with friends (skew = -.66, *SES* = .16), and with others (-.89, *SES* = .18) indicating that nonparametric procedures were appropriate.

The descriptive statistics for the affective variable anxiety by the contextual variable persons present data were examined to determine the skewness and kurtosis. Significant skewness was found between the affective variable anxiety and the persons present categories alone (skew = .84, *SES* = .05), with friends (skew = .49, *SES* = .14), and with others (skew = 1.28, *SES* = .26) indicating that nonparametric procedures were appropriate.

A Kruskal-Wallis test was conducted to evaluate differences among the three episode conditions for persons present (alone, with friends, other) on median change in rating of enjoyment. I excluded cases that had not been coded for person (k = 105). The test, which was corrected for tied ranks, was significant, $\chi^2(2, N = 2{,}632) = 36.204$, $p < .001$, $\eta^2 = 0.014$. Although there was a significant overall effect, the effect size was very close to zero. Pairwise comparisons were conducted using the Mann-Whitney U test with the significance level set at $p < .005$ to control for multiple comparisons. Several significant pairwise differences were observed for person with by the affective variable enjoyment. Significant differences were found between alone and with friends and alone and with others. (See Table 70 for effect sizes for pairwise comparisons of affective variables by persons present.)

Table 70. *Effect Sizes (*r*) for Pairwise Comparisons of Affective Variables by Persons Present*

	With friends		With others	
	Enjoyment			
Alone	-0.07	*	-0.10	*
With friends			-0.03	
	Anxiety			
Alone	-0.05		-0.02	
With friends			-0.05	

Note. * = significant at the .005 level

A Kruskal-Wallis test was conducted to evaluate differences among the three episode conditions for persons present (alone, with friends, other) on median change in rating of anxiety. I excluded cases that had not been coded for person (k = 101). The test, which was corrected for tied ranks, was not significant. Pairwise comparisons were conducted using the Mann-Whitney U test with the significance

level set at $p < .005$ to control for multiple comparisons. No significant differences were found. (See Table 70 for effect sizes for pairwise comparisons of affective variables by persons present.)

EATUS lexical data by affective features cross-sectional study.

Once the basic descriptive data regarding frequency for the descriptive lexical items for the episodes had been determined, the affective factors on the EATUS form were examined for the word families according to the level of anxiety and level of enjoyment and the most frequently cited keyword family. As discussed above, participants described episodes in their own words. As in Longitudinal Study 1 and Longitudinal Study 2, some key word families were common, such as "listen," "music," and "study." For each episode, participants reported two affective features: anxiety and enjoyment and were asked to rate two affective features on a 5-point rating scale: anxiety and enjoyment. Figure 126 displays the 40 frequent activity descriptor word families for Longitudinal Study 1 for the level of anxiety and Figure 127 provides this for the level of anxiety.

Episodes enjoyment patterns were quite similar to those of the two longitudinal components. However, some differences were noted. First, the proportion of episodes linked to the episode descriptors related to listening to English music ("listen," "English," "music") marked for high enjoyment is clear. As the student in the cross-sectional study were drawn from different departments, many of which were not English-focused, English music might have been one of the few out-of-class English episodes they engaged in. Episodes with descriptors such as "study," "English," and "homework" were, unsurprisingly, linked to low enjoyment. The three

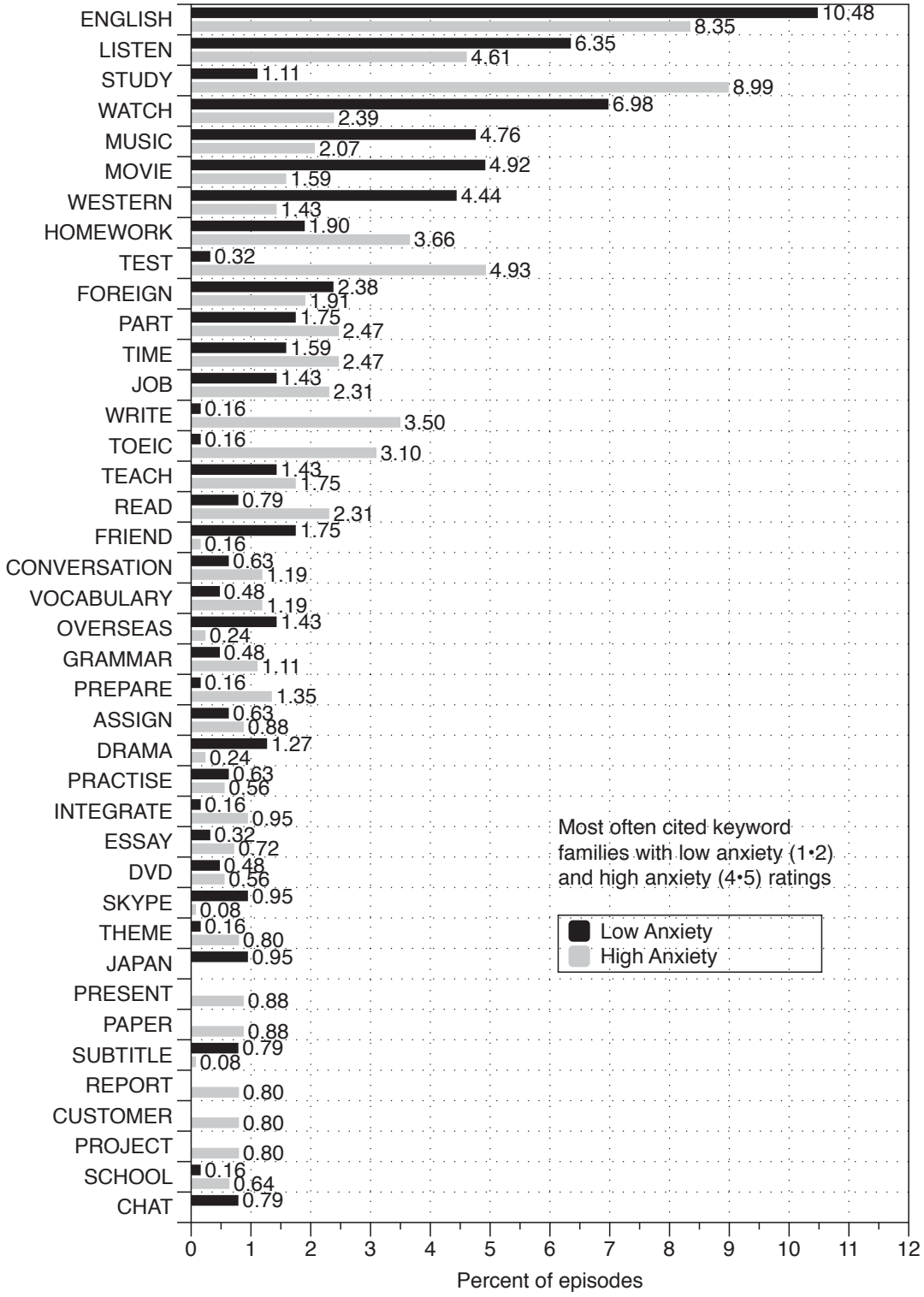

Figure 126. Frequency of activity descriptors in percent by level of anxiety for cross-sectional study.

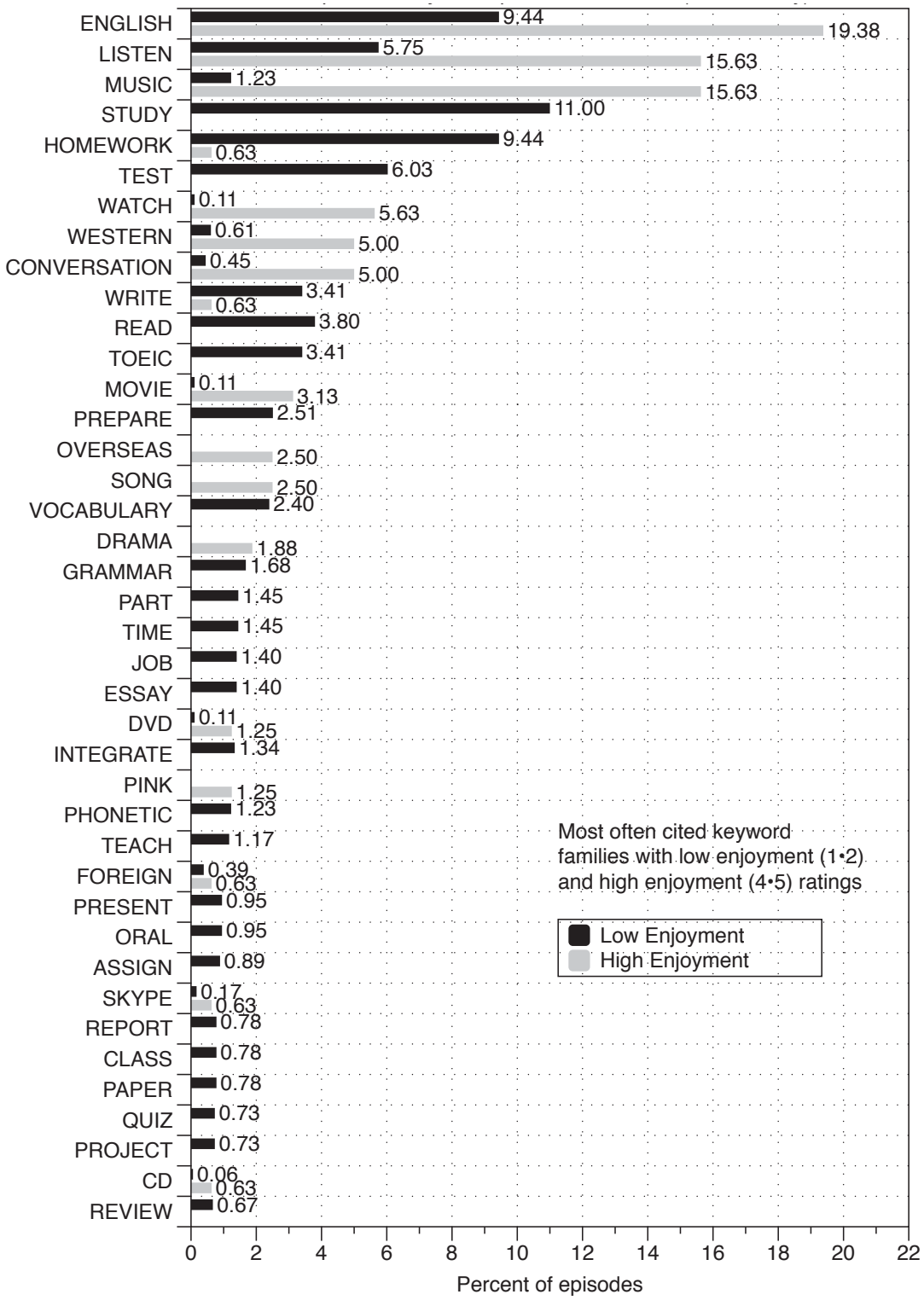

Figure 127. Frequency of activity descriptors in percent by level of enjoyment for cross-sectional study.

most frequent low anxiety descriptors were "English," "listen," and "watch." The most frequent high anxiety descriptors were "study," "English," and "test."

Taken together, the data on the cross-sectional participants' out-of-class English access served to confirm the data from the Longitudinal Study 2 participants and the Longitudinal Study 1 participants The next section explores the motivational survey and links between intention and behavior as measured by actual time use.

Motivational Survey Results

Reliability of the Survey Instrument

Reliabilities of the subscales (for each targeted factor) were calculated and were in line with, but in general somewhat lower than for those reported by Taguchi et al. (2009). Cronbach alpha reliability estimates ranged from .76 (Instrumental Prevention) to .91 (Intention to Learn). Only two items, if eliminated, would raise the reliabilities slightly. Were L2E item 3 (*I like the atmosphere of English classes.*) removed from the Attitudes toward Learning English, it would raise the reliability estimate from .89 to .90 and were IPrev item 6 (*I have to learn English because without passing my English courses I cannot graduate.*) to be removed from the Instrumental Prevention subset it would raise the subset reliability estimate from .76 to .77. Both these changes would result in marginal improvement of the subsets, but at the expense of reduction in the coverage of the targeted construct. Given that very little benefit would be gained from their elimination, I decided to retain them during subsequent statistical analysis. By factor, the Cronbach alpha reliability estimates for each of the target factors were as follows: Attitudes toward the Target Language and Culture (AL2) $\alpha = .862$, Instrumental Prevention (IPrev) $\alpha = .755$, Instrumental

Promotion (IProm) α = .858, Influence of Significant Others (ISO) α = .811, Ought-to Self (OS) α = .839; Ideal L2 Self (IS) α = .896, Attitude toward Learning Environment (L2E) α = .893, and Intention to Learn (IL) α = .908.

When assessing the reliability of a survey instrument it is necessary to investigate a number of aspects of the data. First and foremost is the sample size and missing data. If the number of cases is too small, it is impossible to statistically assess the instrument's reliability. Also, depending upon the intended statistical analysis, it might be important to screen the data for outliers, normality of the distribution, skewness, kurtosis, and the linearity of relationships between variables. As the sample size of 1,399 cases was sufficient for my intended statistical procedures. I chose to exclude rather than estimate cases that had missing data.

Motivational survey factor descriptive statistics.

In order to evaluate the functioning of the motivational survey instrument, I calculated descriptive statistics and checked for skew and kurtosis. An excess of skew and kurtosis can degrade the accuracy of certain statistical tests, such as ANOVA (see Table 71).

Although several of the variables show significant skew and kurtosis, Tabachnick and Fidell (2013) advise that statistical tests of the significance of skew and kurtosis are overly strict, leading to rejection of the null hypothesis, when the number of cases exceed approximately 200 (p. 80). Rather, they suggest paying more attention the absolute value of the statistics, to histograms of the scores, and to the expected normal probability plots.

Table 71. *Descriptive Statistics for Motivational Survey Composite Variables (Sums)*

	AL2	IL	I Prom	I Prev	IS	ISO	L2E	OS
M	22.53	25.52	28.05	18.35	20.57	20.49	21.40	27.86
SEM	0.20	0.24	0.23	0.14	0.24	0.23	0.20	0.21
95% *CI* for *M*								
LL	22.14	25.05	27.61	18.06	20.10	20.03	21.02	27.45
UL	22.92	25.99	28.50	18.63	21.04	20.94	21.78	28.27
SD	7.08	8.55	8.06	5.13	8.52	8.26	6.95	7.40
Range	35.00	40.00	45.00	30.00	40.00	45.00	35.00	45.00
Skewness	-0.28*	-0.35*	-0.31*	-0.11	0.10	0.05	-0.20*	-0.19*
SES	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Kurtosis	-0.31*	-0.46*	0.17	0.24	-0.38*	-0.20	-0.09	0.37*
SEK	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

Note. *n* = 1,265 (90.4%), Missing values = 135 (9.6%). AL2 = Attitudes toward the English Language Community and Culture; IL = Intention to Learn; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; IS = Ideal L2 Self; ISO Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self; SEM = standard error of the mean; CI = confidence index; LL = lower limit; UL = upper limit; *SES* = standard error of skewness; *SEK* = standard error of kurtosis.

* indicates significant ($p < .05$) skew and kurtosis (i.e., levels greater than 2 times the absolute value of the *SES* or *SEK*, respectively).

Motivational instrument factor subset score histograms and expected normality plots.

I next examined histograms and normality plots of the factor subset totals for skew and kurtosis to determine whether the subset scores would need to be adjusted for subsequent analyses. Examination of the histograms indicated some deviation from normality, with the factors AL2, IL, and IPROM displaying negative skewness and IPREV and OS showing large kurtosis. Examination of the QQ plots of ranked scores for each subset with the expected *z* score for similarly ranked items in a normal distribution showed skew and kurtosis to be within acceptable parameters.

Time reported for out-of-class English study per week.

I also examined the distribution of the average minutes per week that students had reported for the question about their out-of-class English study time for skew and

kurtosis. The data showed strong positive skewness. I applied a log 10 transformation to this data to generate a new variable, log 10 transformed Time Use. Figure 128 shows histograms of the untransformed and transformed variable.

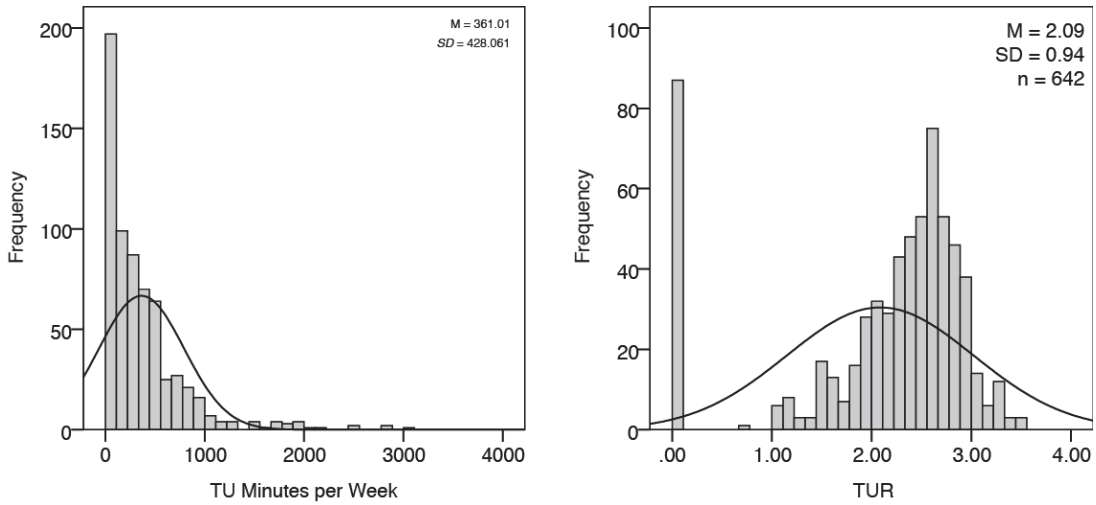

Figure 128. Histograms of time use minutes per week (left) and log 10 transformed time use (right).
Note. TU = time use; TUR = time use transformed; Log 10 = log 10 transformed.

Scatterplots for assessing linear relationship.

Factors to be used for structural equation modeling, factor analysis, or regression should be linearly related. One method for checking this is to produce scatterplots of variables. Scatterplots of the seven different predictor variables showed largely good linear relationships, with exceptions. Many of the plots that included Instrumental Prevention or the Influence of Significant Others had poor shapes and approached non-linearity. In scatterplots for the Rasch measures, including Intention to Learn, most plots showed positive linear relationships between hypothesized latent traits, with the exception of Instrumental Prevention.

Rasch Analysis

Some alternative tools are available for examining the factor structure of a data set. One such tool is Rasch analysis, which can assist in confirming the factor structure of the motivational survey that was suggested by the factor analysis. Rasch analysis of a set of items works from the assumption that items fit the Rasch model well but not perfectly. When examining the properties of a unidimensional scale, all of the items should have good fit characteristics vis-à-vis the model. Conversely, instruments that are multidimensional are not expected to display the same degree of fit to the model.

Rasch reliability statistics.

The initial Rasch analysis of the motivational items excluding Intention to Learn English showed good reliability and both person and item separation (see Tables 72 and 73).

Using the formula

$$\frac{\left(\left(4 \times Separation\right)+1\right)}{3}$$

to calculate strata, the number of person strata equals 6.21 and the number of item strata equals 24.40. This means that the motivational survey item is capable of dividing participants into approximately six groups, but also dividing the items into more than 24 levels of endorsability. The main reason for the large number of levels on with the items is that the large number of participants makes it easy to calculate item endorsement levels and standard errors with great precision. However, that precision does not rule out the possibility that the survey is multidimensional.

Table 72. *Summary of 1,396 Measured (Non-Extreme) Person*

			Model		Infit		Outfit				
	Total Score	Count	Measure	Error	MNSQ	ZSTD	MNSQ	ZSTD		Real	Model
M	158.00	54.80	.29	.13	1.05	-.40	1.04	-.50	RMSE	.15	.13
SD	42.40	1.60	.69	.02	.71	3.30	.69	3.20	True *SD*	.67	.68
Max	270.00	55.00	3.56	.43	4.62	9.90	8.27	9.90	Separation	4.41	5.23
Min	15.00	14.00	-2.40	.12	.15	-7.60	.16	-7.50	Response reliability	.95	.96
SE of response mean = .06											

Note. Max. = maximum; Min. = minimum; MNSQ = mean square; ZSTD = standardized mean residual; RMSE = root mean squared error; SE = standard error.

Table 73. *Summary of 55 Measured (Non-Extreme) Responses*

			Model		Infit		Outfit				
	Total Score	Count	Measure	Error	MNSQ	ZSTD	MNSQ	ZSTD		Real	Model
M	4,015.50	1,392.00	.00	.02	1.01	-.40	1.04	.10	RMSE	.03	.02
SD	793.30	2.90	.47	.00	.23	5.20	0.28	5.50	True *SD*	.47	.47
Max	5,333.00	1,397.00	1.11	.03	1.96	9.90	2.24	9.90	Separation	18.05	18.85
Min	1,996.00	1,385.00	-.91	.02	.62	-9.90	.61	-9.90	Response reliability	1.00	1.00
SE of response mean = .06											

Note. Max. = maximum; Min. = minimum; MNSQ = mean square; ZSTD = standardized mean residual; RMSE = root mean squared error; SE = standard error.

Rasch category functioning.

One of the considerations when assessing the fit of a set of data to the Rasch model is whether the categories used for collecting the data function correctly. The motivational items in this survey included six response options, three that were slightly negative and three that were slightly positive, and no middle option. Inspection of the category functioning (see Table 74) shows no major problems. All categories were used and there are differences between the levels of each category.

Table 74. *Category Functioning to Assess Fit of Data to Rasch Model*

	Structure		Score-to-measure				Coherence				
Category	Measure	*SE*	At Cat.	Zone		50% cumulative probability	M->C	C->M	RMSR	Estimated discrimination	Code
0			(-2.28)	- ∞	-1.71		80%	6%	2.20		0
1	-.63	.05	-1.12	-1.71	-.73	-1.30	27%	14%	1.47	.75	1
2	-.92	.04	-.39	-.73	-.05	-.73	37%	35%	.95	1.00	2
3	-.26	.03	.31	-.05	.69	-.10	42%	58%	.64	1.11	3
4	1.03	.02	1.14	.69	1.79	.74	29%	51%	.78	1.15	4
5	.78	.03	(-2.39)	1.79	∞	1.39	83%	18%	1.23	1.29	5

Note. Code: 0 = Not at all true of me; 1 = Not true of me; 2 = Not especially true of me; 3 = Somewhat true of me; 4 = True of me; 5 = Very true of me; SE = standard error; At Cat. = Rasch full-point threshold; M->C = percentage of measures expected to produce observations in this category that actually did; C->M = percentage of observations in this category that were produced by measures corresponding to the category; RMSR = root mean square residual.

Rasch category ordering.

In addition to confirming that the answer response categories accurately capture meaningful differences in the level of the endorsement that is being assessed, it is also important to check individual items for correct option ordering. For accurate scales, item option categories should be well ordered, with the presumably easiest to endorse item actually being the easiest to endorse. Examination of the item option categories shows that four of 56 items (excluding items targeting the Intention to Learn) to have disordered categories, three from the Instrumental Prevention subset and one from the Influence of Significant Others subset (see Figure 129). Among the four items, three have minor disturbances, in which the two lowest endorsement categories are reversed but quite near in level to each other. In those items, there is likely no meaningful difference between the two lowest levels of endorsement. The final item, Instrumental Prevention 6 (*I have to learn English because if I don't pass my English courses I cannot graduate*.) has categories that are very poorly

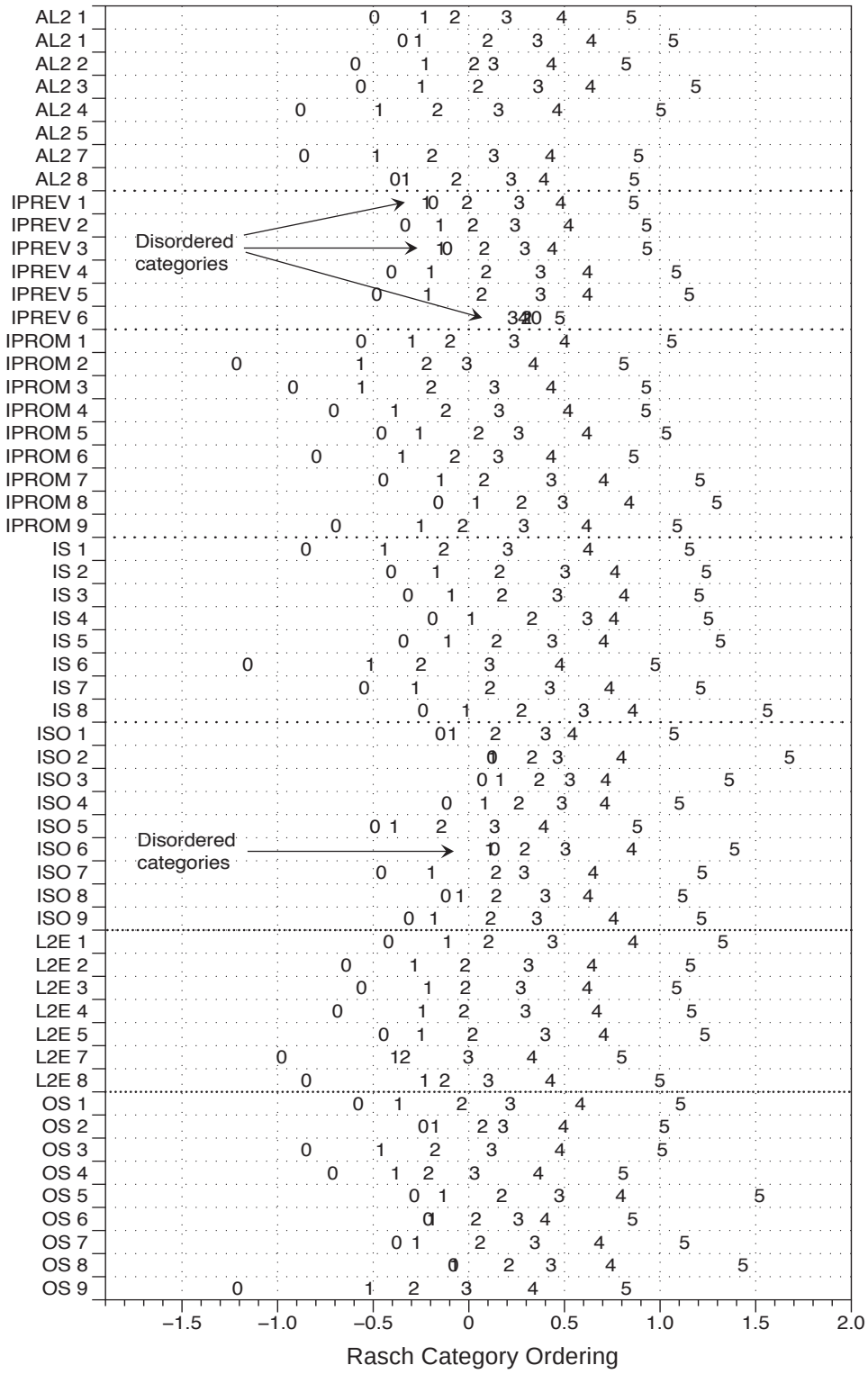

Figure 129. Rasch category ordering and display of disordered categories for motivational survey instrument.

Note. AL2 = Attitudes toward the English Language Community and Culture; I Prev = Instrumental Prevention; I Prom = Instrumental Promotion; IS = Ideal L2 Self; ISO Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self.

differentiated. It appears that participants had no clear idea about how to answer the question. Ideally, responses to items with disordered categories should be reshuffled into new or collapsed categories, and items with sever disordering should be eliminated entirely. However, as my focus in this project is not in developing a new motivational survey, I have decided to keep the categories as is. One consequence of this is that the disordering will likely increase error and thereby exert a negative effect on subsequent analyses, such as with the structural equation modeling. In addition, this disordering is also likely for the poor results during the factor analyses discussed above.

Roadmap charts of dataset.

The Rasch analysis software Winsteps (Linacre, 2005) provides a number of ways to examine a dataset. One involves simple visual inspection of items as plotted according to degree of fit and difficulty of endorsement. This can give some indication concerning the degree to which a set of items fit the presupposed unidimensional Rasch model and also reveals which items cluster together along the fit dimension. Preliminary mappings of all items together showed a wide variation in *t*-outfit *z*-std from approximately -10 (overfitting) to 10 (underfitting) and item endorsement probability levels ranging from approximately -0.9 to 1.3 (in standard deviations) (see Figure 130). The wide span of *t*-outfit *z*-std indicates either that a large number of items show very poor fit to a unidimensional model, or that the underlying model is multidimensional.

Moreover, although some items that had been designed to target a particular factor (e.g., influence of significant others) clustered together on the fit dimension,

items designed to target a different factor (e.g., attitudes toward the foreign language and culture) often exhibited a wide spread in their fit statistics (see Figure 131).

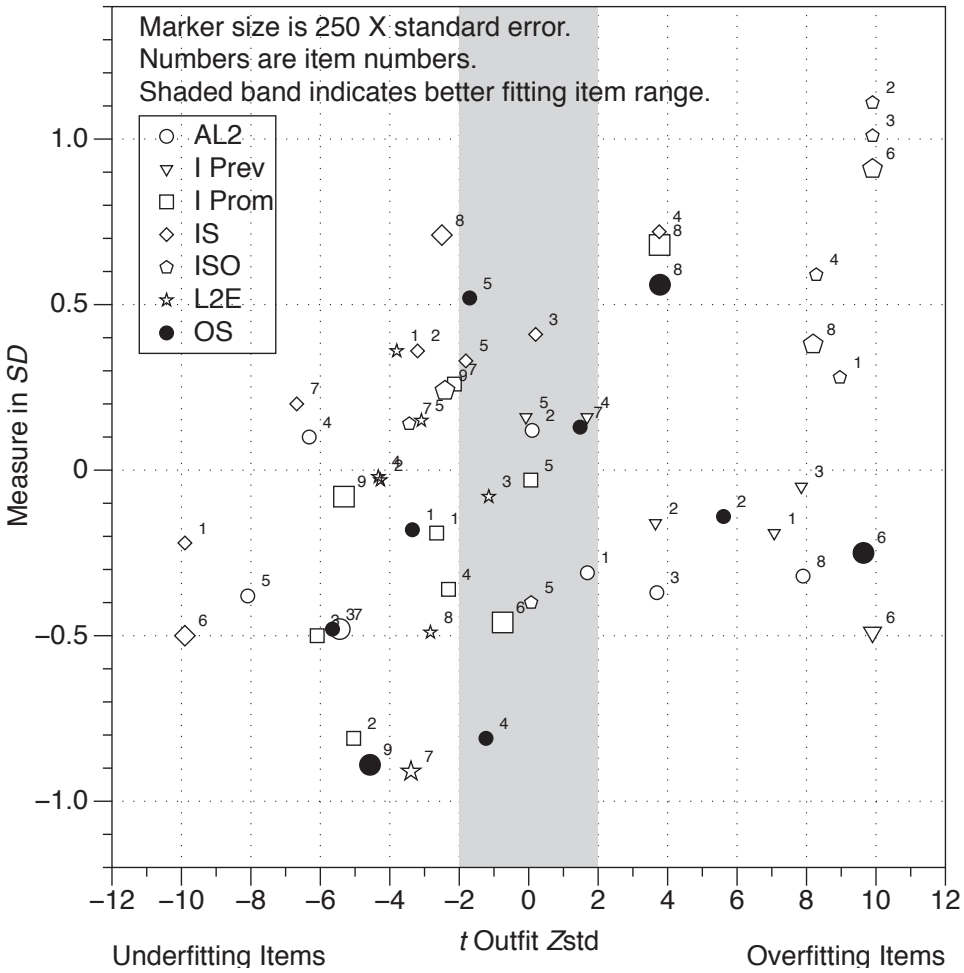

Figure 130. Plot of motivational survey items along the Rasch measure and fit dimensions.

Note. Due to different marker shapes, inter-subset size (e.g., standard error) comparisons are not accurate. AL2 = Attitudes toward the English Language Community and Culture; I Prev = Instrumental Prevention; I Prom = Instrumental Promotion; IS = Ideal L2 Self; ISO Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self; Zstd = standardized mean residual.

Item-person maps for constructs.

Rasch analysis of the constructs hypothesized to comprise the factors of the Time Use Model (TUM) of motivation for this study and the Intention to Learn factor

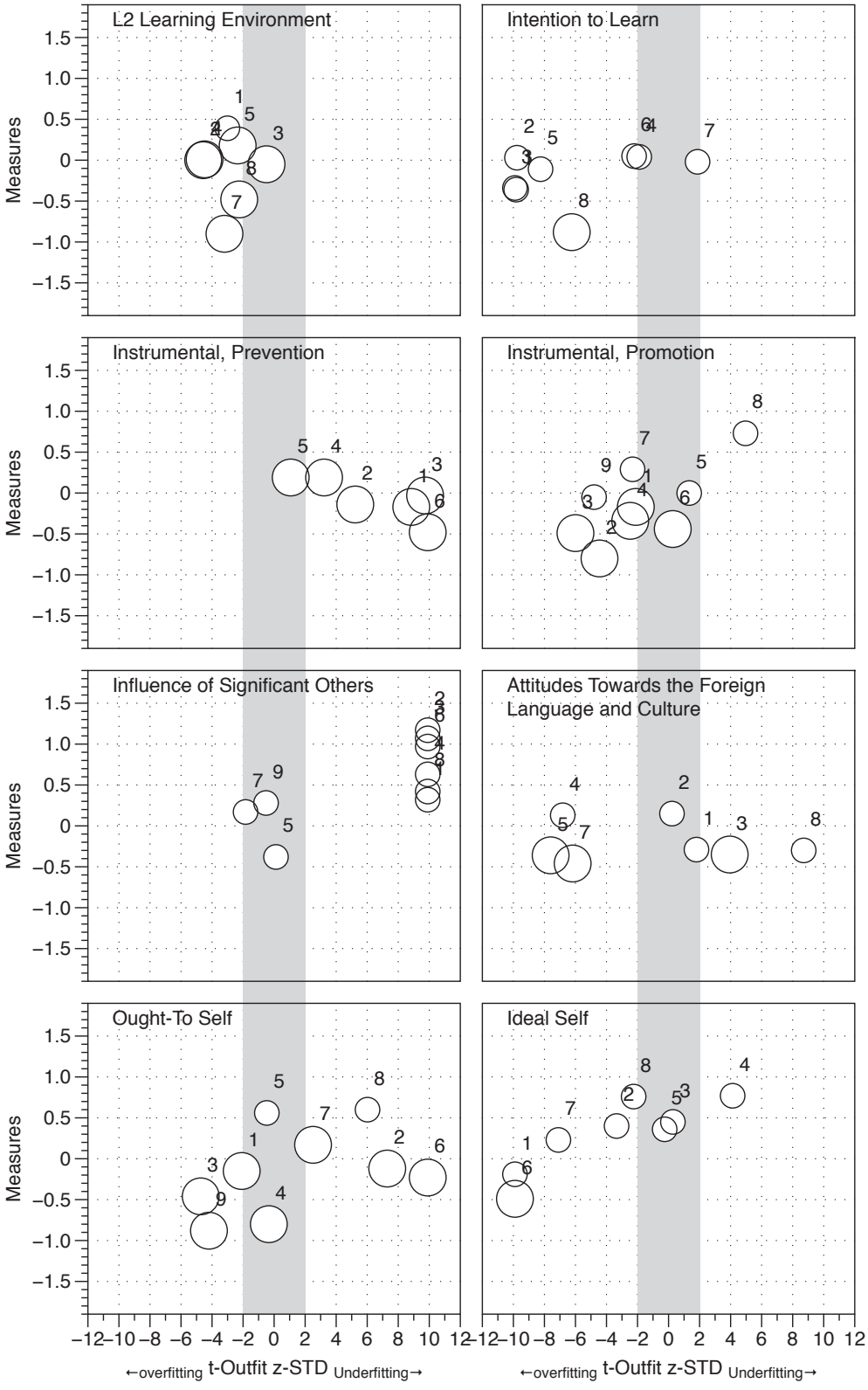

Figure 131. Clusters for fit statistics for dimensions of motivational survey.
Note. L2 Learning Environment = Attitude toward Learning English. Marker diameter indicates SE X 250. Shaded bands indicate better fitting item ranges. Z-STD = standard mean residual.

were conducted on each of the constructs for this study. The scales for this study range from -5 to 5 standard deviations in Rasch logits. The item-person maps for each of the constructs shows the scale for both persons and items on the left side. In each of the Wright maps that follow, participants are represented on the left side of the item-person map as number signs (#) and periods (.). The number of persons these indicate varies for each of the constructs. A person at the mean (*M*) of the person motivation scale on the left side has a 50% chance of endorsing an item (i.e., assigning a rating of 4, 5, or 6) of the same difficulty level (*M*) on the right side of the vertical line (Bond & Fox, 2007). Items located above the item mean are more difficult to endorse.

Were I intending to develop a scale, some adjustment would be needed to the Likert scale categories discussed below. However, as the motivational survey portion of this study is to confirm the model from Taguchi et al. (2009) and replace the Intention to Learn factor with time use, the Rasch analysis served to confirm that the categories functioned adequately. The results for the Rasch Likert scale category functioning analysis for the factors follow here. More separation between each of the categories would be ideal.

Attitudes toward the Target Language and Culture (AL2). The Likert scale category functioning was examined for the nine items measuring the Attitudes Toward the Target Language and Culture construct (Table 75). The minimum of 10 observations per category was met, as the smallest number of observations was 482 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of

the steps. The smallest gap was between the second and third measure (τ_3 = -1.97, τ_4 = -1.73). These were disordered thresholds.

Table 75. *Category Structure Functioning for Attitudes Toward the Target Language and Culture*

Category	Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure measure	Category measure
1 Not at all true of me	482	5	1.19	1.29	None	(-3.45)
2 Not true of me	692	7	0.93	0.98	-1.97	-2.03
3 Not especially true of me	1,866	19	0.84	0.85	-1.73	-0.91
4 Somewhat true of me	3,242	33	0.82	0.87	-0.45	0.57
5 True of me	1,845	19	0.92	0.92	1.63	2.15
6 Very true of me	1,631	17	1.25	1.20	2.52	-3.85

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Rasch item statistics were obtained for the Instrumental Prevention construct (Table 76). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were acceptable (.68 to .76).

Table 76. *Rasch Statistics for the Items Measuring Attitudes Towards the Target Language and Culture*

			Infit		Outfit		
Item	Measure	*SE*	*MNSQ*	*ZSTD*	*MNSQ*	*ZSTD*	*PMC*
AL2_8	-0.12	0.03	1.21	5.1	1.21	4.8	0.68
AL2_3	-0.20	0.03	1.19	4.5	1.17	3.9	0.68
AL2_1	-0.11	0.03	1.03	0.9	1.04	0.9	0.69
AL2_5	-0.21	0.03	0.96	-1.1	1.01	0.3	0.68
AL2_2	0.51	0.03	0.96	-1.0	0.98	-0.6	0.73
AL2_4	0.58	0.03	0.82	-5.1	0.84	-4.3	0.76
AL2_7	-0.35	0.03	0.82	-4.9	0.77	-5.9	0.75

Note: AL2 = Attitudes Towards the Target Language and Culture; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

Figure 132 shows the item-person map for the Attitudes Towards the Target Language and Culture (AL2) construct. The Attitudes Towards the Target Language and Culture (AL2) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability (M = .65, SD = 1.10) and mean item endorsability difficulty (M = 0, SD = .32) showed that the items were generally endorsable, with a generally bell-shaped curve for the persons measure, though there were outliers on the persons measures. The most difficult items to endorse were AL2_2 ("If they are at my level, I like magazines, newspapers or books in English," difficulty measure = .51) and AL2_4 ("I like talking in English with people from other countries," difficulty measure = .48). Both items were at or near two standard deviations above the item mean. The easiest item to endorse was AL2_7 ("I enjoy travelling to English-speaking countries," difficulty measure = -.35).

Instrumental Prevention (IPrev). The Likert scale category functioning was examined for the nine items measuring the Instrumental Prevention construct (Table 77). The minimum of 10 observations per category was met, as the smallest number of observations was 426 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the fifth and sixth thresholds (τ_5 = 1.20, τ_6 = -1.57). There were no disordered thresholds.

Rasch item statistics were obtained for the Instrumental Prevention construct (Table 78). The infit MNSQ and outfit MNSQ of for the items on this construct

showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were below .60 for one item (IPrev_6) but were acceptable for the other six items (.62-.70).

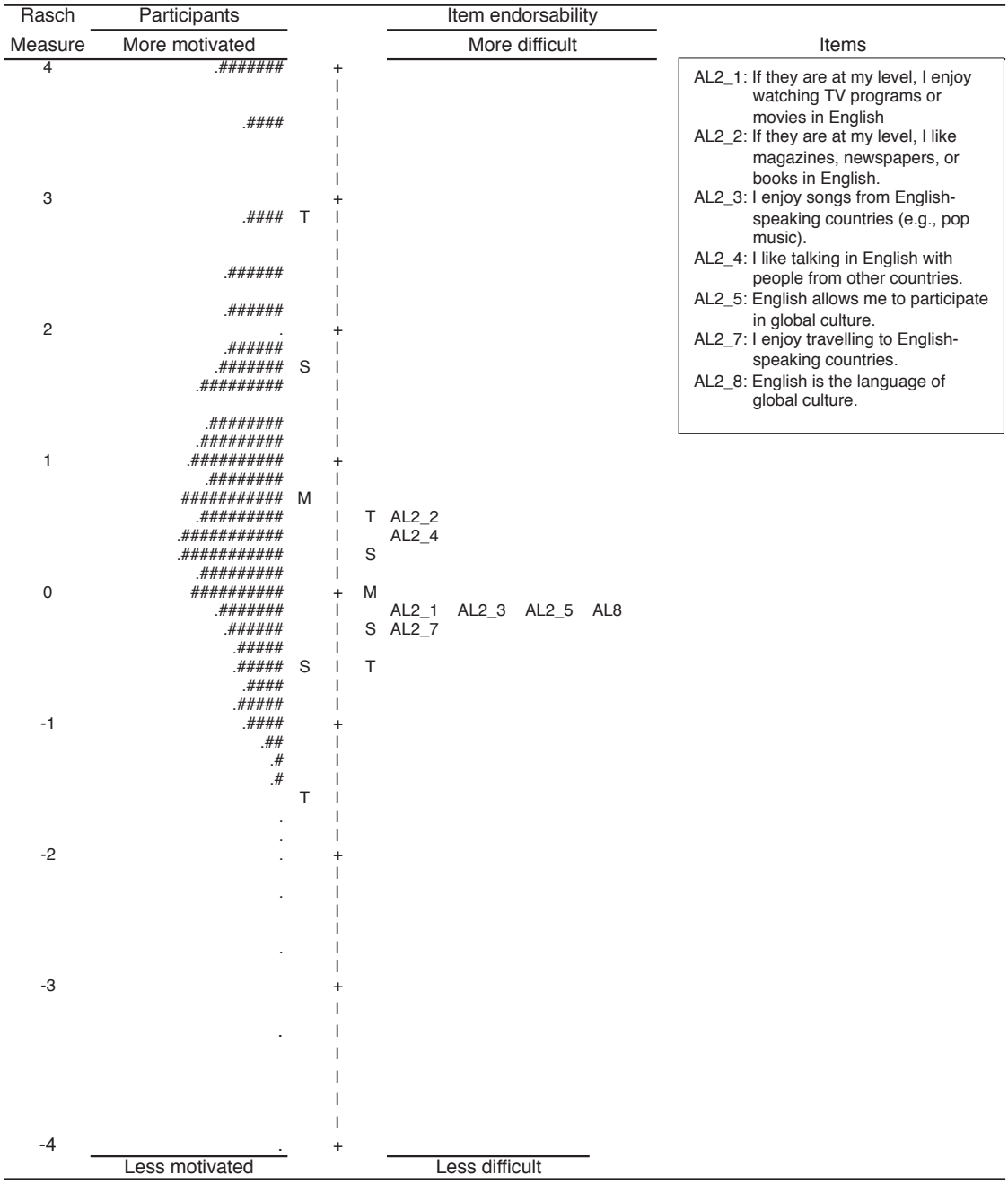

Figure 132. Item-person map of the Attitudes Towards the Target Language and Culture (AL2) construct. *Each # = 7 persons. Each . = 1-6 persons;*

Note. AL2 = Attitudes towards the Target Language and Culture; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

Table 77. *Category Structure Functioning for Instrumental Prevention*

Category	Count	(%)	Infit *MNSQ*	Outfit *MNSQ*	Structure Measure	Category Measure
1 Not at all true of me	426	5	1.16	1.27	None	(-2.58)
2 Not true of me	519	6	0.93	0.97	-0.88	-1.43
3 Not especially true of me	1500	18	0.83	0.83	-1.32	-0.63
4 Somewhat true of me	3010	36	0.85	0.93	-0.56	0.32
5 True of me	1627	19	0.87	0.88	1.20	1.51
6 Very true of me	1274	15	1.16	1.10	1.57	(3.00)

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Figure 133 shows the item-person map for the Instrumental Prevention (IPrev) construct. The Instrumental Prevention (IPrev) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability (M = .41, SD = .90) and mean item endorsability difficulty (M = 0, SD = .27) showed that the items were somewhat endorsable, with a generally bell-shaped curve for the persons measure, though it shows two closely spaced peaks, one at the person mean and one just below the person mean at item IPrev_3 ("I have to study English because I don't want to get bad marks in it at university," difficulty measure = .05). The most difficult items to endorse were IPrev_4 ("It will be hard to get a good job if I don't speak English," difficulty measure = .31) and IPrev_5 ("I have to study English; otherwise, I am unlikely to be successful in my future career," difficulty measure = .31). Both items were just above one standard deviation from the item mean. The easiest item to endorse was IPrev_6 ("I have to learn English because without passing my English courses I cannot graduate," difficulty measure = -.48). The wide person separation on the construct suggests that participants might fall into two groups based on their

plans: those who have long term goals that link English to their future employment and those whose goal is more immediate (IPrev_6 "graduate") or social (IPrev_1 "considered a weak learner," difficulty measure = -.11; IPrev_2 "held back by a poor score," difficulty measure = -.08). In effect, the split seems between current goals and future goals.

Table 78. *Rasch Statistics for the Items Measuring Instrumental Prevention*

Item	Measure	SE	Infit MNSQ	Infit ZSTD	Outfit MNSQ	Outfit ZSTD	PMC
IPrev_6	-0.48	.03	1.47	9.9	1.48	9.9	.49
IPrev_1	-0.11	.03	1.01	0.3	1.06	1.4	.62
IPrev_5	0.31	.03	1.04	1.1	1.04	0.9	.67
IPrev_4	0.31	.03	0.88	-3.2	0.90	-2.7	.69
IPrev_3	0.05	.03	0.83	-4.5	0.84	-4.4	.69
IPrev_2	-0.08	.03	0.74	-7.3	0.73	-7.6	.70

Note. IPrev = Instrumental Prevention; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

Instrumental Promotion (IProm). The Likert scale category functioning was examined for the nine items measuring the Instrumental Promotion construct (Table 79). The minimum of 10 observations per category was met, as the smallest number of observations was 742 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the second and third thresholds (τ_2 = -1.03, τ_3 = -1.22). The thresholds were not disordered.

Rasch item statistics were obtained for the Instrumental Promotion construct (Table 80). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the

relative strength of the item in relation to other items measuring the construct, were below .60 for one item (IProm_8) but were acceptable for the other six items.

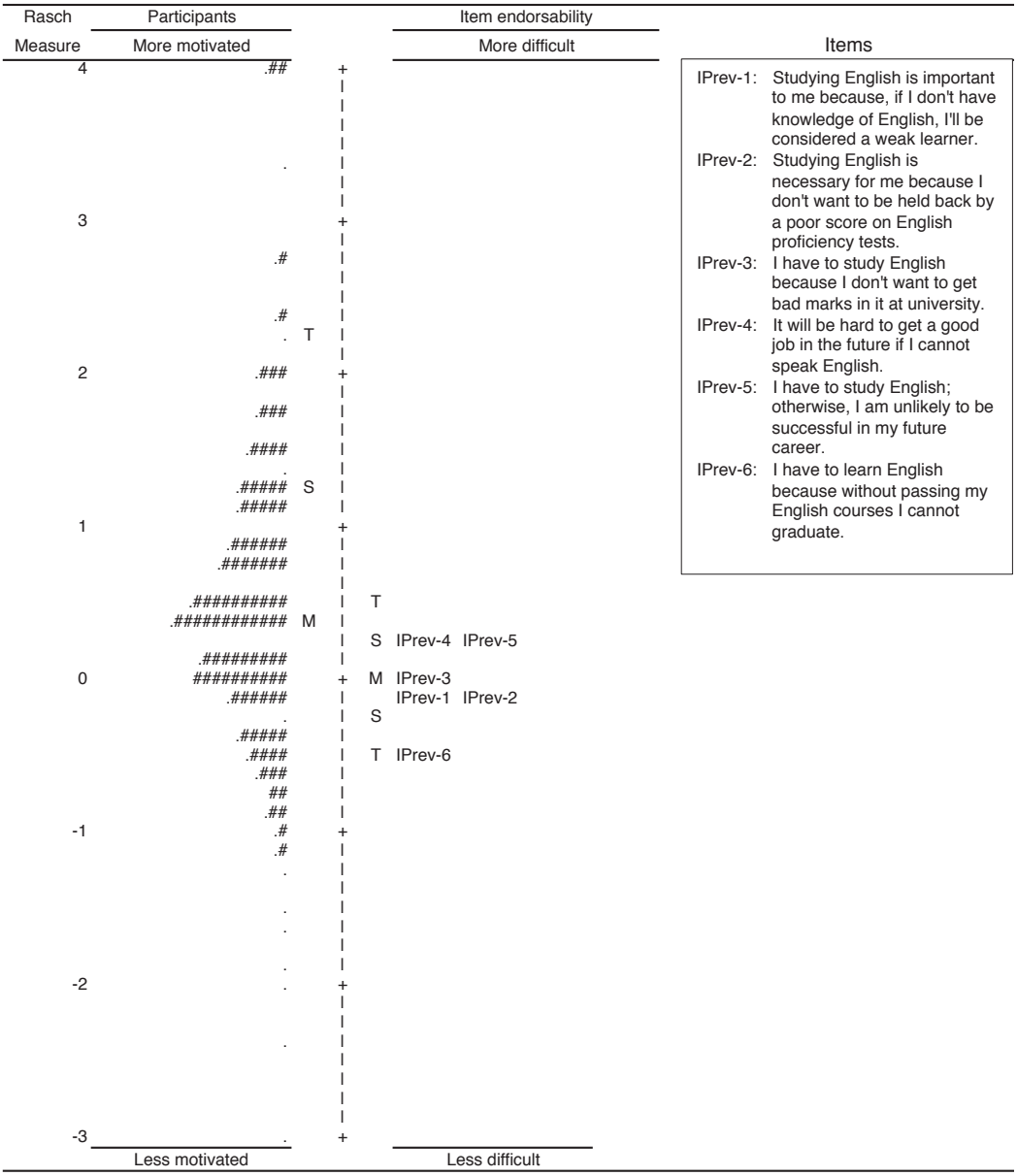

Figure 133. Item-person map of the Instrumental Prevention (IPrev) construct. *Each # = 12; each . = 1-11 persons.*

Note. IPrev = Instrumental Prevention; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

Table 79. *Category Structure Functioning for Instrumental Promotion*

Category		Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure measure	Category measure
1	Not at all true of me	742	6	1.34	1.45	None	(-2.64)
2	Not true of me	874	7	0.99	1.00	-1.03	-1.41
3	Not especially true of me	2.215	18	0.86	0.88	-1.22	-0.55
4	Somewhat true of me	3.712	30	0.90	0.89	-0.31	0.37
5	True of me	2.535	20	0.87	0.86	1.11	1.45
6	Very true of me	2.437	19	1.03	1.02	1.45	(2.90)

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Table 80. *Rasch Statistics for the Items Measuring Instrumental Promotion*

Item	Measure	*SE*	Infit *MNSQ*	Infit *ZSTD*	Outfit *MNSQ*	Outfit *ZSTD*	*PMC*
IProm_8	1.07	.03	1.34	8.70	1.38	8.90	.59
IProm_5	0.17	.03	1.01	0.20	1.06	1.50	.66
IProm_9	0.11	.03	1.00	0.00	1.04	1.10	.61
IProm_1	-0.04	.03	1.02	0.50	1.02	0.40	.67
IProm_6	-0.37	.03	0.99	-0.40	1.01	0.30	.64
IProm_7	0.53	.03	0.99	-0.20	1.01	0.20	.71
IProm_2	-0.81	.03	0.93	-1.70	0.91	-2.10	.62
IProm_4	-0.24	.03	0.88	-3.20	0.85	-4.00	.72
IProm_3	-0.42	.03	0.80	-5.70	0.76	-6.50	.71

Note. IProm = Instrumental Promotion; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

Figure 134 shows the item-person map for the Instrumental Promotion (IProm) construct. The Instrumental Promotion (IProm) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability (M = .55, SD = .96) and mean item endorsability difficulty (M = 0, SD = .53) showed that the items had a wide range in endorsability. The peak on the persons measure appears just above the mean on the item measures, at items IProm_5 ("Studying

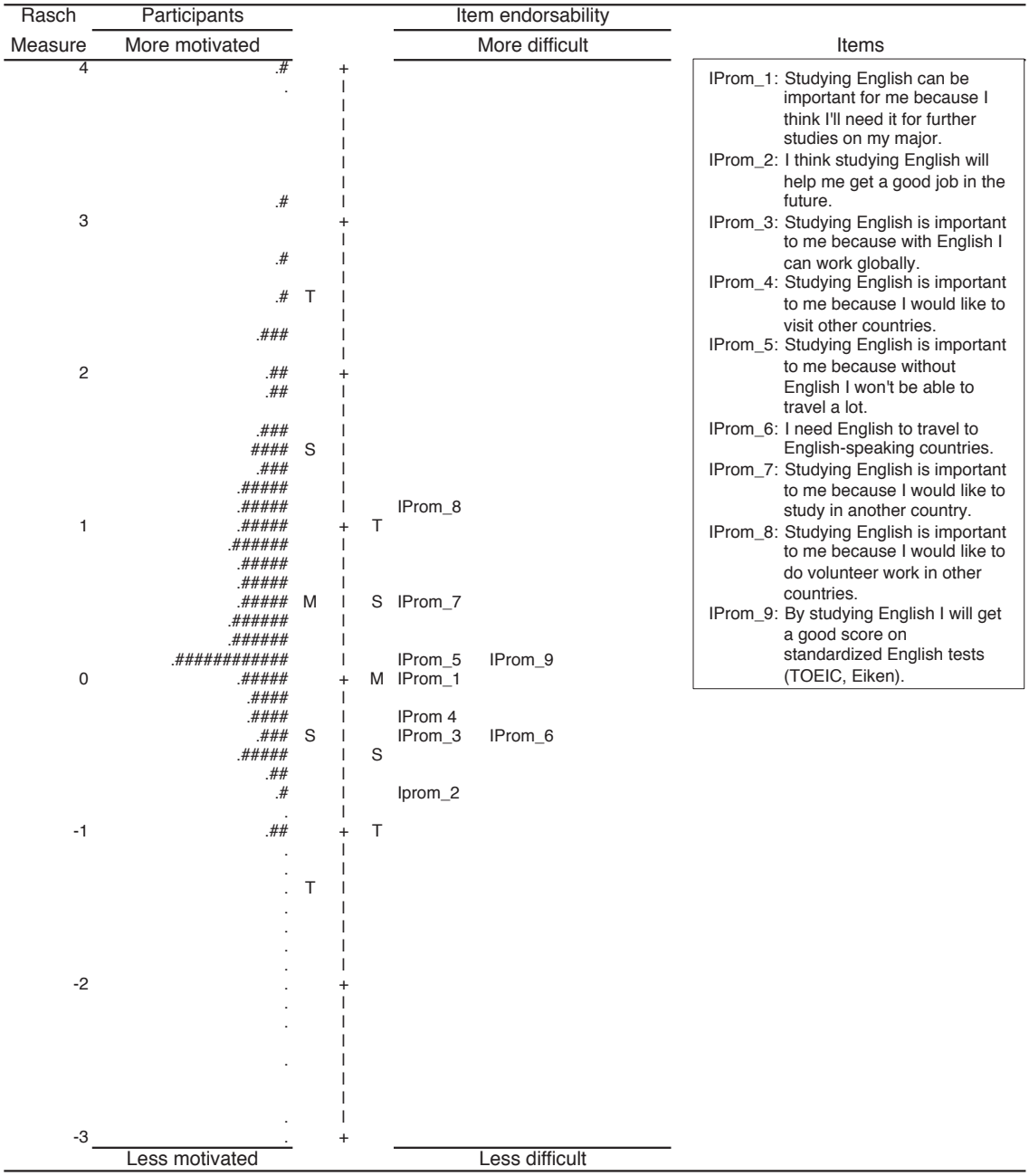

Figure 134. Item-person map of the Instrumental Promotion (IProm) construct. *Each # = 11 persons. Each . = 1-10 persons.*

Note. IProm = Instrumental Promotion; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

English is important to me because without English I will not be able to travel a lot," difficulty measure = .17) and IProm_9 ("By studying English I will get good scores on standardized English tests" difficulty measure = .11). The most difficult item to

endorse was IProm_8 ("Studying English is important to me because I would like to do volunteer work in other countries," difficulty measure = 1.07), which was more than two standard deviations outside the item mean. The easiest item to endorse was IProm_2 ("I think studying English will help me to get a good job in the future," difficulty measure = -.08), which was nearly two standard deviations below the mean, suggesting that participants might see a connection between future employment and English ability.

Ideal L2 Self (IS). The Likert scale category functioning was examined for the nine items measuring the Ideal L2 Self construct (Table 81). The minimum of 10 observations per category was met, as the smallest number of observations was 1,252 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the second and third thresholds (τ_2 = -1.55, τ_3 = -1.41). There were no disordered thresholds.

Table 81. *Category Structure Functioning for Ideal L2 Self*

Category	Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure measure	Category measure
1 Not at all true of me	1,252	11	1.08	1.14	None	(-3.05)
2 Not true of me	1,352	12	0.86	0.90	-1.55	-1.68
3 Not especially true of me	2,647	24	0.80	0.77	-1.41	-0.64
4 Somewhat true of me	2,941	26	0.89	0.93	-0.17	0.50
5 True of me	1,587	14	1.03	1.03	1.29	1.71
6 Very true of me	1,349	12	1.26	1.22	1.84	(3.24)

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Rasch item statistics were obtained for the Ideal L2 Self construct (Table 82). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were acceptable (.61 to .83).

Table 82. *Rasch Statistics for the Items Measuring Ideal Self*

			Infit		Outfit		
Item	Measure	*SE*	*MNSQ*	*ZSTD*	*MNSQ*	*ZSTD*	*PMC*
IS_5	0.12	.03	1.50	9.90	1.62	9.90	.61
IS_6	-1.18	.03	1.13	3.30	1.10	2.30	.65
IS_4	0.74	.03	1.05	1.30	1.05	1.20	.75
IS_1	-0.73	.03	0.96	-1.10	0.98	-0.60	.71
IS_8	0.72	.03	0.96	-1.00	0.98	-0.60	.77
IS_3	0.24	.03	0.89	-3.00	0.88	-3.20	.79
IS_2	0.18	.03	0.73	-7.90	0.73	-7.80	.83
IS_7	-0.08	.03	0.68	-9.50	0.67	-9.50	.83

Note. IS = Ideal Self; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

Figure 135 shows the item-person map for the Ideal L2 Self (IS) construct. The Ideal L2 Self (IS) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability (M = .03, SD = 1.26) and mean item endorsability difficulty (M = 0, SD = .62) showed that the items were somewhat endorsable by the participants. The persons formed a double-peaked distribution curve, with one peak at the person mean point, with item IS_7 ("When I think of my future career, I imagine myself using English," difficulty measure = -.08) and one between the person mean point and one standard deviation below the mean, next to

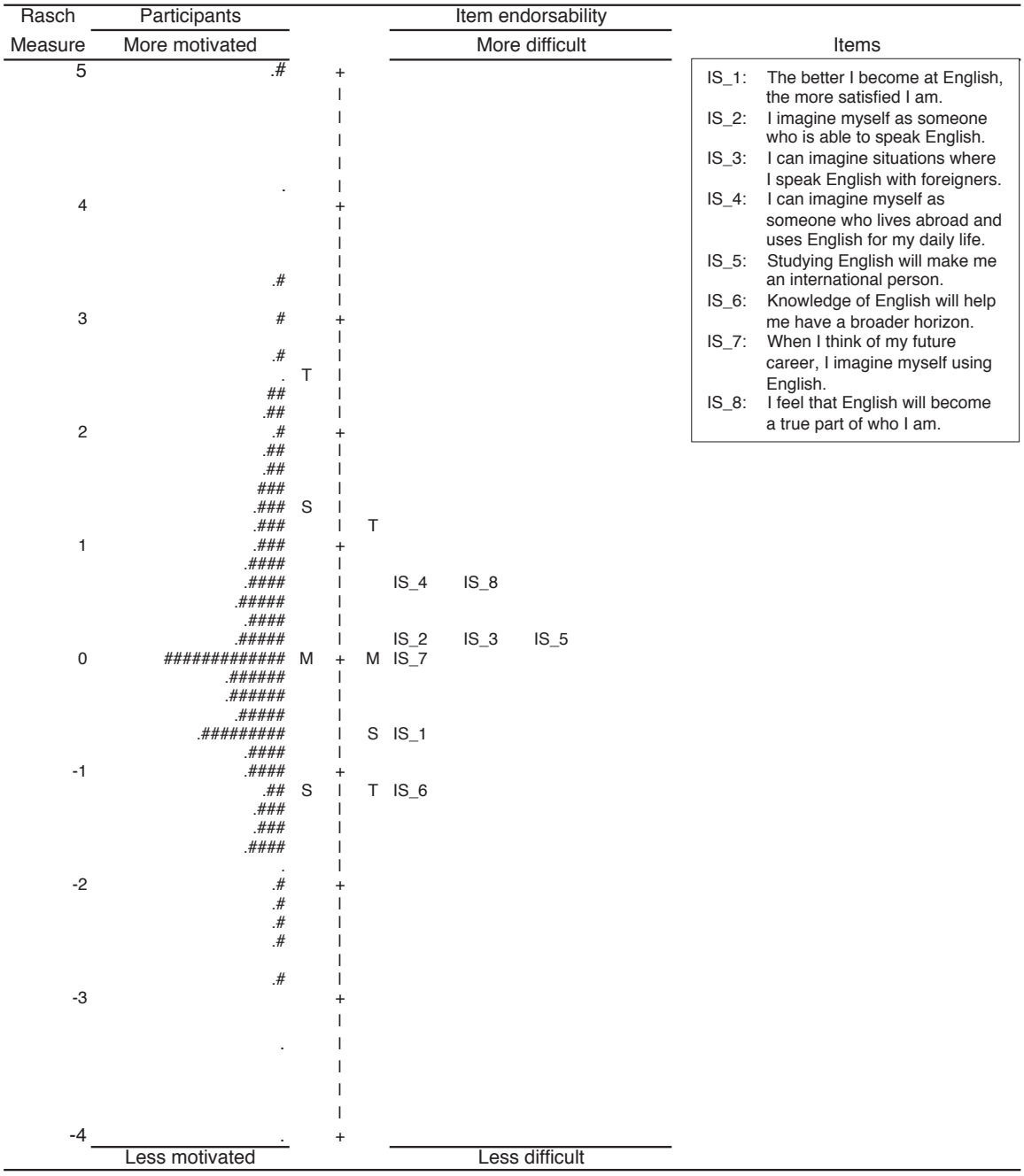

Figure 135. Item-person map of the Ideal L2 Self (IS) construct. Each # = 11 persons; each . = 1-10 persons.

Note. IS = Ideal L2 Self; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

item IS_1, which was one standard deviation below the item mean ("The better I become at English, the more satisfied I become," difficulty measure = -.73). The most difficult items to endorse were IS_4 ("I can imagine myself as someone who lives

abroad and uses English for my daily life," difficulty measure = .74) and IS_8 ("I feel that English will become a true part of who I am," difficulty measure = .72). The easiest item to endorse was IS_6 ("Knowledge of English will help me to have a broader horizon," difficulty measure = -1.18). This suggests that participants might be divided into two groups on the Ideal L2 Self construct: those who have an international posture (IS_4 "someone who lives abroad"; IS_8 "English will become a true part of who I am," difficulty measure = .72) and those who do not have the same vision of themselves.

Influence of Significant Others (ISO). The Likert scale category functioning was examined for the nine items measuring the Influence of Significant Others construct (Table 83). The minimum of 10 observations per category was met, as the smallest number of observations was 1,337 (category 6). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the second and third thresholds ($\tau_5 = 0.88$, $\tau_6 = 0.81$). The fifth and sixth thresholds were disordered.

Rasch item statistics were obtained for the Influence of Significant Others construct (Table 84). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were below .60 for some items (ISO_3, ISO_5, ISO_6) but were acceptable for the other six items (.60 to .70).

Table 83. *Category Structure Functioning for Influence of Significant Others*

Category		Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure measure	Category measure
1	Not at all true of me	2,349	19	1.07	1.08	None	(-2.25)
2	Not true of me	1,654	13	0.90	0.89	-0.56	-1.11
3	Not especially true of me	2,823	23	0.89	0.91	-1.01	-0.38
4	Somewhat true of me	2,849	23	0.95	0.98	-0.12	0.30
5	True of me	1,520	12	0.94	0.98	0.88	1.12
6	Very true of me	1,337	11	1.14	1.18	0.81	(2.38)

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Table 84. *Rasch Statistics for the Items Measuring Influence of Significant Others*

			Infit		Outfit		
Item	Measure	*SE*	*MNSQ*	*ZSTD*	*MNSQ*	*ZSTD*	*PMC*
ISO_3	0.57	.02	1.40	9.90	1.50	9.90	.49
ISO_5	-0.93	.03	1.21	5.30	1.14	3.40	.57
ISO_8	-0.10	.02	1.11	3.10	1.15	3.80	.61
ISO_6	0.47	.02	1.06	1.60	1.11	2.70	.53
ISO_2	0.68	.03	1.08	2.10	1.03	0.70	.60
ISO_1	-0.20	.02	0.94	-1.60	0.93	-1.90	.67
ISO_4	0.12	.02	0.85	-4.30	0.85	-4.20	.66
ISO_7	-0.35	.02	0.80	-5.90	0.82	-5.30	.66
ISO_9	-0.25	.02	0.70	-9.50	0.70	-9.00	.70

Note: ISO = Influence of significant others; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

Figure 136 shows the item-person map for the Influence of Significant Others (ISO) construct. The Influence of Significant Others (ISO) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability (M = -.21, SD = .82) and mean item endorsability difficulty (M = 0, SD = .49) showed that the items on the whole were somewhat easily endorsable by participants, though the

persons formed a double-peaked distribution curve, with one peak just above the person mean point and one just below the person mean point. The most difficult item to endorse was ISO_2 ("My parents have encouraged me to attend additional English classes, such as at English conversation schools," difficulty measure = .18). The easiest item to endorse was OS_9 ("Some of my friends are good at English, so I want to be good, too," difficulty measure = -.25).

Attitude toward Learning English (L2E). The Likert scale category functioning was examined for the nine items measuring the Attitudes toward Learning English construct (Table 85). The minimum of 10 observations per category was met, as the smallest number of observations was 482 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the second and third measure (τ_3 = -1.97, τ_4 = -1.73). These were disordered thresholds.

Rasch item statistics were obtained for the Attitudes toward Learning English construct (Table 86). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were acceptable (.68 to .76).

Figure 137 shows the item-person map for the Attitude toward Learning English (L2E) construct. Attitude toward Learning English (L2E) items are displayed on the right side of the line. The English text of the items appears in the items box on

the top right. Persons are placed along the lines according to their ability estimates.

Items are place according to their endorsement difficulty level. The person mean

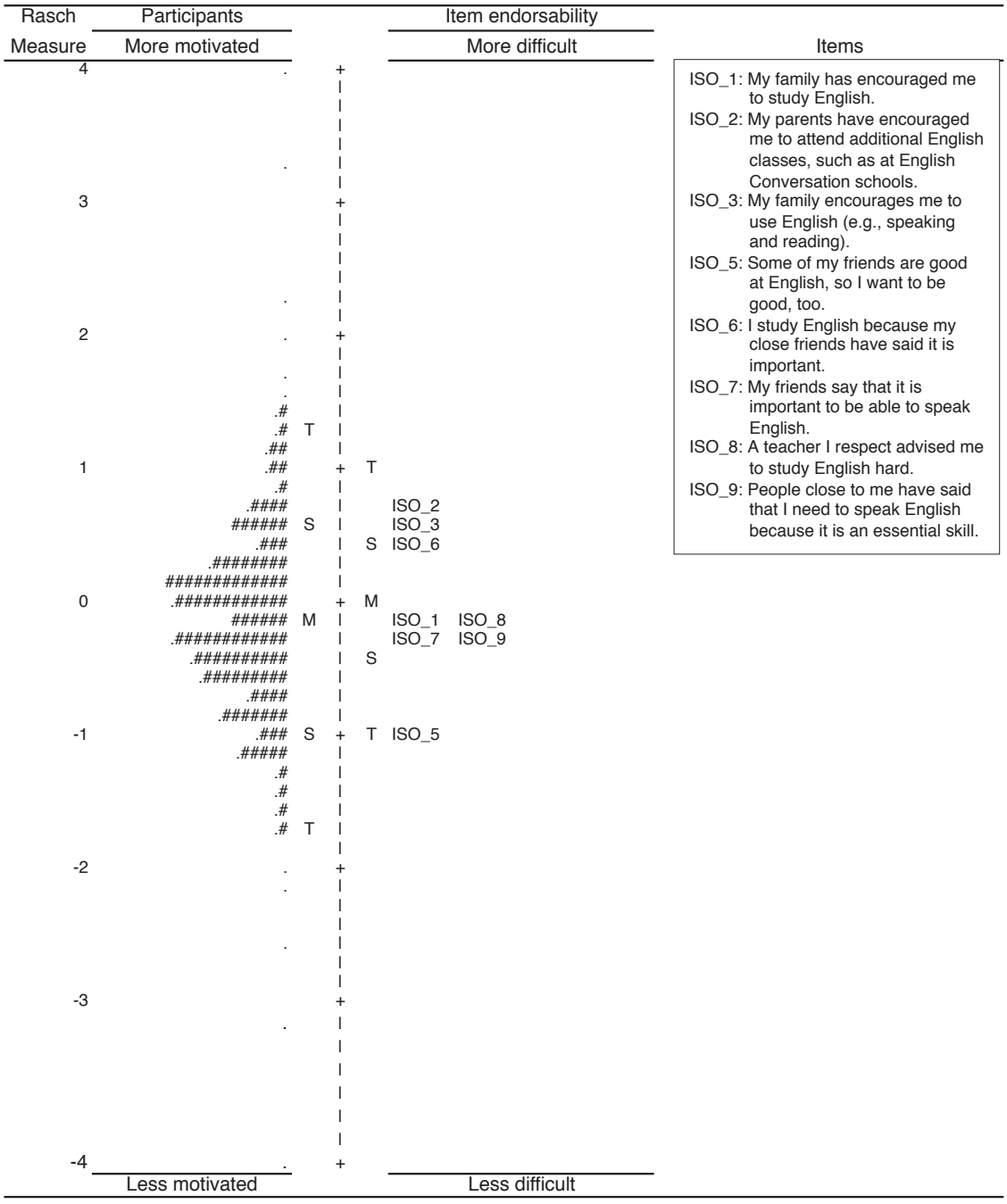

Figure 136. Item-person map of the Influence of Significant Others (ISO) construct. *Each # = 11 persons; each . = 1-10 persons;*

Note. ISO = Influence of Significant Others; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

Table 85. *Category Structure Functioning for L2 Learning Environment*

Category	Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure measure	Category measure
1 Not at all true of me	475	5	1.32	1.46	None	(-2.72)
2 Not true of me	650	7	0.91	0.91	-1.15	-1.46
3 Not especially true of me	1,641	17	0.85	0.85	-1.22	-0.57
4 Somewhat true of me	2,880	30	0.90	0.90	-0.40	0.40
5 True of me	1,864	19	0.91	0.92	1.23	15.00
6 Very true of me	2,233	23	1.06	1.04	1.48	(2.94)

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Table 86. *Rasch Statistics for the Items Measuring L2 Learning Environment*

			Infit		Outfit		
Item	Measure	SE	MNSQ	ZSTD	MNSQ	ZSTD	PMC
L2E_7	-1.34	.04	1.48	9.90	1.50	9.10	.60
L2E_8	-0.61	.04	1.09	2.30	1.06	1.40	.73
L2E_5	0.52	.03	0.94	-1.60	0.98	-0.60	.78
L2E_3	0.12	.03	0.94	-1.50	0.94	-1.40	.79
L2E_2	0.21	.03	0.91	-2.40	0.90	-2.50	.79
L2E_1	0.88	.03	0.84	-4.40	0.86	-3.70	.81
L2E_4	0.22	.03	0.77	-6.50	0.76	-6.40	.83

Note. L2E = L2 Learning Environment; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

ability (M = .80, SD = 1.73) and mean item endorsability difficulty (M = 0, SD = .69) showed that the person difficulty estimates were higher than item difficulty estimates, with items grouped closer to the mean than persons. The most difficult item to endorse was L2E_1 ("I always look forward to English classes," difficulty measure = .88). Obviously, not all participants enjoy their English lessons as others. The easiest item to endorse was L2E_7 ("I think my English classes have been valuable," difficulty measure = -1.34). The wide persons separation is accompanied by two shallow peaks, one just below the person mean, at item L2E_5 ("English classes are

stimulating," difficulty measure = .52) and one about half-way between the persons mean and one standard deviation below the mean.

Ought-to Self (OS). The Likert scale category functioning was examined for the nine items measuring the Ought-to Self construct (Table 87). The minimum of 10 observations per category was met, as the smallest number of observations was 482 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the fifth and sixth measure ($\tau_5 = 1.16$, $\tau_6 = 1.62$). These were no disordered thresholds.

Rasch item statistics were obtained for the Ought-to Self construct (Table 88). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were low for one item (OS_4) but were acceptable for the other nine items (.60-.69). Figure 138 shows the item-person map for the Ought-to Self (OS) construct. The Ought-to Self (OS) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability ($M = .79$, $SD = 1.34$) and mean item endorsability difficulty ($M = 0$, $SD = .32$) showed that the items were somewhat endorsable by the participants. The persons formed a double-peaked distribution curve, with one peak at the person mean point and one between the mean and one

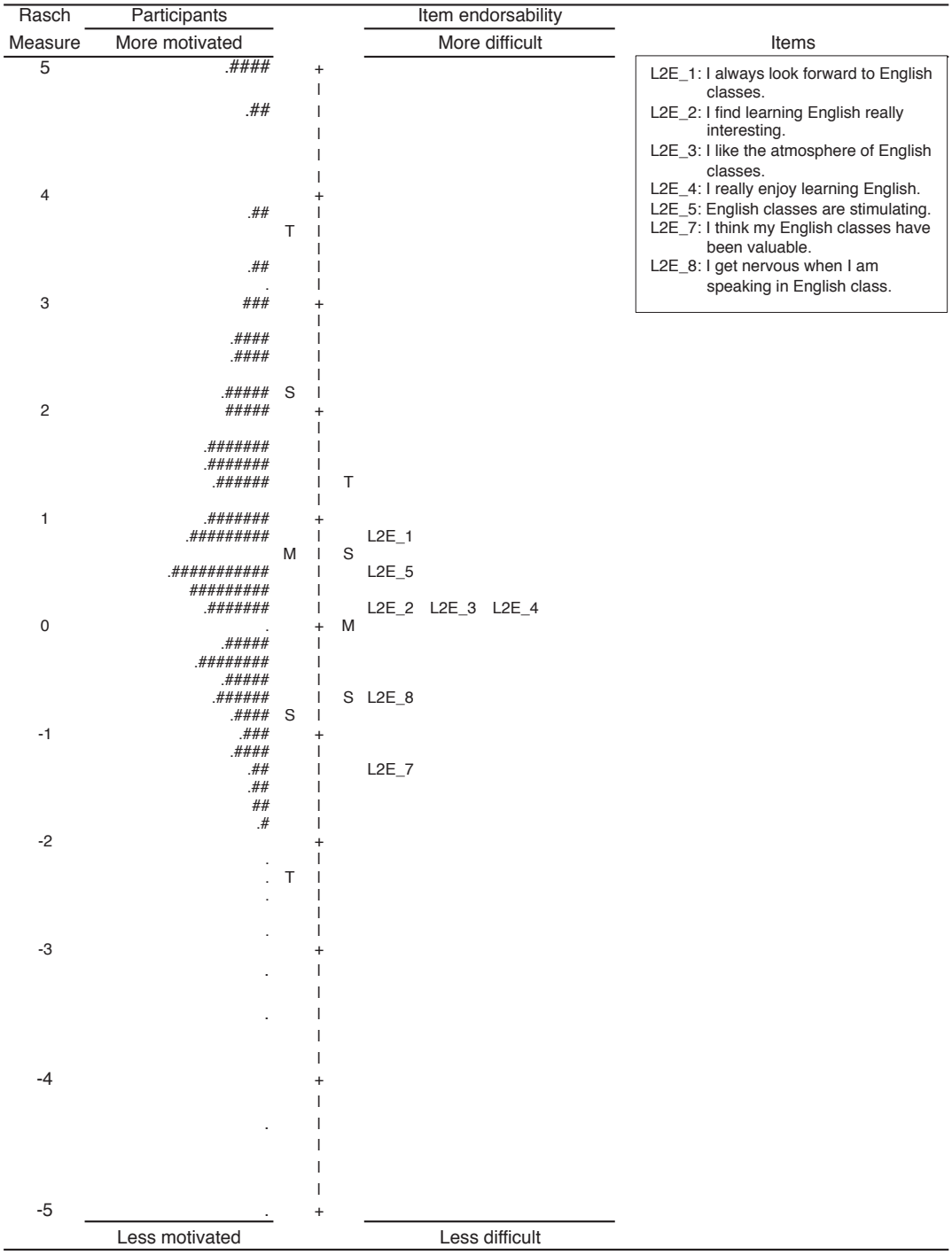

Figure 137. The item-person map for the Attitude toward Learning English (L2E) construct. Each # = 9 persons; each . = 1-8 persons.

Note. L2E = Attitudes toward Learning English; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

standard deviation below the mean. The most difficult items to endorse were OS_5 ("Learning English is necessary because people around me expect me to do so," difficulty measure = .83) and OS_8 ("I study English because people around me think it is important," difficulty measure = .87). The easiest item to endorse was OS9 ("Learning English is necessary because it is an international language," difficulty measure = -.87). The participants might be divided into two groups on the OS construct: those influenced by the expectations of others and those who have accepted the idea that English is an international language but do not have an view of themselves as someone who ought to use the language.

Table 87. *Category Structure Functioning for Ought to Self*

Category		Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure Measure	Category Measure
1	Not at all true of me	681	5	1.33	1.46	None	(-29.56)
2	Not true of me	788	6	0.99	1.04	-0.99	-1.47
3	Not especially true of me	2,273	18	0.95	0.95	-1.38	-0.62
4	Somewhat true of me	4,032	32	0.85	0.83	-0.40	0.35
5	True of me	2,591	21	0.90	0.87	1.16	1.53
6	Very true of me	2,163	17	1.01	1.00	1.62	-3.04

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Table 88. *Rasch Statistics for the Items Measuring Ought-To Self*

			Infit		Outfit		
Item	Measure	*SE*	*MNSQ*	*ZSTD*	*MNSQ*	*ZSTD*	*PMC*
OS_6	-0.08	.03	1.20	4.90	1.23	5.40	.60
OS_8	0.87	.03	1.10	2.60	1.16	4.10	.60
OS_2	0.03	.03	1.13	3.30	1.14	3.50	.62
OS_7	0.37	.03	1.10	2.60	1.14	3.50	.63
OS_5	0.83	.03	1.02	0.70	1.05	1.40	.66
OS_4	-0.76	.03	0.98	-0.40	0.95	-1.20	.59
OS_9	-0.87	.03	0.87	-3.60	0.83	-4.30	.64
OS_1	-0.01	.03	0.82	-4.90	0.84	-4.40	.69
OS_3	-0.37	.03	0.73	-7.70	0.72	-7.80	.69

Note. OS = Ought-to Self; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

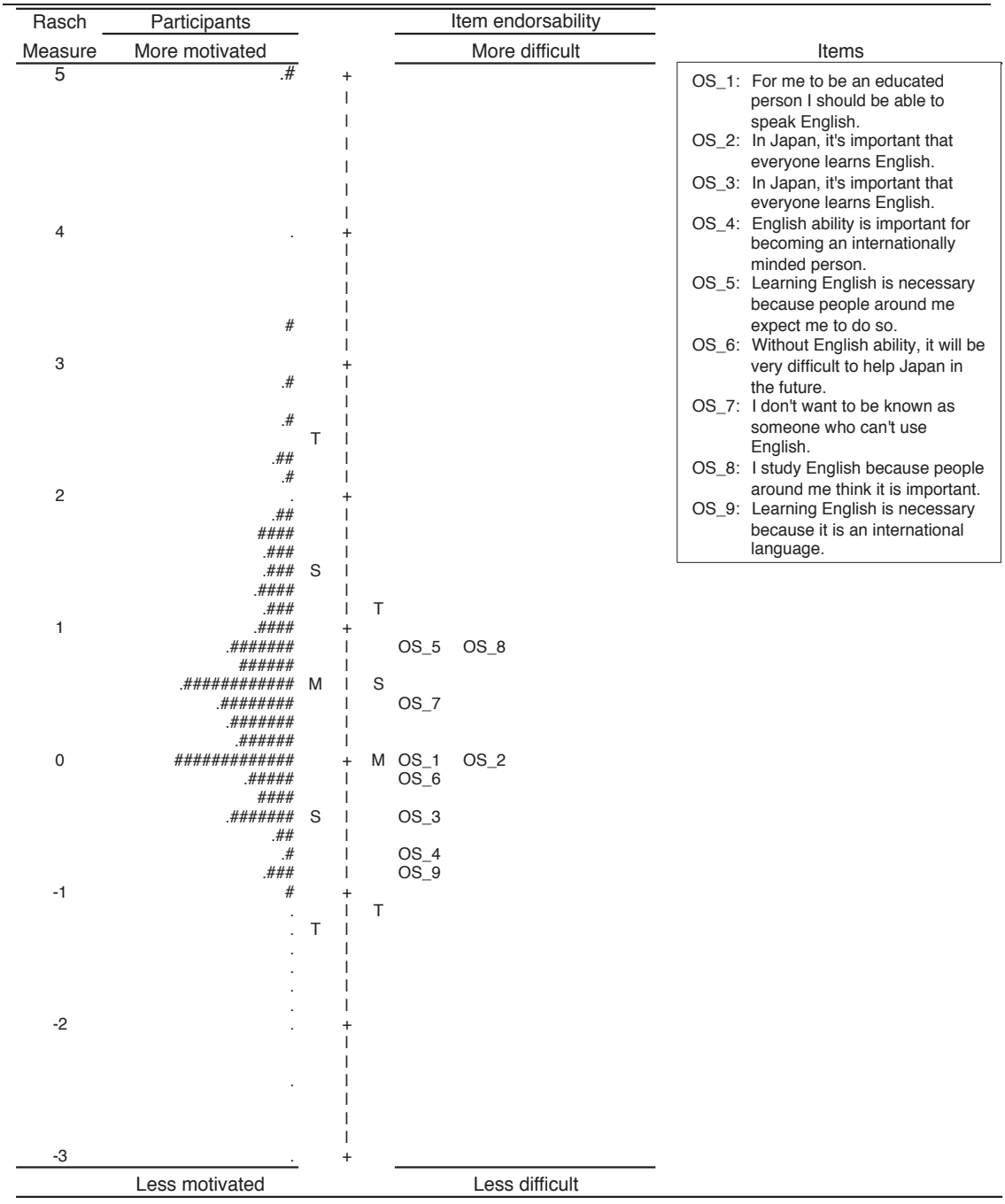

Figure 138. Item-person map for the Ought-to Self (OS) construct. Each # = 11 persons; each . = 1-10 persons.

Note. OS = Ought-to Self; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

Intention to Learn (IL). The Likert scale category functioning was examined for the nine items measuring the Intention to Learn construct (Table 89). The minimum of 10 observations per category was met, as the smallest number of observations was 590 (category 1). The outfit MNSQ statistic for all categories was below the 2.0 criterion. Separation between adjacent thresholds are displayed in logits. They do not meet the .59 logits of separation for a 6-point scale suggested by Linacre (2002) for each of the steps. The smallest gap was between the second and third thresholds (τ_2 = -1.41, τ_3 = -1.42). Although there were no disordered thresholds, this small difference indicates that for all practical purposes, the two options were equivalent.

Table 89. *Category Structure Functioning for Intention to Learn*

Category	Count	%	Infit *MNSQ*	Outfit *MNSQ*	Structure Measure	Category Measure
1 Not at all true of me	590	5	-1.40	1.42	None	(-2.95)
2 Not true of me	766	7	-0.79	0.98	-1.41	-1.63
3 Not especially true of me	1,991	18	-0.21	0.90	-1.42	-0.64
4 Somewhat true of me	3,089	28	0.55	0.84	-0.24	0.48
5 True of me	2,102	19	1.38	0.92	1.34	1.67
6 Very true of me	2,600	23	2.25	1.05	1.73	-3.17

Note. MNSQ = mean square. Measures are in standard deviations. Structure measure and category measure are in Rasch logits.

Rasch item statistics were obtained for the Instrumental Prevention construct (Table 90). The infit MNSQ and outfit MNSQ of for the items on this construct showed acceptable fit. Point-measure correlations (PMC), which demonstrate the relative strength of the item in relation to other items measuring the construct, were acceptable (.71 to .80).

Table 90. *Rasch Statistics for the Items Measuring Intention to Learn*

			Infit		Outfit		
Item	Measure	*SE*	*MNSQ*	*ZSTD*	*MNSQ*	*ZSTD*	*PMC*
IL_4	0.38	.03	1.25	6.1	1.30	6.9	.71
IL_6	0.40	.03	1.25	6.1	1.30	7.0	.71
IL_7	0.28	.03	1.26	6.4	1.25	5.8	.76
IL_5	0.15	.03	0.99	-0.3	1.04	1.1	.73
IL_8	-1.09	.03	0.93	-1.7	0.85	-3.1	.71
IL_2	0.36	.03	0.80	-5.8	0.80	-5.4	.80
IL_1	-0.26	.03	0.74	-7.4	0.73	-7.3	.80
IL_3	-0.22	.03	0.70	-8.5	0.72	-7.6	.79

Note. IL = Intention to Learn; SE = standard error; MNSQ = mean square; ZSTD = standardized *z* score; PMC = point-measure correlation. Measures are in standard deviations.

Figure 139 shows the item-person map for the Intention to Learn (IL) construct. The Intention to Learn (IL) items are displayed on the right side of the line. The English text of the items appears in the items box on the top right. Persons are placed along the lines according to their ability estimates. Items are place according to their endorsement difficulty level. The person mean ability (M = .72, SD = 1.30) and mean item endorsability difficulty (M = 0, SD = .48) showed that the items had a wide range in endorsability. The peak on the persons measure appears nearly one standard deviation below the mean. Three items were difficult to endorse and are at one standard deviation from the mean for the item measures; these are IL_2 ("I plan to take English classes in the future if I have the opportunity, either at my university, a conversation school, or my future company," difficulty measure = .36), IL_4 ("I would like to have more free time to watch TV programs or films in English," difficulty measure = .38), and IL_6 ("I am going to study harder to improve my scores on standardized tests," difficulty measure = .40). The easiest item to endorse was IL_8 ("I would like to be able to use English to communicate with people from other countries," difficulty measure = -1.09). The wide range in the persons measures,

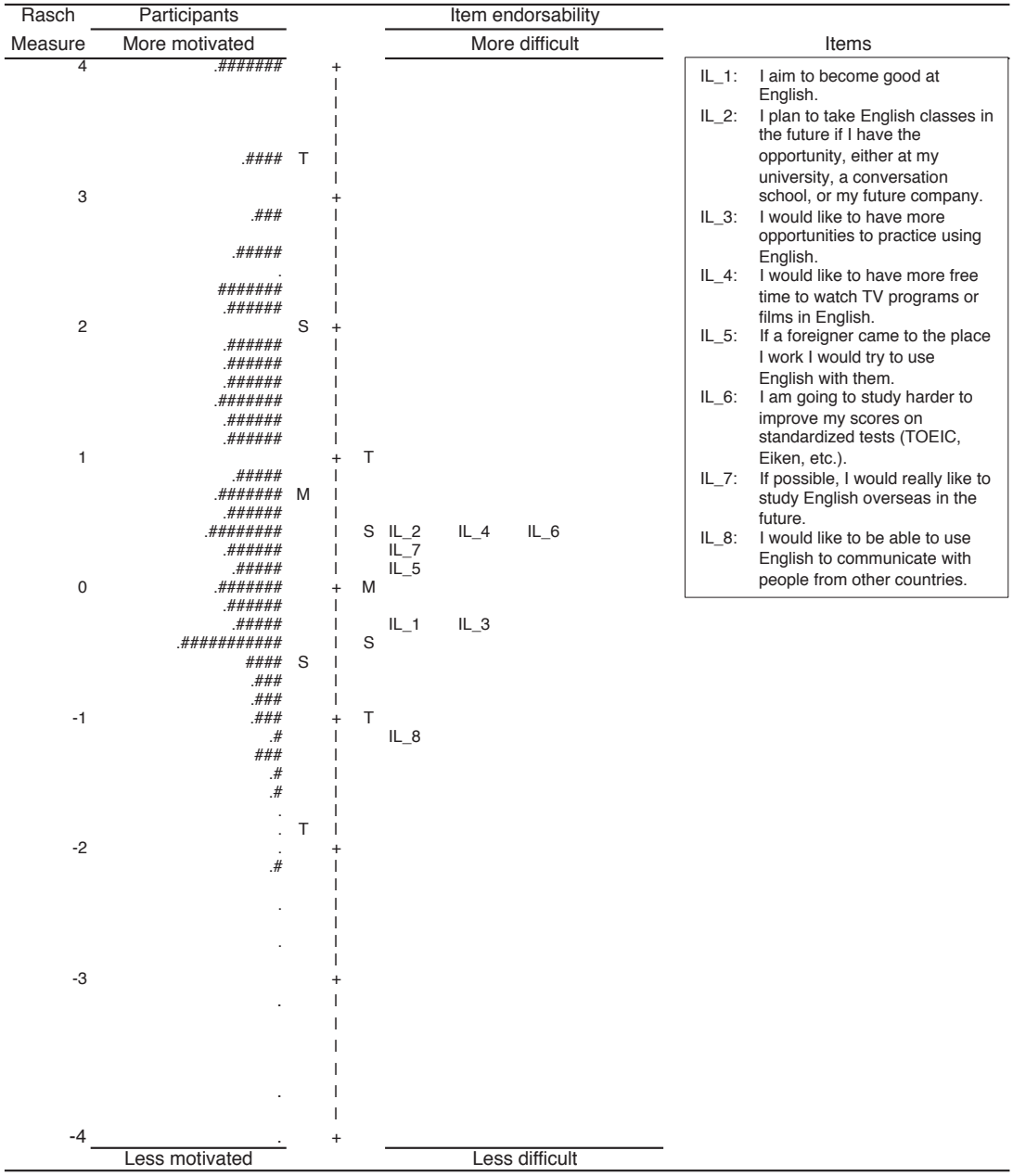

Figure 139. Item-person map of the Intention to Learn (IL) construct. *Each # = 8 persons; each . = 1-7 persons.*

Note. IL = Intention to Learn; M = mean; S = one standard deviation from the mean; T = two standard deviations from the mean.

ranging from more than two standard deviations below the mean to more than one standard deviation above the mean, suggests that Intention to Learn varies widely among the participants and that less motivated participants might be unlikely to

endorse items regarding future plans to study English or use it for personal goals (IL_2 "plan to take English classes"; IL_4 "watch TV"; IL_6 "study harder"; IL_7 "study English overseas," difficulty measure = .28). One thing noticeable from the Wright map is the platykurtic distribution of endorsements which indicates that there are fine grained differences in the participants' intentions to learn.

Principal Components Analysis

The Rasch analysis program Winsteps also includes the capability to run a principal component analysis in order to identify possible secondary dimensions in the data (Linacre, 2005). A principle component analysis of the data indicated five contrasts to the main measurement, each with eigenvalues above the 2.0 meaningful threshold suggested by Linacre (2005). If an instrument is unidimensional, the number of eigenvalues and the percent of variance that is associated with alternative contrasts will be low. In contrast, multidimensional instruments will normally have strongly contracting factors that account for a good amount of the variance.

In the case of this survey, the Rasch model explained 44.8% of the variance for the Intention to Learn Model (ILM). Table 91 shows the Rasch principal components analysis of the 63 items on motivational survey. In this model, there are five contrasting factors, each accounting for between 2% and 6% of the variance. This equates roughly to between 2 and 6 eigenvalues for each. As each eigenvalue unit is roughly equivalent to one item on the survey, 45 (44.8) items loaded on the measure, six (6.4) items loaded on the first contrast, four (4.4) items loaded on the second contrast three (2.5) items loaded on the third contrast, two (2.0) items loaded on the fourth contrast, and two (2.0) items loaded on the fifth contrast. In sum, barring

cross-loadings among the contrasting factors, as many as 32 of the 63 items in this analysis appear to target alternative dimensions.

Table 91. *Rasch Principal Components Analysis for the L2 Motivational Self System Questionnaire (63 Items)*

Item	Loading	Measure	Infit MNSQ	Outfit MNSQ
OS_8	0.55	0.60	1.19	1.23
IPREV_3	0.54	-0.03	1.36	1.42
ISO_4	0.54	0.63	1.35	1.44
IPREV_2	0.51	-0.14	1.16	1.21
IPREV_6	0.48	-0.48	2.06	2.40
IPREV_1	0.47	-0.17	1.26	1.38
IPREV_4	0.46	0.19	1.08	1.13
ISO_6	0.43	0.97	1.48	1.70
ISO_9	0.43	0.28	0.94	0.98
OS_1	0.38	-0.15	0.92	0.92
OS_6	0.37	-0.23	1.40	1.48
OS_2	0.35	-0.12	1.28	1.30
OS_3	0.34	-0.46	0.82	0.83
IPREV_5	0.29	0.19	1.04	1.04
ISO_2	0.29	1.17	1.54	1.57
OS_5	0.29	0.56	0.96	0.98
ISO_1	0.27	0.32	1.33	1.43
ISO_7	0.27	0.17	0.90	0.93
IPROM_6	0.20	-0.44	1.01	1.01
ISO_8	0.20	0.42	1.34	1.41
IS_5	0.19	0.36	0.98	0.99
IPROM_5	0.18	0.00	1.01	1.05
OS_7	0.18	0.17	1.04	1.10
OS_4	0.14	-0.80	0.98	0.99
IPROM_2	0.10	-0.80	0.84	0.83
IPROM_9	0.07	-0.05	0.81	0.83
OS_9	0.06	-0.88	0.87	0.84
ISO_3	0.04	1.07	1.60	1.79
IPROM_1	0.00	-0.17	0.92	0.92
IPROM_3	0.00	-0.49	0.82	0.78
IPROM_8	0.00	0.73	1.17	1.19
AL2_4	-0.52	0.13	0.76	0.77
L2E_2	-0.52	0.00	0.84	0.84
L2E_4	-0.51	0.01	0.84	0.84
IL_3	-0.50	-0.34	0.65	0.65
AL2_7	-0.49	-0.46	0.81	0.77
IS_7	-0.48	0.23	0.77	0.76
IS_2	-0.46	0.40	0.88	0.88

Table 91 (Continued). *Rasch Principal Components Analysis for the L2 Motivational Self System Questionnaire (63 Items)*

Item	Loading	Measure	Infit MNSQ	Outfit MNSQ
IS_3	-0.46	0.45	1.01	1.01
IL_7	-0.42	-0.02	1.09	1.07
IL_1	-0.39	-0.36	0.68	0.66
IL_8	-0.36	-0.88	0.79	0.74
IS_8	-0.36	0.76	0.92	0.92
IL_5	-0.35	-0.11	0.70	0.72
IS_4	-0.35	0.77	1.13	1.16
AL2_2	-0.32	0.15	0.95	1.01
IL_2	-0.30	0.03	0.67	0.68
IPROM_7	-0.30	0.29	0.90	0.92
AL2_1	-0.28	-0.29	1.05	1.07
IPROM_4	-0.28	-0.34	0.93	0.91
L2E_1	-0.26	0.39	0.89	0.89
IL_4	-0.25	0.04	0.92	0.93
L2E_5	-0.25	0.18	0.88	0.91
IS_6	-0.23	-0.49	0.66	0.65
ISO_5	-0.23	-0.38	1.02	1.00
AL2_3	-0.22	-0.35	1.16	1.16
AL2_8	-0.22	-0.30	1.15	1.38
L2E_3	-0.22	-0.05	0.98	0.98
IS_1	-0.21	-0.19	0.61	0.61
L2E_7	-0.17	-0.90	0.90	0.88
L2E_8	-0.16	-0.48	0.92	0.92
90				
AL2_5	-0.14	-0.36	0.71	0.73
IL_6	-0.11	0.05	0.89	0.92

Note. MNSQ = mean square; Item = item and code number; L2E = Attitudes toward Learning English; AL2 = Attitudes toward the English Language Community and Culture; IS = Ideal L2 Self; ISO Influence of Significant Others; OS = Ought-to Self; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention.

Cross plots of positively and negatively loading contrasts.

The results of principal component analysis are not in and of themselves sufficient for determining multidimensionality. One other strategy is to cross plot person measures for items that load positively >.3 and for items that load negative >.3 on the contrasts and calculate Pearson correlations. Cross plots were prepared for the different contrasts and these showed very high correlations. Under multidimensional

conditions, we would expect to see much lower correlation. As such, these results argue in favor of a unidimensionality rather than multidimensionality.

Significant contrast loadings.

To determine whether items loading on contrasts to the Rasch measure are indicative of alternate dimensions, fit statistics for items with loadings on the contrast in excess of .30 can be checked for their infit and outfit mean squares. Items with mean squares lower than 1.00 "do not contradict the Rasch variable" but rather indicate items that are "too predictable" (D. Beglar, personal communication, course handout, September 22, 2007). Conversely, items with mean squares in excess of 1.00 are indicative of additional dimensions.

Table 92 shows the loading and fit statistics for the contrasting items. For the first contrast, only three items raise above the suggested infit and outfit mean squares level of 1.00. The second contrast includes eight items above the threshold, with five of the items from the Influence of Significant Others subset, one from the Ought-to Self set and a final one from the Instrumental Promotion set. The third contrast contains no items that exceed the threshold. Finally, the fourth contrast has three items, two from the Attitudes towards the Target Language and Culture and one form the Influence of Significant Others.

In conclusion, these results give limited support to a four-factor solution for the data. This would include one general motivational factor with the large majority of items, one Influence of Significant Others factor with a handful of items, and two other factors with only a very few items loading on them and for which labeling would be quite difficult.

Rasch descriptive item statistics.

For rating scales, Bond and Fox (2001, p. 243) suggest reasonable item mean square ranges for infit and outfit to be between 0.6 and 1.4. Under that guideline, Only five of the items show excessive misfit to the model (IPrev 6, ISO 2, 3, and 6; OS 6). However, given the large sample size, the fit statistics should be adjusted. Two formulas for adjusting the upper significance level for infit and outfit mean square statistics are suggested (Smith, 2000; D. Beglar, personal communication, course handout, September 22, 2007). The equations for calculating the appropriate upper limit population-adjusted infit and outfit mean square statistic are given in equations 1 and 2.

Equation 1 $1+\frac{2}{\sqrt{Sample\ Size}}$ *Equation 2* $1+\frac{6}{\sqrt{Sample\ Size}}$

Using these two formulae, and inserting the appropriate number (person sample size = 1,397; item sample size = 55) the adjusted infit mean square statistic for persons of becomes 1.05, and an outfit mean square statistic becomes 1.16. For the items, the infit mean square statistic is 1.27 and the outfit mean square statistic is 1.81 (see Table 93).

Paired-sample *t*-tests.

Paired-sample *t*-tests of positively- and negatively-loading items for each of the five contrasts were conducted to determine whether positively- and negatively-loading items for each of the contrasts were significantly different. Outliers were removed and the assumptions for t-tests were checked and met. The results indicated that although the correlations between Rasch scores for positively

Table 92. *Item Fit Statistics for Items with Contrast Loadings in Excess of .30*

					MNSQ	
Contrast	Item code	Item #	Loading	Measure	Infit	Outfit
1	L2E 4	51	.58	-.02	.85	.85
	AL2 4	4	.56	.10	.78	.79
	L2E 2	49	.56	-.03	.85	.85
	IS 2	32	.53	.36	.89	.89
	IS 3	33	.53	.41	1.01	1.01
	IS 7	37	.53	.20	.78	.78
	AL2 7	6	.46	-.48	.84	.80
	IS 8	38	.46	.71	.91	.91
	IS 4	34	.44	.72	1.12	1.14
	AL2 2	2	.37	.12	.96	1.00
	L2E 1	48	.37	.36	.86	.87
	L2E 5	52	.34	.15	.86	.89
	IPROM 7	28	.33	.26	.91	.92
	AL2 1	1	.31	-.31	1.05	1.07
	L2E 3	50	.30	-.08	.96	.96
2	ISO 2	40	.60	1.11	1.46	1.47
	ISO 4	42	.43	.59	1.25	1.33
	IS 4	34	.39	.72	1.12	1.14
	ISO 1	39	.38	.28	1.28	1.36
	ISO 6	44	.36	.91	1.38	1.58
	ISO 3	41	.35	1.01	1.55	1.71
	IS 8	38	.34	.71	.91	.91
	OS 5	59	.33	.52	.92	.94
	OS 8	62	.33	.56	1.11	1.14
	IPROM 8	29	.31	.68	1.13	1.14
3	L2E 3	50	.60	-.08	.96	.96
	L2E 1	48	.59	.36	.86	.87
	L2E 5	52	.48	.15	.86	.89
	L2E 4	51	.41	-.02	.85	.85
	L2E 8	54	.41	-.49	.90	.90
	L2E 2	49	.31	-.03	.85	.85
4	AL2 8	7	.51	-.32	1.14	1.33
	ISO 5	43	.33	-.40	1.02	1.00
	AL2 3	3	.31	-.37	1.15	1.15
	IPROM 4	25	.31	-.36	.94	.91
5	IPROM 5	26	.51	-.03	.98	1.00
	IPROM 4	25	.41	-.36	.94	.91
	IPROM 6	27	.32	-.46	.97	.97

Note. Item # = item number on survey; MNSQ = mean square fit statistics; L2E = Attitudes toward Learning English; AL2 = Attitudes toward the English Language Community and Culture; IS = Ideal L2 Self; ISO Influence of Significant Others; OS = Ought-to Self; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention.

Shading indicates items with mean square values ≧ 1.00.

Table 93. *Motivation Scale Item Descriptive Statistics (Excluding Intention to Learn)*

			Infit		Outfit					Infit		Outfit	
Item	Measures	Model S.E.	MSQ	ZSTD	MSQ	ZSTD	Item	Measures	Model S.E.	MSQ	ZSTD	MSQ	ZSTD
AL2 1	-.31	.02	1.05	1.37	1.07	1.69	ISO 1	.28	.02	1.28	7.30	1.36	8.96
AL2 2	.12	.02	.96	-1.23	1.00	.10	ISO 2	1.11	.02	1.46	9.90	1.47	9.90
AL2 3	-.37	.02	1.15	3.95	1.15	3.69	ISO 3	1.01	.02	1.55	9.90	1.71	9.90
AL2 4	.10	.02	.78	-6.74	.79	-6.32	ISO 4	.59	.02	1.25	6.73	1.33	8.28
AL2 5	-.38	.02	.69	-9.30	.72	-8.09	ISO 5	-.40	.02	1.02	0.61	1.00	.07
AL2 7	-.48	.03	.84	-4.66	.80	-5.44	ISO 6	.91	.02	1.38	9.67	1.58	9.90
AL2 8	-.32	.02	1.14	3.70	1.33	7.90	ISO 7	.14	.02	.85	-4.42	.88	-3.44
IPrev 1	-.19	.03	1.20	4.83	1.30	7.07	ISO 8	.38	.02	1.26	7.05	1.32	8.19
IPrev 2	-.16	.03	1.10	2.57	1.15	3.65	ISO 9	.24	.02	.88	-3.48	.91	-2.41
IPrev 3	-.05	.03	1.28	6.82	1.33	7.85	L2E 1	.36	.02	.86	-4.01	.87	-3.80
IPrev 4	.16	.02	1.02	.66	1.06	1.68	L2E 2	-.03	.03	.85	-4.22	.85	-4.27
IPrev 5	.16	.02	1.00	-.06	1.00	-.08	L2E 3	-.08	.03	.96	-1.19	.96	-1.15
IPrev 6	-.49	.03	1.96	9.90	2.24	9.90	L2E 4	-.02	.03	.85	-4.33	.85	-4.33
IProm 1	-.19	.02	.90	-2.66	.90	-2.65	L2E 5	.15	.02	.86	-4.08	.89	-3.09
IProm 2	-.81	.03	.82	-5.03	.81	-5.04	L2E 7	-.91	.03	.90	-2.89	.87	-3.39
IProm 3	-.50	.03	.81	-5.28	.78	-6.09	L2E 8	-.49	.03	.90	-2.71	.90	-2.83
IProm 4	-.36	.03	.94	-1.56	.91	-2.31	OS 1	-.18	.03	.88	-3.31	.88	-3.35
IProm 5	-.03	.02	.98	-.67	1.00	.06	OS 2	-.14	.03	1.21	5.17	1.23	5.61
IProm 6	-.46	.03	.97	-.71	.97	-.75	OS 3	-.48	.03	.79	-5.97	.80	-5.65
IProm 7	.26	.02	.91	-2.68	.92	-2.14	OS 4	-.81	.03	.95	-1.25	.95	-1.23
IProm 8	.68	.02	1.13	3.69	1.14	3.77	OS 5	.52	.02	.92	-2.22	.94	-1.70
IProm 9	-.08	.02	.80	-5.92	.81	-5.32	OS 6	-.25	.03	1.34	8.21	1.41	9.64
IS 1	-.22	.02	.62	-9.90	.61	-9.90	OS 7	.13	.03	1.01	.19	1.06	1.48
IS 2	.36	.02	.89	-3.21	.89	-3.20	OS 8	.56	.02	1.11	2.96	1.14	3.78
IS 3	.41	.02	1.01	.18	1.01	.20	OS 9	-.89	.03	.86	-3.99	.83	-4.57
IS 4	.72	.02	1.12	3.41	1.14	3.76							
IS 5	.33	.02	.93	-2.07	.94	-1.81							
IS 6	-.50	.03	.66	-9.90	.65	-9.90							
IS 7	.20	.02	.78	-6.69	.78	-6.68							
IS 8	.71	.02	.91	-2.57	.91	-2.50							

Note. Model S.E. = model standard error; MSQ = mean square residual; ZSTD = standardized mean residual; AL2 = Attitudes toward the English Language Community and Culture; I Prev = Instrumental Prevention; I Prom = Instrumental Promotion; IS = Ideal L2 Self; ISO Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self.
Shaded areas indicate poorly fitting items (infit items outside of 0.6 to 1.27 and outfit items outside of 0.6 to 1.81). N sizes range from 1,385 to 1,397.

and negatively-loading items are strong, there are significant differences in contrasts 1, 4, and 5 (see Table 94).

Table 94. *Paired Samples* t-*tests of Negatively and Positively Loading Items for Contrasts 1, 2, 4, and 5*

	Positive		Negative			95% *CI* for *M*	
Contrast	*M*	*SD*	*M*	*SD*	Result	lower	upper
1st	.36	.70	.30	.65	$t(1,1384) = 18.20$, $p < .001$	.053	.065
2nd	.31	.67	.30	.68	$t(1,1382) = 1.62$, $p = .11$ (*NS*)	-.001	.009
4th	.31	.68	.32	.67	$t(1,1385) = -3.62$, $p < .001$	-.007	-.002
5th	.31	.69	.29	.67	$t(1,1386) = 17.70$, $p < .001$	.026	.027

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

Rasch differential item functioning.

Through Rasch analysis it is also possible to investigate differential item functioning, which means the difference between how different groups of individuals respond to each item. An item might be biased if it displays different average measures based on a given group characteristic. Ideally a reliable survey will not show great differences in responses between different grouping variables such as age, gender, or major. Figure 140 provides the differential item functioning by institution. Although there were differences between sites as to the mean Rasch measures for each item, no patterns of differential item functioning were observed. Figure 141 shows mean Rasch measures for items by focus area of participant. No significant differential item functioning is evident, however, there are some interesting patterns in the data. Contrasting English-related focal areas with science-related focal areas is interesting. Participants listing an English-related focal area rate Ought-to L2 Self, the Influence of Significant Others, Instrumental-Prevention higher than science-focused participants, but the latter generally rate the Attitudes toward Learning English and Attitudes Toward the Target Language and Culture higher. It is likely that students

with different focal areas have different expectations concerning the target language culture and classes.

Figure 142 shows mean Rasch measures for each item by gender of participant. Although gender differences appear to be minor, some consistent trends are evident. For the Ought-to L2 Self and Instrumental Prevention, the Rasch mean scores for males is higher than for females. Conversely, Rasch mean scores for females surpass males on the variables Attitudes Toward the Target Language and Culture and the Attitudes toward Learning English. Based on this group of participants, it would appear that male participants are more concerned about how they are judged by others than are female participants. On the other hand, it would appear that females are more attracted by the target language and culture and have a more positive experience with the learning environment than male participants. If this is confirmed in later research, it might be possible for teachers to find ways to specifically target male students at all levels of their education to provide them with a more positive experience in language learning.

Figure 143 shows the Rasch mean scores for all items by study. As the cross-sectional study was done at Sites 1 and 2 from the Longitudinal Study 1 and Longitudinal Study 2, it was possible to compare the results on the motivational survey for the participants in these studies who were in class sections where the motivational survey was administered. Although mean scores for several items show rather wide variation, no consistent trends are apparent.

Figure 144 shows the Rasch mean scores for all items by year in school. The vast majority of participants were first- or second-year students. Their scores tend to

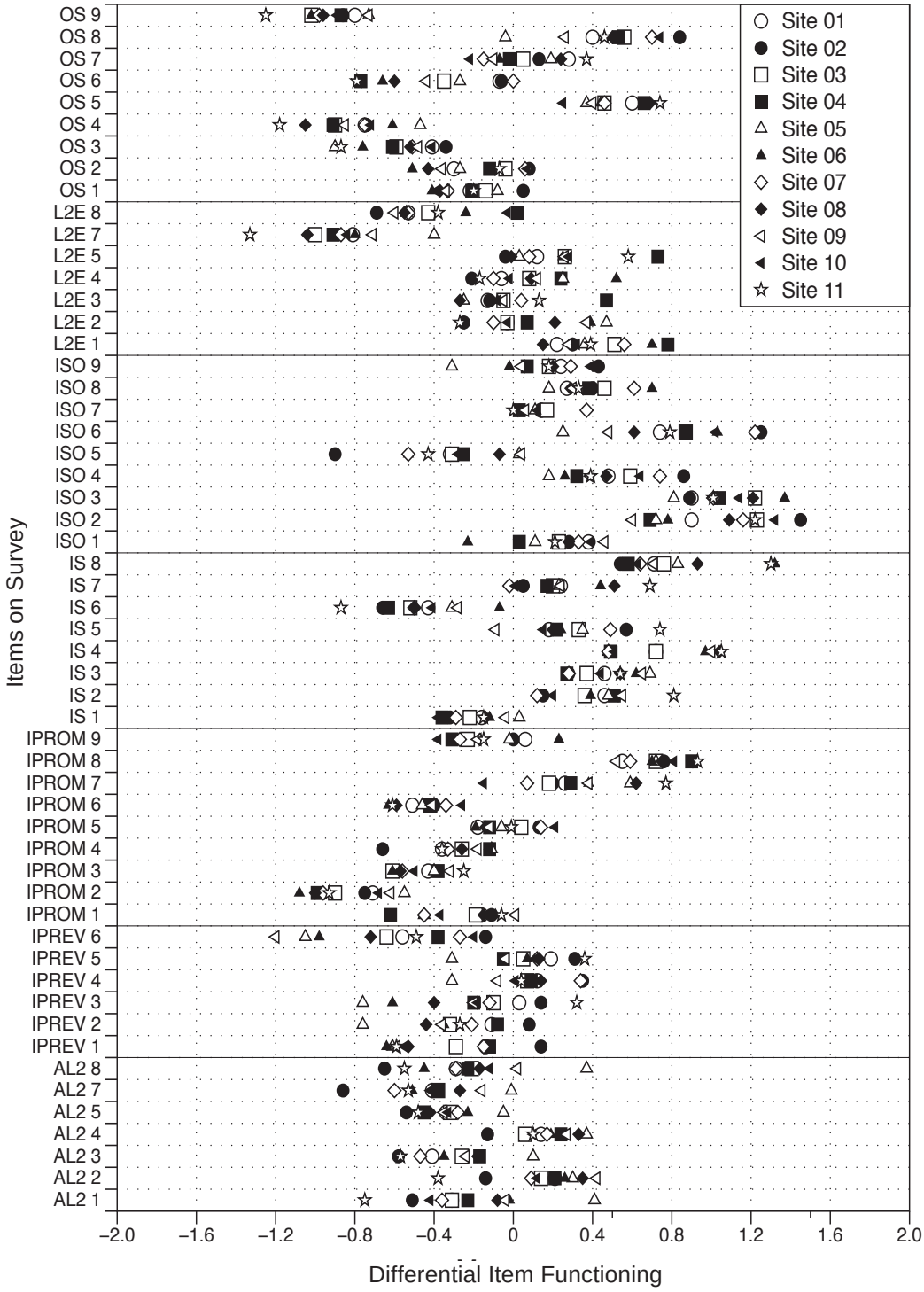

Figure 140. Differential item functioning by site of participant for all items for the factors identified.

Note. OS = Ought-to Self; L2E = Attitudes toward Learning English; ISO Influence of Significant Others; IS = Ideal L2 Self; IL = Intention to Learn; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; AL2 = Attitudes toward the English Language Community and Culture.

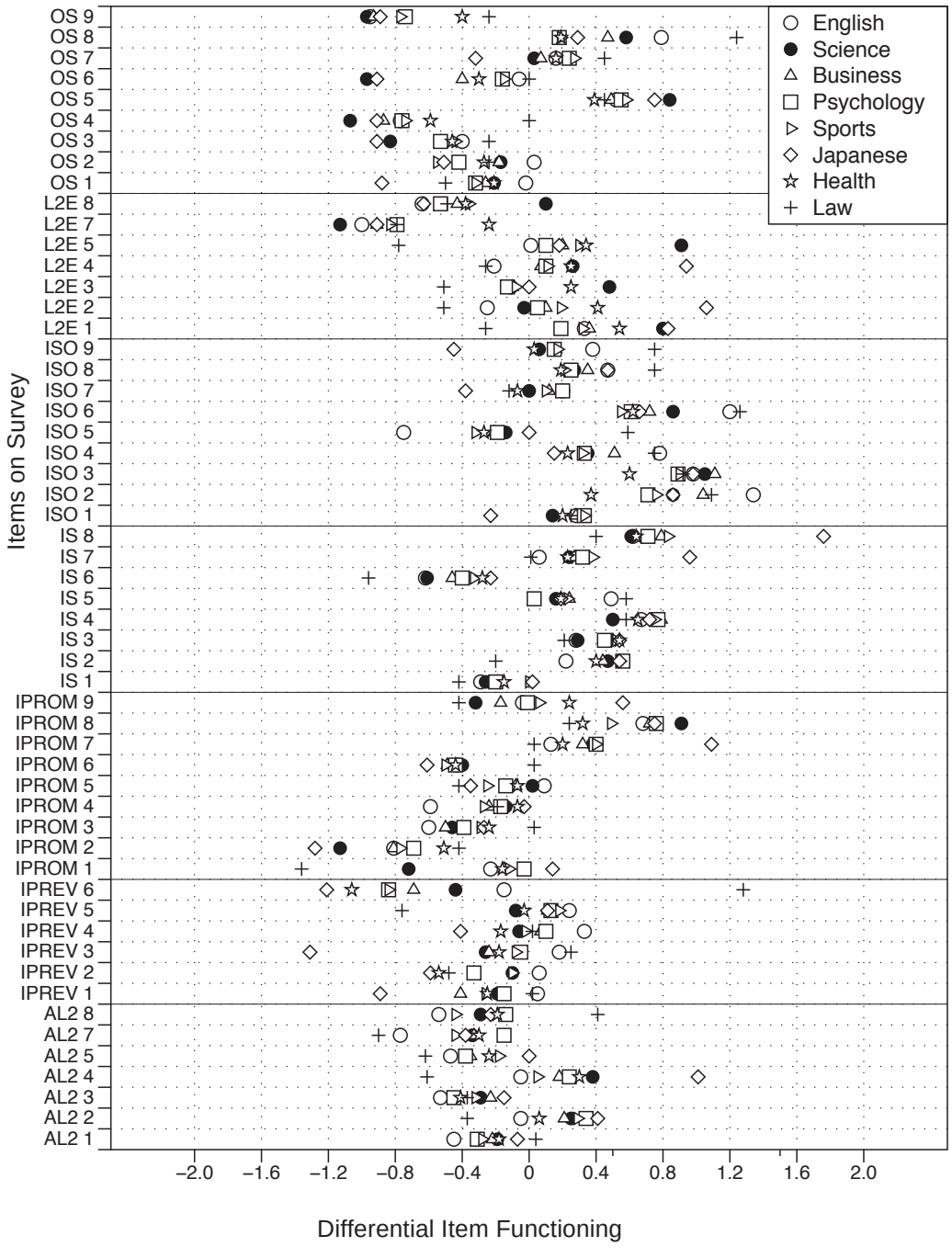

Figure 141. Differential item functioning by major academic focus area for all items for the factors identified.

Note. OS = Ought-to Self; L2E = Attitudes toward Learning English; ISO Influence of Significant Others; IS = Ideal L2 Self; IL = Intention to Learn; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; AL2 = Attitudes toward the English Language Community and Culture.

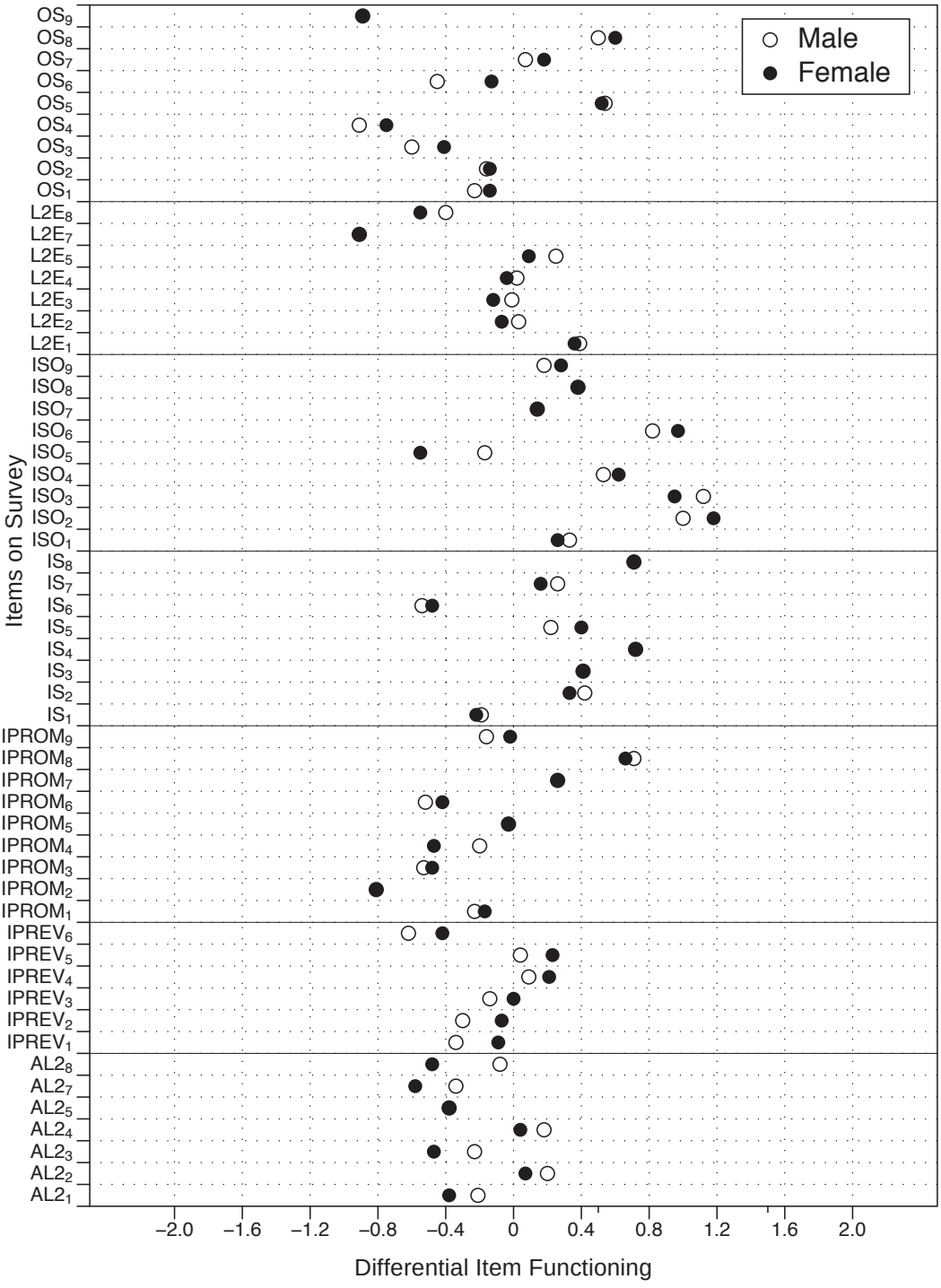

Figure 142. Differential item functioning by gender of participant for all items for the factors identified.

Note. OS = Ought-to Self; L2E = Attitudes toward Learning English; ISO Influence of Significant Others; IS = Ideal L2 Self; IL = Intention to Learn; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; AL2 = Attitudes toward the English Language Community and Culture.

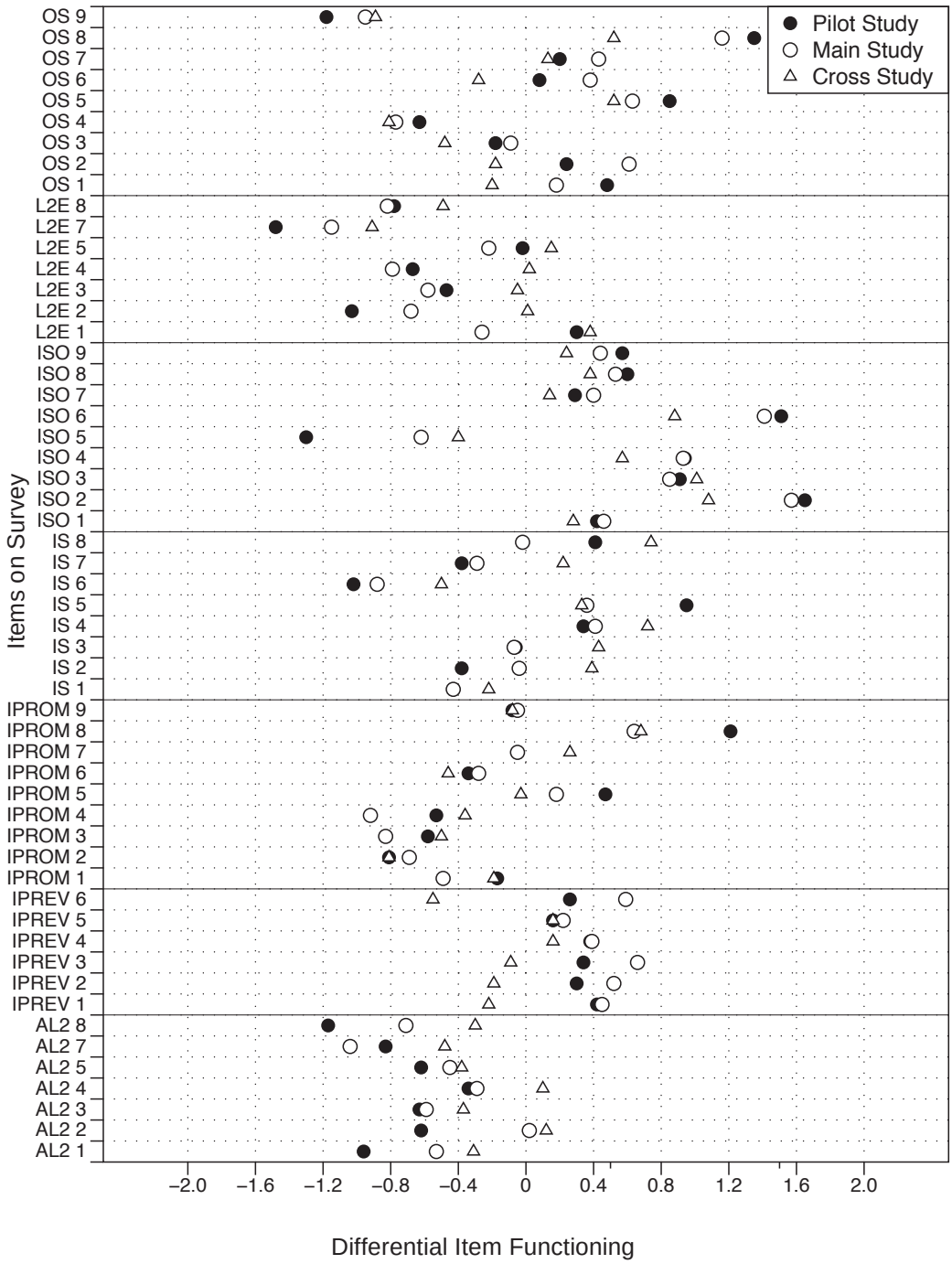

Figure 143. Differential item functioning by study for all items for the factors identified.
Note. OS = Ought-to Self; L2E = Attitudes toward Learning English; ISO Influence of Significant Others; IS = Ideal L2 Self; IL = Intention to Learn; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; AL2 = Attitudes toward the English Language Community and Culture.

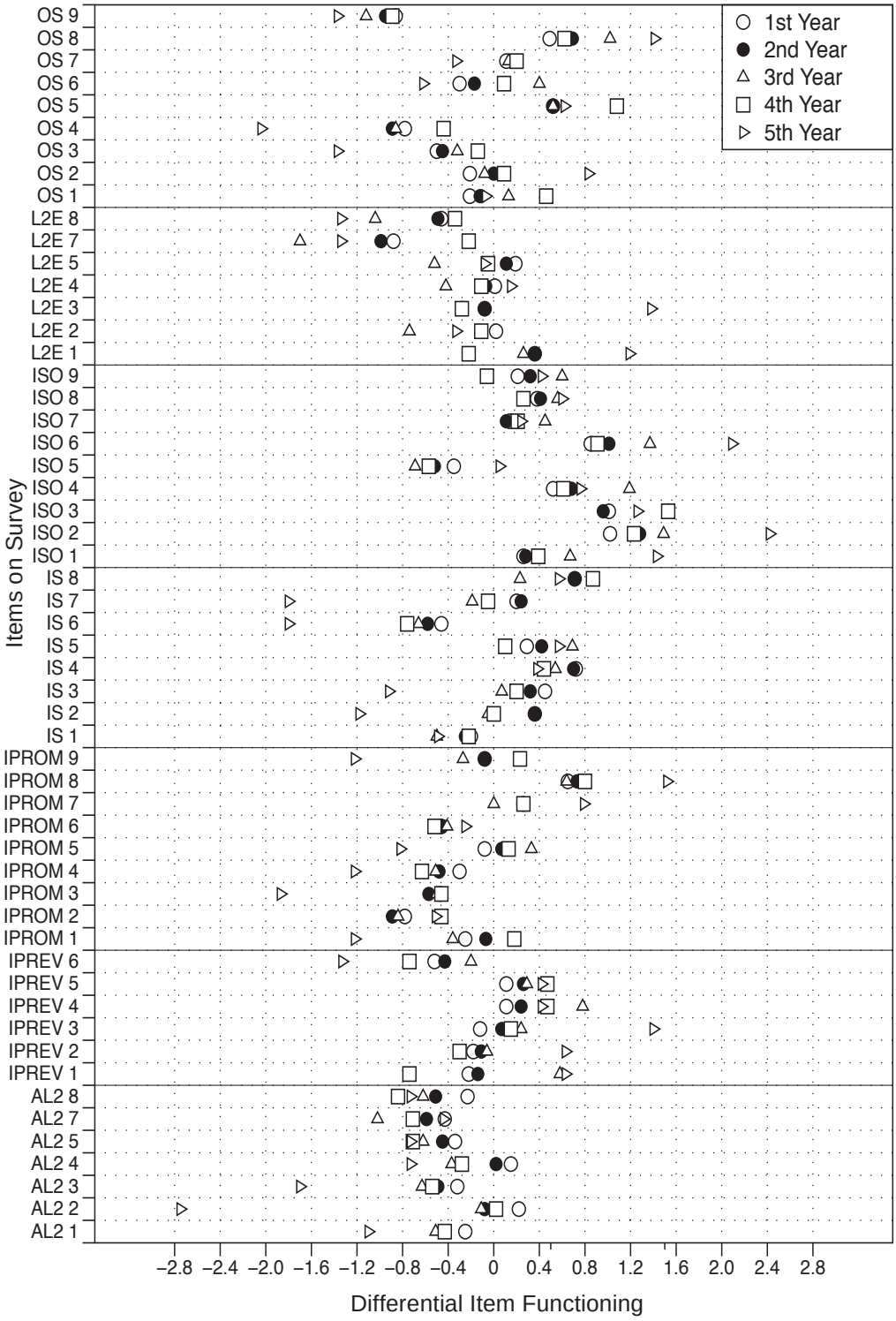

Figure 144. Differential item functioning by year in school for all items for the factors identified.

Note. OS = Ought-to Self; L2E = Attitudes toward Learning English; ISO Influence of Significant Others; IS = Ideal L2 Self; IL = Intention to Learn; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; AL2 = Attitudes toward the English Language Community and Culture.

be bunched quite close together. Scores for third- through fifth-year participants are more widely spaced and often lower than for first- and second-year participants.

Figure 145 shows the person maps for participants in the cross-sectional study. Participants who also took part in the Longitudinal Study 1 and Longitudinal Study 2 are plotted along different x axes. Results from the cross-sectional study show a wide variation in the amount of motivation, as judged by all 63 items in the motivational survey. The range of measures for the cross-sectional study runs from -2.53 *SD* to 6.45 *SD* and a mean of 0.30. For participants in the Longitudinal Study 1 and Longitudinal Study 2, the range was narrower and higher in level. For the Longitudinal Study 1 the range was -0.65 to 2.18 and the mean was .79. For Longitudinal Study 2, the range was from -0.12 to 2.69 and the mean was .087. The fit indices are also interesting. Participant data from the Longitudinal Study 1 and Longitudinal Study 2 exhibited better fit, as judged by the number of individual exhibiting good fit to the model (the shaded regions in each plot) than did the data from the participants in the cross-sectional study. This might be due to the different majors that were represented in the data or just due to the much larger pool of participants. Participants in the Longitudinal Study 1 and Longitudinal Study 2 were from English or English-intensive programs, while the participants in the cross-sectional study came from a range of faculties and departments.

Multiple Regression Analysis

I conducted multiple regression analyses in order to clarify the relationship between the seven predictor variables (Attitude Toward the Target Language and Culture; Instrumental Promotion; Instrumental Prevention; the Influence of

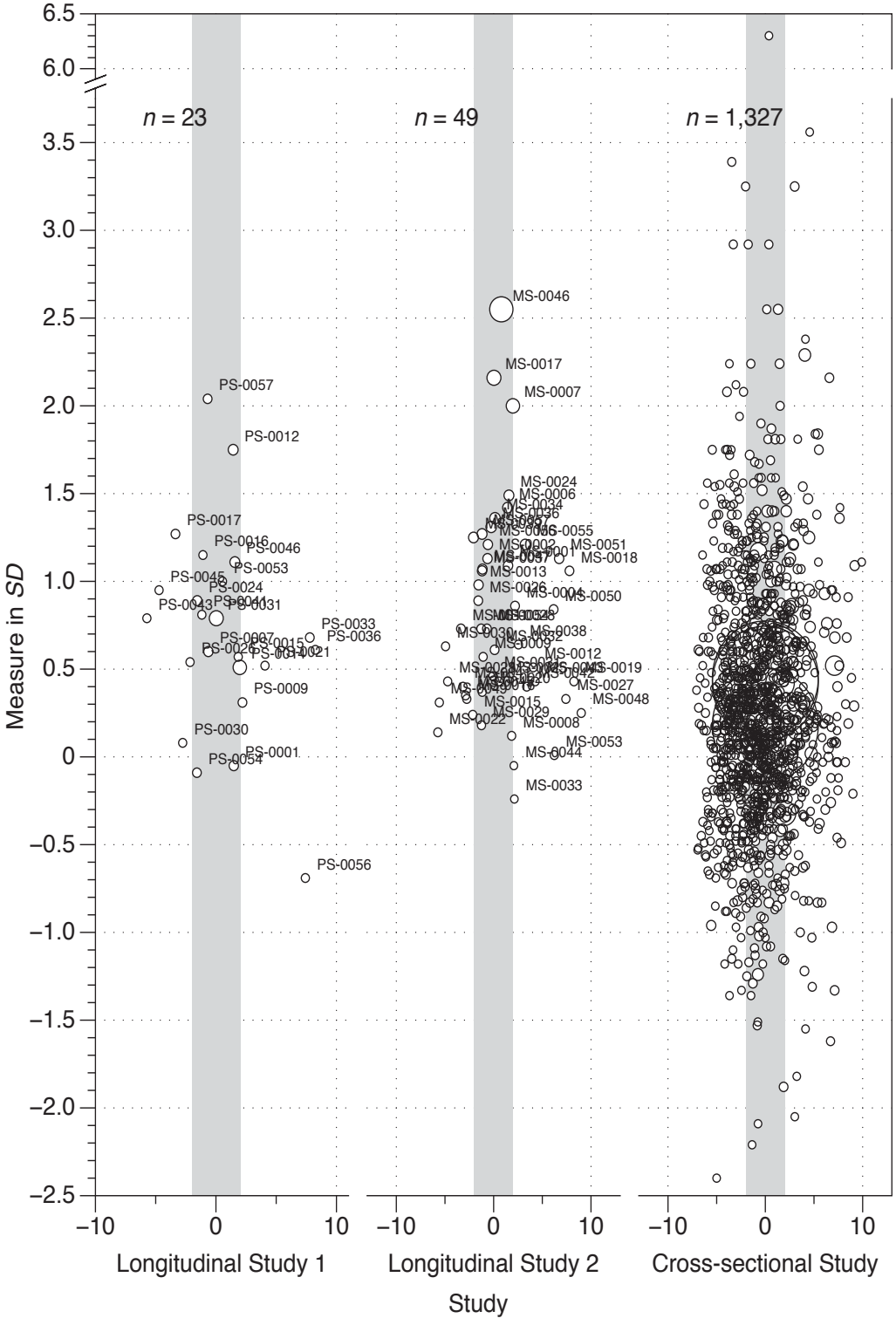

Figure 145. Person maps for participants in Longitudinal Study 1, Longitudinal Study 2, and cross-sectional study for measures on motivational survey instrument in standard deviation.

Note. PS- = code for participant in Longitudinal Study 1, the "preliminary study"; MS- = code for participant in Longitudinal Study 2, the "main study"; XS = code for participant in the cross-sectional study, "cross study."

Significant Others; the Ideal L2 Self, the Ought-to Self, the Attitudes toward Learning English) and the two criterion variables (the Intention to Learn English and Minutes per Week).

This was designed to evaluate Taguchi et al.'s (2009) proposed model, which included three proximal predictor variables (the Ideal L2 Self, the Ought-to Self, and the L2 Learning Experience, which is labeled Attitudes toward Learning English in this study) and four distal predictor variables (Attitude Toward the Target Language and Culture; Instrumental Promotion; Instrumental Prevention; and the Influence of Significant Others) that had been shown to influence the criterion variable in their study, Intention to Learn. In addition, I considered a modified version of Taguchi's et al.'s model, one that replaced the Intention to Learn with actual minutes per week spent accessing English, Time Use, and a second that included the Intention to Learn as an additional predictor variable.

Data screening.

Prior to conducting multiple regression analyses, the nine variables to be used in the multiple regression analyses were checked for normality, skewness, and kurtosis. Due to significant skewness, Minutes per Week was transformed using a log (10) transformation. IBM SPSS Regression of the motivational variables, including the transformed Minutes per Week, was used to detect multivariate outliers and assess multicollinearity. No problems were found with regards to multicollinearity, but 15 cases were identified as outliers and eliminated from subsequent multiple regression analyses.

Assessing Taguchi et al.'s (2009) Model.

First, a multiple regression analysis was conducted to evaluate how well the seven motivational variables predicted a stated Intention to Learn. The predictors were Attitudes Toward the Target Language and Culture; Instrumental Promotion; Instrumental Prevention; the Influence of Significant Others; the Ideal L2 Self, the Ought-to Self, and Attitudes toward Learning English. The criterion variable was Intention to Learn. The linear combination of motivational variables was significantly related to the stated Intention to Learn, $F(7, 1242) = 960.75$, $p < .001$. The sample multiple correlation coefficient was .92, indicating that approximately 84% of the variance of the Intention to Learn English in the sample can be accounted for by the linear combination of the predictor variables. All the bivariate correlations between the predictors and Intention to Learn English were positive and five were statistically significant ($p < .05$) (see Table 95).

Table 95. *Relative Strength of the Predictor Variables by Intention to Learn*

	Correlation between each predictor and . . .	
Predictors	Intention to Learn English (IL)	IL controlling for all other predictors
AL2	.87***	.46
I Prom	.84***	.32
I Prev	.41	-.02
IS	.83***	.27
ISO	.60	-.05
L2E	.77***	.16
OS	.87*	.46

Note. AL2 = Attitudes toward English Language Community and Culture; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self.
* p < 05, ** p < .01, *** p < .001

Replacing the Intention to Learn English criterion with the log 10 Transformed Time Use (L Time Use) criterion also yielded significant results, $F(7, 495) = 14.434$,

p <.001. Here, the sample multiple correlation coefficient was .41, indicating that only approximately 17% of the variance in the Minutes per Week can be accounted for by the linear combination of the predictor variables, a much lower proportion than for the Intention to Learn English (see Table 96).

Table 96. *Relative Strength of the Predictor Variables by L Times Use*

	Correlations with predictors	
Predictors	L Time Use	L Time Use controlling for all other predictors
AL2	.376***	.183
I Prom	.228	-.085
I Prev	.016	-.022
IS	.340*	.093
ISO	.204	.050
L2E	.313	.055
OS	.134	-.050

Note. L Time Use = log 10 transformed time use; AL2 = Attitudes toward English Language Community and Culture;. I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self.
* p < .05, ** p < .01, *** P < .001

Evaluating this study's implementation of Taguchi et al.'s (2009) order.

In Taguchi et al.'s (2009) model, four variables (Attitude Toward the Target Community and Language [AL2], Instrumental Promotion [I Prom], Instrumental Prevention [I Prev], and Influence of Significant Others [ISO]) were shown to load on three other predictor variables (Ideal L2 Self [IS], L2 Learning Experiences [L2E], which is labeled Attitudes toward Learning English for this study, and Ought-to Self [OS]), which ultimately loaded on the criterion (Intention to Learn). As such, it would be useful to evaluate to what degree adding predictor variables in blocks would alter the outcomes. To test this, I conducted a multiple regression analysis using an ordered set of predictors, with one set of distal variables (Attitude Toward the Target

Community and Language [AL2], Instrumental Promotion [IProm], Instrumental Prevention [IPrev], and Influence of Significant Others [ISO]) and one set of proximal variables (Ideal L2 Self [IS], Attitudes toward Learning English [L2E], and Ought-to-Self [OS]), and the criterion variable, Intention to Learn English (IL).

The results showed that the four distal predictor variables accounted for a significant amount of the variability in the criterion variable, Intention to Learn English, $R^2 = .82$, $F(4, 1245) = 1{,}416.00$, $p < .001$, indicating that a major portion of the Intention to Learn English can be predicted by those four variables. The three proximal variables, after controlling for the effects of the distal variables, lead to only a very small change, $R^2 = .02$, $F(3, 1242) = 64.565$, $p < .001$. This would seem to indicate that the distal predictor variables, Attitudes toward Target Language and Culture (AL2), Instrumental Prevention (I Prev), Instrumental Promotion (I Prom), and Influence of Significant Others (ISO), were more important than the proximal predictor variables, Ideal L2 Self (IS), Attitudes toward Learning English (L2E), and Ought-to Self (OS). However, with multiple regression analysis, the order of entry of predictors can lead to large changes in the regression formula.

Running the same analysis but with the order of the distal and proximal predictor variables reversed yielded slightly different results. With this sequence, the three proximal predictor variables accounted for the lion's share of the variability in the criterion variables, $R^2 = .75$, $F(3, 1246) = 1{,}277.27$, $p < .001$, and the distal variables, after controlling for the proximal variables, added a small amount, $R^2 = .09$, $F(4, 1242) = 178.25$, $p < .001$. These results suggest that the four distal variables from Taguchi et al.'s (2009) model, Attitude towards the Target Language and Culture, Instrumental Prevention, Instrumental Promotion, and the Influence of Significant

Others might play a bigger role in influencing a student's Intention to Learn English than do the Ideal L2 Self, the Ought-to Self, and Attitudes toward Learning English.

As the analyses above found that the predictor variables, regardless of their sequence of entry into the equation, accounted for much more variability in the Intention to Learn English condition than in the Time Use condition, I decided to check whether the same effect would be found here. Results for the four distal, three proximal sequence were significant, $R^2 = .15$, $F(4, 498) = 22.68$, $p < .001$. The addition of the three proximal variables was significant, but much smaller, $R^2 = .02$, $F(3, 495) = 3.07$, $p < .05$. Reversing the order of entry for the two blocks of predictor variables resulted on the proximal variables now accounting for the lion's share, $R^2 = .13$, $F(3, 499) = 25.70$, $p < .001$, with the second block of variables, after controlling for the first, only adding a little, $R^2 = .04$, $F(4, 495) = 5.32$, $p < .001$.

To sum up, in all of the trials conducted above, the predictor variables accounted for a much larger amount of the variation in the Intention to Learn English than in the actual amount of time participants reported accessing English. Moreover, as judging by the results of different permutations, the supposedly distal predictor variables, AL2, I Prev, I Prom, and ISO accounted for a greater amount of variation in the Criterion variable than did the proximal predictor variables, IS, L2E, and OS.

Taguchi et al.'s (2009) original plan had numerous factors, which they reduced through FA and preliminary SEM runs. They also had an idea about how the variables related, with some variables directly influencing the criterion (what I term the proximal variables) and others that only indirectly influenced the criterion (what I term distal variables). That is my justification here for including ordered blocks of variables during the analyses.

Structural Equation Modeling

Structural equation modeling is a technique for investigating the underlying structure of a multistage phenomenon. SEM is capable of evaluating to what degree a structural model fits a dataset. Due to the way paths between factors are evaluated concurrently, causal links between factors can also be investigated. Taguchi et al. (2009) investigated the constituent elements of the L2 motivational self system along with several factors that historically had been shown to influence language learners' motivation. Their final model consisted of four legacy factors (Attitudes Toward the Target Language and Culture, Parental Influence, Instrumental Promotional, and Instrumental Preventative), three central factors from Dörnyei's (2009) L2 motivational self system (the Ideal L2 Self, the Ought-to L2 Self, and Language Learning Experience [Attitudes toward Learning English in this study]), and a criterion measure they refer to as Intention to Learn. (Note: I revised the variable Parental Influence to include the influence of others and renamed it Influence of Significant Others.)

In the current study, I replicated Taguchi et al.'s (2009) intention to learn model (ILM) using data from my motivational survey and then tested the same model by replacing the criterion Intention to Learn with actual records to Time Use. My survey differs slightly from Taguchi et al., but targeted essentially the same traits using many of the same items that Taguchi et al. used. Also, the participants in my study—Japanese university students—are similar to the Japanese university students who participated in Taguchi et al.'s study.

During the replication process, I maintained the same path structure as in the Taguchi et al. (2009) in their final model for the testing of the ILM. Figure 146 shows

the flow chart I followed for the structural equation modeling iterations. As my intention was to test Taguchi's model rather than to explore other possible models, I made the decision to stop the reiterative indicator reassignment and elimination process once I had completed the confirmatory analysis. This is in line with Byrne's (2006) warning against overfitting a model (p. 112). Following the testing of intention to learn model (ILM, CFA), I also tested a variant model that replaces the criterion measure, Intention to Learn, with a behavioral variable, Time Use, and that I have labeled the time use model (TUM, CFA). The time use variable is not a survey item, but rather consists of the log 10 transformed average minutes per week participants reported accessing English outside of class. For both the ILM and the TUM run, I used the data from participants who completed the motivational survey and provided time use data.

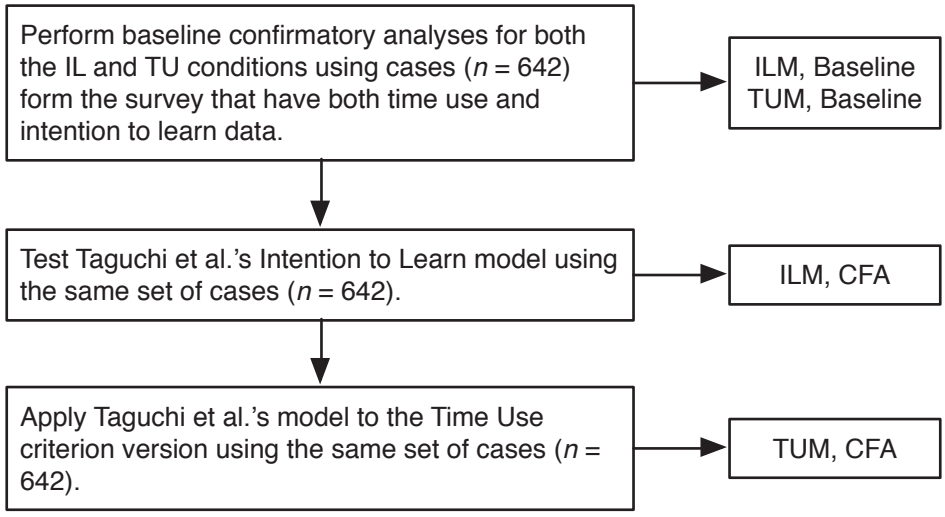

Figure 146. Structural equation modeling iteration flow chart for runs of data for Taguchi et al.'s (2009) intention to learn model (ILM) and the time use model (TUM).
Note. IL = intention to learn; TU = time use; ILM = intention to learn model; CFA = confirmatory factor analysis; TUM = time use model; ILM NTU = intention to learn model for participants with no time use data.

Confirmatory factor analysis with the Intention to Learn criterion.

As an initial step, a baseline confirmatory factor analysis using cases from my survey that included time use data (n = 642, 5 = excluded due to a large contribution to normalized multivariate kurtosis, 55 = skipped due to missing variables, net cases = 582) was conducted to test the multidimensionality of the theoretical construct and to use as a baseline for subsequent analyses. All seven of the targeted predictor variables were included, and, with the output variable, Intention to Learn, were assigned to their respective factors. All possible paths between factors were added. Results showed very poor fit of the data to the model, indicating that an alternate model would better explain the underlying structure of the dataset.

The average absolute standardized residual was 0.096 and the average off-diagonal absolute standardized residual = 0.098. Both figures are below the 2.58 threshold that is considered large and these results can be interpreted as moderate (Byrne, 2006, p. 94). A review of the frequency distribution (see Figure 147) indicates the data are relatively symmetric and centered around zero. However, the dispersion indicates that only 67.51% fall between -0.1 and .01, and 88.05% fall between -0.2 and .2. From this information we see that there is a fair amount of discrepancy in fit between the baseline model and the sample data.

Fit statistics. As the normalized estimate for Mardia's coefficient was high (123.5182), I followed Byrne's (2006) recommendation to use robust fit statistics. The robust Chi square statistic for the independence intention to learn model was large (χ^2 = 22,096.32, df = 1,953), indicating a poor fit to the data. Presumably, a theory generated model, such as that from Taguchi et al. (2009), would result in a smaller

Chi square value. The Satorra-Bentler scaled χ^2 statistic was 6,245.74 on 1,864 degrees of freedom. The Yuan-Bentler Residual-Based Test Statistic was 227.78, *p* = .02, suggesting that the fit of the data to the independence intention to learn model is poor. The robust comparative fit index was poor (CFI = 0.78) in comparison to the recommended value of 0.95 for well-fitting models. Finally, the RMSEA was .064 (90% CI [0.062, 0.065]), which is considered reasonable, but not good. In summary, the fit statistics for the independence model can be considered poor.

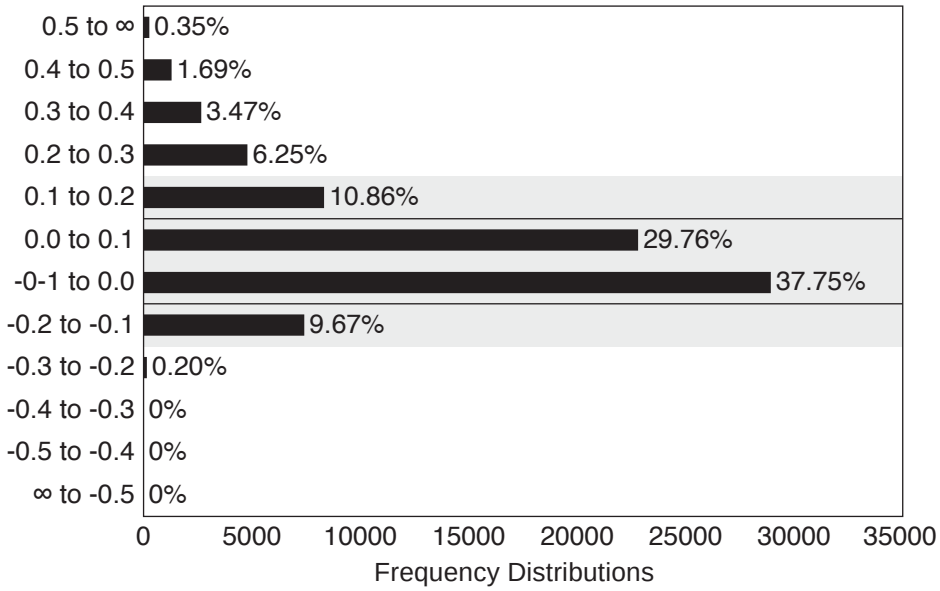

Figure 147. Histogram of residuals for the baseline intention to learn model (ILM) confirmatory factor analysis.

Examination of the individual parameter estimates. None of the error values in the individual parameter estimates is excessive. I did not evaluate the standardized estimates, as I do not have clear benchmarks against which comparisons can be made. Inspection of the results from the Lagrange Multiplier Test indicated numerous

possible additional parameters to add to the model, but none that were different in scale from others.

In conclusion, the confirmatory factor analysis of the independence model showed very poor fit to the data set. It also provides a baseline for comparing Taguchi et al.'s (2009) ILM.

Confirmatory factor analysis, time use criterion.

I conducted an additional baseline confirmatory factor analysis using the same cases (*n* = 643, skipped = 54, net = 589) but replacing the intention to learn factor with the time use variable in the model. Results for the time use model (TUM) mirrored those for the intention to learn model (ILM). Results showed equally poor fit. The average absolute standardized residual was 0.06 and the average off-diagonal absolute standardized residual = 0.06. Both figures are below the 2.58 threshold that is considered large and these results can be interpreted as moderate (Byrne, 2006, p. 94). A review of the frequency distribution (see Figure 148) indicates the data are relatively symmetric and centered around zero. However, the dispersion indicates that only 79.01% fall between -0.1 and .01, and 97.79% fall between -0.2 and .2. From this information we see that there is a moderate amount of discrepancy in fit between the time use baseline model and the sample data, but sufficient fit to warrant further testing.

Fit statistics. As the normalized estimate for Mardia's coefficient was high (111.43), I followed Byrne's (2006) recommendation to use robust fit statistics. The robust Chi square statistic for the independence intention to learn model was large (χ^2 = 17976.19, *df* = 1,540), indicating a poor fit to the data. Presumably, a theory

generated model, such as that from Taguchi et al. (2009), would result in a smaller Chi square value. The Satorra-Bentler scaled χ^2 statistic was 4,773.57 (*df* = 1,457, $p < .0001$). The robust comparative fit index was poor (CFI = .80) in comparison to the recommended value of 0.95 for well-fitting models. Finally, the RMSEA was 0.062 (90% CI [0.060, 0.064]), which is considered reasonable, but not good. In summary, the fit statistics for the independence model can be considered poor.

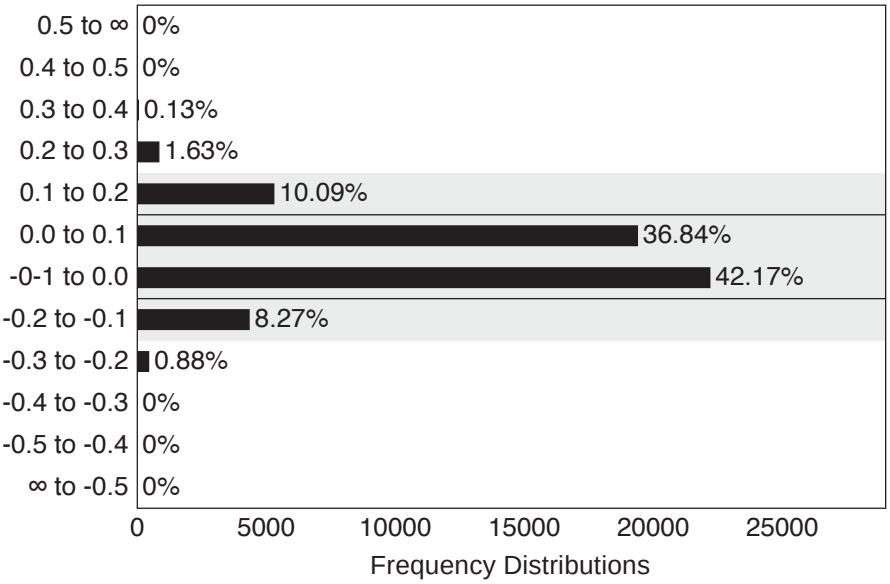

Figure 148. Histogram of residuals for the time use model (TUM) confirmatory factor analysis.

Examination of the individual parameter estimates. None of the error values in the individual parameter estimates is excessive. I again did not evaluate the standardized estimates, as I do not have clear comparative benchmarks available. Inspection of the results from the Lagrange Multiplier Test indicated numerous possible additional parameters to add to the model, but none that were different in scale from others. In conclusion, the confirmatory factor analysis of the independence

time use model showed rather poor fit to the data set. It also provides a baseline for comparison with Taguchi et al.'s (2009) intention to learn model.

Taguchi et al.'s (2009) ILM.

After establishing a baseline, I tested the final solution Taguchi et al. (2009), arrived at for their dataset, Taguchi's ILM, CFA (see Figure 149). I used the same cases as for the original independence intention to learn model as tested above. The data consisted of 587 cases (643 cases less 56 that were skipped due to missing variables). All eight of the targeted factors were included and all indicators were assigned to their respective factors. However, in contrast to the independence model where all factors were linked by paths, during this run only the paths found in Taguchi's ILM were that tested.

Results showed marginal fit to the model. The average absolute standardized residual was 0.15 and the average off-diagonal absolute standardized residual = 0.156. Both figures are below the 2.58 threshold that is considered large and these results can be interpreted as moderate (Byrne, 2006, p. 94). A review of the frequency distribution (see Figure 150) indicates the data are relatively symmetric and centered around zero. However, the dispersion indicates that only 46.28% fall between -0.1 and .01, and 69.84% fall between -0.2 and .2. From this information we see that there is a fair amount of discrepancy in fit between the hypothesized model and the sample data, but sufficient fit to warrant further testing.

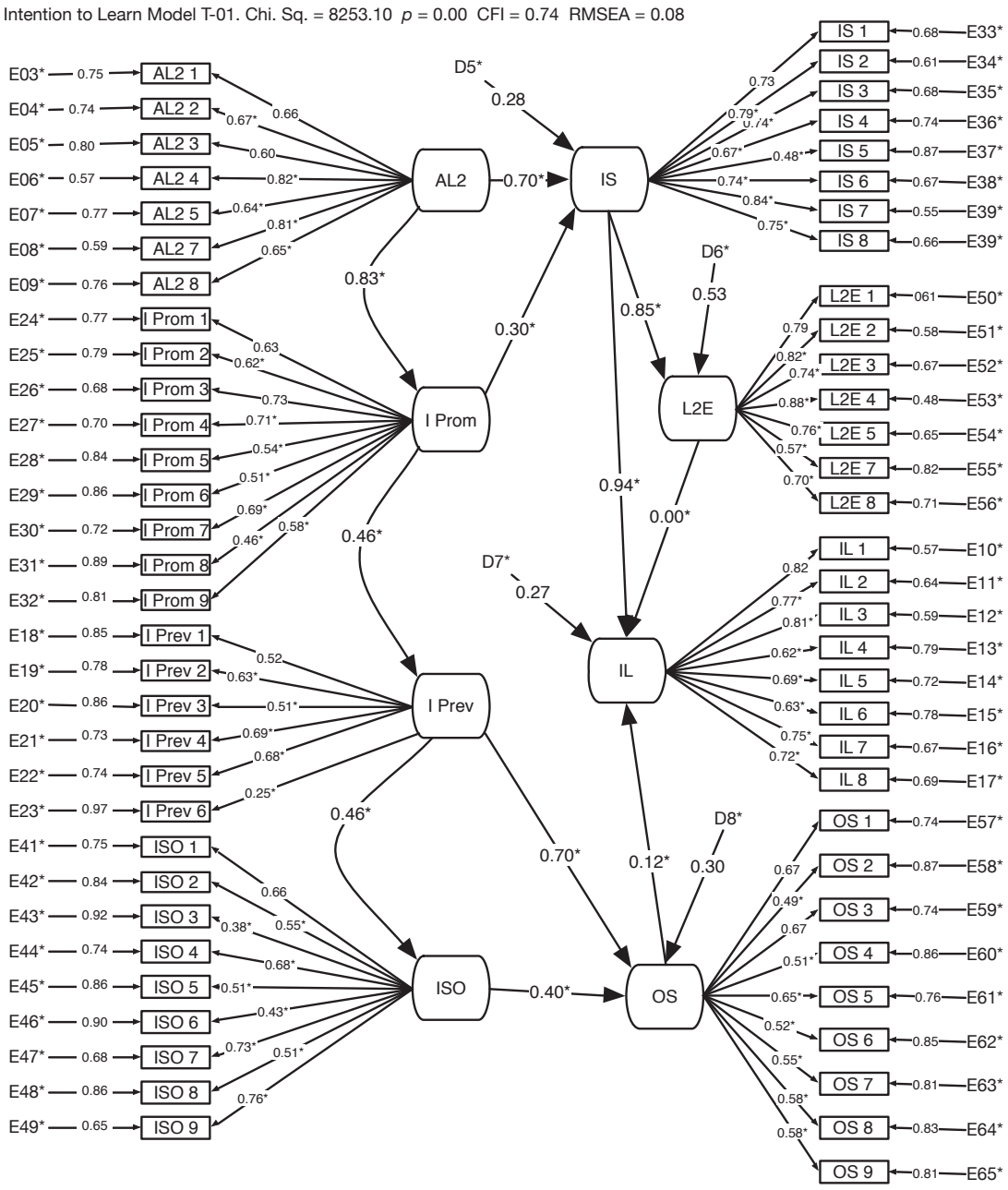

Figure 149. Results from the initial run of Taguchi's ILM with standard path coefficients displayed, Chi Sq. = 8253.10, CFI = .74, RMSEA = .08.

Note. Chi Sq. = Chi Square; CFI = comparative fit index; RMSEA = root mean square error of approximation; E = Error; D = Disturbance; AL2 = Attitudes toward English Language Community and Culture; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self.

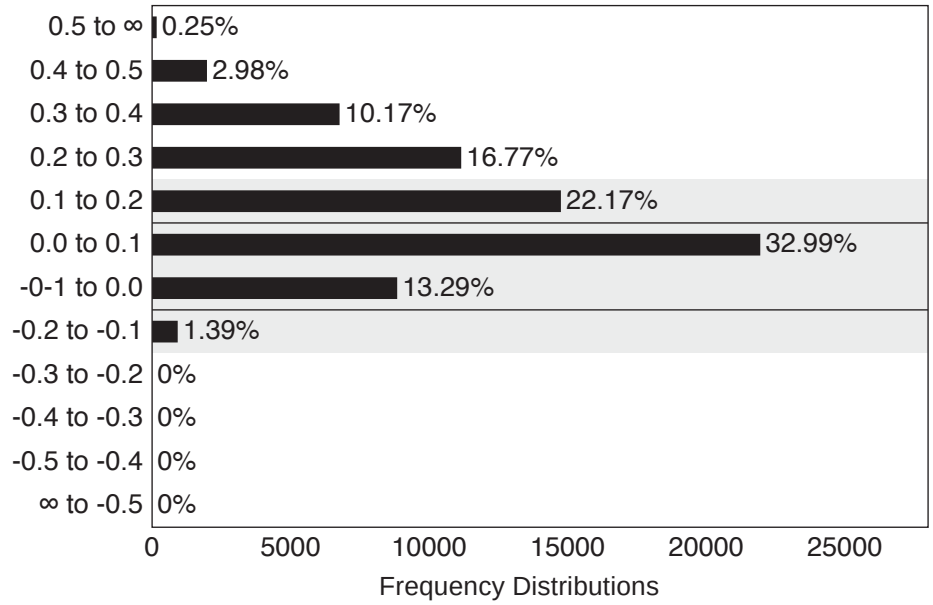

Figure 150. Histogram of residuals for the initial run of the intention to learn model (ILM).

Fit statistics. As the normalized estimate for Mardia's coefficient was high (140.86), I followed Byrne's (2006) recommendation to use robust fit statistics. The robust Chi square statistic for the independence intention to learn model was quite large (χ^2 = 21705.38, *df* = 1,953), indicating a poor fit to the data.

The Satorra-Bentler scaled χ^2 statistic was 6,177.71 (*df* = 1,879, $p < .0001$). The robust comparative fit index was poor (CFI = .78) in comparison to the recommended value of 0.95 for well-fitting models. Finally, the RMSEA was 0.062 (90% CI [0.061, 0.064]), which is considered reasonable, but not good. Remarkably, the results for this theory- and research-based model are comparable to those from the baseline confirmatory factor analysis.

Examination of the individual parameter estimates. None of the error values in the individual parameter estimates is excessive. No comparison was made between

the parameter estimates and previous research. All of the path loadings are significant at the $p < .05$ level (see Table 97). Moreover, inspection of the results from the Lagrange Multiplier Test indicated numerous possible additional parameters to add to the model, with many expected to have a large positive impact on the overall fit.

Table 97. *Standardized Solution, Intention to Learn Model (ILM, CFA)*

						R^2
AL2 1, V3	=	.661	F1 +	.750	E03	.437
AL2 2, V4	=	.674*	F1 +	.739	E04	.454
AL2 3, V5	=	.604*	F1 +	.797	E05	.364
AL2 4, V6	=	.822*	F1 +	.570	E06	.675
AL2 5, V7	=	.643*	F1 +	.765	E07	.414
AL2 7, V8	=	.810*	F1 +	.587	E08	.656
AL2 8, V9	=	.646*	F1 +	.764	E09	.417
IL 1, V10	=	.824	F7 +	.567	E10	.678
IL 2, V11	=	.769*	F7 +	.640	E11	.591
IL 3, V12	=	.811*	F7 +	.585	E12	.658
IL 4, V13	=	.619*	F7 +	.785	E13	.383
IL 5, V14	=	.695*	F7 +	.719	E14	.482
IL 6, V15	=	.626*	F7 +	.780	E15	.392
IL 7, V16	=	.747*	F7 +	.665	E16	.557
IL 8, V17	=	.722*	F7 +	.692	E17	.521
IPREV 1, V18	=	.525	F3 +	.851	E18	.275
IPREV 2, V19	=	.631*	F3 +	.776	E19	.398
IPREV 3, V20	=	.506*	F3 +	.863	E20	.256
IPREV 4, V21	=	.686*	F3 +	.727	E21	.471
IPREV 5, V22	=	.677*	F3 +	.736	E22	.458
IPREV 6, V23	=	.254*	F3 +	.967	E23	.065
IPROM 1, V24	=	.634	F2 +	.773	E24	.402
IPROM 2, V25	=	.617*	F2 +	.787	E25	.381
IPROM 3, V26	=	.731*	F2 +	.682	E26	.535
IPROM 4, V27	=	.713*	F2 +	.701	E27	.508
IPROM 5, V28	=	.539*	F2 +	.842	E28	.291
IPROM 6, V29	=	.512*	F2 +	.859	E29	.262
IPROM 7, V30	=	.689*	F2 +	.725	E30	.475
IPROM 8, V31	=	.463*	F2 +	.886	E31	.215
IPROM 9, V32	=	.581*	F2 +	.814	E32	.338
IS 1, V33	=	.732	F5 +	.682	E33	.536
IS 2, V34	=	.794*	F5 +	.608	E34	.630
IS 3, V35	=	.737*	F5 +	.676	E35	.543
IS 4, V36	=	.669*	F5 +	.743	E36	.447
IS 5, V37	=	.485*	F5 +	.875	E37	.235
IS 6, V38	=	.738*	F5 +	.675	E38	.545
IS 7, V39	=	.838*	F5 +	.546	E39	.702
IS 8, V40	=	.749*	F5 +	.663	E40	.560

Table 97 (Continued). *Standardized Solution, Intention to Learn Model (ILM, CFA) I*

											R^2
ISO 1, V41	=	.659	F4	+	.752	E41					.435
ISO 2, V42	=	.549*	F4	+	.836	E42					.302
ISO 3, V43	=	.382*	F4	+	.924	E43					.146
ISO 4, V44	=	.677*	F4	+	.736	E44					.458
ISO 5, V45	=	.506*	F4	+	.863	E45					.256
ISO 6, V46	=	.426*	F4	+	.905	E46					.182
ISO 7, V47	=	.729*	F4	+	.684	E47					.532
ISO 8, V48	=	.514*	F4	+	.858	E48					.264
ISO 9, V49	=	.764*	F4	+	.645	E49					.584
L2E 1, V50	=	.794	F6	+	.608	E50					.631
L2E 2, V51	=	.817*	F6	+	.577	E51					.667
L2E 3, V52	=	.743*	F6	+	.670	E52					.552
L2E 4, V53	=	.876*	F6	+	.483	E53					.767
L2E 5, V54	=	.756*	F6	+	.655	E54					.571
L2E 7, V55	=	.573*	F6	+	.819	E55					.329
L2E 8, V56	=	.701*	F6	+	.713	E56					.492
OS 1, V57	=	.670	F8	+	.742	E57					.449
OS 2, V58	=	.491*	F8	+	.871	E58					.241
OS 3, V59	=	.670*	F8	+	.742	E59					.449
OS 4, V60	=	.509*	F8	+	.861	E60					.259
OS 5, V61	=	.653*	F8	+	.757	E61					.426
OS 6, V62	=	.521*	F8	+	.853	E62					.272
OS 7, V63	=	.587*	F8	+	.810	E63					.344
OS 8, V64	=	.554*	F8	+	.833	E64					.306
OS 9, V65	=	.58*	F8	+	.814	E65					.337
F5, F5	=	.696*	F1	+	.301*	F2	+	.280	D5		.922
F6, F6	=	.849*	F5	+	.529	D6					.720
F7, F7	=	.943*	F5	+	.001*	F6	+	.118*	F8	+ .271 D7	.926
F8, F8	=	.704*	F3	+	.397*	F4	+	.304	D8		.908

Note. AL2 = Attitudes toward English Language Community and Culture; IPROM = Instrumental Promotion; IPREV = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self; V = variable; F = factor; E = error associated with variable; D = error associated with factor.
* = significant at the p = < 0.05 level.

Time use model (TUM).

I tested the alternative L2 Self System TUM in which I replace the latent trait, Intention to Learn, with the log 10 transformed variable, out-of-class time use (average minutes per week). I again used the same cases as for the original confirmatory factor analysis conducted at the outset. All seven of Taguchi's predictor

factors were included and all indicators from my survey that had been developed were assigned to their targeted factors.

Results again showed marginal fit to the model. The average absolute standardized residual was 0.27 and the average off-diagonal absolute standardized residual = 0.28. Both figures are below the 2.58 threshold that is considered large and these results can be interpreted as moderate (Byrne, 2006, p. 94). A review of the frequency distribution (see Figure 151) indicates the data are somewhat symmetric and centered around zero. However, the dispersion indicates that only 44.95% fall between -0.1 and .01, and 66.85% fall between -0.2 and .2. From this information we see that there is a fair amount of discrepancy in fit between the hypothesized model and the sample data, but sufficient fit to warrant further testing (see Figure 152).

Fit Statistics. As the normalized estimate for Mardia's coefficient was high (127.3744), I followed Byrne's (2006) recommendation to use robust fit statistics. The robust Chi square statistic for the independence intention to learn model was large (χ^2 = 18,263.93, *df* = 1,596), indicating a poor fit to the data. Presumably, a theory generated model, such as that from Taguchi et al., would result in a smaller Chi square value. The Satorra-Bentler scaled χ^2 statistic was 5,647.38 on 1,530 degrees of freedom. The robust comparative fit index was poor (CFI = 0.75) in comparison to the recommended value of 0.95 for well-fitting models. Finally, the RMSEA was .068 (90% CI [0.066, 0.069]), which is considered reasonable, but not good. In summary, the fit statistics for the initial run of the TUM are poor.

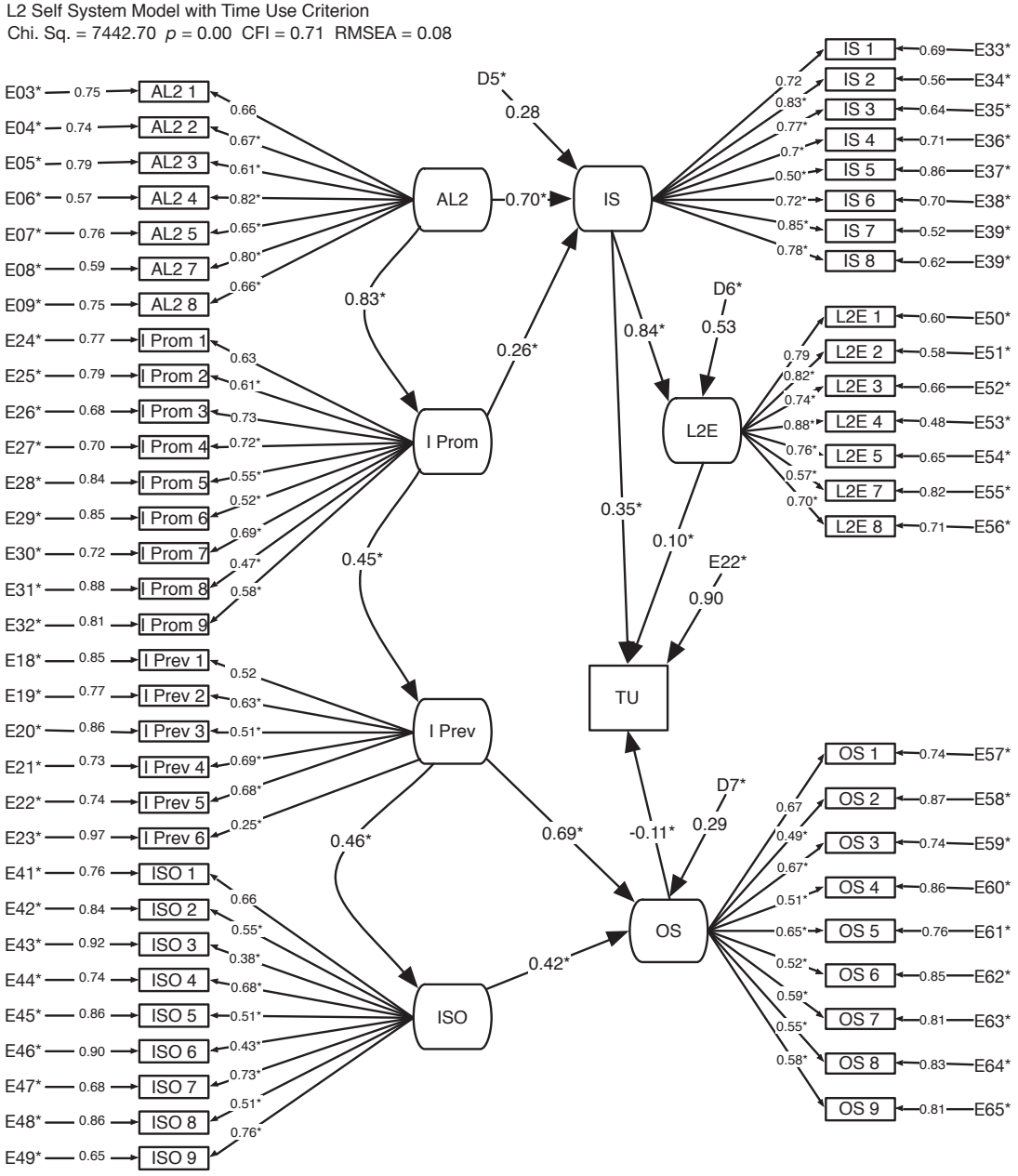

Figure 151. Results from the initial run of the time use model (TUM, CFA) with standard path coefficients displayed, Chi Sq. = 7442.70; CFI = .71; RMSEA = .08.
Note. Chi Sq. = Chi Square; CFI = comparative fit index; RMSEA = root mean square error of approximation; AL2 = Attitudes toward English Language Community and Culture; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self.

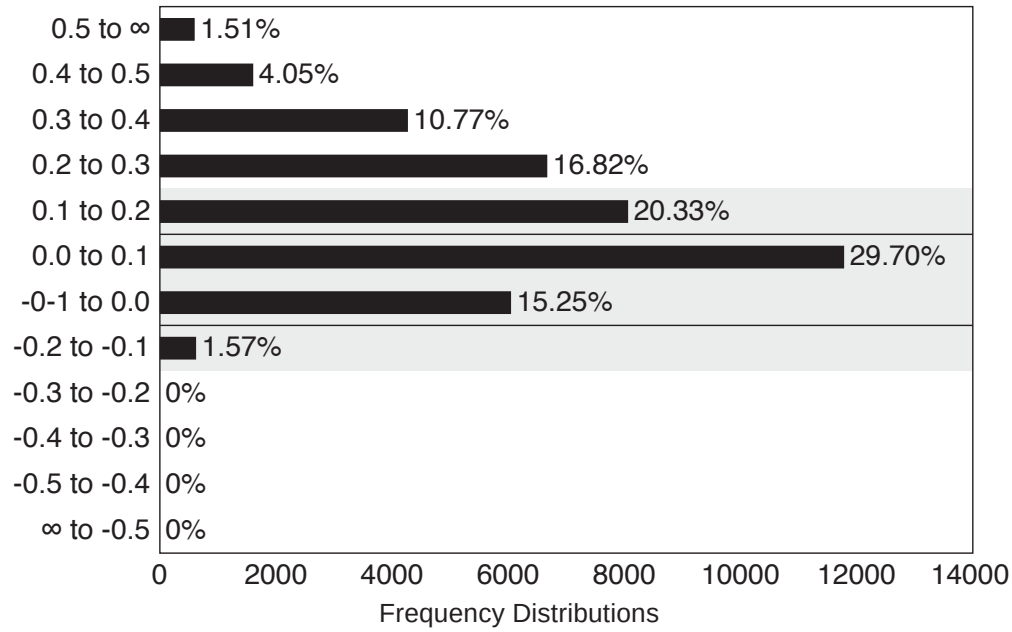

Figure 152. Histogram of residuals for the time use model (TUM, CFA).

Examination of the individual parameter estimates. None of the error values in the individual parameter estimates is excessive. Table 98 displays the standardized solution with R^2 values. All of the path loadings are significant at the $p < .05$ level. No comparison was made between the parameter estimates and previous research. Moreover, inspection of the results from the Lagrange Multiplier Test indicated numerous possible additional parameters to add to the model, with many expected to have a large positive impact on the overall model fit.

General model issues.

In general, none of the models worked particularly well. The poor fit statistics, large sizes of error terms, and numerous parameter estimates approaching zero or one are all indicative of problems. There are numerous possible sources for these problems, starting with poor survey items. Items that do not load cleanly on the targeted factors or items that have strong cross-loadings do not make good indicators

for structural equation modeling. In hindsight, better piloting of the survey instrument might have enabled avoidance of many of these problems.

Table 98. *Standardized Solution, Time Use Model (TUM, CFA)*

						R^2
AL2 1, V3	=	.661	F1 +	.750	E3	.438
AL2 2, V4	=	.669*	F1 +	.744	E4	.447
AL2 3, V5	=	.610*	F1 +	.792	E5	.373
AL2 4, V6	=	.821*	F1 +	.571	E6	.674
AL2 5, V7	=	.645*	F1 +	.764	E7	.416
AL2 7, V8	=	.804*	F1 +	.594	E8	.647
AL2 8, V9	=	.657*	F1 +	.754	E9	.431
IPREV 1, V18	=	.527	F3 +	.850	E18	.277
IPREV 2, V19	=	.635*	F3 +	.772	E19	.404
IPREV 3, V20	=	.511*	F3 +	.859	E20	.261
IPREV 4, V21	=	.685*	F3 +	.729	E21	.469
IPREV 5, V22	=	.676*	F3 +	.737	E22	.457
IPREV 6, V23	=	.257*	F3 +	.966	E23	.066
IPROM 1, V24	=	.633	F2 +	.774	E24	.400
IPROM 2, V25	=	.614*	F2 +	.789	E25	.377
IPROM 3, V26	=	.729*	F2 +	.684	E26	.532
IPROM 4, V27	=	.717*	F2 +	.697	E27	.514
IPROM 5, V28	=	.550*	F2 +	.835	E28	.302
IPROM 6, V29	=	.520*	F2 +	.854	E29	.270
IPROM 7, V30	=	.689*	F2 +	.725	E30	.474
IPROM 8, V31	=	.471*	F2 +	.882	E31	.222
IPROM 9, V32	=	.581*	F2 +	.814	E32	.338
IS 1, V33	=	.720	F5 +	.694	E33	.518
IS 2, V34	=	.825*	F5 +	.564	E34	.681
IS 3, V35	=	.766*	F5 +	.643	E35	.587
IS 4, V36	=	.703*	F5 +	.711	E36	.495
IS 5, V37	=	.504*	F5 +	.864	E37	.254
IS 6, V38	=	.716*	F5 +	.698	E38	.513
IS 7, V39	=	.852*	F5 +	.523	E39	.726
IS 8, V40	=	.783*	F5 +	.622	E40	.613
ISO 1, V41	=	.656	F4 +	.755	E41	.430
ISO 2, V42	=	.550*	F4 +	.835	E42	.302
ISO 3, V43	=	.383*	F4 +	.924	E43	.146
ISO 4, V44	=	.675*	F4 +	.738	E44	.455
ISO 5, V45	=	.505*	F4 +	.863	E45	.255
ISO 6, V46	=	.428*	F4 +	.904	E46	.183
ISO 7, V47	=	.730*	F4 +	.683	E47	.533
ISO 8, V48	=	.514*	F4 +	.858	E48	.264
L2E 2, V51	=	.815*	F6 +	.580	E51	.664
L2E 3, V52	=	.747*	F6 +	.665	E52	.558
L2E 4, V53	=	.875*	F6 +	.485	E53	.765
L2E 5, V54	=	.762*	F6 +	.648	E54	.581

Table 98 (Continued). *Standardized Solution, Time Use Model (TUM, CFA)*

											R^2
L2E 7, V55	=	.566* F6	+	.824 E55							.321
L2E 8, V56	=	.703* F6	+	.711 E56							.494
OS 1, V57	=	.666 F7	+	.746 E57							.444
OS 2, V58	=	.494* F7	+	.870 E58							.244
OS 3, V59	=	.667* F7	+	.745 E59							.444
OS 4, V60	=	.504* F7	+	.864 E60							.254
OS 5, V61	=	.659* F7	+	.752 E61							.434
OS 6, V62	=	.518* F7	+	.855 E62							.269
OS 7, V63	=	.588* F7	+	.809 E63							.345
OS 8, V64	=	.562* F7	+	.827 E64							.316
OS 9, V65	=	.573* F7	+	.820 E65							.328
TUR, V66	=	.346* F5	+	.101* F6	-	.106* F7	+	.898 E66			.193
F5, F5	=	.696* F1	+	.257* F2	+	.390 D5					.848
F6, F6	=	.841* F5	+	.540 D6							.708
F7, F7	=	.687* F3	+	.420* F4	+	.289 D7					.916
OS 1, V57	=	.666 F7	+	.746 E57							.444

Note. AL2 = Attitudes toward English Language Community and Culture; IPROM = Instrumental Promotion; IPREV = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self; V = variable; F = factor; E = error associated with variable; D = error associated with factor.
* = significant at the p = < 0.05 level.* = significant at the p = < 0.05 level.

That said, there could very well be issues concerning the factors themselves. During my item generation, I had trouble developing items that I was certain would load on one factor rather than another similar one. Particularly, I had difficulty creating items that clearly distinguished between similar factors, such as Instrumental Prevention and the Ought-to Self, or Instrumental Promotion and the Ideal L2 Self. Often, indicators that I thought were appropriate for one were almost as appropriate for the other. It might very well be that the participants had similar difficulty when responding to the survey. The problem might not have been limited to this study. It should be noted that Taguchi et al. (2009) retained in their final model only 29 of the original 67 items that they had generated. The low number of items retained in their study and the poor fit to the model in this study be indicative of general issues in motivational survey item wording.

In addition, the models for both conditions included very few indicators for some of the factors. It has been noted that insufficient indicators can make it difficult for structural equation modeling programs to reach reliable estimates and there are a number of strategies that can be tried to improve the running, including setting better initial start values, adding more indicators, setting equal start values for factors with only two indicators, and so on.

Aside from problems with indicators, there might also have been a problem with the model itself. Had I been interested in exploratory structural equation modeling, I would have attempted different formulations. For example, I wondered at the time why what I consider to be less central factors (Attitudes Toward the Target Language and Culture, Instrumental Promotion, Instrumental Prevention, and the Influence of Significant Others) were in causal position vis-à-vis the more central traits proposed by Dörnyei (2009) (Ideal L2 Self, Ought-to Self, and L2 Learning Experience, which is labeled Attitudes toward Learning English in this study). An argument could be made for reversing the order of those traits in the model.

Comparison of model fits.

Despite the problems listed above, it is informative to consider the results of the ILM and TUM models. For both the intention to learn and time use models, the model fit is almost exactly the same as in the baseline confirmatory factor analyses. One striking change, however, is that the robust comparative fit statistic for the time use model (TUM) is worse than in the confirmatory factor analysis (TUM, CFA). That means that the unmodeled arrangement of factors where there are no *a priori* assumptions concerning the relationship between factors performed better than an

arrangement that had been based upon underlying theory and previous research results. One interpretation of this would be that the nature of the criterion (a factor assessed with indicators vs. a measure) had an unexpected impact on the results.

Finally, the fit statistics for the intention to learn model using the cases without time use data resulted in several problems regarding inappropriate parameters and Heywood cases (Kline, 2005, p. 114). It is disappointing that the change in the participants (students having time use data versus students without time use data) resulted in the model failing (see Table 99).

Table 99. *Comparative Fit Statistics for the Intention to Learn Model*

Model	SB χ2	df	CFI	RMSEA, 90% CI
ILM, Baseline	6,245.74	1,864	.78	.064 [0.062, 0.065]
ILM, CFA	6,117.71	1,879	.78	.062 [0.061, 0.064]
TUM, Baseline	4,773.57	1,457	.80	.062 [0.060, 0.064]
TUM, CFA	5,647.38	1,530	.75	.068 [0.066, 0.069]

Note. Taguchi et al. (2009) reported a CFI of .94 and a RMSEA of .05 on their model. SB χ^2 = Satorra–Bentler scaled chi-square statistic; CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = confidence interval; CFA = confirmatory factor analysis; ILM = intention to learn model; TUM = time use model; NTU = no time use data.

Discussion of Model Results

Differences between iterations.

The comparative model (see Figure 153) shows the standardized regression coefficients for the paths between the predictor latent traits and the criterion measure, either Intention to Learn or out-of-class Time Use (Log 10 transformed, average minutes per week). For each path, three different coefficients are shown. The first row of coefficients addresses the model with Intention to Learn as the criterion (IL). The second row of coefficients addresses the model with time use as the criterion (TU). The third row provides the standardized coefficients for the Taguchi et al. (2009)

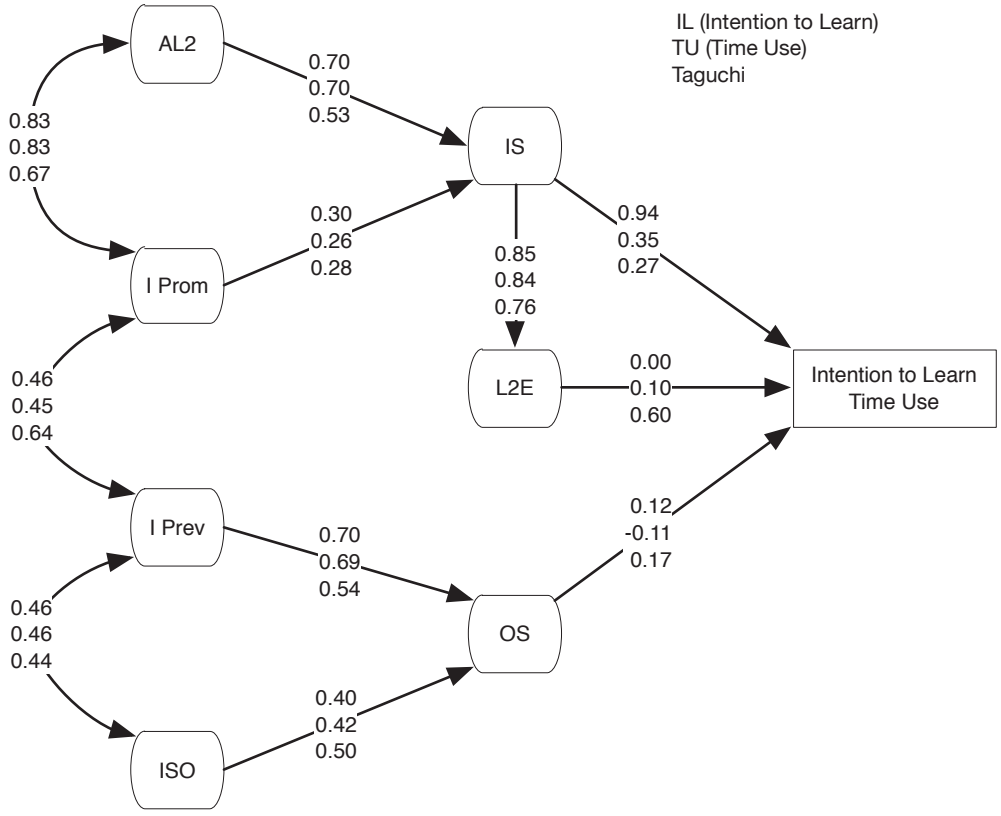

Figure 153. Path diagram with standardized coefficients for intention to learn model (ILM), time use model (TUM), and Taguchi et al.'s (2009) final model.
Note. AL2 = Attitudes toward English Language Community and Culture; I Prom = Instrumental Promotion; I Prev = Instrumental Prevention; IS = Ideal L2 Self; ISO = Influence of Significant Others; L2E = Attitudes toward Learning English; OS = Ought-to Self; IL = Intention to Learn; TU = Time Use; Taguchi = Taguchi et al. (2009).

model of the L2 motivational self system using the data from their Japanese participants. The arrangements of indicators are identical between the IL and TU conditions, with the exception that indicators of Intention to Learn and paths leading to those indicators are absent under the TU condition. Two points should be noted before commenting on the coefficients. First, whereas Taguchi et al. had a latent trait they called Parental Influence, I used an analogous latent trait I labeled Influence of Significant Others. This trait included items related to peers and siblings in addition to

parents. Second, items addressing the attitudes toward the English language and culture in Taguchi's study were dichotomous, whereas mine were Likert-style items.

There are several differences between the coefficients found in Taguchi's et al.'s (2009) final model and the coefficients generated using the data I collected. Although several of the path coefficients are similar (e.g., the two paths leading to the Ideal L2 Self, one from Attitude toward the Target Language and Culture and the other from Instrumental Promotion), there are a few which have very large differences. One striking difference is in the path coefficients between Attitudes toward Learning English and the criterion (Intention to Learn English or Time Use). Whereas Taguchi et al. reported a coefficient of 0.60, none of my versions exceeded 0.10. As the items in both Taguchi et al.'s and my survey are quite similar (see Chapter 3 for information on survey development and Appendices C to G), there is clearly a difference in the opinions of the participants. One possible reason is in the nature of the question. It should be noted that MacIntyre and Charos (1996) reported a coefficient of 0.07 on their model of L2 communication frequency linking attitudes toward learning situation and motivation. In my project, English course teachers administered the surveys and participants were instructed to consider all of their English courses when answering the survey questions. Participants, however, might have based their responses on the single course in which the survey was administered. Taguchi et al.'s did not report the conditions under which they administered their survey.

Another place where Taguchi et al.'s (2009) results differ greatly from mine is in the relationship between the Ideal L2 Self and the outcome variables Intention to Learn or Time Use. Taguchi et al. have a coefficient of 0.27, which was in line with the results for the Time Use formation (0.35) in my survey, but far below the

coefficients I found for the path linking the Ideal L2 Self to the Intention to Learn (0.94).

Intention to Learn and Time Use. One of the important aspects of this study is the use of a behavioral variable, Time Use, in addition to the survey-assessed latent trait, Intention to Learn. The comparisons between the two criterion variables in the two different variations of the model are striking. In the formation Time 1 (Taguchi et al.'s [2009] intention to learn model with all my indicators), the replacement of the factor Intention to Learn with the measure Time Use resulted in a large drop in the coefficient for the path from Ideal L2 Self and the criterion. For Intention to Learn, the coefficient for my data was 0.94, and the coefficient for Time Use was only 0.35. In other words, participants who rated highly on their Ideal L2 Self almost invariantly rated rather highly on Intention to Learn, but not nearly as highly on actual time use. If this same phenomenon exists in other surveys, then it is critical that researchers take it into account when interpreting survey-based results that purport to predict or explain actual behaviors. Unfortunately, there has been little research that has compared survey results to actual behaviors. M. P. Eccles et al. (2012) is notable in that they looked at intention and behavior in a series of medical intervention studies and concluded that surveys targeting intention did not indicate actual behavior (see Chapter 2, Literature Review).

Correlations (SPSS), Intention to Learn, and Rasch.

The correlations between the Rasch Intention to Learn and the Log (10) Transformed Minutes per Week was significant but weak, $R = 0.364$, $p < .01$. Using

the total Rasch scores (scored based on all survey items) also yielded a significant but weak correlation, $R = 2.83$, $p < .01$.

Survey Results. As can be seen from the results detailed above, this survey has some problems with regards to accurately measuring the targeted traits. That said, as judged by the factor analyses, structural equation modeling, and Rasch principal component analyses, the survey might have a certain utility for measuring general levels of L2 motivation. Used in this way, I can provide some general information about the motivational levels of the participants. Figure 154 provides the person map for the Rasch scores for all items. One feature of the Winsteps program is the ability to generate person maps which display the estimated location of the participants, both along the Rasch measure axis, which in this instance I am interpreting as the general level of motivation, and the fit axis, which shows how well the participant fits the unidimensional model that Rasch statistics rely on. Moreover, the precision in which each participant can be located is displayed by the size of the marker, which is a visual representation of the standard error associated with that location estimate.

The 1,397 participants who submitted completed motivational survey results ranged from -2.53 *SD* to 6.45 *SD* (see Table 100). One participant (XS-0121) marked the highest response category for all items. This individual is most likely someone who did not honestly complete the survey. However, that individual did report spending 5 hours and 40 minutes outside of class during the reference week accessing English and data reported for 5 of the 7 days. Another seven individuals had Rasch person scores of more than 3.00 *SD,* but in consideration of the large the sample size might not be outliers. A large number of participants can be categorized as overfitting

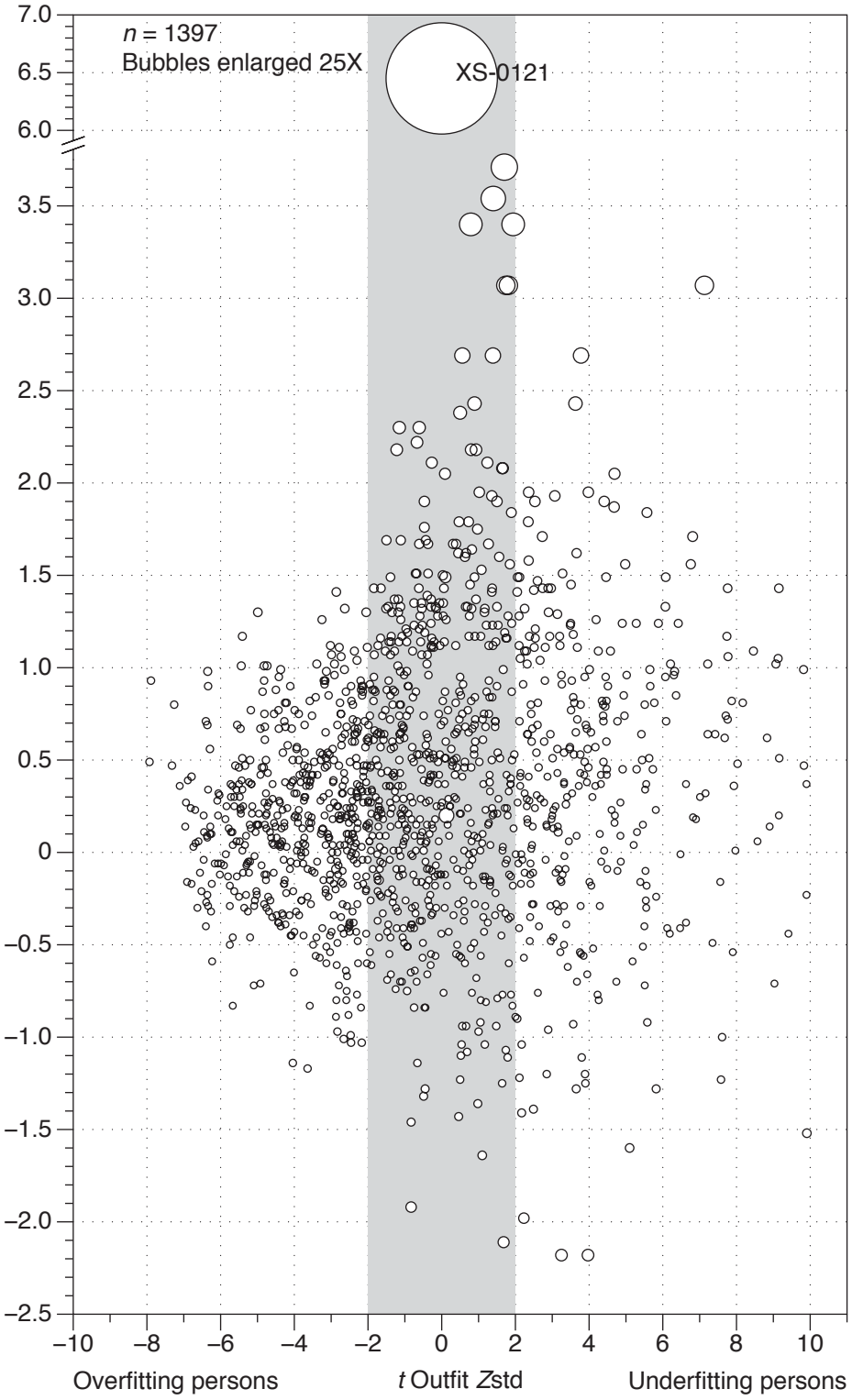

Figure 154. Person map of Rasch measures (all items) for all survey participants (n = 1,397) in cross-sectional study.

Note. Zstd = ZSTD = standardized mean residual; XS = cross-sectional study.

Table 100. *Distribution of Rasch Person Scores in Standard Deviations (*n = *1,397)*

Min	Max	*n*
-3	-2	4
-2	-1	36
-1	0	404
0	1	731
1	2	198
2	3	18
3	4	7
4	5	0
5	6	0
6	7	1

Note. Min. = minimum; Max. = maximum.

the model. Out of the 1,397 responses, 498 (35.65%) can be categorized as overfitting. That means that their responses were more regular than to be expected. Another 317 participants (22.69%) can be classified as underfitting the model. This indicates that their responses are more random than to be expected. This is likely the result of problems in the instrument. The participant with the greatest *t* outfit *z* standard score (9.91) was XS-1013. That participant marked 49 of the 63 items as 1, five items as 6, five items as four, and the remaining four items as 2, 3, or 5.

Overall, these data show that the participants had a wide variation in their motivation to learn English, but 955 (68.36%) of the participants received Rasch scores above 0, while only 442 (31.64%) of the participants recorded Rasch scores below 0 (see Figure 145 above).

The data from the cross-sectional study further highlights the time use of participants and provides a clearer understanding of the role that the L2 motivational self system might play in learners' actual language learning behavior. The results from the cross-sectional study, considering those for time use and motivation, are discussed

in light of the results from Longitudinal Study 2 and those from Longitudinal Study 1 in Chapter 7.

CHAPTER 7

DISCUSSION

In this project, I focused on out-of-class time use by participants and what motivational factors were linked to those behaviors. The issue of out-of class English access time for EFL students had not been examined previously, making much of this part of the project highly exploratory. Moreover, despite calls by Dörnyei (e.g., 2000) more than a decade ago to explore the links between motivation and actual behavior, this had largely gone unheeded. At the outset I proposed nine research questions to address these two central issues. In the following discussion, I address each of these questions in turn based on the results from the Longitudinal Study 1 (Chapter 4), Longitudinal Study 2 (Chapter 5), and cross-sectional study (Chapter 6).

The first part of the discussion focuses on the research questions regarding the features of the participants' out-of-class English time use. This section considers the temporal patters of this time use, including durations, daily patterns, weekly patterns, and in-term and out-of-term patterns of time use. I then discuss the role of habit in participants' patterns of time use. Following this, I address the issue of variability evident in the characteristics of episodes and the patterns of time use. I then explore the links between attitudes and time use behavior and the differences in the model from Taguchi et al. (2009) and the final model for this study. Here, I provide a section by section analysis of Taguchi et al.'s survey items and their model and the survey items and the final model for this study. I also explore issues related to the model. Finally, I examine the difference between Intention to Learn and actual time

allocation and address what this might mean for future studies of language learners' motivation.

Research Questions on the Features of Time Use

It should be noted that for several of these research questions, there are no findings from previous studies with which I can compare results. For these items, then, I will just provide a brief summary of the main results.

Temporal Patterns in the Out-of-Class Time Allocation to English

The first research question addressed the temporal patterns of the participants' time use, which encompasses both the patterns of use and the duration of episodes.

RQ1: What temporal patterns occur in the allocation of out-of-class time to English?

Durations

The most common durations align with commonly used blocks of time, such as the hour (22% of episodes), 30 minutes (16%), 120 minutes (10%), and so forth. However, the dataset contains 209 different durations, from as short as one minute to as long as 930. A number of episodes are of odd durations, such as the 18-minute episodes that occurred 26 times. These unusual duration episodes are often linked to particular media broadcasts (e.g., radio), or to the length of time the train takes to move from one station to another. Although some degree of rounding and estimation occurred, for the most part the durations are accurate to the nearest five- or 10-minute mark. It might be that, as with many other of our daily activities, English-related

out-of-class time use episodes are bookended by anchoring events, such as the beginning or ending of a broadcast, the time we have to leave in order to catch a particular train, the time when dinner is normally served, and so forth. Then, there are also the occasions when people deliberately set a time for the completion of a task, such as homework. Given that others have found time diaries to be relatively accurate (Juster, 2009; Juster et al., 2003), and that interview data showed that participants generally recorded episodes to the nearest five minutes, these data can be accepted as generally reliable.

Daily patterns.

The daily patterns of out-of-class English-related episodes mirror the participants' other obligations. During periods of the day when classes are scheduled, out-of-class episodes are not as common as in the evening and early morning hours. The variation by time of day in the types of activities that people engage in has been well documented (e.g., Bureau of Labor Statistics, 2007; NHK, 2011). For participants in the Longitudinal Study 1 and Longitudinal Study 2, the data show an early morning spike in episodes that coincides with the morning commute. This was also evident in the data from cross-sectional study participants who were drawn from a wider pool of students. The consistency among participants in the three portions of this study suggests that this pattern might be common to many university students in Japan. This also might suggest that the morning commute to school is more individual, whereas the commute from school might be time spent socializing with friends.

Patterns on weekend days are somewhat different from weekdays, with Friday and Saturday having a lower percent of episodes and less time use than Sunday.

Naturally, more episodes occur during the middle of the day on the weekends than on weekdays, as most participants are not busy studying in class.

Weekly patterns.

For both the Longitudinal Study 1 and Longitudinal Study 2, there were some differences between the days of the week in terms of the number of minutes spent accessing English outside of class and the number of episodes. The difference between Monday to Friday and the weekend (Saturday and Sunday) in how people spend their time has been documented (see Chapter 2, Literature Review). Among these participants, the out-of-class English use pattern appears to shift the traditional work-week one half or one day earlier so that the participant weekly cycle runs from a Sunday to Thursday work day, followed by a Friday and Saturday weekend. Sunday is often used for homework and preparation for the following week. Conversely, Friday evening is often a time when participants hold part-time jobs or see friends. Different phenomena occur in slightly different patterns, so it should be no surprise if out-of-class English use follows a pattern that is slightly shifted from other patterns (e.g., Internet access, shopping, household chores), which follow a Monday through Friday and Saturday-Sunday split.

It is not surprising to find that the timing of episodes during the week is mainly driven by the particular curriculum and course schedule of the participants. This is due to the large proportion of episodes that involve working at home for school (such as by working on homework assignments), meaning that the day prior to when assignments are usually due includes more study episodes. At Site 1, for example, longitudinal study participants from the intensive English program reported

the most homework-related episodes on Monday and Wednesday, the days before their English journals and essay drafts were due. Site 2 had the most homework-related episodes on Mondays, which corresponds with the large number of English classes these participants had on Tuesday.

During the term.

For participants in both the Longitudinal Study 1 and Longitudinal Study 2, out-of-class time use remained relatively stable, with time allocation being higher at the beginning and ending of term. This can be seen in the time use patterns for groups and for the individual participants selected to highlight the patterns of out-of-class time use from the interviews presented in Chapters 4 and 5. In the interviews, participants reported that they were excited at the beginning of the term and, especially for first-year students, still getting used to classes. This excitement wore off as the term progressed, and then the desire to do well on the term-end exams prompted participants to spend more time. (See interview data in Chapter 4 and Chapter 5.)

The plots of interviewed participants seen in Chapter 4 and Chapter 5 show the change in minutes outside of class that occurred during different periods of the semester. For Longitudinal Study 2 participants at Site 1, many show a decline in the amount of out-of-class English shortly after the early May holidays. This is not as evident, however, in the data for the Site 2 interviewed participants. While some previous research has asked students to retrospectively assess changes in their motivational level over a several year period (Hayashi, 2005; Sawyer, 2006), none has

looked at how that change in motivation was reflected in the amount of actual time students spent outside of class.

In term versus out of term.

Although this information is based upon a very limited sampling, there appear to be differences between in-term and out-of-term English-related behavior. One large difference is the overall amount of time involved. In general, the amount of time spent out-of-term falls to half or less than that spent in-term. Moreover, the content of the episodes changes. During the term participants reported more episodes related to the "business of school," that is episodes connected to preparation, homework, and study for both school and qualification exams. However, during the term break, they reported more episodes connected to activities that could be called "personal," such as talking to friends from other countries, both via Skype and in person. Enjoyment episodes were similar in both in term and out-of-term reporting, with most fitting the description "listened to English music."

Habit and environmental triggers.

Much of the participant time use seems to be habitual. By habitual action, I mean actions that follow a regular pattern of occurrence. Examination of the patterns of time use by participants in Longitudinal Study 1 and 2 indicate that events occur, for the most part, at regular times during the week. Although there are daily and weekly variations, there was general stability in overall pattern of time use for the Longitudinal Study 1 and 2 participants. For example, habitual action is evident in the propensity to listen to English music during the morning commute, which can be seen

in both the daily time use data and from the interviews. This confirmed that participants had a routine set of behaviors that they followed which included their out-of-class English access time. From comments in interviews, it is clear that daily time use behavior appears to be influenced more by habitual patterns, classroom circumstances, and environmental triggers than by a strong image of an Ideal L2 Self. Environmental triggers included completing dinner, being at a specific location, during a commute, and following a favorite television program. These were frequently cited environmental triggers in the interviews. Another habit-linked trigger was classroom circumstances, with most out-of-class English access episodes related to the demands of participants' classes. This was seen in the increased number of episodes reported near the end of the term and in the drop in episodes noted in most participants during holiday periods. Only those with the habit of out-of-class English access for other purposes seemed to have sustained time use during holiday periods. More evidence in the habitual nature of out-of-class English time use is seen in the general week-to-week consistency in the amount of out-of-class time spent related to English and the timing of English-related episodes. This is evident both on the weekly time use episode data, as well as for the specific patterns of the three interviewed participants that highlight the time use patterns. Some researchers have investigated the role of habit in goal achievement (Aarts & Dijksterhuis, 2000), achievement in foreign language courses, (Bailey & Onwegbuzie, 2002), and in course grades (Jegede, Jegede, & Ugodulunwa, 1997). Like the participants in these studies, it would seem that for many of the participants in this project habit was one factor that kept them moving forward in their language learning.

Much participant behavior appears to be triggered by environmental phenomena. Environment is clearly an aspect of habit. For example, the onset of time allocated to English study is often triggered by the completion of dinner or the end of some television program. Moreover, many of the triggers instigate habitual action. Participants mentioned that they always did certain tasks following other events: write their journal after their bath, study word cards after dinner, or prepare for classes after their family went to bed. Part of the effect that the combination of environment and habit has can be seen when environmental changes lead to behavioral changes. Once classes finished for the summer, as seen for the Longitudinal Study 1 participants, or during winter break, as seen with the longitudinal study 2 participants, student patterns of language access also change.

Variability Between Participants' Temporal Patterns and Contextual Characteristics

Research question 2 sought to understand the differences that existed between the participants' individual out-of-class time allocation. This question was:

RQ2: What types of variability exist between participants in the temporal features of out-of-class time use allocated to English?

Between participants.

The results show that there is considerable variation between participants. During the day, some participants report most out-of-class episodes occur in the evening after dinner. Others show patterns of episodes between the end of classes and returning home for dinner. Some have large spikes in the morning hours that reflect

listening to music during their commute to school. One thing that is common among the longitudinal participants is an overall regularity in their schedules. Each individual generally has a pattern that varies little from week to week.

There are variations between days of the week. Some participants report many episodes on certain days and few on others. The length of episodes also shows wide variation. Some participants recorded many short episodes but had more than one episode per day, while others reported fewer but longer episodes. For many students with part-time jobs, such as those who taught English at a cram school, their episodes tended to be rather long but they occurred only on weekends. These episodes generally were the longest in duration for both Longitudinal Study 1 and Longitudinal Study 2 participants, as well as those few cross-sectional participants that noted episodes for the purpose of part-time work.

Another issue considering the variation between participants suggests that the different groups might have other characteristics that differentiate them. There is a strong likelihood that the personalities and goals of the students at each of the institutions differ in a number of ways. Some of these differences might have existed prior to entry and influenced their choice of university. Other differences might have arisen after spending time within the particular educational environment. However, regardless of these differences, the participants at all sites have similar time use requirements imposed upon them by MEXT policies and institutional expectations. At both institutions, these indicate that one credit of course work is a combination of class time and out-of-class time at a 1:2 ratio. Participants at Site 1 and Site 2 had similar amounts of time in English classes during the study period. First-year participants had 14 hours in English classes each week at the two institutions, and

second-year participants had six hours in English classes. A key difference between the two programs is that Site 2 followed a content-based instructional curriculum, using English to build students' knowledge of specific content areas. In contrast, Site 1 followed a language-focused curriculum with an emphasis on building the students' English skills. Some of the out-of-class time use allocation of the participants was clearly related to this, as the data from the EATUS episodes and the interviews indicated.

Contextual characteristics.

Research question 3 focused on determining the contextual characteristics of episodes. The question was:

RQ 3: What are the contextual characteristics of English-related episodes?

The most common purpose of the episodes was for school. Most of the episodes involved some sort of study, either completing homework assignments or preparing for quizzes for the Longitudinal Study 1 and Longitudinal Study 2 participants (Longitudinal Study 1, 62%; Longitudinal Study 2, 52%), but only 30% for the cross-sectional study participants. For this group, episodes for enjoyment, overwhelmingly listening to music, were the most frequent purpose for out-of-class English use.

Of the six options concerning the location of the episode (at home, at a dedicated English study space at school, in another location at school such as a classroom, at part-time jobs, during the commute, or at some other non-specified location), the great majority occurred at home (longitudinal 1, 53%, longitudinal 2,

64%, cross, 39%). The cross-sectional participants reported 19% of episodes occurred while commuting; almost exclusively these activities were described as listening to music. It was surprising that participants at both Sites 1 and 2, as well as at the sites for the cross-sectional study that have set up special places for English, from language resource centers for study to full English activity centers with cafés, little time was spent at these special facilities (language study centers, laboratories, etc.) at their schools.

Most of the episodes occurred when the participant was alone (longitudinal 1, 82%, longitudinal 2, 84%, cross, 73%). This is logical, as if the vast majority of episodes involving English occurred at home, then presumably the participant was in his or her own room. Episodes with friends involved such things as watching DVDs together, video chatting, or working on homework together at school before going home.

Regarding the affective variables, participants found listening to music to be quite enjoyable, as they did watching DVDs and chatting with friends. By far the least enjoyable episodes were those that involved preparing for classes or studying. Participant anxiety levels tended to be quite low. In as much as most of the episodes occurred at home, it is to be expected that the anxiety level would be low. A few special situations resulted in high anxiety and high enjoyment. One such situation involved part-time work. Some participants had work at restaurants frequented by non-Japanese customers. Participants who had that type of job often labeled those episodes as both high in anxiety and enjoyment.

Types of activities during episodes.

Research question 4 focused on the types of activities that the participants engaged in during the out-of-class English access episodes. The question was:

RQ4: What type of activities do participants engage in during the episodes?

The most common type of activity involves listening to music, and the second most common involves studying. Very few episodes involve anything communicative. Occasionally an individual will have a foreign friend with whom they video chat with online, but these episodes were rare in the datasets.

For the lexical items used on the EATUS form and the codes assigned to the episodes for the major categories and subcategories, the most common descriptors for episodes involved the words "listen," "English," and "music" in all datasets. Descriptors related to the "business of study" were more common in the data from the Longitudinal Study 1 and Longitudinal Study 2 participants than from the cross-sectional participants, but even for the longitudinal participants, "listening to music" was frequent. This indicates a clear trend to spend out-of-class English access time on enjoyment rather than study.

One archetypical example of an out-of-class time use episode involves the participant engaging dispassionately (e.g., with little enjoyment or anxiety) with English in a non-communicative way while alone at home. This most often concerns the completion of homework assignments or class preparation. Another example is the participant who spends time listening to music which gives them enjoyment, which is considered a low anxiety episode, and these episodes occur both at home alone or while commuting. Interestingly, many of the episodes marked as for location as

commuting were also marked as occurring alone, indicating that the time spent commuting might be seen as personal time, spent alone by many participants. This might represent the view that this public space found on trains and subways is viewed as time alone as the participants were not interacting with others. Exploration of this was beyond the scope of this study.

Variability in time use evident in patterns.

Research question 5 focused on the variability in the time use patterns based on gender, activity type, and the contextual characteristics of the episode.

RQ5: What types of variability are evident in the time use patterns according to gender, types of activities, and contextual characteristics of the episodes?

The limited number of male participants in Longitudinal Study 1 and Longitudinal Study 2 preclude any clear determination of whether there are differences in the out-of-class English access for male and female participants. For the cross-sectional participants, however, no gender differences were found in the distribution of episodes during the week or the average lengths of episodes (see Chapter 6).

Regarding the types of variability evident in the time patterns according to the types of activities, the data from all three portions of this study suggest that participants follow a similar pattern for their out-of-class English access that is similar to the time use patterns of students identified in other studies. Episodes show a regular pattern by time of day in the three portions of this study. This is particularly pronounced for episodes of listening to music that took place during the morning commute. Participants also have a regular schedule they follow for other episodes on

a daily and weekly pattern. Specific types of activities from the EATUS regularly occur, with similar episodes occurring at about the same time of day on a regular pattern for most of the participants. Even the longer length of the episodes with "others" might be because these were primarily work-related, and work-related episodes tended to be longer than other episode types.

Similarly, the data from the three portions of this study show little variation in the time patterns for the contextual characteristics. For the longitudinal participants, most of the episodes, whether they occurred alone or with others occurred at about the same time each week for the longitudinal participants. This was also seen in the location data for these participants. When interviewed participants were asked to comment on this regularity, they generally reported that they had a schedule that they followed from week to week. The cross-sectional data also reveals regularity in location of episodes by time, with most occurring at home in the evening or during the morning commute. This suggests that Japanese university students have regular patterns for out-of-class English access to which they generally adhere that are fairly consistent and unchanging once established.

Corroboration between Interviews and Time Use Data

Research questions 6 and 7 are answered from the interview data. Research question 6 was:

RQ6: To what extent do participant interviews corroborate their time use data?

When queried, participants reported that completion of the EATUS took little time and was not much of a burden. During interviews, participants were asked to explain

when they usually had out-of-class episodes. Unexpectedly, based on the data collection method, participants had a good understanding of their daily patterns, including on which days of the week they had the most episodes, what times of day the majority of episodes occurred, and how long a normal episode lasted. They also mentioned what antecedents immediately preceded a study episode and how they decided when to quit. In sum, participants were well aware of their own general behavioral patterns. However, it is not known whether such knowledge existed before they started collecting data for this project or whether this is an artifact of the data collection procedures.

Regardless, throughout the three sets of interviews, participants' responses indicated that the time use data collected using the EATUS was accurate, which addresses research question 6's focus on the corroboration of the participants' time use. This also suggests that the EATUS form might be used to focus attention on students' out-of-class English time use in order to get them more involved in monitoring their learning.

Research question 7, which also focused on the interviews, was:

RQ7: What feelings about uses of time are salient in participant interviews?

However, very little information concerning feelings about time use arose during the interviews. Some students mentioned surprise at the ways in which they were using English and the total amounts of time devoted to different types of activities. None of the participants specifically mentioned anything akin to the state of "flow" (Csikszentmihalyi, 1997) or such intense and willing concentration on an English-related task that they had lost track of time. Only one mentioned deep

concentration and that involved the study of English grammar. Even when probed directly on the feelings, participants had very little to say about how they felt about their time use.

Consumption of English media was an exception. Some participants reported enjoying overseas TV dramas (such as *Gossip Girl* and *Glee*) and in watching English movies on DVD or at the theater. Often these types of episodes would be enjoyed together with friends. These episodes might indicate that feelings are not a primary consideration for out-of-class English access episodes and are more directly connected to social factors.

This information also suggests that feelings are not considered for most out-of-class English access episodes. That is, students are driven by immediate course requirements such as homework due dates or upcoming tests, as seen in the types of activities in which they engage, once they have become motivated to study a second language. L2 Motivation might then be seen as preceding rather than directing current behavior.

The data from the longitudinal study participants also supports implementation of verbal protocols to obtain "a richer idea of why students make the decisions they do" (Son & Kornell, 2009, p. 246). The data from these interviews indicates that the driver of learner out-of-class language learning behavior is habit. Motivational level might be the instigator for language learning, but habit is clearly the driver of out-of-class English use. Habit appears as the primary driver for when episodes occur, where they occur, and why these episodes begin and end.

Actual Out-of-Class Time Use and Guidelines from Institutions

The actual out-of-class time use by participants in the three studies illuminates the difference between the expectations for out-of-class study in institutional and MEXT guidelines and the actual out-of-class time allocated to study. As seen in the discussion of the temporal features of the participants' time use, a disconnect exists between expectations and actual time use by Japanese university students. None of the participants in any of the three studies met the expectations for out-of-class study devoted to language study as determined by the number of hours of out-of-class English time access and the amount of time they were in English courses each week, whether using institutional or MEXT guidelines. When out-of-class time for other purposes is added, a few of the participants in the longitudinal studies have at least one week where their time use met the guidelines.

The data also showed that most incidents of out-of-class English access were related to school, with review, homework for classes, or preparation for classes, making up the bulk of most participants' time allocation to English outside of classes. Even participants who were aware of their actual time use seldom approached the expectations of out-of-class time allocation seen in MEXT and institutional guidelines.

Research Questions on the Links between Attitudes and Time Use Behavior

One other aspect that was addressed in this study was the causal link between attitudes and motivated behavior. The two research questions that focused on this are discussed together. The first, which focuses on the causal relationships between attitude and motivation, is:

RQ8: What are the causal relationships among attitudinal and motivational factors that compose the L2 self system and L2 learning actions?

The second, which focuses on replacing intentions with actual time use behavior, is:

RQ9: How are these relationships different when intended learning actions are replaced by actual time use behavior?

Based on the data collected, there appears to be a causal relationship between attitudinal and motivational factors that comprise the L2 self system and L2 learning actions, Moreover, the concept of the ideal L2 self appears to be a good predictor of both intention to learn and actual out-of-class time use. However, it is also clear from the data collected during the longitudinal components of this study that a view of a future ideal L2 self is not the only driver of out-of-class English access time. The interviewed participants indicated that their out-of-class English access was related to more immediate concerns of study and course expectations. The L2 motivational self system may be involved in earlier decisions to learn English and establish an L2 identity for these participants; however, it was less apparent in their current behavior. For most of the interviewed participants, their motivation to study English is set at an earlier stage, generally junior high school, and this was carried forward into university choices. Rather, time use appears to be more an issue of habit for the participants, with patterns set early in the term remaining fairly consistent for participants each week of the term during which data for this project were collected. For the cross-sectional study participants, the data suggest that motivation is not sufficient to lead to actual time use on learning. Though there were issues with the motivational survey instrument (see discussion below), the results indicate that high levels of

motivation, as measured by a survey following the model of the L2 motivational self system, does not translate neatly into time allocated to second language learning outside of class.

To review, Dörnyei (2005, 2008b) adapted ideas from mainstream psychology to the field of second language acquisition and developed a theory to explain L2 learner motivation that he termed the L2 motivational self system. This system is comprised of three main factors that he argues have a causal role in foreign language learning. The three component of this system are the Ideal L2 Self, the Ought-to L2 Self, and the L2 Learning Experience (Attitudes toward Learning English in this study). This model has been tested by several different researchers who sought to explain how this model fit together with previous findings from several earlier models of L2 language learning motivation, including Taguchi et al. (2009). Taguchi et al. incorporated four legacy factors into Dörnyei's (2005, 2008b) model: Attitudes Towards the Target Language and Culture, Instrumental Promotion, Instrumental Prevention, and the Influence of Significant Others and tested causal relations using participants from Japan, China, and Iran. Their results confirmed the central role of Dörnyei's three components and clarified the role played by the four legacy factors. I tested Taguchi et al.'s model, which I called the Intention to Learn Model (ILM), with my dataset drawn from participants in Japan. I also tested a version of the model that replaces the latent trait, Intention to Learn, with a measure of actual out-of-class time use, the Time Use Model (TUM). My results differed somewhat from those of Taguchi et al. The paths that Taguchi et al. were able to find in their model between the measures of the L2 motivational self system were not as apparent in this study. Though their model led to an Intention to Learn factor, which they termed the

Criterion Measures, this path was not as strong in this study to either the Intention to Learn or to actual time use behavior. These results suggest that motivation to learn, as represented by intention, does not necessarily translate into actual time allocation to learning. This leads to a discussion of the differences between the model used by Taguchi et al. and the model for this study.

Differences in the model between Taguchi et al. (2009) and this study.

The results from this project provide limited support for Dörnyei's (2005, 2008b, 2009) system and Taguchi et al.'s (2009) implementation. I targeted the same factors that Taguchi et al. did and used a similar survey instrument, though not identical because of the limited number of factors that they retained in their final model, with a similar population, but had some remarkable differences in path loadings from what Taguchi et al. reported, although it bears repeating that my structural equation modeling never resulted in a model of sufficient fit quality. Nevertheless, there are several central components that provide support for my conclusions.

The Ideal L2 Self. In both Taguchi et al.'s (2009) and my surveys, the Ideal L2 Self was a strong predictor of Intention to learn. The higher the scores reported on items related to the Ideal L2 Self, the higher the Intention to Learn. The Ideal L2 Self was also a good predictor of actual time use (see below).

It should be noted that there the participants' image of the Ideal L2 Self is not supported by their out-of-class L2 access their behaviors. Being "good" at English can be viewed as an aspect of feelings about the participants' time use and English. When

asked to imagine a Japanese person who is "good at English," the strongest and most prevalent image from the interviews for this study is of a person conversing with a foreigner. Yet, a review of how participants used their out-of-class time finds very few episodes that actually involve interaction with foreigners or using English in a manner that the participants viewed as being "good at English;" that is, few participants used English to converse with people from other countries. This was in spite of the access to spaces devoted to communication with native speakers of English at many of the sites involved in this study, including Sites 1, 2 and 3. If participants want to be "good at English," and that means conversing with foreigners, then that should presumably be part of their Ideal L2 Self and consequently influence their behavior. Evidence of this was not found in many of the out-of-class English access episodes from the participants in the various aspects of this study.

In fact, Dörnyei (2009) specifically invokes the power of a future self image as a guide to behavior. That does not appear to be the case with these participants. Participants in this study described a clear image of a successful English language learner (Chapter 5), but their out-of-class behaviors indicate that although this is a goal they are not fully integrating the behaviors they need to reach this goal into their out-of-class time use. That is, for most of the participants, their behavioral habits were not oriented toward English usage beyond that directed by their teachers. English study habits were course rather than personally directed. This might be a clear example of what Oyserman, Bybee, and Terry (2006) point out concerning the need to help students create strong possible images and the necessary roadmap from the current self to the future self. Those with the clearest roadmap regarding the behaviors that they needed in order to move from their current to future self were those that had

the habit of out-of-class English access time for a variety of purposes, not solely for course work. This is particularly clear in the data from the interviewed participants. This has been noted before. MacIntyre, MacKinnon, and Clement (2009) pointed out that one of the major issues with goal-setting was the failure to turn goals into behavior. Alternatively, it might be that the participants have communication apprehension (such as low Willingness to Communicate), which might attenuate the influence of the Ideal L2 Self on behavior. Unfortunately, this was not a factor included in this study and, therefore, warrants further study before any conclusions regarding the influence of this on actual behavior.

Attitudes toward Learning English. Whereas Taguchi et al. (2009) reported a very strong effect of the L2 Learning Experience (Attitudes toward Learning English in this study) on Intention to Learn, similar to that found by Csizér and Kormos (2009), my results were much in agreement with the low figures reported in MacIntyre and Charos (1995), who reported a coefficient of 0.07 on their model of L2 communication frequency linking attitudes toward learning situation and motivation. There are several possible reasons for this.

First, there were some differences between the items I used to measure the intention to learn and those used by Taguchi et al. (2009). Whereas Taguchi et al. used a combination of items, including those that asked not only about the future intention, but also about current learning activities, I constructed my items to focus exclusively on the future.

Second, the actual administration of the survey needs to be considered. The surveys were administered by English course teachers and the protocols asked

participants about all of their English classes and not just the one in which the survey was administered. If participants had a variety of English classes, including classes in grammar, phonetics, or writing, then the overall average learning experience might have been neutral or it might have been difficult for participants to answer questions such as "I find my English class to be exciting." Have can this be answered if one class is exciting and another is not? This may have influenced their responses and led to the differences between the weaker effect for Attitudes toward Learning English on Intention to Learn English and Taguchi et al.'s (2009) for L2 Learning Experience (Attitudes toward English Learning in this study) on intention.

Conversely, it might be that the participants ignored their experiences in other classes or had no other English classes, and, therefore, limited the assessment of their learning experience to the particular class in which the survey was administered. In that case, participants might have seen those questions about their experiences as a type of endorsement of their course teacher. Without follow up questioning of the participants and information about how Taguchi et al. (2009) administered their survey, this issue cannot be resolved.

A fourth point might have to do with a narrow range of scores. The Rasch scores for the L2E subset were the second highest (M = 0.80), after Intention to Learn (M = 0.86.). This might have exerted some type of ceiling effect that depressed the influence of the factor. The generally high endorsement for these items might indicate that participants feel English will be useful in the future.

The data from Longitudinal Study 1 and Longitudinal Study 2 regarding the participants' attitudes toward learning English help inform this section of the survey. Although many of these participants indicated an early positive attitude toward L2

learning, this was not universally true. Participants in both studies reported that their attitudes toward English changed, usually in junior high school. This brings into focus the stability of attitudes. "An attitude is a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (Allport, 1935, p. 810, as cited in Fazio, 2007). This definition of an attitude has long guided attitude and motivational research. Attitudes, whether envisaged as "object-value associations stored in memory" (Fazio, 2007, p. 603) or regenerated from a constructionist network (e.g., Conrey & Smith, 2007), have generally been seen to develop over time through individual experiences and remain stable until a point where further alternatively-assessed experiences alter the attitudinal valence.

For many of the longitudinal study participants, positive experiences with language learning during junior high school—especially in those cases where there was a change from a highly negative to a positive response to language learning—followed by repeated positive experiences in the ensuing years has led to positive attitudes toward the target language. Researchers have pointed out that "attitudes are thought to develop . . . through repeated pairings of potential attitude objects . . . with positively and negatively valenced stimuli . . . " (Olson & Fazio, 2001, p. 413). However, Eaton, Majka, and Visser (2009) have indicated that "some attitudes are inherently more powerful than others" making these " tremendously durable" and stable even "in the face of counter-attitudinal information, . . . [while] other attitudes . . . exert little influence on thought and behaviour, they fluctuate over time, and they change in response to persuasive appeals" (p. 166). In other words, attitudes are not always stable and can be altered.

Cognitive research indicates that attitudes are stored in "a distributed connectionist system [that] generates context-sensitive representations as a fundamental property, but can also account for stability (relative freedom from contextual influences), as domain-specific learning and experience allow a focus on the most important dimensions and neglect of inessential ones" (Conrey & Smith, 2007, p. 722). This distributed system allows for changes in attitudes. In short, cognitive research suggests that researchers need to consider the stability of attitudes toward learning English, as these might not be as stable as previously believed.

The Ought-to L2 Self. The results from Taguchi et al. (2009) for the path from the Ought-to L2 Self to the Intention to Learn and mine were quite similar. Both their data and mine showed that the Ought-to L2 Self has a small but significant influence on Intention to Learn.

Of the three central components, my findings agreed with Taguchi et al.'s (2009) on two counts. However, when considering Dörnyei's (2005, 2008b, 2009) L2 Motivational Self System, these results do not provide much support. Before discussing possible reasons for this, I will discuss the four remaining predictors from Taguchi et al.'s study.

Influence of Significant Others. In my study, the Influence of Significant Others was problematic. The items in the structural equation model did not work well. They exhibited low loadings, had high error values, and cross-loaded on several other traits.

One hint as to the possible reason why the Influence of Significant Others had little power in the structural equation model might be found in the interview data. Several participants mentioned that their original interest in English arose many years prior as a result of the positive influence of a teacher or family member. This influence was evidently a strong factor in determining the trajectory of the participant's future study but might not have relevance on the day-to-day basis. In fact, when asked whether their parents want them to be good at English, participants responded negatively. Rather, participants believed that their parents wished them happiness no matter what course of study they pursued. So, if influential others don't have a strong opinion about learning English, then it would have little effect on participant motivation. If extended to the cross-sectional participants, these comments might explain why the Influence of Significant Others, as it was defined, performed poorly on the models of the L2 motivational self system based on the motivational survey.

Attitudes Towards the Target Language and Culture. My results were similar to those of Taguchi et al. (2009), despite the fact that their items were dichotomous and mine were Likert-style. Regardless of this difference, the items in the motivational survey instrument used for this study provided results remarkably similar to those found by Taguchi et al. for the loading of factor Attitudes towards the Target Language and Culture (AL2) onto the Ideal L2 Self (IS). The optimized model for this study retained three of the seven items, a number similar to the retention of four of the eleven of the items in Taguchi et al.'s final model. However, neither model retained any of the items targeted at the participants' motivation to listen to music in

English, which was by far the most frequent out-of-class English activity for participants. The failure of enjoyment of English music to load onto the final model suggests that music may not be perceived as being important to the overall attitude toward the target language culture. Enjoyment of music might be more related to social or personal factors, and the language less connected to the ideal L2 self than it is to the learners' current self image. Alternatively, this might speak more to the learners' habit of listening to music than to conscious selection of music in English. Regardless, results from this study confirm those from Taguchi et al. regarding Attitudes towards the Target Language and Culture.

Instrumental Prevention and Instrumental Promotion. These items did not work very well with my data. Many of them had large error values, poor loadings, or cross-loaded on other factors. Although many of the items were based upon those originally used by Taguchi et al. (2009), I made a number of revisions in an attempt to clarify the distinction between them and the two self-centered traits that they purportedly load on. That might have been one reason for the problems. However, a second reason might be due to the inherent similarity between the instrumental-centered items and the self-centered items. That is, the distinction between Instrumental Prevention items and the Ought-to Self items is subtle, the former necessarily focusing on something external to the person and the latter on something internal to the person. The same holds true for Instrumental Promotion and the Ideal L2 Self. Unless the participants picked up on the subtle difference, they might not have distinguished between the two types, thus causing them to merge.

Intention to Learn vs. time use. The best way to answer the question as to how well a motivational instrument works is to assess how well it predicts actual behavior. If there is no connection between the level of motivation and the type of motivated behavior that is being targeted, then researchers need to reconsider the current construction of such instruments and search for alternative ways to include actual measures of behavior in L2 motivational surveys.

In this project, I collected out-of-class time use as a behavioral measure. My project allowed me to compare the level of L2 Motivation, as measured with a survey instrument, against both the intention to learn and actual behaviors. In theory, a perfect motivational instrument should be able to predict with total accuracy the amount of time participants used for English.

The comparison of the intention to learn model (ILM) with the time use model in the structural equation modeling showed a consistent advantage for the intention to learn model, with path coefficients from the Ideal L2 Self to Intention to Learn of 0.94, but only between 0.35 and 0.40 (depending on the iteration) for time use model. This is still a very high figure considering the differences between intention and action, but this, nevertheless, only explains a small portion of the factors that govern behavior.

There might be several possible reasons for this difference in effect. First, the use of a survey instrument to measure a latent trait often asks the respondent about their current feeling or asks them to imagine how they would feel or react to some imaginary or future situation. The level of energy that is required to give a strong endorsement to items on a survey is much less than that required to perform actual actions. It is easier to say you would do something than it is to actually do it. Second,

most survey instruments ask participants to respond to items in isolation and without thinking too deeply.

Behavior, on the other hand, is invariantly connected to many other factors that act in concert to govern our behaviors. Habit controls much of what we do and often places what we do out of our conscious stream of thought. Previous research makes it clear that formation of good study habits is important for general academic success (e.g., Boekaerts, 1997; Bond & Feather, 1988; Butler & Cartier, 2004; Nonis & Hudson, 2010; Pychyl, Morin, & Salmon, 2000) as well as success in language learning (e.g., Camiciottoli, 2001; Koizumi & Matsuo, 1993; McGroarty, 1988). These studies suggest that once participants have established a habit, that habit tends to continue until a point in time when either executive control or the environment intrudes. This importance of habit for Japanese university EFL learners is confirmed by the regular patterns in time use exhibited by the longitudinal participants in both studies. Daily, weekly, and monthly patterns tend to remain stable until exams, when there peaks, and or holiday periods, when course work ends and, with it, the habitual action. These are most likely the main reasons for the discrepancy between the effect on Intention to Learn and on the actual behaviors. One point that needs to be kept in mind is that how we hope we behave, that is how we intend to behave, does not mean that the actual behavior will actually occur without some conscious effort to move intention into habit, as anyone who has tried to lose weight clearly recognizes.

Moreover, Dörnyei and Ottó's process model of L2 motivation (1998) specifically addresses the issue of motivational force at different temporal stages. In this model, the Ideal L2 Self might influence behavior most strongly in the preactional phase, such as when a participant would be choosing an endeavor. Once a participant

had acted upon that, for example, by enrolling in an English department, their daily behaviors might be governed more by environmental forces, such as assignments from teachers or habitual study times, or daily routines. The issue for language educators, then, becomes transforming the intentions that might be present in the motivational assessment of a learner's view of the Ideal L2 Self into habitual action. One insight into this comes from the data from the longitudinal study participants. This data, by providing a week-by-week account of the participants' English access outside of class, showed how learners either begin to lag behind their classmates or pull ahead. The level of motivation of these participants was generally high, but having similar motivational levels did not prevent participants from having widely varying allocations of time to out-of-class English access. Regardless of the level of their students' motivation, perhaps educators need to focus on the helping learners set regular patterns of study and encouraging them to form the habit of study in language education.

Issues with the model. Although one part of the source of the difference in performance between Taguchi et al.'s (2009) structural equation model results and mine is the quality of the survey instrument (e.g., the data fit the model poorly), an alternative possibility is that the model itself had a poor fit to the data. In the former case, revision of the questionnaire items might serve to rectify with problems that occurred in the structural equation modeling and provide results that better mirror those from Taguchi et al. However, in the case of the latter possibility, it would be the model that would need revision. This was beyond what I set out to do in this study. My focus was to determine the characteristics, both temporal and contextual, of the

participants' out-of-class English access and examine the relationship between the models of motivation and actual time use. (See Chapter 8, Limitations and Suggestions for Future Research.)

Appropriate sequence of latent traits in SEM. Another issue with the model is the sequencing of the latent traits. Taguchi et al.'s (2009) model has four distal traits (Attitudes Toward the Target Language and Culture, Instrumental Promotion, Instrumental Prevention, and the Influence of Significant Others) loading on two central traits (the Ideal L2 Self and the Ought-to L2 Self). This implies that the former somehow precede or foster the latter. I'm not sure how instrumental goals, which are essentially external to the individual, could have more force than the internal image of the self. Consider, for example, the two following goals: getting a high score on the TOEIC and being good in English. The former would be an instrumental goal, while the latter would be an aspect of the self. Why should we believe that trying to getting a high score on the TOEIC would develop a person's idea of self more than the person's idea of being good at English drive them to get a good score on the TOEIC? Even if models using the same traits are tested, different sequences in the paths should be considered.

Items from other Motivational Models. The prediction of out-of-class time use could be improved by incorporating elements from other theories of motivation. For the participants in this study, the Ideal L2 Self was a good predictor of both intention to learn and out-of-class time use. However, from the interviews, it is evident that participants often pushed themselves to study more so as not to lose face in a class or

in order to make the best use of the educational opportunities that they had been afforded. As most out-of-class episodes related to English involved studying for school, survey items that specifically targeted general academic motivation should be considered (e.g., Fortier, Sweet, O'Sullivan, & Williams, 2007; Vallerand, Fortier, & Guay, 1997). Particular attention should be paid to how university students in general view their educational experiences and what motivates them (e.g., Van Etten, Pressley, McInerney, & Liem, 2008). Considering how second language leaning requires a great deal of time, items that target self-regulation (e.g., Boekaerts & Corno, 2005; Corno & Xu, 2004; Mazzoni & Cornoldi, 1993) and perseverance (e.g., Duckworth, Peterson, Matthews, & Kelly, 2007; Duckworth & Seligman, 2005; Duckworth, Tsukayama, & May, 2010), a trait that these researchers consider "grit," might lend more power to predicting the amount of time students spend on study. Finally, survey items that focus more on habits, especially regular study habits, might also capture aspects of a person's motivational profile that is currently overlooked (Nonis & Hudson, 2010). Of course, inclusion of these types of items would probably move one away from the L2 motivational self system into a different type of hybrid, one that might take language learning motivation research into an exploration of self-regulation (Deci, Ryan, & Williams, 1996). This direction has also been identified by Kormos, Kiddle, and Csizér (2011), who proposed an interactive model of L2 learning motivation comprised of goal-systems, attitudes, self-efficacy, and future L2 selves.

Summary of Discussion

The results from this study have helped to shed light on what was previously an unknown aspect of language learning, that is the out-of-class learning behavior of language learners. As such, it has shed light on the general characteristics of the out-of-class English access time for Japanese university students. Furthermore, it has done preliminary work on linking motivational surveys and actual behavior and allowed some postulation into the relationship between intention to learn and actual time use on learning and accessing the second language.

CHAPTER 8

CONCLUSION

This project sought to explore participants' out-of-class English-related time use. During the process, many aspects of how participants come into contact with English outside of class became apparent. Many of those findings, such as the fact that most episodes occur after school, are not surprising and there are undoubtedly many who would say that it was common knowledge. However, common knowledge has been proven wrong quite often, so it is essential for researchers to collect data and confirm what people may already intuitively grasp.

All findings need to be interpreted within the context of the Japanese university environment, which has been characterized as less demanding than that in other countries (e.g., Amano & Poole, 2005; McVeigh, 2002, 2005; Latchem, Jung, Aoki, & Ozkul, 2008; Yonezawa, 2003, 2008). The expectations of university students in other countries may not apply to the Japanese university context.

That said, many other aspects of participants' out-of-class English time use were not transparent and could only be verified by this type of study. I do not think anyone would expect any Japanese learner to spend 57,000 minutes (just over 900 hours) outside of class on English during a 23-week period, as did one of the participants in this study. That averages to more than 40 hours a week spent in contact with English outside of the classroom! Nevertheless, the consistency of the time use by participants from week-to-week, in both length and content, might be used to forecast future time allocation to language learning. Moreover, the study found general consistency in the time allocation patterns between participants from the

different studies and across the full Japanese academic year. This consistency might indicate that once time use patterns are set, generally at the beginning of the term, they are maintained.

Nor do I think many teachers would know just how little time participants spent in communicative activities, or in out-of-class English activities in general as seen in the cross-sectional study participants' time use records. This must surely be disappointing to teachers of communication-focused classes. It has been said that EFL learners have fewer opportunities to use English than ESL learners. However, there are many more opportunities in Japan to use English communicatively outside of class, but with the exception of a couple "brave" souls, few of these participants seem to make use of them. For example, participants at Site 2 in this study had opportunities to attend lectures in English, spend time in the institution's space dedicated to English use, and join clubs that used English as the main language of communication. Few of the participants took advantage of these opportunities. This was also noted with participants and Site 1 and Site 3, which also had dedicated English spaces and clubs devoted to English use. Few of my participants took advantage of the opportunities that they had to use English on campus outside of class. Review of the websites for the other institutions show that similar opportunities are available. Moreover, interviewed participants reported making little use of on-line communication options, such as Skype or Line, to contact friends in other countries. In spite of opportunities like these, most of the participants, in fact, appear to be quite passive about using English and, since most episodes occur while the participant is alone in his or her room at home, their engagement with English is a solitary pursuit.

Most episodes involve doing some work related to school, such as completing homework assignments or preparing for tests. That means that any teacher who doesn't assign homework or give tests cannot expect their students to willingly engage with English outside. From this study, it is clear that if a teacher wants his or her students to study more outside of class, indeed if the teacher wants them to actually do any study at all to improve their English, then homework has to be assigned and assessed and tests must be given. These clearly are more likely to motivate students to study than vague suggestions that they practice speaking or do extensive reading. The image of the Ideal L2 Self might be a motivator of intention, but intention needs to be translated into habitual behavior by the learner. This seems to require the intervention of the teacher in establishing the language learning habit. To determine the best form of intervention, research is needed (see Suggestions for Future Research below).

Furthermore, the amount of English that is consumed by the participants in the form of music is remarkable. What has not been answered is just what effect listening to music has on raising participant English ability. This study looked solely at the amount of time spent on various English-related activities; however, given the predominant role that casual music listening has in the participants out-of-class English access time, there is much that remains unknown about this time use.

From much of this, I draw the conclusion that while it is possible to use large-scale surveys to assess the general motivation of language learners, but these might not have much utility in forecasting behavior based upon motivational characteristics. Talk is cheap, and if the performance of this motivational survey is any indication of a common trend, many motivational surveys are only talk. That is, surveys do not require any committed action on the part of the survey participant, so

that although they might capture an individual's intentions but not capture the individual's actual behaviors with regards to language learning. Taken together, this has several implications for program administrators and curriculum designers, teachers, students and researchers.

Implications

Implications for Program Administrators and Curriculum Designers

These conclusions have clear implications for curriculum designers. Much more energy needs to be put into what the students are expected to do outside of class than is currently given at present. Vague directions and expectations that teachers will assign homework need to be transferred into specific directives for out-of-class activities for all language learning courses at Japanese universities. More importantly, the developers of language curricula need to provide opportunities for practice and study that teachers can assign for their students. In class time to L2 learning needs to be supported with out-of-class time allocation by learners.

This might require that curriculum designers implement program-wide databases with on-line learning activities through their learning management systems (LMS), regular testing of learning using banks of test items also on the LMS, and training for teachers to get them to both contribute to the development of the LMS learning modules and help them use them with their own classes. Given that many of the EFL courses at Japanese universities are taught by adjunct faculty, making these changes will require an institution-wide commitment to English language learning.

One additional change will probably need to occur in the curriculum design process. This is the setting of program-wide out-of-class English time use standards

for teachers regarding homework, preparation, and projects that students need to meet in order to fulfill the requirements of the course. These can help move study into the realm of regular habit (e.g., Bartrom, 2008; Bempechant, 2004). Moreover, though guidelines regarding amounts of time devoted to out-of-class study have been set, as seen in the guidelines from MEXT and the institutions, teachers seem to be underestimating the time requirements of the current homework activities they set for their English courses. These guidelines should include improvement in their learners' entry-level language access time, not simply completion of course requirements. Program administrators should also be building libraries of materials that teachers can access. While it might seem that teachers should be creating their own materials, the reality of teaching at the average Japanese university where most English courses, as well as many of other lower-division courses, are taught by adjunct faculty means that if institutions want learners to increase their out-of-class time allocation to language study, the institution will need to make this a priority.

Moreover, while testing is often ignored as an aspect of oral communication courses (i.e., basic English courses) at Japanese universities, the importance of establishing a habit of language learning behavior, which for most learners is driven by the demands of a course, suggests that assessment needs to become more of an institutional policy. Only when institutions become serious about language learning, and support teachers in their decisions not to "pass" students who do not show improvement, a situation that has been noted by others regarding Japan's university system (e.g., Amano & Poole, 2005; McVeigh, 2002, 2004; Yonezawa, 2003, 2008), will there be any change in learners' out-of-class behavior, not just for English, but for all study.

Furthermore, given the large disparity between institutional expectations of out-of-class time devoted to study and the actual time reported by students, the study suggests that teachers and administrators might consider ways to implement better tracking systems. The end of course survey of time use might be helpful for post-hoc program evaluation, but earlier interventions, and perhaps more regular reminders, might be more effective if they serve to increase students' awareness of the need for out-of-class English study. It also suggests that program administrators and classroom teachers must more clearly elucidate the expectation of our-of-class time allocation to learning. This might include the development of systems for monitoring all school-related out-of-class time use, not only that for language classes.

Finally, the results regarding the location of the episodes suggest that administrators and program developers might want to reconsider the wisdom of investing in language learning commons. For institutions with these learning commons, consider how these spaces should be monitored for students' out-of-class time use.

Implications for Teachers

The implications for teachers are much clearer. For most language learners at Japanese universities, their behavior is driven by the homework and tests. Regular homework and tests must, therefore, be part of courses even without any changes in institutional policy. In this way teachers might have an impact upon their own students' out-of-class English access. The issue of autonomy must also be considered, though here I am addressing the implications for learners as much as for teachers. Creating the conditions where out-of-class English access moves from the realm of

homework into that of habit might require setting conditions that move learners from dependence to autonomy. Advice from researchers such as Benson (2006, 2013), Deci and Ryan (2000, 2002a, 2002b), or Ushioda (2011), among others, provides specific suggestions that teachers might use to create autonomous language learners.

Teachers also need to make their students more aware of their time use and the impact this has on their language learning. Most of the interviewed participants, even though they had been maintaining a record of their out-of-class English access time, were less aware of their overall time use and none realized their out-of-class time use did not meet MEXT or institutional guidelines. This suggests that teachers need to find ways to point this out to their learners, perhaps through the regular maintenance of a time diary by the learners or use of journals to help bring this to the learners' awareness.

Moreover, this study has shown participants rarely interact with foreigners outside of class. This suggests that teachers need to try more actively to introduce their students to opportunities that exist and encourage them to participate. It was also notable how few out-of-class episodes involved speaking-related activities in comparison to reading or writing, even though participants generally visualize a person who is good at English as someone who can converse easily with a foreigner. Having students use some of their out-of-class time on fluency drills may help them approach their vision of someone who is good at English.

Furthermore, the large proportion of out-of-class episodes that involve music might provide an opportunity for language use to teachers if they are able to align lesson content with music consumption. This might be leveraged by teachers if they can design tasks and assignments that align the students' natural foreign media

consumption with beneficial study. One example might be asking students to analyze the lyrics of some of the western music that they listen to or practice singing along with the songs while trying to copy the pronunciation of the performers.

Finally, the data from this study suggest that teachers need to help students establish the habit of study along with the habit of using English. By making this a goal, teachers will be able to help learners establish patterns of patterns of out-of-class English access early in a term. This might go far in addressing the imbalance between regulatory requirements for course load and students' actual time allocation.

Implications for Students

Implications for students are more complex. Clearly, individual levels of motivation have some importance in their attitudes toward language learning. However, motivation as mere intention without action is like a diet without reducing the number of calories. There will be no change in language ability without a change in behavior. As university students are at the transitional point in society, moving from teacher-directed behavior, common in junior high school and high school, to self-directed behavior, which is the expectation that society has for them when they enter the work place, clearly much more must be done to make them aware of their own responsibility for their language learning. Indeed, they must be made aware of their responsibility for all of their learning.

Implications for Researchers

The implications for researchers are just as complex. This study has begun to address the call for studies linking actual language learning behavior with motivation

made by Dörnyei (2000). The instinctive feeling that motivation to learn a language is linked, in some way, to allocation of time to the target language appears to be supported by the data from this study. However, clearly there is more that needs to be done to address this relationship. This study, therefore, might serve as a foundation upon which to further our understanding of the links between motivation and allocation of time to second language study.

Moreover, the difference between learners' motivational profiles indicating intention to learn English and their actual out-of-class target language time allocation to English suggests that measured levels of motivation do not capture the distinction between intention and action. This suggests that Dörnyei's (2000) call to investigate the temporal aspects of language learning motivation and "focus on specific *language behaviors* [emphasis added] rather than general learning outcomes as the criterion measure" (Dörnyei, 2003, p. 23) needs to be expanded to consider how to best translate motivation into action. Research needs to be done to understand the ways in which this translation can occur.

Suggestions for Future Research

When is more research not needed? The answer is never. However, what is needed going forward in the research on time use and motivation is the development of an instrument that will actually be able to predict language learning *behaviors* rather than predicting the participants' learning *intentions*. The distinction that needs to be made between behavior and intention has been highlighted in this study. The tendency in motivation research to use intention to measure for behavior is drawn into question by the data from this study. Ways to actually measure behavior, either actual

or self-reported, need to be identified. Additionally, statistical tools need to be developed that will enable significant comparisons of tempograms of participants' diurnal and hebdomadal time use. There is also need to expand this time use research to other student populations, both in Japan and in other countries, to gain a clearer understanding of how learners access English, or other languages they are studying, outside of class in a variety of learning environments.

Further examination of this data set is also needed to gain a deeper understanding of the differences in out-of-class time use allocated to English study. One area for examination is to consider trends in time use for different groups of participants. In the longitudinal components of this study, participants submitted data using the EATUS form for various lengths of time. When the data from the interviewed and non-interviewed Longitudinal Study 1 and Longitudinal Study 2 participants are combined, other patterns in the data might emerge. One trend that should be considered is length of time in the study. As the data above show, Longitudinal Study 1 had 66 participants (interviewed n = 15; non-interviewed n = 51) and Longitudinal Study 2 had 46 participants (interviewed n = 25; non-interviewed n = 21). Three distinct groups emerge from these two longitudinal groups: (a) participants who submitted more than 20 weeks of data (n = 15), (b) participants who submitted 10 to 20 weeks of data (n = 27), and (c) those who submitted less than 10 weeks of data (n = 70). This data needs to be examined for two sets of trends: (a) those who submitted more than 10 weeks of data and those who submitted less than 10 weeks, and (b) those who submitted 20 weeks or more, those who submitted 10 to 20 weeks, and those who submitted less than 10 weeks. Examination of these trends might shed light on differences in participants'

out-of-class time use that have yet to be explored. Reasons for participants' leaving the study might also emerge from examination of this data. These could include issues as minor as forgetting to submit the EATUS form one week and deciding not to bother or as complex as participants realizing how little time they actually spent in out-of-class English access and were discouraged as this time use did not align with their self-image. Although interviews cannot be obtained from these participants, future research might want to explore if participants' decisions to leave longitudinal studies of time use are related to either of these possible explanations.

Another area for future examination is to analyze the length of episodes by the activity type and the major code area, as well as subcategories of the major code area, for the participants in the cross-sectional portion of this study. A clearer understanding of the duration of episodes, not just the number of episodes and the total length of time spent, would provide another view of the data. This is needed to determine if there are any differences in out-of-class English access in terms of the types and lengths of episodes based on the major of participants. This information might also shed light on the importance that participants' place upon target language access outside of class. Knowing how much time is devoted to by major might provide a clearer understanding of how the participants' major influences their out-of-class English time use. This information might help curriculum developers create courses within different majors that promote time allocation to target language study. Along these lines, another area for future examination is to analyze the purposes of the episodes by the major code area and subcategories of the major code area for the participants in the cross-sectional portion of this study. This information might provide a clearer understanding of the ways in which major area of study

influences participants' decisions regarding the types of activities. Knowing this might help teachers set activities that build upon the types of activities commonly found within a major and encourage further out-of-class time use on English. Future research is also needed to examine the relationship between the features of out-of-class time allocation to the target language and measures of achievement.

This study was set up to understand the features of out-of-class English access by Japanese university students and begin the needed exploration into the relationship between actual time use and language learning motivation, as first suggested by Dörnyei (2000) more than a decade ago. The next steps in this investigation need to consider the relationship between out-of-class time use and achievement and achievement and motivation. Homework studies have shown the importance of out-of-class time use devoted to general learning (e.g., Bempechat, 2004; Cooper, 1989; Cooper, Robinson, & Patall, 2006; Corno & Xu, 2004; Keith, 1982; Kember et al., 1995; Walberg, 1991; Walberg, Paschal, & Weinstein, 1985). These studies highlight the importance of out-of-class time use, or homework, affects academic achievement. This study illuminated the amount of time learners spend on accessing a target language for study and personal reasons and examined whether actual time use correlates with learners' level of motivation. Further study is needed to determine the relationship between the differences in purposes of the out-of-class time allocation to target language and achievement in the L2. Studies also need to consider the types of activities that learners engage in during out-of-class target language access episodes to see if these differences affect achievement.

Further research is also needed to examine the purposes by the activity types for the cognitive demand of the activity. There is every reason to suspect that there

are clear differences in casual listening to music in English, focused attention of the words in an English song either to learn the song for singing, and examination of English song lyrics for coursework. The data from this study might provide additional information not only about the relationship between the purpose of the activity and time use but also about the cognitive demand of the tasks. Additionally, future research studies might include a more precise examination of the cognitive demand of the various activities in which learners are engaged in during out-of-class target language episodes.

Studies that look specifically at the types of music participants enjoy and seek to understand the linguistic and cognitive demands of this music seem warranted. These studies might include examination of the lexical demands of popular music and studies of the impact of how out-of-class time listening to music on achievement. Moreover, what drives these participants to listen to music in English remains a mystery and the links between listening to music and motivation to learn English also warrant investigation. While a considerable body of work has been done in this area (e.g., Failoni, 1993; Hyland, 2004; Lems, 2005), further explorations into how music for enjoyment might be transformed into music for language learning are needed. It is quite likely that participants primarily consume the music and the image of the musicians rather than the lyrics or messages in the songs. This needs to be confirmed through research into the intersections between language learners' choices in music and actual learning of language through music. If this is so, then there may be opportunities to entice learners to consider what the singers might be saying and provide them with another level on which to enjoy the music that they are already consuming. Here, research into the music and culture from first language contexts

might provide some direction for how this might be done (e.g., Boal-Palheiros & Hargreaves, 2001; Lamont, Hargreaves, Marshall, & Tannant, 2003), as well as research into children learning English (e.g., Kennedy, 2008; Parquette & Rieg, 2008).

In addition to research building upon this investigation into the characteristics the out-of-class English access of language learners, research is needed on the possible interventions into this time allocation. Research should be conducted to determine what types of intervention might increase the proportion of the disposable time learners allocate to language learning, drawing upon the research into goal setting from Gollwitzer (1993), Heckhausen (1997), and their colleagues (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Trötschel, 2001; Heckhausen, & Gollwitzer, 1987; Heckhausen, Wrosch, & Schulz, 2010). Furthermore, habit during the term might be open to more adjustment than habit during the off-term periods. Ways to create more motivated learning that is not driven by course demands such as that displayed by a few participants in this study must be found. Here, researchers might consider work in expectancy-value theory (J. S. Eccles & Wigfield, 2002; Wigfield, 1994; Wigfield & Eccles, 2000) and general motivation (Brophy, 2010). Knowing the options for pushing learners to allocate more time to language learning, including the types of tasks and projects, ways to establish or visualize goals, and how to encourage the habit of language learning might be more useful than knowing more about the motivational profiles of language learners. Goal setting theory (Locke & Latham, 1990), self-determination theory (Deci & Ryan, 2002a, 2002b), and self-regulation theory (Deci, Ryan, & Williams, 1996; Zimmerman, 2008; Zimmerman & Schunk, 2008) might provide places for this research to begin.

Moreover, work needs to be done investigating self-generated images from the participants, rather than relying upon surveys to assess motivational levels. Application of alternative research methods, such as Q methodology (e.g., Block, 2008; McKeown & Thomas, 2013), might allow this exploration to begin. This research would allow for a more careful consideration of the motivators of out-of-class time allocation that might aid educators in helping learners create a language learning habit.

Also unknown is what amount of out-of-class English exposure is necessary to have an effect on language acquisition. There are no solid metrics at present that can predict how much a person's language ability will rise after a given number of hours. The benefits of spending time on study seem obvious, but we have little research that actually measures how differences in time allocation to language study impact upon improvement in the target language. Studies that closely monitor learners' out-of-class English access and obtain accurate information on their total time spent on study and other uses of English that are linked to pre- and post-test assessments are clearly needed for a fuller picture of the time requirements to make progress in a English. As Carroll (1963) pointed out, time on during which learners are '"paying attention' and 'trying to learn'" (p. 724) is essential, not simply elapsed time. Collaborative research between time use and second language acquisition researchers, perhaps employing modern technological advances that allow for continuous tracking of participants, might provide a clearer picture of the actual amount of time and the types of tasks needed to make significant gains in learning English. One issue that these researchers will need to address is the issue of attrition. As language achievement requires considerable time for measurable gains to be obtained, these projects might require

commitments from governmental organizations, such as MEXT, to obtain the funding needed to maintain and monitor participants over longer spans of time.

Limitations

Any study has limitations. This one has several, including those related to the motivational survey and the model derived from this survey, as well as the time use study. The first limitation of this project is related to the motivational survey data obtained in the cross-sectional study. The indicators expected to load on the factors Instrumental Prevention and Ought-to Self, as well as Instrumental Promotion and Ideal L2 Self, were almost as appropriate for the other factor. Taguchi et al (2009) also identified this problem in their study, in which they retained only 29 of the 67 items they had initially generated for the Japanese version of their motivational instrument in their final model. This suggests that researchers need to explore whether survey participants are making the same distinction between the items and the constructs that researchers see within the items they generate and the constructs they are designed to measure or if the distinctions that are being made are too subtle. Other research methodologies might have some success in determining this. One possible research path might be to employ Q Methodology to examine in person discrimination of the items (see McKeown & Thomas, 2013). Alternatively, interviews with participants might highlight whether they are making a clear distinction between Instrumental Prevention and the Ought-to-Self and between Instrumental Promotion and the Ideal L2 Self. It may be that these two sets of concepts are actually perceived as one. Without clearly understanding how learners view these concepts, researchers might continue to find problems in the loading of

indicators on these factors in future studies of motivation. This suggests that future motivational research needs to consider the learners' perceptions of these concepts in more depth, perhaps through either focused interviews regarding these points or the development of items that make a clearer distinction than those currently used in this, and other, motivational studies.

Another issue with the survey instrument is the cross-sectional study participants' interpretation of the individual items. As noted in the discussion above, it might be that participants linked the survey items to the course in which the survey was administered and ignored their experiences in other classes or had no other English classes. This might have limited the assessment of their learning experience to the particular class in which the survey was administered, with participants viewing it as endorsement of their current course teacher. Again, further research into understanding how learners' interpret these items appears needed.

In addition, I identified issues with the model derived from Taguchi et al. (2009). The Intention to Learn Model and the Time Use Model performed no better than the baseline, independence model. This means that either the indicators were inappropriate for assessing the posited latent traits, the model itself is not tenable, or a combination of the two. Given the fact that I did modify some of the items from Taguchi et al. (2009) and add some additional items, it is possible that they did not accurately target the latent traits. Moreover, Rasch analysis of the items in some of the subsets highlighted other possible criteria ways in which items could be grouped. This would imply the possible existence of other traits not included in the Taguchi et al. (2009) model. Future exploratory analyses should be done to ascertain to what degree elimination of indicators, reassignment of indicators to traits other than those

they had originally been assigned to, and considering other possible relationships between the latent traits would result in a better fit of the data to the model, or a better model to fit the data. However, given that the purpose of this study was to begin an exploration into the issue of out-of-class time allocation to L2 study and learner motivation, conducting these exploratory analyses was beyond the scope of this study.

In addition, issues with the model also need to be considered. It must be admitted that there is a difference in what the two components focus on as intention to learn might be a completely different factor than time use. Intention to learn is limited exclusively to learning English, while the out-of-class time use encompasses both learning English and non-learning purposed English access; that is English for daily life and activities that can be seen as "fun." The development of new criteria that would target the intention to access English both for study and enjoyment might be useful. This might imply that an intention to learn model is not going to resemble a time use model for language learning motivation. Further examination of the data for this study for alternative models might lead to a clearer model of motivation and time use.

Moreover, the longitudinal portions of this study only focused on small groups of participants at two institutions. These two groups are hardly representative and, therefore, results from this study cannot be easily applied to other locations and other types of student. Study of learners in other types of programs, with varying amounts of time in L2 classes, different curricular demands, or that are more or less selective in their entry requirements would provide a clearer picture of how learners allocation time outside of class.

It is also important to consider that the time use variable includes several different activities that involve different degrees of attention to the target language. For example, both listening for purposes of study and listening for enjoyment were coded as "listen." However, listening to English music for enjoyment is quite different than listening practice to study for an exam or to complete homework. This research project made no distinction between the two. This suggests that the actual "quality" of the out-of-class target language use needs to be examined.

Furthermore, the recording of time use is imprecise, especially for activities where English occurs sporadically, such as when teaching at a cram school or waiting on customers at a restaurant. This research asked participants in those situations to write down their gross amount of time, which overestimates the amount of English they actually came into contact with or used. Although the interview data suggest that the data collection instrument used in this study, the EATUS form, was easy to complete, the ease of completion may have led to less precision in data recording. The balance between burden of compliance and precision in the data is an issue that all time use studies grapple with.

Related to this is the issue of interventions and out-of-class time use. Because of the lack of previous research into out-of-class English access time, and, therefore, no information about the typical time use profile of Japanese university students, I was not able to explore the ways in which knowledge of time use may have influenced the participants' out-of-class time allocation to English. Now that baseline data regarding out-of-class time use on English access for Japanese university students is available, researchers can begin to explore the issue of interventions and explore whether an intervention at the start of the term significantly has an influence

on student time use during the term. A comparative study with control (no intervention) and experimental (intervention) appears warranted. Some procedures for the experimental group suggested by this study might be interventions to strengthen implementation intentions, interventions to set specific goals (time use, type of access), and interventions directed at personal goals (descriptions of future L2 self). Time use data obtained from early in the study (week 2 or 3) and near the end of the term (week 13 or 14) might yield information on whether learners can be influenced to change their out-of-class English time use patterns for factors such as type of activities or purpose.

Finally, this study is further limited in that achievement was not one of the factors I examined. The importance of final level of achievement in the target language is clearly of primary importance to teachers and curriculum developers. However, because of various constraints, I was not able to include this factor in this study. While course grades might have served as an achievement measure, they are generally based upon multiple factors (attitudes, completion of assignments, attendance) that are often not be related to the development of proficiency.

Many previous studies have assumed that the only factors were those controlled by the researchers and failed to control for out-of-class time. Adding achievement as a factor would have required me to make the same type of assumption that others have made in the past about out-of-class time use by learners. Another way that achievement has been measured is on some pre-test post-test changes on a measure of English proficiency. These are useful in situations where the researchers can administer such tests. For this study, however, this was not possible because of the differences in the two sites for the longitudinal studies and the lack of access in

the cross-sectional study. Though narrowing the study to one site might have allowed for this, the concern for participant retention in the longitudinal studies led to the decision to use two sites. Furthermore, I worried that a pre- post-test component would demotivate participants and lead to a decreased willingness to complete the EATUS form. A further way that has been used to assess achievement is the use of a post-test with the assumption that this measures achievement. However, this is only effective when there is a way to assess the initial ability for all participants. There was no way to do this for the longitudinal studies or the cross-sectional study for this project. This points to another area for future research: a consideration of out-of-class English access time with achievement gains as an outcome variable. This research would need to consider the learners' initial level of English, their motivational profile, their out-of-class English access time, the characteristics of this time use (purpose, location, place), the affective features of this time use (enjoyment, anxiety), and their final achievement over the period of the study. While this would certainly be informative, the focus of this study was on time use and motivation, not achievement. The key point here was how participants use their time, not on whether a particular type of time use is related to achievement. Linking time use and achievement is something I leave for future researchers.

In spite of these limitations, this study has helped to address the call made by Dörnyei (2000) to examine learner behaviors and determine how these are related to motivation to learn another language. By adding a measure of actual out-of-class time allocation to target language access and considering the relationship between time use and the learners' motivational profile, this study has extended our understanding of the links between motivation and time use.

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APPENDICES

APPENDIX A

SEARCH ENGINE RESULTS FOR SELECTED TERMS

Motivation + Time Allocation – Animal – Pigeon – Rat (*Relevant)

1.* Academic Journal
Academic delay of gratification and children's study time allocation as a function of proximity to consequential academic goals. Detail Only Available By: Zhang, Lili; Karabenick, Stuart A.; Maruno, Shun'ichi; Lauermann, Fani. Learning & Instruction, Feb2011, Vol. 21 Issue 1, p77-94, 18p; DOI: 10.1016/j.learninstruc.2009.11.003
Subjects: DELAY of gratification; TIME management; LEARNING strategies; SCHOOL children; MOTIVATION in education; HIGH-stakes tests; ELEMENTARY schools; CHINA; Elementary and Secondary Schools
Database: Academic Search Premier

2. Academic Journal
Contact hours in Dutch and Vietnamese higher education: a comparison. Full Text Available By: Quyen, Do. Higher Education, Jun2009, Vol. 57 Issue 6, p757-767, 11p, 1 Diagram, 2 Charts; DOI: 10.1007/s10734-008-9174-9
Subjects: SCHEDULES, School; COLLEGE credits; DUTCH students; EDUCATION; VIETNAMESE students; STUDY skills; NETHERLANDS; VIETNAM; Exam Preparation and Tutoring
Database: Academic Search Premier

3. Academic Journal
INFLUENCING PRESCHOOLERS' FREE-PLAY ACTIVITY PREFERENCES: AN EVALUATION OF SATIATION AND EMBEDDED REINFORCEMENT. Detail Only Available By: Hanley, Gregory P.; Tiger, Jeffrey H.; Ingvarsson, Einar T.; Cammilleri, Anthony P.. Journal of Applied Behavior Analysis, Spring2009, Vol. 42 Issue 1, p33-41, 9p, 2 Charts, 1 Graph; DOI: 10.1901/jaba.2009.42-33
Subjects: PRESCHOOL children; LIBRARIES & preschool children; CONDITIONED response; STIMULUS satiation; REINFORCEMENT (Psychology); MOTIVATION (Psychology); TIME management; CHILD psychology; SCHOOL supervision
Database: Academic Search Premier

4. Academic Journal
Facilitating Interaction to Promote Learning. Full Text Available By: Peters, Robert. International Journal of Learning, 2008, Vol. 15 Issue 7, p159-166, 8p, 2 Charts
Subjects: LEARNING; EDUCATION; INTELLECT; ACTIVE learning; LITERACY; LEARNING ability; All Other Miscellaneous Schools and Instruction; Educational Support Services; Administration of Education Programs
Database: Education Research Complete

5. Academic Journal
A Discrete-Time Dynamic Game of Seasonal Water Allocation. Detail Only

Available By: Krawczyk, J. B.; Tidball, M.. Journal of Optimization Theory & Applications, Feb2006, Vol. 128 Issue 2, p411-429, 19p, 6 Graphs; DOI: 10.1007/s10957-006-9020-0
Subjects: WATER levels; ENVIRONMENTAL economics; DISCRETE-time systems; EQUILIBRIUM; NUMERICAL analysis; RICCATI equation; ENVIRONMENTAL management; EVAPORATION (Meteorology); FRANCE; CAMARGUE (France)
Database: Academic Search Premier

6. Academic Journal
Physical Activity Staging Distribution: Establishing a Heuristic Using Multiple Studies. Full Text Available By: Nigg, C.; Hellsten, L.; Norman, G.; Braun, L.; Breger, R.; Burbank, P.; Coday, M.; Elliot, D.; Garber, C.; Greaney, M.; Keteyian, S.; Lees, F.; Matthews, C.; Moe, E.; Resnick, B.; Riebe, D.; Rossi, J.; Toobert, D.; Wang, T.; Welk, G.. Annals of Behavioral Medicine, 2005 Supplement, Vol. 29, p35-45, 11p; DOI: 10.1207/s15324796abm2902s_7
Subjects: PHYSICAL fitness; PUBLIC health; HEALTH risk assessment; PHYSICAL education; EXERCISE; HEALTH behavior; Sports and Recreation Instruction; Fitness and Recreational Sports Centers; Health and Welfare Funds
Database: Academic Search Premier

7. Academic Journal
Nurses' satisfaction with their work environment and the outcomes of clinical nursing supervision on nurses' experiences of well-being - A Norwegian study. Full Text Available Bégat, Ingrid; Ellefsen, Bodil; Severinsson, Elisabeth; Journal of Nursing Management, Vol 13(3), May, 2005. p. 221-230. [Journal Article]
Subjects: Nurses; Nursing; Occupational Stress; Professional Supervision; Working Conditions; Adulthood (18 yrs & older)
Database: PsycINFO

8. Academic Journal
Physical Activity Staging Distribution: Establishing a Heuristic Using Multiple Studies. Full Text Available By: Nigg, C.; Hellsten, L.; Norman, G.; Braun, L.; Breger, R.; Burbank, P.; Coday, M.; Elliot, D.; Garber, C.; Greaney, M.; Keteyian, S.; Lees, F.; Matthews, C.; Moe, E.; Resnick, B.; Riebe, D.; Rossi, J.; Toobert, D.; Wang, T.; Welk, G.. Annals of Behavioral Medicine, 2005 Supplement, Vol. 29, p35-45, 11p; DOI: 10.1207/s15324796abm2902s_7
Subjects: PHYSICAL fitness; HEURISTIC; METHODOLOGY; RESOURCE allocation; CONTEMPLATION; PUBLIC health; Fitness and Recreational Sports Centers; Health and Welfare Funds
Database: Academic Search Premier

9.* Academic Journal
Student Effort and Performance over the Semester Full Text Available . By: Krohn, Gregory A.; O'Connor, Catherine M.. Journal of Economic Education, v36 n1 p3 Win 2005. (EJ709832)
Subjects: Economics Education; Time Management; Scores; Tests; Macroeconomics; Computation; Gender Differences; Academic Achievement; Student Motivation; Study Habits; Time on Task
Database: ERIC

10. Academic Journal
    Nonlinear dynamics of motivational flow. Detail Only Available Guastello, Stephen J.; Johnson, Elizabeth A.; Rieke, Mark L.; Nonlinear Dynamics, Psychology, and Life Sciences, Vol 3(3), Jul, 1999. p. 259-273. [Journal Article]
    Subjects: Intrinsic Motivation; Mathematical Modeling; Nonlinear Regression; Adulthood (18 yrs & older); Young Adulthood (18-29 yrs); Thirties (30-39 yrs); Middle Age (40-64 yrs)
    Database: PsycINFO
11. Academic Journal
    Response form, force, and number: Effects on concurrent-schedule performance. Detail Only Available Sumpter, Catherine E.; Temple, William; Foster, T. Mary; Journal of the Experimental Analysis of Behavior, Vol 70(1), Jul, 1998. p. 45-68. [Journal Article]
    Subjects: Concurrent Reinforcement Schedules; Conditioned Responses; Fixed Ratio Reinforcement; Secondary Reinforcement; Variable Interval Reinforcement; Female
    Database: PsycINFO
12. Academic Journal
    Incremental reconfiguration and load adjustment in adaptive real-time systems. Detail Only Available (cover story) By: Kuo, Tei-Wei; Mok, Aloysius K.. IEEE Transactions on Computers, Dec97, Vol. 46 Issue 12, p1313, 12p, 2 Black and White Photographs, 8 Charts
    Subjects: PARAMETRIC devices
    Database: Academic Search Premier
13. Academic Journal
    Concurrent schedule performance in domestic goats: Persistent undermatching. Detail Only Available Foster, T. Mary; Matthews, Lindsay R.; Temple, William; Poling, Alan; Behavioural Processes, Vol 40(3), Sep, 1997. p. 231-237. [Journal Article]
    Subjects: Concurrent Reinforcement Schedules; Variable Interval Reinforcement; Male; Female
    Database: PsycINFO
14. Academic Journal
    Teaching and the faculty role: Enhancing the commitment to instruction in American colleges and universities. Detail Only Available Fairweather, James S.; Rhoads, Robert A.; Educational Evaluation and Policy Analysis, Vol 17(2), Sum, 1995. p. 179-194. [Journal Article]
    Subjects: College Teachers; Roles; Teacher Attitudes; Teaching; Adulthood (18 yrs & older)
    Database: PsycINFO
15.* Academic Journal
    Motivation and learning-environment differences between Asian-American and White middle school students in mathematics. Detail Only Available Huang, Shwu-yong L.; Waxman, Hersholt C.; Journal of Research & Development in Education, Vol 28(4), Sum, 1995. p. 208-219. [Journal Article]
    Subjects: Academic Achievement Motivation; Asians; Classroom Environment; Mathematics Education; Whites; Childhood (birth-12 yrs); School Age (6-12 yrs); Adolescence (13-17 yrs)

Database: PsycINFO

16. Academic Journal
Predicting and scaling hens' preferences for topographically different responses. Detail Only Available Sumpter, Catherine E.; Foster, T. Mary; Temple, William; Journal of the Experimental Analysis of Behavior, Vol 63(2), Mar, 1995. p. 151-163. [Journal Article]
Subjects: Response Variability; Variable Interval Reinforcement
Database: PsycINFO

17. Academic Journal
Concurrent schedule control of monkey's observing during vigilance. Detail Only Available Takahashi, Masaharu; Behavioural Processes, Vol 32(2), Aug, 1994. p. 133-146. [Journal Article]
Subjects: Concurrent Reinforcement Schedules; Variable Interval Reinforcement; Vigilance
Database: PsycINFO

18.* Academic Journal
Determinants of everyday time allocation. Detail Only Available Gärling, Tommy; Scandinavian Journal of Psychology, Vol 33(2), May, 1992. p. 160-169. [Journal Article]
Subjects: Behavior; Intention; Time; Adulthood (18 yrs & older)
Database: PsycINFO

19. Academic Journal
Social and structural constraints on media use in incarceration. Full Text Available Lindlof, Thomas R.; Journal of Broadcasting & Electronic Media, Vol 30(3), Sum, 1986. p. 341-355. [Journal Article]
Subjects: Communications Media; Prisoners; Adulthood (18 yrs & older)
Database: PsycINFO

20. Academic Journal
Structural features in multiple response repertoires: Effects of response restriction. Full Text Available Dunham, Philip J.; Cornwall, Anne; Hurshman, Alan; Canadian Journal of Psychology/Revue canadienne de psychologie, Vol 40(1), Mar, 1986. p. 12-28. [Journal Article]
Subjects: Choice Behavior; Games; Response Parameters; Time; Childhood (birth-12 yrs); Preschool Age (2-5 yrs); Adulthood (18 yrs & older)
Database: PsycINFO

21. Academic Journal
Regulation and time allocation: Comment on 'Conservation in behavior. 'Full Text Available Staddon, J. E.; Journal of Experimental Psychology: General, Vol 108(1), Mar, 1979. p. 35-40. [Comment/Reply]
Subjects: Models; Operant Conditioning; Reinforcement Schedules
Database: PsycINFO

APPENDIX B

ENGLISH-ACCESS TIME USE SURVEY (EATUS) INSTRUMENT

English Version of EATUS

								Choose one				Choose one						Choose one		
#	mon	day	Time Start	Time End	Activity	Enjoyment, 5 levels, 1 (low) ~ 5 (high)	Anxiety, 5 levels, 1 (low) ~ 5 (high)	For classes at school (homework, preparation, etc.)	For part-time work (Taking customer orders, etc.)	For self-improvement (Studying to get a certificate, etc.)	For entertainment (Listening to Western music, etc.)	At home	At a special language study facility at school	At some general place at school	At part-time job	While commuting	Other	Alone	With friends	Other
ex	5	31	17:00	17:35	TOEIC listening practice	1	2			✓		✓						✓		
ex	5	31	18:00	18:45	Listened to English music	5	1				✓					✓		✓		
ex	5	31	19:30	21:00	Taught English at part-time job	2	2		✓						✓					✓
ex	6	1	23:15	23:30	Grammar homework	1	1	✓				✓						✓		
ex	6	1	23:00	24:50	Watched an English drama	4	1				✓	✓						✓		
ex	6	2	11:00	11:20	Practiced phonetics using a video	3	1	✓						✓					✓	
ex	6	2	23:45	25:10	Skyped with foreign friends	4	2				✓	✓						✓		
ex	6	3	10:10	10:45	Reading homework	1	1	✓						✓					✓	
ex	6	4	17:30	19:20	Writing (composition grammar)	2	5	✓					✓					✓		
ex	6	5	12:00	18:10	Took orders from foreign customers at work (2 groups/hour)	2	5		✓						✓					✓
1																				
2																				
3																				
4																				
5																				
6																				

Figure B1. English version of the English-Access Time Use Survey (EATUS).

Japanese Version of EATUS

									一つを選択する				一つを選択する							一つを選択する					
#	月	日	時間 開始 時:分	時間 終了 時:分	活動	楽しさ 5段階: 1 低い ~ 5 高い	不安・緊張 5段階: 1 低い ~ 5 高い	学校関連（宿題、予習）	バイトで関連	自分の勉強	自分の楽しむ	自分の家・部屋で	学内の特別語学学習施設・場所	学校の校内で、一般のところ	バイトで	通学・通勤のとき	その他	一人で	友達と	その他
例	5	31	17:00	17:35	TOEIC のリスニング訓練	1	2			✓		✓						✓		
例	5	31	18:00	18:45	英語の音楽を聴く	5	1				✓					✓		✓		
例	5	31	19:30	21:00	バイトで英語を教える	2	2		✓						✓					✓
例	6	1	23:15	23:30	Grammar の H.W	1	1	✓				✓						✓		
例	6	1	23:00	24:50	海外ドラマを見る	4	1				✓	✓						✓		
例	6	2	11:00	11:20	phonetics のビデオとる発音練習	3	1	✓						✓					✓	
例	6	2	23:45	25:10	Skyped with 外国の友達	4	2				✓	✓						✓		
例	6	3	10:10	10:45	リーディングの宿題	1	1	✓						✓					✓	
例	6	4	17:30	19:20	writing （作文の文法）	2	5	✓					✓					✓		
例	6	5	12:00	18:10	外国の客様の注文を取った（約 2 組/時間）	2	5		✓						✓					✓
1																				
2																				
3																				
4																				
5																				
6																				

Figure B2. Japanese version of the English-Access Time Use Survey (EATUS).

APPENDIX C

ENGLISH VERSION OF MOTIVATIONAL SURVEY INSTUMENT

Part A: Please indicate your agreement with the following statements.

not true at all about me	mostly not true about me	slightly not true about me	slightly true about me	mostly true about me	very true about me
1	2	3	4	5	6

1. If they are at my level, I enjoy watching TV programs or movies in English.
2. Studying English is important to me because, if I don't have knowledge of English, I'll be considered a weak learner.
3. Studying English has broadened my horizons.
4. I study English because my close friends have said it is important.
5. I find learning English really interesting.
6. I would like to have more opportunities to practice using English.
7. Without English ability, it will be very difficult to help Japan in the future.
8. I have to learn English because without passing my English courses I cannot graduate.
9. English ability is important for becoming an internationally minded person.
10. A teacher I respect advised me to study English hard.
11. I enjoy travelling to English-speaking countries.
12. I can imagine myself as someone who lives abroad and uses English for my daily life.
13. I think studying English will help me get a good job in the future.
14. Learning English is necessary because it is an international language.
15. I can imagine situations where I speak English with foreigners.
16. Some of my friends are good at English, so I want to be good, too.
17. I would like to be able to use English to communicate with people from other countries.
18. If possible, I would really like to study English overseas in the future.
19. My family has encouraged me to study English.
20. Studying English can be important for me because I think I'll need it for further studies on my major.
21. English allows me to participate in global culture.
22. In Japan, it's important that everyone learns English.
23. I like the atmosphere of English classes.
24. Studying English is important to me because I would like to do volunteer work in other countries.
25. English classes are stimulating.
26. My parents believe that I must study English to be an educated person.
27. I don't want to be known as someone who can't use English.
28. I have to study English because I don't want to get bad marks in it at university.
29. Studying English is important to me because I would like to study in another country.
30. I think my English classes have been valuable.
31. I would like to know more about people from English-speaking countries.
32. If they are at my level, I like magazines, newspapers, or books in English.
33. My friends say that it is important to be able to speak English.

34. Studying English will make me an international person.
35. I always look forward to English classes.
36. I imagine myself as someone who is able to speak English.
37. I am going to study harder to improve my scores on standardized tests (TOEIC, Eiken, etc.).
38. Learning English is necessary because people around me expect me to do so.
39. I really enjoy learning English.
40. Knowledge of English will help me have a broader horizon.
41. My family encourages me to use English (e.g., speaking and reading).
42. It will be hard to get a good job in the future if I cannot speak English.
43. I aim to become good at English
44. I enjoy songs from English-speaking countries (e.g., pop music).
45. For me to be an educated person I should be able to speak English.
46. By studying English I will get a good score on standardized English tests (TOEIC, Eiken).
47. If a foreigner came to the place I work I would try to use English with them.
48. I study English because people around me think it is important.
49. Studying English is necessary for me because I don't want to be held back by a poor score on English proficiency tests.
50. Knowledge of English is very important for university students.
51. The better I become at English, the more satisfied I am.
52. I like talking in English with people from other countries.
53. When I think of my future career, I imagine myself using English.
54. I feel that English will become a true part of who I am.
55. I have to study English; otherwise, I am unlikely to be successful in my future career.
56. Studying English is important to me because I would like to visit other countries.
57. Studying English is important to me because without English I won't be able to travel a lot.
58. I plan to take English classes in the future if I have the opportunity, either at my university, a conversation school, or my future company.
59. People close to me have said that I need to speak English because it is an essential skill.
60. My parents have encouraged me to attend additional English classes, such as at English Conversation schools.
61. I need English to travel to English-speaking countries.
62. I would like to have more free time to watch TV programs or films in English.
63. Studying English is important to me because with English I can work globally.

Part B: Other Questions

64. How many 90-minute English classes do you have at university or junior college each week? _____ classes

    "English classes" includes English reading, conversation; seminar classes where you read things in English, classes where you study about English (e.g., English Linguistics) and classes with English materials, such as classes where you study about environmental issues or foreign culture using English materials.

65. How many hours do you study English outside of the university, such as at English conversation schools? ____ hr. ____min.

66. Age: _____ years old

67. Major: _____ department

68. Gender: Male Female

69. Year in School : 1st 2nd 3rd 4th Other

70. Native language： Japanese Other

71. Are you currently studying or have you studied other foreign languages besides English? Yes No

72. When did you first start studying English? _____ years old

73. Have you ever stayed longer than 3 months in an English-speaking country for travel or study? Yes No

Thank you for your cooperation

APPENDIX D

JAPANESE VERSION OF MOTIVATIONAL SURVEY INSTRUMENT

Part A: 以下の項目にあなたがどのくらい同意できるかを６段階で示してください。

全くあてはまらない	かなりあてはまらない	どちらかといえば当てはまらない	どちらかといえば当てはまる	かなりあてはまる	全く当てはまる
1	2	3	4	5	6

1.	自分の能力にあった英語のテレビ番組や映画を見るのは楽しい。	1	2	3	4	5	6
2.	英語ができないと、学力の低い学生と思われるので英語の勉強は大切だ。	1	2	3	4	5	6
3.	英語を学習することは私の視野を広げる。	1	2	3	4	5	6
4.	親しい友人が英語は重要だと言ったので私は英語を勉強している。	1	2	3	4	5	6
5.	英語を勉強するのはとても面白い。	1	2	3	4	5	6
6.	私は英語を練習する機会をより多く持ちたい。	1	2	3	4	5	6
7.	日本人が英語を出来ないと、将来日本が生き残るのは難しい。	1	2	3	4	5	6
8.	英語の単位をとらないと卒業ができないので、英語の勉強をしなければならない。	1	2	3	4	5	6
9.	英語の能力は国際的な意識を持った人になるために重要である。	1	2	3	4	5	6
10.	私の尊敬する先生が私に英語を一生懸命勉強することを勧めてくれた。	1	2	3	4	5	6
11.	英語圏の国を旅行することは楽しい。	1	2	3	4	5	6
12.	私は外国に住んで日常生活で英語を使っている自分を想像できる。	1	2	3	4	5	6
13.	英語を勉強しておくと、いつか良い仕事を得るために役立つと思うので、英語の勉強は大切である。	1	2	3	4	5	6
14.	英語は国際語なので、英語を学ぶことが必要である。	1	2	3	4	5	6
15.	私は自分が外国人と英語で話をしている状況を想像できる。	1	2	3	4	5	6
16.	私の友人の中には英語が上手な人がいるので、私も上手になりたい。	1	2	3	4	5	6
17.	外国から来た人々と英語でコミュニケーションをとることができるようになりたい。	1	2	3	4	5	6
18.	もし可能ならば、将来外国で英語を勉強したい。	1	2	3	4	5	6
19.	親が私が英語の勉強をすることをすすめている。	1	2	3	4	5	6
20.	今後さらに自分の専門について勉強をしていくためには英語が必要になると思うので、英語の勉強は大切だ。	1	2	3	4	5	6
21.	英語は私に世界中の文化に触れることを可能にしてくれる。	1	2	3	4	5	6
22.	全ての日本人にとって英語を勉強することは重要である。	1	2	3	4	5	6
23.	英語の授業の雰囲気が好きだ。	1	2	3	4	5	6
24.	外国でボランティアの仕事をしたいので、私にとって英語の勉強は重要だ。	1	2	3	4	5	6
25.	英語の授業は刺激的だ。	1	2	3	4	5	6
26.	教養のある人間になるためには英語を勉強しなければならないと、親は強く思っている	1	2	3	4	5	6
27.	私は英語がうまく使えないと思われたくない。	1	2	3	4	5	6
28.	大学の英語で悪い成績を取りたくないので、英語の勉強をしなければならない。	1	2	3	4	5	6
29.	外国で勉強をしたいので、私にとって英語の勉強は重要だ。	1	2	3	4	5	6

30. 英語の授業は非常に役に立つと思う。 1 2 3 4 5 6

31. 私は英語が話されている国から来た人々と知り合いになりたい。 1 2 3 4 5 6
32. 自分の能力にあった英語の雑誌や新聞や本を読むのが好きだ。 1 2 3 4 5 6
33. 私の友人の多くが英語を話せることは重要であると言っている。 1 2 3 4 5 6
34. 英語を勉強すれば、わたしは国際人になれる。 1 2 3 4 5 6
35. 英語の授業をいつも楽しみにしている。 1 2 3 4 5 6

36. 私は英語が話せるようになっている自分を想像する。 1 2 3 4 5 6
37. 私は標準的な英語のテスト（TOEIC や英検など）のスコアを上げるために
より一生懸命勉強するつもりだ。 1 2 3 4 5 6
38. 私が英語を勉強することを周りの人々が期待しているので、英語の勉強が
必要だという気になる。 1 2 3 4 5 6
39. 英語を学ぶことは本当に楽しい。 1 2 3 4 5 6
40. 私が英語の知識を持つことは、より広い視野を身につけることを助けてくれる。1 2 3 4 5 6

41. 両親が私に英語を訳させる事がある。 1 2 3 4 5 6
42. もし英語を勉強しなければ、将来良い仕事を得ることが難しくなる。 1 2 3 4 5 6
43. 私は英語がじょうずになることを目指している。 1 2 3 4 5 6
44. 英語が話されている国の歌（ポピュラー音楽など）を聞くのが楽しい。 1 2 3 4 5 6
45. 教養がある人になるためには英語が話せるべきである。 1 2 3 4 5 6

46. 英語を勉強することで、私は、標準化された英語のテストで良いスコア
を取ることができる。 1 2 3 4 5 6
47. もし外国人が私が働いているところへ来たら、私は彼らと英語を使って
話してみるつもりだ。 1 2 3 4 5 6
48. 私が英語の勉強をするのは、私の周りの人が英語の勉強が大切だと思って
いるからだ。 1 2 3 4 5 6
49. 英語の能力試験で低い点数を取ったり不合格になりたくないので英語の
勉強は必要だ。 1 2 3 4 5 6
50. 英語の知識は大学生にとっては大変重要なものである。 1 2 3 4 5 6

51. 私は英語が上手になるにつれて、ますます自己充実感が増す。 1 2 3 4 5 6
52. 私は外国から来た人と英語で話すのが好きだ。 1 2 3 4 5 6
53. 将来の仕事について考えるとき、自分が英語を使うことができるように
なっていることを想像する。 1 2 3 4 5 6
54. 英語は自分の一部であると感じる。 1 2 3 4 5 6
55. 私は英語を勉強する必要がある。しなかったならば、将来仕事で成功する
ことが難しくなる。 1 2 3 4 5 6

56. 海外旅行をしたいので、英語の勉強は大切である。 1 2 3 4 5 6
57. 英語を知らなければ海外を旅行をすることができないので、英語の勉強は
大切である。 1 2 3 4 5 6
58. 私は機会があれば、大学でも、会話学校でも、また将来務める会社でも
英語の授業があればとるつもりだ。 1 2 3 4 5 6
59. 私の身近な人々が、英語は不可欠なスキルなので英語を話せるようになる
ことが必要だと言っている。 1 2 3 4 5 6
60. 親は私に、授業の後さらに英会話学校等で英語を勉強するようにすすめている。1 2 3 4 5 6

61. 英語圏の国へ旅行するには英語力が必要だ。 1 2 3 4 5 6
62. 私は英語のテレビ番組や映画を見るための自由時間をより多く持ちたい。 1 2 3 4 5 6
63. 英語ができれば国際的に働くことができるので、英語の勉強は大切だ。 1 2 3 4 5 6

Part B: Other Questions

64. 大学・短期大学では、英語の 90 分の授業が週に何回ありますか。 _____回

「英語の授業」は、英語のリーディングや英語会話の授業、セミナーの授業で英語を読む授業や、英語について英語で学習するクラス（英語学や、英語の教材を使った授業、環境問題や外国の文化、世界の問題を扱ったクラスなど）を含めます。

65. 大学以外、英会話学校などに、一週間で何時間の英語の授業を取っていますか。 _____時_____分

66. 年齢: _____ 才

67. 専攻: _____ 学科

68. 性別: 男性 女性

69. 学年: 1st 2nd 3rd 4th その他

70. 母国語： 日本語 その他

71. 英語以外のどの外国語を学んでいますか/学んだ事がありますか。 はい いえ

72. 英語を学び始めたのは何歳の時ですか。 _____才

73. 海外経験旅行や勉強など、少なくとも計 3 ヶ月以上英語圏に滞在したことがありますか
はい いいえ

ご協力ありがとうございます

APPENDIX E

MOTIVATIONAL ITEMS FROM TAGUCHI, MAGID AND PAPI (2009)

Table E1. *Motivational Survey Items with Factor Area (Cronbach's α) and SEM Trait Loading for Japanese Participants for Survey Used by Taguchi et al. (2009)*

Area	Item	#	SEM trait loading
*Criterion Measures (α = 0.83)			
	If an English course was offered at university or somewhere else in the future, I would like to take it.*	4	
	I am prepared to expend a lot of effort in learning English.*	28	Criterion
	I am working hard at learning English.*	17	Criterion
	I think that I am doing my best to learn English.*	41	Criterion
*Ideal L2 Self (α = 0.89)			
	I can imagine myself living abroad and having a discussion in English.*	8	Ideal L2 Self
	Whenever I think of my future career, I imagine myself using English.*	58	Ideal L2 Self
	I can imagine a situation where I am speaking English with foreigners.*	20	Ideal L2 Self
	I imagine myself as someone who is able to speak English.*	33	Ideal L2 Self
	The things I want to do in the future require me to use English.*	66	
*Ought-to L2 Self (α = 0.76)			
	I study English because close friends of mine think it is important.*	13	Ought-to L2 Self
	Learning English is necessary because people surrounding me expect me to do so.*	38	Ought-to L2 Self
	I have to study English, because, if I do not study it, I think my parents will be disappointed with me.*	25	
	My parents believe that I must study English to be an educated person.*	62	Family Influence
*Parental Encouragement/Family Influence (α = 0.83)			
	My parents encourage me to study English.*	2	Family Influence
	My parents encourage me to study English in my free time.*	29	Family Influence
	My parents encourage me to take every opportunity to use my English (e.g., speaking and reading).*	14	Family Influence
	My parents encourage me to attend extra English classes after class (e.g., at English conversation schools).*	40	Family Influence

Table E1 (Continued). *Motivational Survey Items with Factor Area (Cronbach's α) and SEM Trait Loading for Japanese Participants for Survey Used by Taguchi et al. (2009)*

Area	Item	#	SEM trait loading
*Instrumentality—Promotion (α = 0.82)			
	Studying English can be important to me because I think it will someday be useful in getting a good job.*	6	Instrumentality —Promotion
	Studying English is important to me because English proficiency is necessary for promotion in the future.*	18	
	Studying English is important to me because with English I can work globally.*	64	Instrumentality —Promotion
	Studying English can be important for me because I think I'll need it for further studies on my major.*	55	Instrumentality —Promotion
	Studying English is important to me because I would like to spend a longer period living abroad (e.g., studying and working).*	31	
*Instrumentality—Prevention (α = 0.73)			
	I have to learn English because without passing the English course I cannot graduate.*	10	
	I have to study English because I don't want to get bad marks in it at university.*	23	Instrumentality —Prevention
	Studying English is necessary for me because I don't want to get a poor score or a fail mark in English proficiency tests.*	60	Instrumentality —Prevention
	I have to study English; otherwise, I think I cannot be successful in my future career.*	36	
	Studying English is important to me because, if I don't have knowledge of English, I'll be considered a weak learner.*	67	Instrumentality —Prevention
*Attitudes Toward Learning English (α = 0.90)			
	I like the atmosphere of my English classes.*	12	Attitudes To Learning English
	I always look forward to English classes.*	37	Attitudes To Learning English
	I find learning English really interesting.*	24	Attitudes To Learning English
	I really enjoy learning English.*	61	Attitudes To Learning English
Integrativeness (α = 0.64)[a]			
	How important do you think learning English is in order to learn more about the culture and art of its speakers?	A	
	How much would you like to become similar to the people who speak English?	A	

Table E1 (Continued). *Motivational Survey Items with Factor Area (Cronbach's α) and SEM Trait Loading for Japanese Participants for Survey Used by Taguchi et al. (2009)*

Area	Item	#	SEM trait loading
	How much do you like English?	A	
*Cultural Interest (α = 0.77)			
	Do you like the music of English-speaking countries (e.g., pop music)?*	43	
	Do you like English films?*	46	Attitudes Toward L2 Community
	Do you like English magazines, newspapers, or books?*	49	
	Do you like TV programmes made in English-speaking countries?*	52	Attitudes Toward L2 Community
*Attitudes Toward L2 Community (α = 0.86)			
	Do you like to travel to English-speaking countries?*	44	Attitudes Toward L2 Community
	Do you like the people who live in English-speaking countries?*	47	Attitudes Toward L2 Community
	Do you like meeting people from English-speaking countries?*	50	Attitudes Toward L2 Community
	Would you like to know more about people from English-speaking countries?*	53	
Linguistic Self-confidence (α = 0.76)			
	If I make more effort, I am sure I will be able to master English.	7	
	I believe that I will be capable of reading and understanding most texts in English if I keep studying it.	19	
	I am sure I will be able to write in English comfortably if I continue studying.	32	
	I am sure I have a good ability to learn English.	57	
Travel Orientation. (α = 0.77)			
	Learning English is important to me because I would like to travel internationally.	1	
	Studying English is important to me because without English I won't be able to travel a lot.	26	
	I study English because with English I can enjoy travelling abroad.	39	
Fear of Assimilation. (α = 0.78)			
	I think that there is a danger that Japanese people may forget the importance of Japanese culture, as a result of internationalization.	9	

Table E1 (Continued). *Motivational Survey Items with Factor Area (Cronbach's α) and SEM Trait Loading for Japanese Participants for Survey Used by Taguchi et al. (2009)*

Area	Item	#	SEM trait loading
	Because of the influence of the English language, I think the Japanese language is becoming corrupt.	21	
	Because of the influence of the English-speaking countries, I think the morals of Japanese people are becoming worse.	34	
	I think the cultural and artistic values of English are going at the expense of Japanese values.	56	
	I think that, as internationalization advances, there is a danger of losing the Japanese identity.	63	
Ethnocentrism (α = 0.35)			
	I am very interested in the values and customs of other cultures. (R)	4	
	I respect the values and customs of other cultures. (R)	30	
	I think I would be happy if other cultures were more similar to Japanese.	16	
	It would be a better world if everybody lived like the Japanese.	54	
	I am proud to be Japanese.	65	
Interest in the English Language (α = 0.80)			
	I feel excited when hearing English spoken.	3	
	I am interested in the way English is used in conversation.	15	
	I find the difference between Japanese vocabulary and English vocabulary interesting.	27	
	I like the rhythm of English.	42	
English Anxiety (α = 0.81)			
	I get nervous and confused when I am speaking in my English class.	22	
	I would feel uneasy speaking English with a native speaker.	11	
	If I met an English native speaker, I would feel nervous.	35	
	I would get tense if a foreigner asked me for directions in English.	59	

Note. *Items in these factor areas are used in this project (n = 39) to confirm the structural equation model from Taguchi et al. (2009).

[a]Items from Dörnyei, et al.'s. (2006) survey used by Taguchi et al. (2009) (not numbered by Taguchi et al.).

Adapted from Taguchi et al. (2009, p. 90-97). From "The L2 Motivational Self System among Japanese, Chinese and Iranian Learners of English," by T. Taguchi, M. Magid, and M. Papi, in Z. Dörnyei and E. Ushioda (Eds.), Motivation, Language Identity and the L2 Self (p. 66-97), Bristol, UK: Multilingual Matters. Copyright 2009 by Multilingual Matters. Adapted with permission.

APPENDIX F

ENGLISH WORDING FOR CONSTRUCTS AND ITEMS FOR THIS PROJECT AND THOSE FROM TAGUCHI ET AL. (2009)

Table F1. *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

Construct and items for this study		Construct and items for Taguchi et al.	
#	*Intention to Learn English (IL)*	*Criterion Measures*	#
6	I would like to have more opportunities to practice using English.	I think that I am doing my best to learn English.*	41
17	I would like to be able to use English to communicate with people from other countries.		
18	If possible, I would really like to study English overseas in the future.		
37	I am going to study harder to improve my scores on standardized tests (TOEIC, Eiken, etc.).[d]	I am working hard at learning English.*†	17
43	I aim to become good at English.	I am prepared to expend a lot of effort in learning English.*†	28
47	If a foreigner came to the place I work I would try to use English with them.		
58	I plan to take English classes in the future if I have the opportunity, either at my university, a conversation school, or my future company.	If an English course was offered at university or somewhere else in the future, I would like to take it.*†	4
62	I would like to have more free time to watch TV programs or films in English.		
	Ideal L2 Self (IS)	*Ideal L2 Self*	
12	I can imagine myself as someone who lives abroad and uses English for my daily life.	I can imagine myself living abroad and having a discussion in English.*†	8
15	I can imagine situations where I speak English with foreigners.	I can imagine a situation where I am speaking English with foreigners.*†	20
34	Studying English will make me an international person.		
36	I imagine myself as someone who is able to speak English.	I imagine myself as someone who is able to speak English.*†	33
40	Knowledge of English will help me have a broader horizon.		
51	The better I become at English, the more satisfied I am.		

Table F1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
53	When I think of my future career, I imagine myself using English.	Whenever I think of my future career, I imagine myself using English.*†	58
54	I feel that English will become a true part of who I am.	The things I want to do in the future require me to use English.*	66
	Ought-to Self (OS)	*Ought-to L2 Self*	
7	Without English ability, it will be very difficult to help Japan in the future.		
9	English ability is important for becoming an internationally minded person.		
14	Learning English is necessary because it is an international language.		
22	In Japan, it's important that everyone learns English.		
27	I don't want to be known as someone who can't use English.		
38	Learning English is necessary because people around me expect me to do so.	Learning English is necessary because people surrounding me expect me to do so.*† [b]	38
45	For me to be an educated person I should be able to speak English.		
48	I study English because people around me think it is important.	I study English because close friends of mine think it is important.*†	13
50	Knowledge of English is very important for university students.		
	Influence of Significant Others (ISO)[e]	*Parental Encouragement/Family Influence*	
4	I study English because my close friends have said it is important.		
10	A teacher I respect advised me to study English hard.		
16	Some of my friends are good at English, so I want to be good, too.		
19	My family has encouraged me to study English.	My parents encourage me to study English.* †	2
		My parents encourage me to study English in my free time.*†[c]	29
26	My parents believe that I must study English to be an educated person.	My parents believe that I must study English to be an educated person.*†[a]	62
33	My friends say that it is important to be able to speak English.		

Table F1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
41	My family encourages me to use English (e.g., speaking and reading).	My parents encourage me to take every opportunity to use my English (e.g., speaking and reading).*†	14
59	People close to me have said that I need to speak English because it is an essential skill.		
60	My parents have encouraged me to attend additional English classes, such as at English Conversation schools.	My parents encourage me to attend extra English classes after class (e.g., at English conversation schools).*†	40
	Attitudes Toward Learning English (L2E)	*Attitudes Toward Learning English*	
3	Studying English has broadened my horizons.		
5	I find learning English really interesting.	I find learning English really interesting.* †	24
23	I like the atmosphere of English classes.	I like the atmosphere of my English classes.* †	12
25	English classes are stimulating.		
30	I think my English classes have been valuable.		
35	I always look forward to English classes.	I always look forward to English classes.* †	37
39	I really enjoy learning English.	I really enjoy learning English.* †	
X	I get nervous when I am speaking in English class.		
	Attitudes Toward English Language and Culture (AL2)	*Cultural Interest/Attitudes Toward L2 Community*	
1	If they are at my level, I enjoy watching TV programs or movies in English.	Do you like English films?* †	46
		Do you like TV programmes made in English-speaking countries?*†[c]	52
11	I enjoy travelling to English-speaking countries.	Do you like to travel to English-speaking countries?* †	44
21	English allows me to participate in global culture.	Do you like the people who live in English-speaking countries?* †	47
31	I would like to know more about people from English-speaking countries.	Would you like to know more about people from English-speaking countries?*	53
32	If they are at my level, I like magazines, newspapers, or books in English.	Do you like English magazines, newspapers, or books?*	49
44	I enjoy songs from English-speaking countries (e.g., pop music).	Do you like the music of English-speaking countries (e.g., pop music)?*	43
52	I like talking in English with people from other countries.	Do you like meeting people from English-speaking countries?* †	50

Table F1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
	English is the language of global culture.[d]		
	Instrumentality–Promotion	*Instrumentality–Promotion*	
13	I think studying English will help me get a good job in the future.	Studying English can be important to me because I think it will someday be useful in getting a good job.* †	6
20	Studying English can be important for me because I think I'll need it for further studies on my major	Studying English can be important for me because I think I'll need it for further studies on my major.* †	55
24	Studying English is important to me because I would like to do volunteer work in other countries.		
29	Studying English is important to me because I would like to study in another country.		
46	By studying English I will get a good score on standardized English tests (TOEIC, Eiken).		
56	Studying English is important to me because I would like to visit other countries.	Studying English is important to me because I would like to spend a longer period living abroad (e.g., studying and working).*	31
57	Studying English is important to me because without English I won't be able to travel a lot.		
61	I need English to travel to English-speaking countries.		
63	Studying English is important to me because with English I can work globally.	Studying English is important to me because with English I can work globally.* †	64
		Studying English is important to me because English proficiency is necessary for promotion in the future.*	18
	Instrumentality–Prevention	*Instrumentality–Prevention*	
2	Studying English is important to me because, if I don't have knowledge of English, I'll be considered a weak learner.	Studying English is important to me because, if I don't have knowledge of English, I'll be considered a weak learner.* †	67
49	Studying English is necessary for me because I don't want to be held back by a poor score on English proficiency tests.	Studying English is necessary for me because I don't want to get a poor score or a fail mark in English proficiency tests.* †	60
28	I have to study English because I don't want to get bad marks in it at university.	I have to study English because I don't want to get bad marks in it at university.* †	23

Table F1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
42	It will be hard to get a good job in the future if I cannot speak English.		
55	I have to study English; otherwise, I am unlikely to be successful in my future career.	I have to study English; otherwise, I think I cannot be successful in my future career.* †	36
8	I have to learn English because without passing my English courses I cannot graduate.	I have to learn English because without passing the English course I cannot graduate.*	10

Note. *Items used in this project (n = 38) to confirm the structural equation model from Taguchi et al. (2009). †Items from Taguchi et al. that loaded on the SEM trait in their model. [a]Item from Taguchi et al. (2009) originally in Ought-to L2 Self. [b]Non-loading item in Taguchi et al. (2009), Ought-to L2 Self. [c]Item eliminated from this project on advice of Japanese reviewers of survey instrument. [d]Item eliminated following pilot study of the instrument for this study.

APPENDIX G

JAPANESE WORDING FOR CONSTRUCTS AND ITEMS FOR THIS PROJECT AND THOSE FROM TAGUCHI ET AL. (2009)

Table G1. *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

Construct and items for this study		Construct and items for Taguchi et al.	
#	*Intention to Learn English (IL)*	*Criterion Measures*	#
6	私は英語を練習する機会をより多く持ちたい。	自分は英語の勉強をがんばっていると思う。*	41
17	外国から来た人々と英語でコミュニケーションをとることができるようになりたい。		
18	もし可能ならば、将来外国で英語を勉強したい。		
37	私は標準的な英語のテスト（TOEICや英検など）のスコアを上げるためにより一生懸命勉強するつもりだ。	英語を一生懸命勉強している。*†	17
43	私は英語がじょうずになることを目指している。	英語の勉強に努力を惜しまない。*†	28
47	もし外国人が私が働いているところへ来たら、私は彼らと英語を使って話してみるつもりだ。		
58	私は機会があれば、大学でも、会話学校でも、また将来務める会社でも英語の授業があればとるつもりだ。	今後さらに大学やその他の所で英語の授業があれば、受講したい。*†	4
62	私は英語のテレビ番組や映画を見るための自由時間をより多く持ちたい。		
	Ideal L2 Self (IS)	*Ideal L2 Self*	
12	私は外国に住んで日常生活で英語を使っている自分を想像できる。	外国に住み、英語で討論している自分を想像できる。*†	8
15	私は自分が外国人と英語で話をしている状況を想像できる。	自分が外国人と英語で話をしている状況を想像できる。*†	20
34	英語を勉強すれば、わたしは国際人になれる。		
36	私は英語が 話せるようになっている自分を想像する。	英語が 話せるようになっている自分を想像する。*†	33
40	私が英語の知識を持つことは、より広い視野を身につけることを助けてくれる。		
51	私は英語が上手になるにつれて、ますます自己充実感が増す。		

Table G1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
53	将来の仕事について考えるとき、自分が英語を使うことができるようになっていることを想像する。	将来の仕事について考えるときはいつも英語を使っている自分を想像する。*†	58
54	英語は自分の一部であると感じる。	将来自分のしたいことをするためには、英語が必要となる。*	66
	Ought-to Self (OS)	*Ought-to L2 Self*	
7	日本人が英語を出来ないと、将来日本が生き残るのは難しい。		
9	英語の能力は国際的な意識を持った人になるために重要である。		
14	英語は国際語なので、英語を学ぶことが必要である。		
22	全ての日本人にとって英語を勉強することは重要である。		
27	私は英語がうまく使えないと思われたくない。		
38	私が英語を勉強することを周りの人々が期待しているので、英語の勉強が必要だという気になる。	私が英語を勉強することを周りの人々が期待しているので、英語の勉強は必要だ。*†	38
45	教養がある人になるためには英語が話せるべきである。		
48	私が英語の勉強をするのは、私の周りの人が英語の勉強が大切だと思っているからだ。	親しい友人が英語の勉強は大切だと思っているので、英語の勉強をする。*†	13
50	英語の知識は大学生にとっては大変重要なものである。		
	Influence of Significant Others (ISO)[e]	*Parental Encouragement/Family Influence*	
4	親しい友人が英語は重要だと言ったので私は英語を勉強している。	私が英語を勉強することを周りの人々が期待しているので、英語の勉強は必要だ。[b]	38
10	私の尊敬する先生が私に英語を一生懸命勉強することを勧めてくれた。		
16	私の友人の中には英語が上手な人がいるので、私も上手になりたい。		
19	親が私が英語の勉強をすることをすすめている。	親が英語の勉強をすすめている。*†	2
		時間があるときには英語の勉強をするように、と親はすすめている。*†[c]	29
26	教養のある人間になるためには英語を勉強しなければならないと、親は強く思っている	英語の勉強をして教養のある人間にならなければいけないと、親は強く思っている。*†[a]	62

Table G1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
33	私の友人の多くが英語を話せることは重要であると言っている。		
41	両親が私に英語を訳させる事がある。	親は私に、あらゆる機会を利用して英語を読んだり話したりするなど、英語を使うようにすすめている。*†	14
59	私の身近な人々が、英語は不可欠なスキルなので英語を話せるようになることが必要だと言っている。		
60	親は私に、授業の後さらに英会話学校等で英語を勉強するようにすすめている。	親は私に、授業の後さらに英会話学校等で英語を勉強するようにすすめている。*†	40
	Attitudes Toward Learning English (L2E)	*Attitudes Toward Learning English*	
3	英語を学習することは私の視野を広げる。		
5	英語を勉強するのはとても面白い。	英語を勉強するのはとても面白い。*†	24
23	英語の授業の雰囲気が好きだ。	英語の授業の雰囲気が好きだ。*†	12
25	英語の授業は刺激的だ。		
30	英語の授業は非常に役に立つと思う。		
35	英語の授業をいつも楽しみにしている。	英語の授業をいつも楽しみにしている。*†	37
39	英語を学ぶことは本当に楽しい。	英語を学ぶのは本当に楽しい。*†	61
X	I get nervous when I am speaking in English class.		
	Attitudes Toward English Language and Culture (AL2)	*Cultural Interest/Attitudes Toward L2 Community*	
1	自分の能力にあった英語のテレビ番組や映画を見るのは楽しい。	英語の映画は好きですか?*†	46
		英語圏で作られたテレビ番組は好きですか？*†[c]	52
11	英語圏の国を旅行することは楽しい。	英語圏へ旅行するのは好きですか?*†	44
21	英語は私に世界中の文化に触れることを可能にしてくれる。	英語圏に住んでいる人々が好きですか?*†	47
31	私は英語が話されている国から来た人々と知り合いになりたい。	英語圏の人々についてもっと知りたいですか?*	53
32	自分の能力にあった英語の雑誌や新聞や本を読むのが好きだ。	英語の雑誌や、新聞、あるいは本は好きですか?*	49
44	英語が話されている国の歌（ポピュラー音楽など）を聞くのが楽しい。	ポップミュージックなどの英語圏の音楽は好きですか？*	43
52	私は外国から来た人と英語で話すのが好きだ。	英語圏の人々と知り合いになりたいですか？*†	50

Table G1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

Construct and items for this study		Construct and items for Taguchi et al.	
	Instrumentality–Promotion	*Instrumentality–Promotion*	
13	英語を勉強しておくと、いつか良い仕事を得るために役立つと思うので、英語の勉強は大切である	英語を勉強しておくといつか良い仕事を得るために役立つと思うので、英語の勉強は大切だ。* †	6
20	今後さらに自分の専門について勉強をしていくためには英語が必要になると思うので､英語の勉強は大切だ。	今後さらに自分の専門について勉強をしていくためには英語が必要になると思うので､英語の勉強は大切だ。* †	55
24	外国でボランティアの仕事をしたいので、私にとって英語の勉強は重要だ。		
46	英語を勉強することで、私は、標準化された英語のテストで良いスコアを取ることができる。		
56	海外旅行をしたいので、英語の勉強は大切である。	勉強や仕事等で海外に長期間滞在したいと思っているので､英語を勉強しておくのは大切だ。*	31
57	英語を知らなければ海外を旅行をすることができないので、英語の勉強は大切である。		
61	英語圏の国へ旅行するには英語力が必要だ。		
63	英語ができれば国際的に働くことができるので、英語の勉強は大切だ。	英語ができれば国際的に働くことができるので、英語の勉強は大切だ。.* †	64
29	外国で勉強をしたいので、私にとって英語の勉強は重要だ。		
		将来昇進のために英語力は必要となるので英語の勉強は大切だ。*	18
	Instrumentality–Prevention	*Instrumentality–Prevention*	
2	英語ができないと、学力の低い学生と思われるので英語の勉強は大切だ。	英語ができないと､出来の悪い学生と恩われるので英語の勉強は大切だ。* †	67
49	英語の能力試験で低い点数を取ったり不合格になりたくないので英語の勉強は必要だ。	英語の資格試験で低い点数を取ったり不合格になりたくないので英語の勉強は必要だ。* †	60
28	大学の英語で悪い成績を取りたくないので、英語の勉強をしなければならない。	大学の英語で悪い成績を取りたくないので､英語の勉強をしなければならない。* †	23
42	もし英語を勉強しなければ、将来良い仕事を得ることが難しくなる。		

Table G1 (Continued). *English Text of Motivational Survey Items by Construct for this Study and Items in the Final Model for Taguchi et al. (2009)*

	Construct and items for this study	Construct and items for Taguchi et al.	
55	私は英語を勉強する必要がある。しなかったならば、将来仕事で成功することが難しくなる。	英語の勉強をしなければいけない。そうしなければ、将来仕事で成功できないと思う。* †	36
8	英語の単位をとらないと卒業ができないので、英語の勉強をしなければならない。	英語の単位をとらないと卒業ができないのじ、英語の勉強をしなければならない。*	10

Note. *Items used in this project (n = 38) to confirm the structural equation model from Taguchi et al. (2009). †Items from Taguchi et al. that loaded on the SEM trait in their model. [a]Item from Taguchi et al. (2009) originally in Ought-to L2 Self. [b]Non-loading item in Taguchi et al. (2009), Ought-to L2 Self. [c]Item eliminated from this project on advice of Japanese reviewers of survey instrument. [d]Item eliminated following pilot study of the instrument for this study.

APPENDIX H

INFORMED CONSENT FORM, ENGLISH VERSION

Principal Investigator: Brad Visgatis Date:
Project Title: Time out-of-class devoted to English

Participant Informed Consent Form (English Version)
Project title: Time out-of-class devoted to English
2011, Month, Day

This research project is investigating Time out-of-class devoted to English by Japanese university students. Participation in this study is voluntary. There is not direct benefit or demerit to participating in this study. Even if you decline to participate, there will be no influence on the course you are taking. Only the principal investigator, the course instructor, and relevant supervisory committees will have access to the raw data. All data from participants in the survey will be strictly monitored to ensure participants' privacy.

If you have any questions, please ask the Principal Investigator or the Supervisor before signing this consent form.

Principal Investigator:	Brad Visgatis	visgatis@oiu.jp
Supervisor/Instructor	Name of Site/course Supervisor/Instructor	e-address

Confidentiality: Every effort will be made to maintain the privacy of your data. After collection of the surveys and activity logs, they will be given or sent to the Principal Investigator, who will maintain the privacy of the survey data collected, monitor data entry and conduct analyses. No release of data collected from the survey will identify individual participants in the survey. Other than the research team, only regulatory agencies may see your individual data as part of routine audits.

Authorization: I have read this paper about the study or it was read to me. I know the possible risks and benefits. I know that being in this study is voluntary. I choose to be in this study. I know that I can withdraw at any time. I have received, on the date signed, this document and am returning the lower portion to the researcher.

Study Participant (kanji) _____ Date _____

Name (Roman alphabet) Signature _____

Return this portion to your course instructor. Return this portion to your course instructor

Authorization: I have read this paper about the study or it was read to me. I know the possible risks and benefits. I know that being in this study is voluntary. I choose to be in this study. I know that I can withdraw at any time. I have received, on the date signed, this document and am returning the lower portion to the researcher.

Study Participant (kanji) _____ Date _____

Name: _____

(Please write your name in alphabet).

Name (Roman alphabet) Signature _____

Principal Investigator: Brad Visgatis Date:
Project title: Time out-of-class devoted to English

Figure F1. English translation of informed consent form for this project.

Note. This informed consent form follows the guidelines for human research established by the Site 2 Research Committee (equivalent to a human research committee).

APPENDIX I

CODE BOOK FOR EATUS EPISODE DESCRIPTIONS

4-Skills

- Listening
  This code is used for instances where students do listening practice or watch TV, videos, or movies. Keywords: listen, watch (TV, movies, etc.) [The keyword is the word family, so it also includes related forms. In addition, synonymous forms are also included.]
- Reading
  This is used to code instances of students reading books, magazines, newspapers, etc. Keywords: read
- Speaking
  This code is used in instances where students are engaged in speaking or other similar activities where they use their voice to communicate with others. This includes such things as Skyping with others, taking orders at a restaurant (from foreign customers), or singing together with other students. Speaking also encompasses listening as part of the interactional process. This code is also used for instances where students practice presentation techniques. Keywords: English conversation, hang out with, sing
- Writing
  This code is used for writing practice. It covers writing such things as essays, news reports, and journals. It also includes various types of project work, such as preparing translations, creating menus, or drawing posters, etc. Keywords: write, journal

Interaction

- Club
  This is used to code for club activities that relate to English, such as ESS or GLEE clubs.
  Keywords: glee
- Contest
  This is used to code for activities related to contests, such as speech, drama, essay, presentation, etc. This code might be used for participating in or preparing for as a contestant or watching a contest as a member of the audience.
  Keywords: contest
- Converse
  This codes instances where students interact with others in general. It includes such things as singing together or practicing dialogues together.
  Keywords: chat, talk, conversation with
- Interview
  This is used for marking instances where students interview other people. The presumption is that they are using English for the interaction.
  Keywords: interview

- Support
  This codes for instances of taking orders from foreign customers or giving support to foreign customers at a part-time job.
  Keywords: support
- Teaching
  This codes for instances of working as a tutor at a *juku* (cram school), or working as a conversation partner or English assistant
  Keywords: tutor, *juku*, assistant, teach

International

- Culture
  This codes for instances of consuming English-language media products, such as movies, music, newspapers, television programs, etc. This code is indicative of "international posture."
  Keywords: western, overseas, English
- Foreigners (Interaction with people from other countries in English)
  This code indicates instances where students interacted with people from other countries in English, such as through their part-time job, Skype, or during school activities. (Labeled "Foreigners" for brevity and clarity.)
  Keywords: foreigner, non-Japanese, friend from

License

- EIKEN
  This is used to code instances of studying for the STEP test.
  Keywords: Eiken
- TOEFL
  This is used to code for instances where students study for or take the TOEFL.
  Keywords: TOEFL
- TOEIC
  This is used for instances where students study for or take the TOEIC.
  Keywords: TOEIC

Media and Technology

- Application
  This code is used for instances where the student used a special program for studying English, such as programs for the iPad or iPod. It does not include Skype.
  Keywords: application, Word, computer, type
- Internet
  This codes for instances where students use the Internet for gathering information or accessing media. It is not used for Skype or for other stand alone programs, such as certain games, MS Word, etc.
  Keywords: Internet, Web
- Music
  This code is used for instances where students listen to western, overseas, or English music.
  Keywords: music, CD

- News
  This codes instances where students access the news (read, listen to, search for) and possibly prepare a news report as for a class activity.
  Keywords: news, newspaper
- Radio
  This codes for instances of listening to the radio programs (not music) or studying English by using the radio.
  Keywords: radio
- Skype
  This codes for instances where students Skype with others.
  Keywords: Skype
- Video
  This is used for instances of using DVDs, video, or TV to view movies or programs. This is also used for instances of watching movies in theaters.
  Keywords: drama, movies, TV

Student

- Course
  This is used for instances when the activity mentions a specific course.
  Keywords: [course names], discussion, grammar, listening, phonetics, reading, writing
- Homework
  This is used for coding instances marked specifically as homework.
  Keywords: homework, assignment
- Prepare
  This refers to the action of studying for a purpose rather than a focus on studying of some specific content. The purpose here is generally the name of a course. The target is to prepare for some future event, such as the next class session. In Japanese the most common vocabulary item to trigger this code is "yoshuu" (preparation), but it can also include "research."
  Keywords: prepare, practice
- Review
  This is similar to the code prepare in that is focuses on the purpose rather than the content. Here, again, the purpose is generally the name of a course. The target is to consolidate something previously studied, such as the content of a previous class session. The most common trigger item in Japanese was "*fukushuu*" (review).
  Keywords: review
- Study
  This is a general type of code for studying something or studying about something. This code focuses on the activity of learning and not on a specific reference to a course or a particular purpose. It includes such verbs as "study," "learn, " and "memorize." It also encompass the object of study, such as "vocabulary" (studied vocabulary) or "grammar" (learned grammar).
  Keywords: study, learn, memorize

- Test
  This is used to code for instances where the student specifically mentions a school test, quiz, or exam. It is not used for licensing exams (Eiken, TOEIC, TOEFL).
  Keywords: test, quiz, exam

Support Skills

- Grammar
  This marks instances where the student mentions grammar or grammatical points.
  Keywords: grammar
- Pronunciation
  This marks instances where the student mentions phonetics or pronunciation.
  Keywords: pronunciation, phonetics
- Vocabulary
  This codes for instances where students mention studying or practicing vocabulary.
  Keywords: vocabulary, word cards

APPENDIX J

INSTRUCTIONS FOR TEACHERS

DATE

Dear teacher

First, thank you for cooperating in this data collection. It will help us understand the out-of-class time use devoted to English by Japanese university students and possible links to motivation.

There are three sheets that need to be distributed to the students. These are:

1. **Participant Information and Instruction Form** (in English & Japanese). This is information for them to keep about the project.
2. **Motivational Survey** (in Japanese). This is a survey to be done in class and collected.
3. **Time Use Record Sheet** (in Japanese). This is a form that students take home and record all of the out-of-class time related to English over a 1-week period.

- Give out all three sheets.
- Please have students read the **Participant Information and Instruction Form**. They should keep this form for their records.
- Then, have students write a unique data number on the **Motivation Survey** and **Time Use Record Sheet**. It is important to have the same number on both forms so that the data can be linked. (A suggestion for this number is provided on the forms.)
- Have students complete the **Motivation Survey** in class. It should only take about 10 to 15 minutes. (Note: Please make sure students understand Question #64: It asks for the total number of English-*related* classes each week—not just the class you are supervising.) Collect the surveys when the students have completed them.
- Finally, ask the students to keep a 7-day (1-week) record of their out-of-class English related time use on the **Time Use Record Sheet** and to turn it in one week later (i.e., at the following class session). Entries on the **Time Use Record Sheet** should be made daily on the day the English contact occurred (e.g., in the evening). On the form, please ask them to make a short memo about all the English language use that they do, for any reason, outside of class. There are examples on the data collection form for the students. Have students turn in this form the following week. (Note: please do not administer this during a week where there is a holiday—that will skew the data.) If any students forget to bring their **Time Use Record Sheets**, please remind them to turn them at the next class session.
- Please put the completed **Motivational Surveys** and **Time Use Record Sheets** in the return postage envelope provided and return them to me at your convenience.

If you need additional sheets or envelopes, please let me know.
If you have any questions, please do not hesitate to ask.

Thank you,
Brad Visgatis