THE IMPACT OF COMMUNICATION PARTNER VARIABLES ON SUPPORTED CONVERSATION FOR ADULTS WITH APHASIA

A Dissertation by

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DEDICATION

To Gale and LoAnn Sechtem who taught me the values and rewards of hard work and perseverance and to my wife Josefina for her nonstop love, support, and prayers. To Clyde Ham for his life-saving friendship. I could not have accomplished this milestone without the gift of your lives!

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ABSTRACT

The purpose of this study was to examine the influence of three communication partner variables on conversational effectiveness including: (a) interpersonal cognitive complexity, (b) partner perceptions of communicative effectiveness of spouses/close relatives with aphasia, and (c) partner perceptions about the quality of their relationship with their spouses/close relatives with aphasia. Ten dyads (one person with aphasia and their communication partner) participated in this study. The communication partners were trained to use conversation strategies based on Kagan's (1999) supported conversation protocol. Pre- and post-training 10-minute conversations were videotaped and analyzed using adapted versions of Kagan's supported conversation scales. Scores obtained from these scales were compared to scores obtained from scales indexing the partner variables of interest. Results showed scores on supported conversation measures to be significantly improved ($p < .05$) after training (Kagan et al., 2004). Interpersonal cognitive complexity did not correlate significantly with the conversational effectiveness of trained partners; however, there was a significant correlation with the conversational effectiveness of persons with aphasia. Partner perceptions of communicative effectiveness of persons with aphasia were significantly inversely correlated with their own measure of conversational effectiveness; but not with the conversational effectiveness of persons with aphasia. Partner perceptions of the quality of his or her marital/close relative relationship did not significantly correlate with the conversational effectiveness of either conversation partner. Results indicate that both interpersonal cognitive complexity and partner perceptions of the communicative effectiveness of their spouse/relative with aphasia share a relationship with conversational effectiveness. A non-significant relationship was found between mutuality and conversational effectiveness and there was little if any relationship among the three partner variables of interest.

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SLP	Speech-Language Pathologist
RCQ	Role Category Questionnaire
CaCOAST	Carer Communication Outcome after Stroke Scale
WAB-R	Western Aphasia Battery-Revised
MtS	Mutuality Scale
SCA™	Supported Conversation for Adults with Aphasia™
WSU	Wichita State University
FHSU	Fort Hays State University
IRB	Institutional Review Board
CP	Communication Partner
PWA	Person with Aphasia
CLQT	Cognitive Linguistic Quick Test
MSC	Measure of Skill in Conversation Scale
MPC	Measure of Skill in Participation Scale
HZ	Hertz
AC	Acknowledge Competence
RC	Reveal Competence

CHAPTER 1

INTRODUCTION

According to the National Stroke Association, more than 795,000 strokes occur in the United States each year. Strokes are the leading cause of adult disabilities. Currently there are approximately six million stroke survivors who reside in the United States and of those, more than a million live with aphasia (National Aphasia Association, 2009; National Institute on Deafness and Other Communication Disorders, 2008; National Stroke Association, 2010).

Aphasia is defined as a language disorder caused by brain injury or stroke. The condition stifles listening, reading, writing, and speaking skills and creates a language barrier between persons with aphasia and others. Persons with aphasia cannot fully express what they think, feel, and know via typical processes and channels. Reduced expression creates a false impression that persons with aphasia are not intelligent and cannot be trusted to make important decisions. Aphasia masks residual cognition and conceals inner competence in persons with this condition (Kagan, 1995).

Aphasia is detrimental to communication. This is significant because it is by way of communication that individuals socialize, experience culture, establish relationships, and organize themselves within communities (Miller, 2005). Furthermore, communication permits the acquisition and dissemination of knowledge and it is instrumental in self-development and the conveyance of one's identity (Shadden, 2005). Because of faulty communication and the role communication needs to play in human life, onset of aphasia typically leads to isolation, depression, and withdrawal.

Communicative consequences of aphasia impact stroke survivors as well as their family and friends. These consequences can extend into society as a whole. The inability to

communicate effectively and demonstrate competence secondarily leads to altered socializing and connectedness, altered life participation, and altered life satisfaction. These consequences often erode psychosocial, physical, mental, and emotional health as well (Kagan, Simmons-Mackie, Rowland, Huijbregts, Shumway, McEwen, Threats, & Sharp, 2008). Given these negative consequences of aphasia, it is important to assist persons with aphasia and their family and friends to minimize the degree of difficulties incurred.

Historically, aphasia treatment has been medically-based and impairment-centered (DiLollo & Favreau, 2010; Holland & Forbes, 1993; Hughes, Bamford, & May, 2008). Persons with aphasia who experience impairment-based treatment are examined, diagnosed, and assigned a treatment regimen to follow. The primary goal in impairment-based treatment is to restore language skills in the modalities of listening, speaking, reading and writing. With progress, attempts are made to generalize improved or restored functions beyond treatment. Research has shown that impairment-based treatment tends to be slow at restoring impaired language skills and there is often a less than desired amount of progress (Robey, 1998). Small gains achieved slowly have been known to lead to isolation, depression, poor self-esteem, and decreased life satisfaction. Prolonged illness coupled with the challenges and difficulties of aphasia have also been shown to impact family and friends in similar ways (Thompson, Galbraith, Thomas, Swan, & Vrungos, 2002; Zraick & Boone, 1991).

In contrast to impairment-based treatment, person-centered treatment centers around individually relevant and more socially-based activities (DiLollo & Favreau, 2010; Holland & Forbes, 1993; Hughes, Bamford, & May, 2008; Kagan et al., 2008; Simmons-Mackie, 2008). Goals address individualized needs and desires of persons with aphasia. Outcomes are sought according to what is most appropriate, functional, and sensible for persons with aphasia and their

family and friends. The fundamental difference between impairment-based and person-centered treatments is the restoration of language skills and generalizing them to various contexts and situations, versus maneuvering around or removing obstacles that interfere with life and getting persons with aphasia back into the social arena as quickly as possible. Emphasis in person-centered treatment is placed on getting persons with aphasia out socializing and participating in meaningful interactions despite the continually present language deficits. As a bonus, emphasizing goals related to social connectedness and life participation tends to reduce the negative health and psychosocial consequences of aphasia. Restoring communication is the key factor in recovery and the key to regaining a satisfying and meaningful life. Thus, person-centered treatment is in line with improving the human condition in the face of adversity created by aphasia (Pound, Parr, Lindsay, & Woolf, 2000).

Person-centered aphasia treatments emphasizing social activities (i.e., conversation groups, aphasia book clubs, identity groups, and communication partner training) have been shown to be effective (Bernstein-Ellis & Elman, 2006; Chapey, Duchan, Elman, Garcia, Kagan, Lyon, Simmons-Mackie, 2008; Elman & Bernstein-Ellis, 1999; Holland & Forbes, 1993; Kagan, 1995; Kagan & Gailey, 1993; Kagan & Simmons-Mackie, 2007; Lyon, Cariski, Keisler, Rosenbek, Levine, Kumpula, Ryff, Coyne, & Blanc, 1997; Shadden & Agan, 2004; Simmons-Mackie, 2008). Person-centered aphasia treatment also has been found to be effective when applied at various levels of care in homes, hospitals, and long-term care facilities and among various types of care providers including family members, paid assistants, volunteers, health care professionals, and first responders (Simmons-Mackie & King, 2011). However, while outcomes have been relatively positive with socially-based, person-centered treatment, more needs to be known.

"The most prevalent form of socially-based intervention in the aphasia literature is communication partner training" (Simmons-Mackie, Anastasia, Armstrong, Holland, & Cherney, 2010, p. 1814). Persons with aphasia who interact with trained communication partners generally communicate more effectively during interactions in terms of demonstrating competence, imparting and understanding details of information, turn-taking rate and flow, and overall participation within the conversations (Alarcon & Rogers, 2007; Booth & Swabey, 1999; Legg, Young, & Bryer, 2005; Marshall, 1998; Rayner & Marshall, 2003; Simmons-Mackie et al., 2010; Turner & Whitworth, 2006b). In general communication partner training consists of: (1) educating and training non-aphasic communication partners about aphasia and its consequences, (2) showing communication partners how to help persons with aphasia maximize their communicative skills, potential, and competence, (3) having communication partners engage in role-plays to practice and refine newly learned aspects of communicating with persons with aphasia, and (4) conducting progress monitoring activities of their implementation of new communicative skills (Kagan & Gailey, 1993; Lyon et al., 1997; Simmons-Mackie, 1998).

Communication partner training varies widely throughout the literature (Simmons-Mackie et al., 2010). Partner training has varied based on: (1) group versus individual training, (2) training communication partners and/or training both the communication partners and the persons with aphasia, (3) training familiar versus unfamiliar communication partners, (4) training in different venues and contexts, (5) training content and formats, (6) training outcomes and outcome measures, and (7) training duration and the number of sessions needed (Simmons-Mackie et al., 2010). In addition, the demographics of study participants have varied widely. These variables have included: (1) levels of education, (2) occupations, (3) aphasia onset and duration, (4) types and severities of aphasia, (5) prior types and durations of rehabilitation

services, and (6) the length and quality of relationships between partners (Simmons-Mackie et al., 2010). Variability across studies is concerning because it is difficult to determine the aspects of training or the participants that facilitate the success of partner training.

One type of communication partner training is known as *Supported Conversation for Adults with Aphasia (SCA™)* (Kagan, 1999). SCA™ involves the training of non-aphasic communication partners to improve interactions between them and persons with aphasia. Persons with aphasia do not receive training as it is solely provided to the communication partners. Once trained, communication partners use items to help persons with aphasia demonstrate their competence via conversation. Items (communication supports) can include pictures, alphabet boards, newspapers, magazines, and maps. Nonverbal supports can also be used such as gestures and tone of voice.

Further research is needed to uncover underlying reasons for communicative outcomes and their influence upon supported conversations. The purpose of this study was to look carefully at the communication partners who are trained and some variables about them that may influence conversation outcomes. Analyzing communication partner variables makes sense because as Simmons-Mackie and Kagan (1999) stated, "If training of speaking partners is included in the management of aphasia, it is imperative that we gain a better understanding of what constitutes 'good' versus 'poor' speaking partners" (p. 807).

There are distinct perspectives and views of what constitutes good versus not so good communication partners (Turner &Whitworth, 2006a; Simmons-Mackie & Kagan, 1999). Some have argued that communication partners need to have good listening skills and eye contact along with being sincere and patient. While worthy and important, these types of behaviors and attributes are easily identified within interactions but they do not address the underlying make-up

of the communication partners themselves. They do not delve into the origin of these behaviors and attributes possessed by the communication partners. Yet it is this knowledge about communication partners at this deeper level that can help shed light on reasons why some partners are more effective than others.

In this current study, one communication partner variable analyzed was cognitive complexity. "Cognitive complexity is an individual-difference variable associated with a broad range of communication skills and related abilities" (Burleson & Caplan, 1998, p. 233). "A cognitive system composed of a comparatively large number of finely articulated, abstract, and well-integrated elements is regarded as relatively complex" (Burleson & Caplan, 1998, p. 233). Because cognitive complexity is highly associated with communication processes, it is not unreasonable to assume that communication partners high in interpersonal cognitive complexity may be better suited to conduct effective supported conversations because they will be able to adapt accordingly to the communicative styles of persons with aphasia. They should also be able to better adjust their own communicative skills and behaviors to help persons with aphasia participate more fully in conversations. The impact of cognitive complexity on the effectiveness of supported conversations has not been explored. Therefore this is an important question regarding the effectiveness of partner training.

Another variable analyzed for this study was the communication partners' perception about the communicative effectiveness of their spouse or relative with aphasia. Perceptions of this nature are important to consider because they may ultimately influence the effectiveness of conversations. Research has shown that respondents have rated auditory samples and written descriptions of persons with various types of speech and language problems less favorably than persons without disorders. In a study conducted by Allard and Williams (2008), 450 students

from a university in Florida rating sound clips of various types of communication disorders, rated a person with Wernicke's aphasia using predominantly negative personality traits. The negative personality traits included lower decisiveness, lower reliability, lower self-esteem, lower social adjustment, and high stress.

As a part of communicative effectiveness, perceptions of communication partners also may be influenced by the degree of conversational participation engaged in by persons with aphasia (Comrie, Mackenzie, & McCall, 2001; Croteau, Le Dorze, & Baril, 2007; Kennedy, Strand, Burton, & Perterson, 1994; Oelschlaeger & Damico, 1998; Perkins, 1995). In most instances, communication disorders such as aphasia often force persons with aphasia to reduce the amount of conversational contributions impressing upon their communication partners a lack of participation or effectiveness (Comrie et al., 2001). The lack of participation, real or perceived, may result in communication partners putting forth more effort, time, and conversational contributions in order to help ensure more effective conversation outcomes. More communicative effort over the long run may become quite burdensome and frustrating and create negative feelings with subsequent decreased motivation to interact. This may be a concern because to enhance conversational contributions, a primary objective of training communication partners for supported conversations is helping partners equalize conversational contributions (Kagan, 1999). Thus, the perceptions of communication partners about the communicative effectiveness of spouses or relatives with aphasia need to be investigated as they may influence conversation outcomes. For example, it could be that the more favorable the partners' perceptions, the more they may relate to effective conversations; however, the opposite scenario may also be possible.

The remaining communication partner variable analyzed in this study was mutuality (Archbold, Stewart, Greenlick, & Harvath, 1990). Mutuality encompasses spousal perceptions of the closeness of their relationship when one spouse is a caregiver of the other. This perception is an important variable because relationships between persons with aphasia and their spouses undergo significant changes post-onset due to physical, psychosocial, affective, or cognitive disabilities which can influence spouse perceptions of the quality of their relationships (Lyons, Sayer, Archbold, Hornbrook, & Stewart, 2007; Lyons, Stewart, Archbold, & Carter, 2009; Ostwald, Godwin, & Cron, 2009).

The potential association between mutuality and conversation effectiveness has not been investigated in the aphasia literature and therefore an investigation of this nature is warranted. Given that mutuality fluctuates depending on the presence and status of various health related issues such as aphasia, psychosocial status and perceptions of quality of life, it seems logical that communication partners' level of mutuality may impact the effectiveness of conversations of persons with aphasia. For example, it is not known if communication partners with higher mutuality: (1) feel more encouraged to participate in and conduct conversations due to more positive attitudes about the relationship and their spouse, (2) have a more positive attitude during training and develop more enhanced conversation skills, and (3) take the premises of supported conversation more seriously than a communication partner with low mutuality.

Supported conversations conducted by trained communication partners have been shown to be effective in helping persons with aphasia demonstrate their competence (Alarcon & Rogers, 2007; Kagan, 1999; Simmons-Mackie et al., 2010). However, data are lacking regarding the influence of key communication partner variables on the effectiveness of supported conversation (Simmons-Mackie et al., 2010). The purpose of this study was to learn more about the impact of

communication partner variables on the effectiveness of supported conversations with spouses or close relatives with aphasia. The key communication partner variables investigated were (1) interpersonal cognitive complexity, (2) partner perceptions of communicative effectiveness of their spouse or relative with aphasia, and (3) partner perceptions of the quality or positiveness of their relationship (i.e., mutuality) with their spouse or relative with aphasia. Findings of this study will increase understanding about communication partners trained in the use of supported conversation for adults with aphasia and potentially lead to conclusions that may be clinically and professionally relevant.

CHAPTER 2

LITERATURE REVIEW

Consequences of Aphasia

Cerebrovascular accidents (i.e., strokes) that damage the left language-dominant hemisphere lead to aphasia (Ward, 2010). Aphasia is a language disorder characterized by impaired receptive and expressive language modalities; listening, reading, writing, and speaking. It varies among individuals in type and severity and it is often irreversible (Brookshire, 2007; Chapey, 2008; Davis, 2007; LaPointe, Murdoch, & Stierwalt, 2010; Lyon, 2000; Worrall & Frattali, 2000). Aphasia is generally most severe in the acute and subacute phases but with time, some degree of recovery usually occurs (Brookshire, 2007).

With the onset of aphasia, language processes, functions, and skills that were once used effortlessly become challenged. Even the simplest and most routine language task can be diminished. While compensatory strategies and coping mechanisms help persons with aphasia get by, communication remains burdensome and frustrating. As they accumulate, unsuccessful interactions decrease life participation, psychosocial status, and quality of life (Simmons-Mackie & King, 2011). Thus, by diminishing functional language abilities, aphasia has a broad impact on communication.

The importance of human communication cannot be overstated. Through communication, people experience, form impressions about, and make sense of the people, places, and things around them. Accordingly, communication through channels and mediums allow people to be socially connected and establish their places within communities, cultures, and the world. Communication facilitates the accumulation and transfer of knowledge, the expression and interpretation of messages and the behaviors of others, and when in use, it reflects what we know

about pragmatic cultural rules during interactions (Miller, 2005). Aphasia disrupts the ability to communicate leading to detrimental consequences. These consequences include reduced social connectedness, reduced social access and life participation, and reduced ability to demonstrate one's true self. Aphasia reduces the ability to demonstrate communicative effectiveness because of language deficits. These consequences, along with so many others, are the harsh realities experienced and endured by persons with aphasia (Kagan, 1998b).

Faulty language use and altered communicative ability impose significant stresses and strains on spouses, relatives, and friends (Le Dorze & Brassard, 1995). Aphasia brings with it changes in the perceptions of marital relationships and changes in family member roles and dynamics. Stress can build and lead to tensions and frustrations not experienced premorbidly. Persons with aphasia may have been the bread-winners prior to their stroke, but afterward, they could not return to the same job or they were forced to cease working altogether. As a consequence, the spouse or other family members may have been forced to generate household income. Once employed, the spouse or family members still had the added responsibilities of extra care-giving duties, helping the person with aphasia take care of themselves. Changes in perceptions, lifestyles, and roles have led to spouse/family relationship failure (Williams, 1993).

In terms of communication, spouses, partners, and other relatives will find that they need to modify their communicative styles, strategies, and techniques during interactions and assume more of the responsibility of achieving successful outcomes; message expression, comprehension, and accuracy. They will need to help the person with aphasia express what he or she thinks, feels, and knows and they will need to help him or her comprehend messages accurately. Persons with aphasia typically require increased patience and attention during caregiving activities and activities of daily living (ADLs). Examples include help comprehending

pill bottle instructions, help using the telephone, help scheduling and keeping appointments, and help paying bills.

On an individual level, persistent frustrations and limited communicative success may push persons with aphasia to become withdrawn and depressed due to the stigma they feel or that society places on them when they are unable to demonstrate their cognitive competencies. One example where negative perceptions may occur is when persons with aphasia interact with physicians. Research has shown that physicians, primarily concerned with giving and getting health related information, do not always take the time needed for a person with aphasia to get out messages involving those or other concerns (Bouchard-Lamothe, Bourassa, LaFlamme, Garcia, Gailey, & Stiell, 1999). Thus, persons with aphasia do not always receive the full attention of their physicians because of their decreased abilities to respond or initiate concerns of their own. Instances such as these may serve to fuel negative psychosocial status and further decreased quality of life.

On a more positive note, the more successful interactions and optimal outcomes, the more apt a person with aphasia will be to initiate and maintain an interaction while also building confidence. Some persons with aphasia remain alert and desire to communicate with those around them due to the basic human instinct of being socially connected (Chapey et al., 2008; Simmons-Mackie, 2008). Others are motivated by getting basic needs and desires met (i.e., adjusting the thermostat, adjusting the volume on the television or radio, or requesting more of the main course during meal times) or performing or requesting assistance with functional tasks associated with daily life (i.e., following recipes, signing greeting cards, or dialing a family member on the telephone), or socializing and being active participants in societal activities (i.e., engaging in small talk during family or church gatherings and initiating and participating in

conversations with friends or strangers (Brookshire, 2007). Knowing that successful outcomes lead to increase motivation for persons with aphasia, it makes sense that aphasia treatments should focus on similar goals. Specifically, goals could include initiating and participating in interactions, staying connected, and communicating what it thoughts, feelings, and knowledge when working with persons with aphasia and their spouses and other relatives.

Treatment

Over time, aphasia treatments have transitioned from impairment-based, to functionally-based, to socially-based approaches (Brookshire, 2007; Hillis, Worrall, & Thompson, 2008; Simmons-Mackie, 2000, 2008; Worrall & Frattali, 2000). The progression of approaches coincides with the International Classification of Functioning, Disability and Health (ICF) model (Ross & Wertz, 2005a; Simmons-Mackie & Kagan, 2007; World Health Organization, 2001). The model encompasses the overlapping domains of body structures and functions (e.g., the brain and language), activities (e.g., activities of daily living), and participation (e.g., social reintegration and person-centered outcomes) (Ross & Wertz, 2005b; Simmons-Mackie & Kagan, 2007; Threats, 2005; Threats & Worrall, 2004; Worrall, Sherratt, Rogers, Howe, Hersh, Ferguson, & Davidson, 2011). Along with these major components, the model also accounts for environmental and personal contextual factors that are essential for person-centered care. Environmental factors are externally-based items such as ambient noises, the distance between communication partners, conversational supports, or any other environmental attribute that may impact interactions. Personal contextual factors are internally-based traits, qualities, or characteristics such as age, onset and duration of the aphasia, level and type of education, past employment history, coping skills, or even hearing and visual status.

The ICF model provides a framework to conceptualize health or describe the impact of some condition on health such as aphasia. However, it is not specifically tailored to address living life with aphasia or the quality of life in the presence of aphasia (Kagan et al., 2008; Penn, 2005; Ross & Wertz, 2005b; Simmons-Mackie, Threats, & Kagan, 2005; Worrall & Cruice, 2005). This shortcoming was addressed by Kagan and colleagues (2008) as they developed the *Living with Aphasia: Framework for Outcome Measurement* (A-FROM) model (Kagan, 2011). Both the ICF and A-FROM models are mentioned here as they provide context to other aphasia treatments to be discussed as well as related factors. The A-FROM model reflects the ICF model; however, the A-FROM is geared specifically toward living life with aphasia and quality of life (Kagan et al., 2008; Simmons-Mackie & King, 2011).

Impairment-based treatment. Impairment-based treatments were among the first used and they continue to be used in conjunction with other treatment types (Martin, Thompson, & Worrall, 2008). Impairment-based treatments fit within the ICF model in the body structure and function area and within the A-FROM model in the language and related processing area. The primary focus of impairment-based treatments is to follow specific treatment regimens prescribed by clinicians for restorative purposes. The overall objective is for persons with aphasia to regain language and communicative abilities.

Impairment-based treatments are grounded within the medical model. That is, they follow the steps of completing the interview and examination, establishing a differential diagnosis, making a definitive diagnosis, and prescribing a treatment plan (Brookshire, 2007; DiLollo & Favreau, 2010; Holland & Forbes, 1993). Translated to aphasia services, the speech-language pathologist (SLP) conducts an interview and an evaluation, forms impressions about the problem, narrows down and diagnoses the problem, and develops treatment recommendations to

be followed by the client. Once established, persons with aphasia are typically instructed to complete a hierarchy of language exercises and drills. Over time, the SLP continues to monitor progress and recommends modifications as deemed necessary.

Impairment-based interventions are the least patient-centered and are highly task/drill oriented. They are grounded in the medical model because physicians and scientists were among the first to begin analyzing the intricacies and causes of aphasia. As physicians and scientists studied aphasia, they were concerned with the applicable body structures and their functions responsible for language impairments and they were interested in determining what could be done to help (Brookshire, 2007). As a result, impairment-based treatment has focused on patterns of language impairments and localizing areas of the brain that are malfunctioning. Focus is on restorative types of treatments to re-route or re-establish neuronal pathways and connections. According to Kleim and Jones (2008), these treatments reflect principles of neural plasticity and emphasize concepts such as, "use it or lose it," use it and improve it," "repetition matters," "time matters," "intensity matters," and "salience matters" (p. S227). An example of an impairment-based treatment is *Constraint-Induced Language Therapy* (CILT) (Pulvermuller, Neininger, Elbert, Mohr, Rockstroh, Koebbel, & Taub, 2001). This intervention tool targets restoring language and does not address other pertinent aspects of care. Unlike the ICF and A-FROM models, impairment-based treatments do not address all the other areas important for living with aphasia. Such areas include social participation, personal and environmental contextual factors, and identity.

Functionally-based treatment. Functionally-based approaches are less impairment-based as they are geared toward increasing self-reliance. Focus centers on training language skills needed for routines and other activities of daily living. This is in contrast with impairment-

based treatment (Chapey et al., 2008; Frattali, Holland, Thompson, Wohl, & Ferketic, 2003; Holland & Forbes, 1993; Holland, Halper, & Cherney, 2010; Simmons-Mackie, 2009; Worrall, 2000; Worrall & Frattali, 2000; Worrall, McCooey, Davidson, Larkins, & Hickson, 2002). Functionally-based treatments seek to bolster specific language skills used for everyday tasks within person-centered contexts; they often make use of compensatory strategies designed to get around impaired language skills during difficult tasks (Worrall, 2000). Use of compensatory strategies may include supports such as gestures, communication boards, drawings, or various types of augmentative alternative communication (AAC) devices (Peach, 2008). In addition to or in conjunction with compensatory strategies, clients may practice and overlearn personalized scripts that can be integrated in to routines and happenings across multiple settings and contexts (Holland et al., 2010). One example of an overlearned script would be ordering from a menu. Initially, direct training would be initiated within the clinic. After a period of time of the direct training and intervention, the next step and targeted outcome would be that the person with aphasia would be able to incorporate that particular script into the actual setting independently. Other scripts could also be trained for specific ADLs and generalized (Worrall & Frattali, 2000). One problem with functionally-based treatments are that they involve very specific and conscious actions that may not be implemented at the appropriate times resulting in inconsistent use, decreased effectiveness and decreased satisfaction (Kagan & Gailey, 1993). One reason for this may be that clinicians or family members choose targets that are not important for the person with aphasia (Kagan et al., 2008). Another problem with functionally-based treatments is that even if generalization occurs, increased use of communication may be inadequate due to decreased social access, inclusion, and participation (Simmons-Mackie, 2000). That is, even though a person with aphasia can use an overlearned script in one or two situations, that same

person has not been shown how to socialize and connect in novel ways. In terms of the ICF and A-FROM models, functionally-based treatments over emphasize functional language-based activities and under emphasize the other domains that should be addressed holistically when living with aphasia.

To learn more about aphasia rehabilitation effectiveness, Robey (1998) conducted a meta-analysis of aphasia treatments consisting of 55 articles. The meta-analysis centered on four main aspects of aphasia rehabilitation including the amount, duration, type of treatment strategies and techniques, and the severity level of aphasia. Robey concluded that in general, aphasia treatments are effective especially when compared to instances where treatment was not initiated. But, while Robey's conclusions were positive, others have reported more negative views of aphasia treatments such as poorer than desired language improvements, lack of significant generalization to everyday contexts, dissatisfaction with outcomes by persons with aphasia, clinicians, family members, and caregivers and increased occurrences of negative psychosocial well-being and decreased quality of life (Brookshire, 2007; Cherney, Halper, Holland, & Cole, 2008; Kagan et al., 2008). In contrast, Kempler and Goral (2011) as well as Allen, Mehta, McClure, and Teasell (2012) reported more favorable findings for more socially-based treatment that focus on person-centered goals and successful communication across settings despite the continued presence of aphasia.

Socially-based treatment. Socially-based treatments have gained momentum over the last few decades (Simmons-Mackie, 2000, 2008; Simmons-Mackie et al., 2010; Worrall, 2008). They have proliferated because clinicians, persons with aphasia, and family members, have realized their effectiveness in getting the person with aphasia back in the social arena. Quick returns to social connectedness and minimizing the consequences of aphasia have proven to be

valuable attainable goals despite the presence of aphasia. It is imperative for persons with aphasia to return to functional social participation as soon possible after aphasia onset to facilitate their wellbeing (Chapey et al., 2008). Persons with aphasia confirmed these notions in a qualitative study by Worrall et al., (2011) whereby they noted their desires to return to pre-stroke levels of communicative functioning; communicating basic needs as well as opinions, experiencing more autonomy, and receiving greater respect and dignity. Socially-based approaches are in line with these views as they seek to minimize barriers to communicative participation specifically by equalizing social relations, creating authentic involvement and engaging experiences, and establishing a sense of control, identity and accountability (Worrall, 2008).

Socially-based treatments are all about social access and inclusion, life participation, psychosocial wellness, life satisfaction and quality of life (Martin et al., 2008; Simmons-Mackie & King, 2011). They incorporate assessment and intervention activities from each domain of the ICF and A-FROM models depending on the needs, desires, and wishes of persons with aphasia and their family members. In addition, treatment plans and outcomes of socially-based approaches are guided by individual traits, characteristics, and choices of persons with aphasia and close others (Hughes et al., 2008; Simmons-Mackie & King, 2011; Sorin-Peters, 2003; Worrall et al., 2011). As a result, socially-based approaches are geared toward living successfully with aphasia. Brown, Worrall, Davidson, and Howe (2008) discovered from persons with aphasia and close others that living successfully with aphasia includes: (a) being able to complete meaningful and important activities that were done prior to the onset of aphasia independently, (b) receiving support and feeling a sense of acceptance from family and friends as well as others with aphasia (i.e., what might be found in an aphasia support group/center), and

(c) being positive about life in terms of recovery and progress made since the onset of aphasia (e.g., looking forward to the future).

Socially-based interventions focus on increasing participation and interpersonal connectedness in natural contexts often leading to improved psychosocial wellbeing and quality of life with potentially positive impacts on impaired language functions and processes (Chapey et al., 2008; Kagan & Gailey, 1993; Ross, Winslow, Marchant, & Brumfitt, 2006; Simmons-Mackie, 2000, 2008; Simmons-Mackie et al., 2010; Simmons-Mackie & Damico, 2007). As such, socially-based services have been found to be appropriate for multiple levels of care (e.g., acute, chronic, and long-term) and for many types of care providers including family members, caregivers, volunteers, health care workers, first responders, and other groups in the communities where they might prove to be useful (Simmons-Mackie & King, 2011).

Various types of socially-based therapies have been described that fit into the domains of the A-FROM model (Simmons-Mackie & King, 2011). Within the domain of participation, examples of socially-based therapies include aphasia book clubs (Bernstein-Ellis & Elman, 2006) and conversation groups (Elman & Bernstein-Ellis, 1999). These types of clubs and groups fall into the participation area of A-FROM because many of the activities completed in them are geared at increasing socialization and/or getting persons with aphasia re-involved with family, church, or community activities.

Interestingly, Elman and Bernstein-Ellis (2006), described their aphasia book club held at the Aphasia Center of California where persons with aphasia are afforded the opportunity to discuss, ponder, and enjoy books as a group. The authors mentioned that there had been 15 carefully selected books read over the course of seven years and thousands of hours of work. To maximize accessibility and inclusion, the authors mentioned that various supports had been

developed over the years to help persons with aphasia overcome language impairment difficulties and fully participate in the club. They termed the communicative supports used during the reading group as "reading ramps" and they consisted of: (a) unabridged audiotaped versions of books so that persons with aphasia could follow along while reading the text (b) Talking Books through the National Library for the Blind (www.nls.blind.org), (c) choosing books with less complex plots and storylines, (d) large print books, and (e) the use of worksheets to help reinforce and summarize the material. Once read, members of the club discussed the books. This was reported to be the group's favorite part of the process mainly due to the dynamic nature of the interaction, fellowship, and social connectedness of the discussions.

In a related manner, conversation groups fit into the participation section of the A-FROM model. In a randomized controlled study completed by Elman and Bernstein-Ellis (1999), 24 participants completed 4 months of group conversation training which was found to be efficacious for the treatment group when compared to the controls. Participants in the treatment group completed two weekly group treatment sessions that lasted 2.5 hours each for a total of 42 sessions. Activities focused on during group meetings consisted of: (a) increasing the ability to convey meanings with whatever strategies (e.g., using communication supports), (b) fostering initiation of conversational exchange, (c) increased understanding of the participant's communication disorder, (d) self-awareness of personal goals and recognition of progress, and (e) promoting confidence for communication attempts. While working on these aspects of treatment, participants engaged in 90-minute discussions over topics related to current activities and events in their lives and they used communicative supports to facilitate the exchange of information. Communicative supports consisted of communicative drawing, role plays, natural gestures, and the use of other resources such as maps, personalized notebooks, number lines,

conversational prompting, graphic choices, and scripts. By the end of the study, the authors reported the participants in the treatment group noticed, "Dramatic life changes and psychosocial benefits [that] occurred during and after participation" (p. 417). Specifically, interview feedback from family members after the study revealed that persons with aphasia (a) demonstrated increased confidence to engage in conversation, especially with strangers, (b) moved beyond their comfort zones within the house and ventured out to socialize for the first time in years, (c) increased their use of public transportation, and (d) increased interactions with sales persons to the point of returning previously purchased items. The authors concluded that the type of conversation therapy provided in group treatments in the study were efficacious and were appropriate for future research and clinical trials.

Another portion of the A-FROM model consists of the domain of personal factors and identity and contains types of therapies such as counseling (Holland, 2007), self-advocacy training (Pound et al., 2000), and conversation groups that focus on identity restoration (Shadden & Agan, 2004). This is an important part of the model because aphasia disrupts the ability of persons with aphasia to socially create and recreate themselves as was once possible (Shadden, 2005). This concept was captured by Shadden and Koski (2007) when they asked, "If language is essential to the construction of the self, how does one participate in self-construction in the face of its impairment" (p. 101)? One response and potential solution to this question has been the formation of identity groups which have been useful for persons with aphasia in the "self-reconstruction process" (Shadden & Koski, 2007, p. 100). Group members share biographical information about themselves and about various events and happenings that have occurred in their lives. This type of sharing is characterized as "life-storying" (p. 102). Life-storying involves sharing information such as "firsts (first kiss, first car, first pet), favorites (vacations past,

present, planned; foods and restaurants; jobs; teachers), most notable moments (punishment as a child, recognitions, rehabilitation stories), among others" (p. 103).

It is apparent (and expected) that some overlap occurs among activities and components within the participation, personal factors and identity domains in social therapies. Common types of overlap among those domains include aspects of participation, exchanging information and interacting with others, and using various means to communicate as successfully as possible (e.g., using communicative supports). The overlapping variables also fall into the last domain of the A-FROM model; the environment domain.

The environment domain is concerned with the modification and manipulation of external factors that can help to accommodate communication and facilitate successful communicative outcomes. Modifications of environmental variables are also used to reduce the communicative barriers of persons with aphasia allowing them increased social participation in novel and authentic events and increased social access and inclusion (Chapey et al., 2008; Cruice, 2007; Parr, 2007). Two key environmental variables reported in the aphasia literature that can be modified during interactions include (a) communicative supports and (b) communication partners (Simmons-Mackie & King, 2011).

Communication supports can consist of any method, strategy, or resource that allows persons with aphasia to maximize their access, inclusion, and participation in social events, activities, and opportunities to appropriately engage in communication exchanges and interactions (Simmons-Mackie & King, 2011). The appropriate types and levels of communication supports will allow persons with aphasia to demonstrate their intact but hidden competence (Kagan, 1999). The types and amounts of supports needed will vary depending on the severity of aphasia, the context of interactions, and communicative goals. Supports can be

used by persons with aphasia or by their communication partners and they can consist of material resources, knowledge, attitudes and values. Supports can be used in any modality and can be employed collaboratively by each conversation participant. Often, the use of supports does not come naturally as there is a tendency of persons with aphasia and their communication partners to only use speech to communicate (Kagan, 1999). Despite all the positive aspects of the use of supports, their use is optional.

Evidence shows that the use of supports improves communication for people with aphasia (Kagan, Black, Duchan, Simmons-Mackie, & Square, 2001; Simmons-Mackie & King, 2011; Simmons-Mackie et al., 2007). For example, the use of communicative supports along with improved communication of persons with aphasia was mentioned by Elman and Bernstein-Ellis (1999) and by Bernstein-Ellis and Elman (2006) in describing aspects of their aphasia conversation group and their aphasia book club. For identity groups, the importance of communicative supports for persons with aphasia was also alluded to by Shadden and Koski (2007) when they included as one of the main principles of the group process, "An acceptance of all modes of communication and all other semiotic tools and artifacts…" (p. 102). Hough and Johnson (2009) further demonstrated that the use of communication supports improve communication of persons with aphasia. Specifically, they conducted a study where symbol-meaning association using an AAC device was taught over 40 sessions as a communication support for a person with nonfluent aphasia and apraxia of speech. Assessments were administered prior to the start of therapy and they were repeated one and two months after therapy ended. Each assessment included the Western Aphasia Battery-Revised (WAB-R) (Kertesz, 2006) and the American Speech-Language-Hearing Association's Functional Assessment of Communication Skills for Adults (ASHA FACS) (Frattali et al., 2003). Results

revealed improved scores on each of the assessment measures. The authors concluded that persons with nonfluent aphasia can learn symbol-meaning associations using AAC devices and this type of intervention should be considered a viable treatment option in severe nonfluent aphasia.

The other component mentioned regarding the environment domain of the A-FROM model that can be modified is communication partners. Consideration of the communication partners of persons with aphasia is important because they help to coconstruct the interaction and, in that regard, influenced the communicative outcome (Simmons-Mackie, Kingston, & Schultz, 2004). Shadden and Koski (2007) acknowledged the importance of communication partners when they included as another one of the main principles of identity groups, "participation by non-aphasic others who share equally in the exchange of life stories while facilitating the mediated processes needed to successfully modify the cultural tool kit needed to narrate life stories" (p. 102).

According to Simmons-Mackie, et al., (2010) "The most prevalent form of socially-based intervention in the aphasia literature is communication partner training" (p. 1814). Prior to 1990, communication partner training focused primarily on educating partners about aphasia and its psychosocial impact. More recently, communication partner training focus has shifted toward training communication strategies that can be used during conversations with persons with aphasia. Additionally, training of communication partners has expanded from close family and personal friends toward persons in the broader community (Simmons-Mackie, 2013). For example, there are more and more volunteers and health care workers receiving communication partner training in some settings (Rayner & Marshall, 2003; Kagan et al., 2001; and Legg, Young, and Bryer, 2005).

SCA™, an intervention tool introduced by Kagan (1999), is based within the environment domain of the A-FROM model. SCA™ involves not only the implicit use of supports such as described previously, but SCA™ also involves training non-aphasic conversation partners for the specific intent of improving interactions between them and persons with aphasia. The underpinnings of SCA™ involves, "the skill and experience of the aphasic communicator, the skill and experience of the conversation partner and the availability of appropriate communication resources" (Kagan, 1998b, p. 817).

Unique when compared to impairment- and functionally-based aphasia treatments, persons with aphasia do not receive direct intervention. Intervention is solely provided to the communication partners of persons with aphasia. With training, partners become *communication ramps* that facilitate social access to persons, places, and things, the unmasking of inner competence, and the establishment and/or maintenance of social connectedness (Kagan, 1995). A communication ramp could be likened to a physical ramp as used for wheelchairs. Both the physical ramp and the communication ramp provide access to persons, places, and things that are otherwise unobtainable.

The SCA™ training protocol consists of education about aphasia, communicative skill development to support conversations, role-play practice of newly acquired knowledge and skills, and evaluation of supportive conversation effectiveness. The SCA™ training protocol as developed by Kagan (1999) spanned 7-hours and was conducted in four modules. Those modules were: (a) conceptual/motivational (1.25 hours), (b) technical (2.00 hours), (c) integrative role-play (1.50 hours), and (d) evaluation (.50 hours). The conceptual/motivational module included videos designed to educate conversation partners about aphasia, to show principles and techniques of supported conversations, and to motivate communication partners to acquire the

skills necessary for supported conversations. The technical module consisted of exposing and teaching the two primary techniques used by communication partners during supported conversation. These techniques were (a) acknowledging communicative competence, and (b) helping persons with aphasia to reveal their inherent and residual communicative competence. The integrative role-play module encompassed enactment of various scenarios where communication partners demonstrated and practiced supported conversation techniques and skills. Partners also received feedback on how to improve their supported conversation skills. Practice scenarios included conducting supported conversations in the contexts of "introductions, giving information about an upcoming event, finding out something upsetting to the persons with aphasia, and allowing someone with severe aphasia to initiate questions" (Kagan, 1999, p. 39). The evaluation module required that the newly trained participants view video recorded conversations of an unfamiliar dyad specifically to critique the non-aphasic communication partners' skills in acknowledging and assisting persons with aphasia to reveal their communicative competence.

When evaluating the non-aphasic and aphasic conversation partners from the video, the *Measure of Skill in Conversation* (MSC) (Kagan, 2002b) and the *Measure of Participation in Conversation* (MPC) scales (Kagan, 2002a) were used. Both are supported conversation measures that allow scoring of each supported conversation participant. Specifically, the MSC scale measures the non-aphasic conversation partner's ability to acknowledge and assist the ability of the person with aphasia to reveal his or her communicative competence. The MPC scale measures participation skills of the person with aphasia. The broad categories of participation rated include the flow and timing of interactions (e.g., social connection) and transactions (e.g., information regarding to what the person with aphasia thinks, feels, and

knows). For both the MSC and MPC scales a list of descriptions, behaviors, and definitions regarding pertinent observations are provided to facilitate judgment accuracy and reliability. The premise of the evaluation module was to instill the importance of continually evaluating one's self as a trained conversation partner to maintain and refine supported conversation skills. Once the evaluation module was completed, the newly trained communication partners engaged in an intervention phase lasting 1.50 hours. During the intervention phase, the newly trained communication partners were able to more fully implement the techniques and strategies learned in the modules.

As a part of the supported conversation training, conversation partners used items to help them achieve their goals of acknowledging and helping persons with aphasia reveal their communicative competence. Those items (e.g., communication supports) included common and familiar items within the environment used in isolation or in any combination. Examples of supports were free-handed drawings, pictures, gestures, written letters, words, newspapers, magazines, maps, as well as paralinguistic characteristics of speech including tone of voice, stress, and prosody. These same supports were also used during supported conversations as needed to keep exchanges and transactions of information moving naturally and functionally. It was recommended that the supports be used along a continuum of most natural to least natural types. For example, when communication breakdowns arise, it has been suggested that a gesture be used before using a high-tech AAC device. The reason is that the gesture is a more common and natural communicative act. If the gesture falls short and is unsuccessful, the next support should be used that is less natural but perhaps more effective at conveying the information and keeping the exchange moving. In short, it is up to the trained conversation partners to strike a

balance between naturalness of the support versus the successfulness of the communicative outcome.

In an efficacy study of SCA, Kagan, et al. (2001) recruited 40 communication partners from a population of non-aphasic volunteers serving in a local aphasia center to interact with 40 persons with aphasia. Persons with aphasia were recruited from the same center. A total of 40 dyads were formed with 20 of them randomly placed into an experimental group. The remaining 20 were placed into a control group. The non-aphasic communication partners in the experimental group completed SCA training while those in the control group did not. Control group partners continued to be exposed to persons with aphasia in the course of their daily duties. None of the persons with aphasia received the SCA training. After training, data revealed significant increases in the ability of trained communication partners in the experimental group to acknowledge and help persons with aphasia reveal their communicative competence during supported conversations. Similarly, persons with aphasia who conversed with trained communication partners demonstrated significant increases in the frequencies of exchanges and message transactions. As expected, there were no significant changes in pre- and post-measures for the control group and some scores were actually worse. Kagan, et al. (2001) concluded that SCA training was efficacious in increasing communicative competence of both the non-aphasic conversation partners and persons with aphasia. Improvements in communication skills were shown for persons with aphasia even though they did not receive direct supported conversation training.

In addition to Kagan's (1999) research, a systematic review of 31 studies dealing with communication partner training was conducted by Simmons-Mackie, et al., (2010). That review revealed evidence to stipulate that communication partner training is effective for chronic

aphasia. There was not enough evidence to conclude the same for persons with acute aphasia. Effectiveness was defined as improvements in communication, activities, and participation. However, further analysis of the 31 studies documented the variability of the demographics, methods, and outcomes involved throughout this body of research. For example, communication partner training varied in terms of the types of training (e.g., group versus individual), the attendees of the training programs (e.g., persons with aphasia versus communication partners, versus both), the amount and frequency of the training, types of intervention provided during training, a wide assortment of outcome measures, and inconsistent reporting of demographic variables of communication partners, persons with aphasia, and dyads themselves. Demographic variables such as age, gender, education, and employment of the communication partners were frequently omitted. Without consistent and adequate reporting of such variables, it is difficult to determine what aspects of the training protocols are instrumental in success or failure. Clearly there is a need for more consistency and stabilization of methods across future studies.

Communication Partner Variables

Supported communication strategies have been shown to be effective during interactions with persons with aphasia (Alarcon & Rogers, 2007; Kagan, 1999; Simmons-Mackie et al., 2010) and they are "the most prevalent form of socially-based intervention in the aphasia literature" (Simmons-Mackie et al., 2010, p. 1814). As a result of interacting with trained communication partners, persons with aphasia generally communicate more frequently with greater success. But what is it about communication partners of persons with aphasia that allow them to facilitate successful supported communication outcomes? The answer is that little is known about partner variables and their influence on supported conversation outcomes. It's important to consider because as was stated by Simmons-Mackie and Kagan (1999), "If training

of speaking partners is included in the management of aphasia, it is imperative that we gain a better understanding of what constitutes 'good' versus 'poor' speaking partners" (p. 807).

Simmons-Mackie et al. (2010) suggested that communication partners may best be selected by experienced speech-language pathologists or they may be selected based on the circumstantial needs and preferences of persons with aphasia and their families. Ball, Schardt, and Beukelman (2005) on the other hand, suggested that communication partners are selected most often based on convenience. But beyond convenience, a key question remains; "What impacts do the inherent qualities and characteristics of individual communication partners have upon the effectiveness of supported conversation outcomes"? A related question is, "Are certain communication partner variables associated with effective supported conversations"?

Throughout the aphasia literature, communication partner variables have been reported inconsistently. While it is possible to determine the effectiveness of the training, it is less possible to determine the presence of any associations that exist between partner characteristics and the outcomes of supported communication training. Knowledge of these associations may help researchers and professionals in the field know which partners may be more effective at receiving, processing, and using skills associated with partner training. This knowledge may also be relevant clinically when deciding who should receive training in terms of time and or cost-benefit ratios.

Turner and Whitworth (2006a) conducted a survey among experienced speech-language pathologists to determine what they felt were favorable characteristics of effective communication partners. Most clinicians indicated that communication partners should possess positive attitudes and inclinations to communicate frequently. They also indicated that good

listening skills, eye contact, and conversational management behaviors (e.g., turn taking, topic management, and repair) were important.

Similarly, Simmons-Mackie and Kagan (1999) conducted a study to determine what constitutes "good" versus "poor" speaking partners. In their study, dyads consisting of one person with aphasia and one non-aphasic speaking partner were video recorded during conversations that were then transcribed and analyzed. Findings revealed that ratings of "good" speaking partners centered on the ability to identify and respond to aspects of communicative competence of persons with aphasia. In addition, good speaking partners treated persons with aphasia "as trustworthy, competent, interesting and sincere persons" (p 817) and they helped persons with aphasia save face during communicative difficulties. Good speaking partners emphasized the importance of social connectedness rather than strictly focusing on the content and transfer of information. They also accepted and accommodated various communication styles, methods, and techniques used by persons with aphasia. In general, good speaking partners promoted "affiliation and solidarity through the structure of the discourse" (p. 817).

On the other hand, "poor" speaking partners tended to diminish the communicative abilities of persons with aphasia. They did not acknowledge "acceptable or adequate" responses and they subtly conveyed "discordance" or "dissatisfaction" (p. 817). Poor speaking partners did not accommodate atypical communication styles and they semantically portrayed persons with aphasia as "weak" or "handicapped" (p. 817). Based on these data, Simmons-Mackie and Kagan (1999) concluded that partner training "should directly target attitudes regarding aphasia as well as specific communicative skills" (p. 818).

The studies from Turner and Whitworth (2006b) and Simmons-Mackie and Kagan (1999) highlight the notion that variables of individual communication partners have the ability to

influence the effectiveness of supported conversations. This study will focus specifically on the impact of three individual communication partner variables on the effectiveness of supported conversations. Those variables are (a) interpersonal cognitive complexity, (b) perceptions about the quality of their relationships with their spouses or significant partners, and (c) perceptions of communicative effectiveness of their spouses or partners with aphasia.

Interpersonal cognitive complexity. "Cognitive complexity is an individual-difference variable associated with a broad range of communication skills and related abilities" (Burleson & Caplan, 1998, p. 233; Medvene, Grosch, & Swink, 2006). This concept originated out of the constructivist literature; it is concerned with the differentiation, organization, and integration of mental constructs that form cognitive sophistication (Adams-Webber, 2011; Burleson & Caplan, 1998; Burleson & Waltman, 1988; Crockett, 1965; Kelly, 1955; Medvene et al., 2006; O'Keefe & Sypher, 1981).

Structural-development theory and the orthogenetic principle (Werner, 1957) purport that cognitive structures develop along the lines of general to specific. That is, "Where ever development occurs, it proceeds from a state of relative globality and lack of differentiation to states of increasing differentiation, articulation, and hierarchic integration" (Werner, 1957, p. 126). Piaget (1970) stated that, "No behavior, even if it is new to the individual, constitutes an absolute beginning. It is always grafted onto previous schemes and therefore assimilates new elements to already constructed structures" (p. 710). Once stabilized, cognitive complexity is relatively uninfluenced by intelligence or loquacity (Burleson & Caplan, 1998: O'Keefe & Sypher, 1981).

Personal constructs were considered by Kelly (1955) to be the basic units of cognitive structure. They form as a result of experiences, manipulations, and interactions with people,

places, and things (Piaget, 1970). Each construct represents a continuum or a range representing incoming stimuli; the ends of the continuum are polar opposites. An example of a single construct could be "temperature" with the opposite ends of the "temperature" continuum being "hot" and "cold." Putting your hand on the proverbial hot stove would be represented cognitively within the temperature construct probably at the very end of the "hot" side of the continuum. Holding a piece of ice would be represented cognitively at the very opposite side of the continuum, "cold." Any other temperature stimuli encountered such as warm air from a heater vent would be placed along the "temperature" continuum where ever it was best represented. As more encounters of temperature occur, the items and their degrees of temperature would be represented and placed in the appropriate area of the continuum. With more incoming stimuli, more constructs develop becoming differentiated and integrated within and among each other. They are housed in cognitive hierarchies that when tapped, create a reflection of perceptual information from the knowledge of known elements (Kelly, 1955). On a consistent basis, the sophisticated cognitive apparatus filters stimuli and influences perceptions, interpretations, and memories to help make sense of the world and other people and to help dictated behaviors (Burleson & Waltman, 1988).

"A cognitive system composed of a comparatively large number of finely articulated, abstract, and well-integrated elements is regarded as relatively complex" (Burleson & Caplan, 1998, p. 233). Because individuals experience and interpret persons, places, things, activities, actions, and behaviors differently and independently from one another, cognitive representations and sophistication (i.e., complexity) do vary. Thus, one person may develop high cognitive sophistication (expertise) in an area (e.g., construction) while another may develop lower cognitive sophistication (novice) in that same area (Burleson & Caplan, 1998; Crockett, 1965).

Constructs that encompass the thoughts, behaviors, feelings, and characteristics of others form a system of interpersonal communicative constructs (Burleson & Caplan, 1998). The system of interpersonal constructs tends to be more advanced in that it is more differentiated, more abstract, and more integrated. The more complex the interpersonal system, the more equipped the individual is to perceive others in relatively complex ways and adapt to their overall communicative needs and styles (Applegate, 1990; Burleson & Waltman, 1988; Medvene et al., 2006). In terms of training communication partners to interact with persons with aphasia effectively, interpersonal cognitive complexity is an important variable to consider as it could be associated with more effective outcomes. Someone with high interpersonal cognitive complexity may be more equipped to receive, process, and effectively use the trained supported communication skills as opposed to another person lower in interpersonal cognitive complexity.

Cognitive complexity and communication. Communication processes that are embedded within conversations include social perceptions about the other participants as well as the context of the interaction, messages produced, messages received, and the management of the interaction itself (Burleson & Caplan, 1998). All of these processes are used synergistically by each conversation partner to contribute to the conversation. Additionally, these processes are used in a timely and rule oriented fashion depending on the happenings and behaviors of the conversation. Conversational interactions are complex activities and they must involve some degree of interpersonal skill to navigate and negotiate successful outcomes. Research spanning the past three decades have confirmed the solid associations of the communication processes just mentioned with the individually-based variable of interpersonal cognitive complexity (Burleson & Caplan, 1998). It is the connection between interpersonal cognitive complexity and

communication that allows the hypothesis of a connection between communication partner effectiveness and the ability to engage in supported conversations of adults with aphasia.

Cognitive complexity and social processing. Social processing skills are active during conversations handling incoming stimuli and filtering it into and out of the interpersonal construct system. These processing skills delegate the correct hierarchical placement of new information within constructs, sifting through actions, appearances, mannerisms, behaviors, affect, and the interpersonal traits, mannerisms, characteristics, and qualities of participants. Studies about social perception as reported by Burleson and Caplan (1998) have shown that highly complex persons are able to determine the emotional states and general dispositions of others, form impressions about others, reconcile and integrate information about others, and perceive the thoughts and feelings of others using social processing skills. Persons with higher levels of cognitive complexity "read people and social situations more deeply than do less complex perceivers and make more accurate judgments about affective and intentional states" (Burleson & Caplan, 1998, p. 250).

Cognitive complexity and message production. On the surface, the concept of message productions seems simple and straightforward; messages are formulated and then expressed. However, message productions are highly complex activities because they must be formulated and preempted in accordance within the context and social rules of the situation as well as within the messages and behaviors concurrently formulated and received from the other participants. Further, there must be considerations about the societal backgrounds, cultures, and rules of social etiquette. Messages expressed must be socially appropriate lest credibility and competence be compromised or at the very least questioned. Again, there is a certain degree of interpersonal

skills that must be used to succinctly and competently maneuver through the complexities of appropriate message productions to be an effective communicator.

Various studies have documented that more cognitively complex individuals are most skillful at producing messages in accordance with the rules of the engagement or interaction compared to less complex counterparts (Burleson & Caplan, 1998). For example, messages produced by complex individuals tend to be more person-centered, goal oriented, and effective. Person-centered messages involve intuitively adjusting expressive and receptive communicative behaviors and content in accordance with the needs, attributes, and perspectives of other communicative participants in mind. Accounting for others' views, abilities, characteristics, and qualities in addition to the situational context tends to facilitate functional and successful communication (Burleson & Caplan, 1998). Person-centered messages have been shown to be effective in meeting instrumental objectives (e.g., comforting, persuading, and disciplining and regulating behavior) and they have been shown to be effective in meeting identity-relationship-relevant concerns (e.g., offering face support and enhancing relationships) (Burleson & Caplan, 1998). Person-centered messages combined with enhanced social perception skills allow complex individuals better abilities to demonstrate, "a flexible capacity for social information processing and social action that may be tapped in variable degrees depending on situational demands" thus allowing more instances of effective communication (Burleson & Caplan, 1998, p. 256). On a more negative note, Bacue and Sampter (2001) found that more complex individuals showed an increased ability to produce negative messages as readily as when they produced more benevolent messages.

Cognitive Complexity and Message Reception. The process of message reception is similar to that of the social perception system (Burleson & Caplan, 1998). It also involves much

more than what appears on the surface. Instead of simply hearing and receiving messages, the reception of messages involves receiving, storing, and interpreting stimuli in order to make sense of them within the context of the situation, behaviors, and messages conveyed (Burleson & Caplan, 1998). While messages are coming in, they are also being concurrently formulated for expression in a timely and appropriate manner. Because of the overlapping and complex nature of these communication processes, it is no wonder that persons with aphasia experience break downs. In the presence of language impairments they must formulate, express, and comprehend messages which is challenging at best and may be impossible. What may lead to even more frustration is that interaction abilities of persons with aphasia remain intact.

As reported by Burleson and Caplan (1998), studies about message reception have uncovered solid associations between cognitive complexity and the skills of listening, message interpretation, and recall of information. Specifically, high complexity has been found to be associated with better listening and interpretation skills of both auditory and written stimuli. Further, high complexity has been found to be associated with increased recall of details about conversational interactions. Burleson and Caplan (1998) summarized this research by writing, "Compared to less complex individuals, cognitively complex persons listen more attentively to the messages of others, interpret these messages more comprehensively, and recall more of what was said" (p. 257). Thus, persons higher in cognitive complexity perceive messages in more complex ways than their less complex counterparts.

Cognitive complexity and management of social interactions. Of the four communication processes, perhaps the most demanding is managing social interactions. Again, on the surface, this is made to look easy as participants intuitively know how to conduct and carry themselves according to the context, incoming and outgoing messages, and ongoing

behaviors. Closer examination; however, reveals that interactions are highly complex requiring advanced interpersonal skills stemming from a complex system of interpersonal constructs accumulated and refined over time. Management of social interactions involves monitoring, initiating, maintaining, and inhibiting all conversation processes and the accompanying behaviors in a systematic, rule-based, organized fashion.

According to Burleson and Caplan (1998), research has attempted to determine the role cognitive complexity plays in the management of social interactions. Investigators have looked at mental representations of conversational interactions, topic management skills, and conversational planning processes.

Mental representation refers to cognitive constructs that inform individuals of the nature, structure, and function of interactions. It involves unspoken scripts followed in such places as classrooms, public places such as restaurants and physicians' offices, or dinner theaters. In these contexts, unspoken scripts are subconsciously learned and reinforced with each experience. Studies, as reported by Burleson and Caplan (1998), have documented an association between representations of conversational interactions and cognitive complexity. Specifically, persons with high complexity understand better how conversational interactions are sequenced and patterned. Further, cognitive complexity has also been shown to correlate significantly with conversational sensitivity. Conversational sensitivity includes, "aspects of conversational behavior, including sensitivity to conversational control, ability to detect nuances of meaning, enjoyment of conversations, and memory for conversations" (p. 261). Burleson and Caplan (1998) summarized findings in this area by writing, "Cognitively complex individuals have a more abstract understanding of the structure of conversation, more detailed representation of

conversational interactions, greater sensitivity to meanings, and interpersonal moves (such as power plays) in the interactions, as well as better memories for conversation" (p. 261).

Topic management is another important skill in overall social interaction management. Topic management is again one of those skills that on the surface seems to be very straightforward and relatively simple to achieve. Upon deeper examination; however, topic management is as complex as anyone of the aforementioned communication processes. Topic management involves selecting and introducing topics while constructing, developing, and maintaining them throughout the flow of conversation. The reason it does not appear to be complicated for most conversation participants is due to their relatively complex interpersonal construct system which allows them to demonstrate it as second nature. As such, it would seem that topic management, a communicative skill, would also correlate with cognitive complexity.

Burleson and Caplan (1998) have reported study findings that have documented connections between cognitive complexity and topic management. For example, studies have shown that persons with high cognitive complexity tend to manage topics by (a) talking about the qualities of themselves and others as well as the qualities of their relationships with others, (b) making use of "verbal back channels ("uh-huh," "I see," "Mhmm")" that allow them to show interest, encourage elaboration of the current line of messages, and facilitate contributions to the conversation (p. 262), (c) being sensitive and adapting to cultural aspects of communicative participants and (d) providing and soliciting information effectively. Burleson and Caplan (1998) summarize the relevant research literature on topic management by writing, "The conversational actions of cognitively complex persons implicitly recognize the distinctiveness of individuals and the uniqueness of their perspectives, and seek to create shared understanding by explicitly elaborating their viewpoints and encouraging their talk partners to do the same" (p. 262).

A final area in the management of social interactions includes cognitive planning processes. Cognitive planning processes help participants tailor their messages to the situation at hand and guide pertinent behaviors. Cognitive planning processes are needed if communicative goals are to be achieved. Possible examples where cognitive planning processes are used may include when a car dealer is trying to sell a new or used vehicle, when an applicant is undergoing a formal job interview, or when couples work at resolving their differences as they attempt to achieve full conflict resolution (Burleson & Caplan, 1998). In each case, the underlying context of the situation and goals of the interactions are what inform and guide participants as they navigate through interactions toward the desired outcomes. Burleson and Caplan (1998) summarized the literature in this area by writing, "Cognitive complexity primarily affects how people perceive social situations and what goals they develop for these situations, with conversational goals and plans then having a major influence on behavior" (p. 262).

Cognitive complexity as a conversation partner variable. Interpersonal cognitive complexity is associated with the aforementioned communication processes. Because of these associations, one can assume that interpersonal cognitive complexity may be associated with the conversational effectiveness of trained communication partners interacting with persons with aphasia. Because of the association between cognitive complexity and communication, it could be that communication partners of persons with aphasia high in cognitive complexity would be able to socially process interactions, produce and receive messages effectively, and they should be able to manage interactions more capably than counterparts lower in interpersonal cognitive complexity. This relates back to the work of Simmons-Mackie and Kagan (1999) and Turner and Whitworth (2006a). In their studies, qualities and behavioral characteristics thought to be favorable in "good" communication partners included identifying aspects of communicative

competence in persons with aphasia as well as respecting them as communicators, adapting and accommodating to atypical communication styles, methods, and techniques, helping persons with aphasia to save face, and promoting social connectedness throughout the discourse. These types of qualities and characteristics should be naturally embedded within communication partners high in interpersonal cognitive complexity.

The Role Category Questionnaire (RCQ). Interpersonal cognitive complexity can be indexed using the Role Category Questionnaire (RCQ) (Crockett, 1965). In fact, all research studies reported in Burleson and Caplan (1998) made use of it. Originally, the RCQ consisted of a free-response questionnaire requiring participants to first identify eight different individuals holding predetermined roles (e.g., grandparent) and then asking these participants to write descriptions of those people within a three-minute period. Once descriptions were completed, they were analyzed and interpersonal constructs were tallied. The numbers of interpersonal constructs tallied were then considered to be that person's relative measure of cognitive complexity. The more constructs elicited, the higher the level of their interpersonal cognitive complexity. It should be noted that the score obtained from the RCQ is considered to be only a sample of a person's cognitive complexity (e.g., differentiation); that is the tally recorded does not represent a person's actual or absolute value of cognitive complexity itself. A more efficient two-role version of the RCQ now has been developed (Burleson & Caplan, 1998). It requires descriptions of only two persons; one liked and one disliked. "Virtually all cognitive complexity research appearing in the human communication literature has made use of Crockett's conceptualization and operationalization of this variable" (Burleson & Waltman, 1988, p. 1). Burleson and Waltman also stated that, "Crockett's measure appears to be the most reliable and most valid" (p. 2).

Conversation Partners and Perceptions of Communicative Effectiveness

In terms of supported conversation, the perception of communication partners regarding the ability of persons with aphasia to demonstrate competence with the use of functional communication has not been explored. Therefore the question that needs to be addressed is, "What impact does the perception of communication competence about persons with aphasia by communication partners have on the effectiveness of supported conversations?" Perceptions of trained communication partners are important to consider because they may ultimately influence the effectiveness of the interactions.

Conversation fulfills two major functions. One of those functions is the transaction of information; conveying and receiving information via exchanges. The other function is to provide a mechanism for interactions; socializing, building, and maintaining relationships (Hesketh, Long, & Bowen, 2011; Kagan, 1995; Simmons-Mackie & Damico, 1995). Language impairments, such as aphasia, create conversational barriers that make it difficult for persons with aphasia to demonstrate or achieve those functions because the impairments disallow them to express what they think, feel, and know in standard ways (Kagan, 1995). Consequently, persons with aphasia may be perceived by others as incompetent during instances of making informed legal, medical, or other life decisions or when interacting socially with family, friends, or colleagues (Kagan & Kimelman, 1995; Simmons-Mackie et al., 2007). Perceptions of incompetence may further lead to exclusion or denial of participation in life events, discussions and decisions that may ultimately impact their lives (Kagan & LeBlanc, 2002; Simmons-Mackie & Damico, 2007). In society, to be perceived as competent requires functional conversational skills. This is in line with what Kagan (1995) wrote, "The ability to engage in communication is

key to revealing competence" (p. 17). But in the presence of aphasia, competence is difficult to demonstrate as language impairments impede conversation.

As noted, persons with aphasia can continue to demonstrate their competence by using residual cognitive, social, and communication skills. They may also use knowledgeable and trained communication partners who can acknowledge and reveal their competence. However, it is not really known what the impact of the perceptions of the trained conversation partners about the competence of persons with aphasia is in terms of the effectiveness of supported conversations.

Each of the variables discussed thus far are individually-based. That is, each trained conversation partner will have their own degree and quality of cognitive complexity and mutuality. The is true for perceptions of competence of persons with aphasia. Conversation partners will bring with them their own perceptions about the persons they know with aphasia that could be influential in the effectiveness of supported conversations.

Perceptions are products of our experiences and interactions with people, places, and things. As such they originate from our cognitive structures that have developed over time. Perceptions may be broad generalizations that may or may not be accurate. For example, an inaccurate generalization is that persons with aphasia are incompetent. This is not the case, but because language difficulties interfere with stating facts and understanding messages, this type of over generalization could occur. Further knowledge about aphasia and interactions with persons with aphasia would help to correct this erroneous perception.

In terms of stereotypes and communication disorders, studies have shown that respondents rate auditory samples and written descriptions of persons with various types of speech and language problems less favorably than persons without disorders. For example, in a

study conducted by Allard and Williams (2008), 450 students from a university in Florida rating sound clips of various types of communication disorders rated a person with Wernicke's aphasia using negative personality traits. The negative personality traits included lower decisiveness, lower reliability, lower self-esteem, lower social adjustment, and high stress. What is surprising about these ratings is not necessarily the large number of negative traits assigned—although that is a concern—the more surprising issue is that these negative traits were assigned regardless of whether they were accurate. Other studies have also documented that even persons with mild communication disorders are typically assigned negative personality traits whether or not they are actually observed (Allard & Williams, 2008). Given these negative ratings the question becomes, "Do the negative ratings influence the effectiveness of conversations"?

In addition to stereotypes, perceptions of conversation partners may be influenced by the degree of conversational contributions offered by persons with aphasia. Levels of participation have been measured in various studies by counting or timing (a) words per minute, (b) words per utterance, (c) total words of each participant, (d) the duration of utterances and/or conversational turns, and (e) counts of conversational turns themselves (Comrie et al., 2001; Croteau et al., 2007; Kennedy et al., 1994; Oelschlaeger & Damico, 1998; Perkins, 1995). Communication disorders such as aphasia force reduced amounts of contributions to interactions impressing upon communication partners a lack of participation (Comrie et al., 2001). The lack of participation, real or perceived, may result in the conversation partners putting forth more effort and more contributions in order to help ensure effective conversational outcomes. While this may not be detrimental over the course of a few days or weeks, it may become burdensome over a period of months or years. Over time, this may create frustration and negative feelings and result in decreased motivation to interact. After multiple attempts to communicate, partners may begin to

avoid communicative. Negative feelings such as these may ultimately impact the effectiveness of supported conversations as trained conversation partners may not be as motivated to execute skills to the best of their abilities. This may be a concern because to enhance conversational contributions, a primary objective of training communication partners for supported conversations is to help them learn how to identify and accentuate communication competence during supported conversations essentially helping partners equalize conversational contributions (Kagan, 1999).

Another way that perceptions of communication partners about persons with aphasia can influence interactions is along the lines of communication functions in terms of interaction (social connection) and transaction (information exchange). A study conducted by Bouchard-Lamothe et al., (1999) demonstrated that spouses, adolescent family members, and physicians perceived communication functioning of persons with aphasia differently. Generally speaking, the family members (e.g., spouses and adolescents) perceived more trouble for persons with aphasia in the areas of verbal and written expression as well as reading comprehension. Family members felt persons with aphasia had minimal difficulties with auditory comprehension. Physicians on the other hand, felt persons with aphasia demonstrated more difficulty with aspects of comprehension than with expressive language functions. Explanations for the different perceptions were that family members were more in tune with the need to socially connect (i.e., interactional nature of language and communication) compared to the physicians who were more in tune with the need for information exchange (i.e., transactional aspects of communicative functions) so they could do their work more efficiently.

So do perceptions of various communication partners have an impact upon the effectiveness of supported conversations? To date this has not been investigated. It is possible

that more favorable perceptions may lead to more effective supported conversations. Conversely, if communication partners are too overprotective or too nurturing, this may have a more negative influence on supported conversations. To learn more about the role of partner perceptions regarding persons with aphasia, a closer look at potential associations is warranted.

Carer Communication Outcome after Stroke scale. Given the nature of aphasia and its impact on communication functions and effectiveness it is necessary to analyze the perceptions of communication partners about the communicative effectiveness of their spouses with aphasia. To that end, communication partner perceptions of persons with aphasia will be assessed using the Carer Communication Outcome After Stroke (Carer COAST) scale (Long, Hesketh, & Bowen, 2009). This scale is inclusive as it not only assesses perceptions of communication, but also covers areas such as conversational participation, and quality of life.

Mutuality

Relationships between persons with aphasia and spouses undergo significant changes post-stroke due to physical, psychosocial, affective, or cognitive disabilities and in turn, their perceptions regarding the quality of their relationship fluctuate (Lyons et al., 2007; Lyons et al., 2009; Ostwald et al., 2009; Tanji, Anderson, Gruber-Baldini, Fishman, Reich, Weiner, & Shulman, 2008).

Lyons et al., (2007) examined mutuality of care dyads (e.g., frail older adults and family caregivers). Specifically, 103 care dyads were investigated over 20 months for associations between physical health, depression, and mutuality. Findings included that frail older adults tended to have increased levels of mutuality at the beginning of the study compared to the mutuality of family caregivers; however, mutuality of the frail older adults subsided more rapidly than the caregivers over the duration of the study. Also, physical health and depression were

positively associated with mutuality. Those associations fluctuated depending on the state of the participants physical health or depression (e.g., enduring or changing). Specific findings included that for both the frail older adults and family caregivers, as physical health declined, mutuality also declined. Conversely, as physical health improved, mutuality also improved. Lyons et al., (2007) emphasized that fluctuations in physical health and depression over time should be considered in the big picture of care dyad relationships.

In a longitudinal study conducted by Lyons et al., (2009), 225 spouses of persons with Parkinson's disease were queried over a 10 year period regarding the variables of optimism, pessimism, mutuality, gender, and the ability of those variables to predict caregiver role strain. According to Lyons et al., (2009), perceptions of role strain involve aspects of the amounts and types of care needed. Role strain has been correlated to physical and mental health as well as mortality. The findings of Lyons et al., (2009) revealed that when there are a combination of high mutuality and optimism along with low pessimism at baseline, there was less role strain detected in year 10. When there is increased optimism and decreased pessimism, better physical health is demonstrated for spouses. Not surprisingly, low optimism was associated with increased depression. Interestingly, gender was indicated as a risk factor in that wives had greater feelings of role strain after 10 years and their role strain perceptions accumulated at a faster rate. In general, higher levels of mutuality help family caregivers function in difficult circumstances. Spouses in positive relationships reportedly experience decreased role captivity and overload and decreased strain. Low mutuality on the other hand tended to be a risk factor for high role strain and mood swings, especially with fluctuations required in terms of the amount of care needed.

Godwin, Wasserman, Cron, and Ostwald (2008) investigated the relationship between mutuality, aphasia, and depression in elderly stroke survivors. Out of 159 stroke survivors who

participated in the study, 51 had a diagnosis of aphasia. Participants completed a depression scale at discharge and completed it again at months 3, 6, 9, and 12 post-discharge. Participants also completed the Mutuality Scale at discharge and then again at months 6 and 12. Results revealed no significant differences in depression between stroke survivors with or without aphasia and depression decreased for all stroke survivors over the year-long study. Findings also revealed that mutuality was higher for persons with aphasia but mutuality for all stroke survivors decreased over the study. The authors indicated that further study was needed to determine reasons for these outcomes.

Mutuality as a conversation partner variable. The potential association between mutuality and supported conversation effectiveness has not been investigated but an investigation of this nature is warranted. The studies noted above do suggest that associations exist between the variables of psychosocial wellbeing, physical health, and more positive outlooks in the presence of difficult care giver situations imposed by illnesses and tough times. Because of these associations, levels of mutuality may influence communication partners' attitudes and feelings during supported conversations and thus impact the effectiveness of those interactions. For example, communication partners with higher mutuality may feel more encouraged to participate in and conduct supported conversations due to more positive attitudes about the relationship and their spouse. Additionally, the communication partners with higher mutuality may have a more positive attitude during training and develop more enhanced supported conversation skills. Lastly, communication partners with higher mutuality may take the premises of supported conversation more seriously than a communication partner with low mutuality. In short, communication partners with high mutuality may demonstrate more motivation to maximize efforts while conducting supported conversations.

The Mutuality Scale. Mutuality has to do with spousal perceptions of the quality of their marital relationship. Mutuality is measured using the Mutuality Scale which contains 15 items, each with a Likert-type scale ranging from 0 (not at all), 2 (neutral), to 4 (a great deal) (Archbold et al., 1990). Scores above 2 represent higher mutuality while scores below 2 indicate less favorable perceptions of the relationship. Sample items from the Mutuality Scale include statements such as, "How close do you feel to him or her?" and "How much do you like to sit and talk with him or her?"

The Mutuality Scale has been used to compare the perceptions of partner relationships to various illnesses, conditions, and accompanying psychosocial states. For example, Ostwald et al., (2009) attempted to determine variables that predicted life satisfaction one to two years post-stroke. The study included 101 stroke patients and 31 caregivers. Of all variables assessed, mutuality was the only one able to predict life satisfaction for up to two years for both the stroke survivor (SS) and his or her spouse. Specifically, those spouses who had high mutuality (e.g., love, respect, and enjoyment) for each other also experienced more life satisfaction.

Statement of the Problem

The use of supported conversation strategies by trained communication partners with persons with aphasia has been shown to be effective (Alarcon & Rogers, 2007; Kagan, 1999; Simmons-Mackie et al., 2010). Because of the potential that this type of intervention holds in improving the psychosocial status and quality of life of persons with aphasia, it is important to investigate inherent variables and perceptions of the conversation partners. This has not been adequately or consistently reported making it difficult to determine what role if any individual partner characteristics played in the effectiveness of supported conversations.

Purpose

The purpose of this study is to investigate the effect of the impact of communication partner variables on supported conversation methods while interacting with persons with aphasia. In particular, the specific communication partner variables scrutinized will include interpersonal cognitive complexity, partner perceptions of the communicative effectiveness of their spouse/close relative with aphasia, and partner perceptions of the positiveness (i.e., mutuality) of the relationship with their spouse/close relative with aphasia. The following research questions will be addressed:

Research Questions

Question 1. *Does conversation training provided to communication partners of persons with aphasia increase conversational effectiveness*?

Question 2: *Does the communication partner's level of interpersonal cognitive complexity (measured by the RCQ) impact conversational effectiveness*?

Question 3: *Does the partner's perception of communicative effectiveness of his or her spouse/relative with aphasia (measured by the CaCOAST) impact conversational effectiveness*?

Question 4: *Does the partner's perception of the positiveness of his or her marital/close relative relationship with the person with aphasia (measured by the MtS) impact conversational effectiveness*?

CHAPTER 3

METHODS

Participants

IRB approval for this study was granted by Fort Hays State University (FHSU) and Wichita State University (WSU) (see Appendices A and B). At that time, the clinic directors at the Evelyn Hendren Cassat Speech-Language-Hearing Clinic at WSU and the Geneva Herndon Speech-Language-Hearing Clinic at FHSU were contacted to identify potential participants (see Appendix C). The directors signed and received a copy of an informed agency consent form (see Appendix D). Potential participants were given generic information about the study (see Appendix E). If they remained interested, the primary researcher made contact to further discuss the requirements of the study. From these two clinics, 26 potential participants with aphasia were identified. To identify additional participants, other facilities in Wichita and Hays were contacted. These facilities included: (a) The Veteran's Administration Medical Center, (b) Via Christi Health Care, (c) Wesley Rehabilitation Hospital in Wichita; and (d) Hays Medical Center in Hays. From these facilities, six potential participants with aphasia were identified bringing the total number to 32.

Inclusion criteria. Inclusion criteria for persons with aphasia were that each was: (a) a monolingual speaker of English, (b) at least 45 years of age, (c) diagnosed with aphasia (excluding primary progressive aphasia); with onset at least six months prior but no greater than 5 years, (d) married or in a relationship with a significant communication partner with daily interactions, (e) willing to participate in conversations, (f) without experience in training or use of supported conversation strategies or techniques, and (g) willing to commit to the time frame

and task requirements needed to complete this study. Of the 32 identified participants with aphasia, 10 met these inclusion criteria (see Appendix F).

For the 10 persons with aphasia who met the inclusionary criteria, one spouse or a close relative with whom each interacted with on a daily basis was required to participate throughout the study as the communication partner (see inclusion criterion d). All 10 of the spouses or close relatives of the persons with aphasia (from now on also referred to as *communication partners* or simply *partners*) were willing to participate in this study. Inclusion criteria for these partners were that each was: (a) a monolingual speaker of English, (b) at least 40 years of age (c) willing to participate in conversations, (d) without experience or training in supported conversation strategies or techniques, and (e) willing to commit to the time frame, schedule, and task requirements that were a part of this study (see Appendix F).

Demographic Information about Participants

Twenty people participated in this study; 10 persons with aphasia and 10 communication partners. Demographic information and pertinent clinical information were obtained via chart reviews, participant interviews, and subsequent interactions with the participants throughout the study (see Appendix G). Table 3.1 summarizes demographic data about the participants and their partners.

Table 3.1. *Participants' Relationship and Individual Characteristics*

Dyad Number and Relationship		Communication Partners			Persons with Aphasia		
		Handedness	Gender	Age	Handedness	Gender	Age
1	Spouse	R	M	80	R	F	78
2	Spouse	R	F	79	R	M	80
3	Spouse	R	F	44	R	M	48
4	Step-mom	R	F	73	R	M	56
5	Spouse	L	F	67	L	M	74
6	Daughter	R	F	53	R	F	71
7	Spouse	R	F	52	R	M	53
8	Spouse	R	F	63	R	M	64
9	Spouse	R	M	78	R	M	77
10	Daughter	R	F	63	R	F	90

Note. R = Right handed; L = Left handed; M = Male; F = Female.

The age range of the 10 persons with aphasia was 48-90 years (mean = 69.1 years; SD = 13.44).

The age range for the communication partners was 44-80 years (mean = 65.2 years; SD = 12.56).

Data regarding education, occupations, and work status are shown in Table 3.2.

Table 3.2. *Participants' educational levels, current or prior occupations, and current employment status*

Dyad	Communication Partners			Persons with Aphasia		
	Education	Job	Status	Education	Job	Status
1	College	Program Director	Retired	College	School Teacher	Retired
2	College	Sales Person	Unemployed	College	US Air Force Colonel	Retired
3	High School	Assembler	Employed	College	Truck Driver	Disability
4	Graduate	Registered Nurse	Retired	High School	Store Manager	Disability
5	College	Registered Nurse	Retired	High School	Tool Grinder	Retired
6	College	HR Consultant	Employed	Eighth	Electronics Assembler	Retired
7	Associate	Reality	Employed	College	Law Enforcement	Disability
8	High School	Dispatcher	Retired	Technical School	Law Enforcement	Disability
9	College	School Teacher	Retired	Business School	Program Director	Retired
10	High School	Office Admin.	Employed	High School	Bookkeeper	Retired

For communication partners, the level of education ranged from high school to graduate school. For persons with aphasia, level of education ranged from eighth grade to college. In terms of work status, five communication partners were retired, four were employed, and one was unemployed. For persons with aphasia, five were retired and five were not working due to disability.

Data in Table 3.3 show the duration of the relationship between the communication partners and persons with aphasia and information about the aphasia.

Table 3.3. *Relationship Duration, Aphasia Onset, Aphasia Duration, and Etiology of Aphasia*

Dyad	Relationship Duration	Aphasia Onset	Aphasia Duration	Etiology of Aphasia
1	57 Years	03/2009	36 Months	Left CVA
2	60 Years	01/2011	12 Months	Left CVA
3	04 Years	08/2011	10 Months	Left CVA
4	34 Years	08/2010	24 Months	Left CVA
5	45 Years	12/2011	06 Months	Left CVA
6	53 Years	11/2011	07 Months	Left CVA
7	26 Years	04/2011	14 Months	Left CVA
8	49 Years	04/2008	48 Months	Left CVA
9	48 Years	05/2007	60 Months	Left CVA
10	63 Years	06/2011	12 Months	Left CVA

Note. CVA = Cerebrovascular Accident.

Duration of relationships ranged from 4 to 63 years (mean = 43.9 years; SD = 18.05). Duration of aphasia was calculated as the time post-onset to the time of the beginning of partner training. The range in aphasia duration for the dyads in this study was six months to five years (mean = 1.91 years; SD = 1.57). All instances of aphasia were the result of left cerebrovascular accidents (CVAs). Severity of aphasia ranged from mild to severe. Severity levels were based on aphasia quotients (AQs) obtained from the Western Aphasia Battery-Revised (WAB-R). There were four persons with Broca's aphasia, two with Wernicke's, two with conduction, and two with anomic aphasia. Four of the ten persons with aphasia had concurrent apraxia of speech, (dyads 4, 7, 8, and 10). Dysarthria was not present for any of the participants.

Data shown in Tables 3.4a and 3.4b summarize the methods communication participants were using during conversational interactions since the onset of aphasia. Communication methods used included speaking, gestures, writing, drawing, and augmentative and alternative communication (AAC) strategies (e.g., alphabet boards, communication pictures and notebooks, iPads, etc.). All 20 participants reported the use of speaking. All communication partners reported the use of gestures, while only 70% of persons with aphasia reported the use of gestures. Ninety percent of communication partners reported the use of writing, while only 40% of persons with aphasia reported likewise. Thirty percent of communication partners reported the use of drawing while no persons with aphasia reported the use of this communication modality. Lastly, 50% of communication partners reported using some form of low and/or high-tech AAC devices (e.g., low-tech = alphabet boards or dry erase boards; high-tech = iPads and associated apps or other types of computerized communicative devices), while 30% of persons with aphasia reported the same.

Table 3.4a. *Communication Methods of Communication Partners since Aphasia Onset*

	Communication Partners				
Dyad	Speaking	Gestures	Writing	Drawing	Augmentative Alternative Communication Devices
1	Y	Y	Y	N	Pictures
2	Y	Y	N	N	
3	Y	Y	Y	Y	Pictures, Alphabet Board, iPad
4	Y	Y	Y	Y	Alphabet Board
5	Y	Y	Y	N	
6	Y	Y	Y	Y	Alphabet Board
7	Y	Y	Y	N	
8	Y	Y	Y	N	
9	Y	Y	Y	N	
10	Y	Y	Y	N	Alphabet Board

Table 3.4b. *Communication Methods of Persons with Aphasia since Aphasia Onset*

Persons with Aphasia					
Dyad	Speaking	Gestures	Writing	Drawing	Augmentative Alternative Communication Devices
1	Y	Y	Y	N	
2	Y	N	N	N	
3	Y	Y	N	N	
4	Y	Y	N	N	
5	Y	N	N	N	
6	Y	Y	N	N	
7	Y	Y	Y	N	
8	Y	Y	Y	N	Pictures, Alphabet Board, Pod Book
9	Y	Y	Y	N	
10	Y	N	N	N	Alphabet Board, Pictures

Procedures

All participants were informed of the nature and requirements of the study, and asked to read and sign a consent form (see Appendix H). Participants were given an opportunity to ask questions to ensure they fully understood the study. To ensure that persons with aphasia fully understood the study requirements, additional verbal, written, and pictographic information was provided (Kagan, Winckel, & Shumway, 1996) (see Appendix I).

Assessments - All Participants.

Each participant with aphasia and his/her communication partner completed various screening assessments that were administered by qualified graduate speech-language pathology clinicians at WSU and FHSU (see Appendix J). Graduate clinicians assisting in this study had successfully completed coursework in the evaluation and assessment of communication disorders and audiology. They also were required to complete training administered by the primary researcher to administer the procedures and protocols for this study accurately. This training was accomplished during two 90-minute group sessions. All participating graduate clinicians

administering screenings, scales, and tests were blinded to the objectives of the study. To achieve this blinding, the graduate clinicians were not informed about the purpose of the study. They were invited to participate in the study specifically to gain experience in the administration of the screening procedures, scales, and tests.

Screenings were completed by all participants during a one-hour session. These screenings were of hearing, vision, and cognition, the latter using the clock drawing task from the *Cognitive Linguistic Quick Test* (CLQT)) (Helm-Estabrooks, 2001). Screening results in conjunction with observations of informal conversational interactions assisted in determining which participants were able to proceed with the full study based on set inclusion criteria.

Hearing screening. Air-conduction pure-tone hearing screenings (see Appendix K) were administered to all participants using calibrated portable audiometers in quiet speech-language pathology clinic rooms. Participants were instructed to use listening aids during screenings if these were used consistently; they were also instructed to use them throughout the remainder of the study activities. Passing criteria required a response in at least one ear at 35 dB HL for the frequencies of 1000 and 2000 Hz and at 65 dB HL at 4000 Hz in the better ear (Murphy, Daneman, & Schneider, 2006). Results of the hearing screenings are summarized in Appendix K.

Eighteen of the 20 participants passed the hearing screening. The communication partner in dyad one did not respond to the 1000Hz tone at 35dB in the right ear. The person with aphasia in dyad 10 was unable to complete the screening due to hearing aid feedback while the head phones were placed. Despite not passing, these participants were allowed to proceed in this study given their functional performance in informal spontaneous interactions.

Vision screening – part 1. Each participant in this study completed part-one of a two-part vision screening protocol (see Appendix L). Participants who used visual aids daily were

required to use them during each of these vision screenings and during all other study activities. Part one consisted of screening visual acuity using the *Rosenbaum Pocket Vision Screening* (RPVS) card (Horton & Jones, 1997). The RPVS card was placed on a portable clear-plastic stand. Participants were instructed to position the card by moving the stand to where they could best read it. The rationale for this placement was based on Horton and Jones (1997) who stated that, "near vision testing is an imprecise art at best" and "it is more important that the card be held where it is seen in best focus" (p. 173).

Each eye was screened individually using a standard 3x5-inch card that was positioned over one eye to screen the opposite eye. Passing criterion for visual acuity was the accurate identification of target stimuli on the distance equivalent line of 20/100 with at least one eye. The 20/100 distance equivalent line represents 14 point font (Horton & Jones, 1997). Results of the part-one vision screening can be seen in Appendix L.

Cognitive screening. The clock-drawing task from the *Cognitive Linguistic Quick Test* (CLQT) (Helm-Estabrooks, 2001) was administered to all participants to document current functioning in the areas of attention, working memory, organization, planning, visual perceptual, and visual motor skills (see Appendix M). Each participant was provided the page with the circle image. At that time, instructions were uniformly stated, "*This circle represents a clock face. Please put in the numbers so that it looks like a clock and then set the time to 10 minutes after 11*." Completed drawings were analyzed and scored according to stated criteria (Helm-Estabrooks, 2001).

Within the CLQT manual, severity ratings for each of two different age groups (ages 18-69; ages 70-89) were available for this task. Cutoff scores were developed for non-neurologically involved persons in each of these groups. For the younger group, the score for typical

performance was 12. For the older group, the score for typical performance was 11. Communication partners were excluded from this study if they scored below 12 or 11 depending on the associated age group. Severity ratings and associated scores for neurologically involved persons (right, left, and bilateral cerebrovascular accidents (CVAs); Alzheimer's disease; and closed head injuries) also are provided in the CLQT manual for the two age groups. For the younger group, scores and ratings were: (a) 13-12 (within normal limits), (b) 11-10 (mild), (c) 9-8 (moderate), and (d) 7-0 (severe). Scores and ratings for the older group were: (a) 13-11 (within normal limits), (b) 10-9 (mild), (c) 8-7 (moderate), and (d) 6-0 (severe). The mean score and standard deviation of a sample group (n = 10) of persons with left CVAs who completed the clock-drawing task were reported in the CLQT manual. The mean score of this group was 8.10 with a standard deviation of 3.63. In this study, persons with aphasia were excluded from this study if they scored at or below one standard deviation below the mean of the test sample. Therefore, to include persons with aphasia in this study, a score of 4.47 or better was expected. Each person with aphasia in this study met this criterion. Results are shown in Appendix M.

Additional Assessments for Persons with Aphasia

Vision screening – part 2. Only participants with aphasia completed part two of the vision screening which consisted of the Scanning/Visual Field/Print Size/Attention Screening Task form (Garrett & Lasker, 2007) (see Appendix N). Persons with aphasia visually scanned the page from left to right identifying each instance of the target word *good* from an array of foils across four levels of font size. Levels were arranged vertically with the target words and foils becoming smaller from top (largest, 24 point font) to bottom (smallest, 10 point font). Twenty-five points were possible for this task. To pass, at least 80% accuracy of identifying the target

word was required for the top three levels; 24, 16, and 12 point font sizes. See Appendix N for results.

Western Aphasia Battery-Revised (WAB-R). Once the screenings were completed and inclusion criteria were met, each person with aphasia included in this study was required to have completed the *Western Aphasia Battery-Revised* (WAB-R) (Kertesz, 2006) within the previous 12 months. The WAB-R was administered or re-administered to persons with aphasia who did not meet this timing requirement. Administration of the WAB-R commenced during the initial one-hour screening session and was continued during another scheduled one-hour session within the same week, if needed.

The WAB-R assesses expressive and receptive language skills in the modalities of spontaneous speech, auditory verbal comprehension, repetition, naming, word finding, reading and writing. Nonlinguistic tasks are also included to detect various types of apraxia and potential visual perceptual difficulties. Data for participants' scores on the WAB-R are presented in Table 3.5.

Table 3.5. *Aphasia Quotient, Level of Aphasia Severity, and Type of Aphasia*

Dyad	Aphasia Quotient	Level of Severity	Type of Aphasia
1	60.4	Moderate	Wernicke's
2	82.0	Mild	Anomic
3	31.3	Severe	Broca's
4	58.2	Moderate	Broca's
5	61.5	Moderate	Conduction
6	86.9	Mild	Anomic
7	29.7	Severe	Broca's
8	44.4	Severe	Broca's
9	32.4	Severe	Wernicke's
10	57.8	Moderate	Conduction

Assessment of Communication Partner Variables

Communication partners were administered three scales measuring the three variables of interest consisting of the: (1) *Role Category Questionnaire* (RCQ) (Crockett, 1965), (2) *Carer Communication Outcome after Stroke* (CaCOAST) scale (Long et al., 2009), and (3) *Mutuality Scale* (MtS) (Archbold et al., 1990). Administration of these scales occurred during the initial one-hour screening session and then continued during another one-hour session scheduled that same week, if needed.

The Role Category Questionnaire (RCQ). The standard two-role version of Crockett's (1965) *Role Category Questionnaire* (RCQ) (see Appendix O) was completed to obtain a measure of each communication partners' level of interpersonal cognitive complexity. When completing the RCQ, communication partners were instructed to think of two individuals their own age that they knew: One a *liked* person and the other a *disliked* person. For each *liked* and *disliked* person, the communication partners were asked to write a description of these individuals over a 5-minute period.

The completed RCQs from each communication partner were analyzed and coded by the primary researcher according to guidelines from Medvene and Latronica (2010) (see Appendix P). The coding guidelines used in this study required the primary researcher to determine each individual construct listed within the descriptions provided by the communication partners and tabulate them into the sum total of the constructs for the entire RCQ. That total was designated as the communication partner's index of interpersonal cognitive complexity.

Constructs coded by the primary researcher consisted of physical descriptors (i.e., skinny, tall, loud, etc.) as well as psychological traits (i.e., generous, loving, daring, conceited etc.). However, not all entries could be coded due to vagueness or entries unassociated with the

defined constructs. For example, a description such as, “He doesn’t like me very much” was not coded as it did not adhere to a construct and it spoke more about the communication partner who was completing the RCQ rather than the *liked* or *disliked* person described.

Recognizing the subjective nature of the coding guidelines of RCQs, it was necessary for the primary researcher to be calibrated in terms of accuracy and reliability. Calibration was completed prior to the start of the study. Training sessions were completed by the primary researcher and two other researchers familiar with the RCQ. During these sessions, reviews and adaptations of the coding guidelines were discussed and agreed to by consensus. Once the guidelines were determined to be relevant for this study, the focus then was placed on enhancing the accuracy and reliability of coding by the primary researcher. To achieve interrater-reliability, interpersonal cognitive complexity scores from non-study RCQs were coded by the trained team of researchers. Agreements and disagreements were discussed and 100% interrater agreement was achieved. Another RCQ then was scored individually by each researcher. These coded RCQs were compared across group members with agreements and disagreements discussed until a 100% consensus on agreements was achieved. This process was repeated twice. By the final sample, RCQ interrater reliability of 90% was achieved with no discussion. At that time, it was possible for the primary researcher to code all of the study RCQs. Three random study RCQs were coded by the other two researchers and checked with the primary researcher’s codes during the scoring process to prevent drifting. Interrater reliability for the three randomly selected RCQs averaged 86%.

The Carer Communication Outcome after Stroke scale (CaCOAST). To establish communication partner perceptions regarding the effectiveness of communication by their partner with aphasia, each partner completed the *Carer Communication Outcome After Stroke*

(CaCOAST) scale (Long et al., 2009) (see Appendix Q). The CaCOAST contains 20 items. Responses use a 5-point Likert scale, ranging from 0 (*not at all*) to 4 (*very well*). The maximum possible score is 80. The final score is reported as a percent of the total possible score. The higher the percent score achieved, the more favorable and positive the partner perceptions of the communicative effectiveness of their spouse/close relative with aphasia.

The Mutuality Scale (MtS). To understand the partners' perceptions of the positiveness and closeness of their relationship with the person with aphasia, each communication partner completed the 15-item *Mutuality Scale* (MtS) (Archbold et al., 1990) (see Appendix R). The communication partners were instructed to complete the scale from their current perceptions of their relationship as opposed to perceptions about the relationship prior to the onset of aphasia. Each communication partner responded to each statement on the MtS using a 5-point Likert-type scale with responses of 0 (not at all) – 2 (neutral) – 4 (a great deal). Responses were summed and divided by the total number of items. The mean score of the entire scale was reported. Means of 3+ represented more positive perceptions of the relationship while scores lower than 2 represented less positive perceptions of the relationship.

Pre- and Post-Training Video Recorded Conversations

The communication partners and persons with aphasia were videotaped during two 10-minute spontaneous conversations (see Appendix S). The 10-minute conversations were recorded prior to supported communication training for the communication partners and again during the following week after training was completed. The video recorded conversations were conducted in quiet speech-language-hearing clinic rooms at WSU or FHSU. Prior to recording, each dyad was allowed a few minutes to get comfortable with their surroundings. They were then read instructions by a graduate clinician as follows:

"Your task today is to have a conversation with each other. Just interact as naturally as possible. You may talk about anything that comes to mind such as daily life, family happenings, current events, hobbies, what you like to do each day, sports, or even politics. If, by chance, you feel stuck during the conversation, try to work through it as best you can. When 10-minutes of conversation have elapsed, you will be notified and the recording will be concluded. Do you have any questions before we start"?

For each recording, each person was positioned across a corner of a four-sided table (see Appendix T) (Alarcon & Rogers, 2007). The video camera was placed on a tripod at a standard height and uniform distance from both participants and was stationary during recordings. The video camera was small and did not appear to intrude on the interaction. The internal microphone of the video camera captured conversations during recordings. Supports (e.g., items such as paper and markers, magazines and newspapers, maps) were available during all pre- and post-video recordings. Though present, no instructions or stipulations regarding use of these supports were provided.

All study-related data were kept confidential. Data were locked in the primary researcher's office and computers containing data were password-protected. Protected Health Information (PHI) that was gathered for this study was securely stored in adherence and compliance with the Health Insurance Portability and Accountability Act (HIPAA) of 1996 (Amatayakul, 2000). Data obtained in this study were not shared with others outside the scope of this research and data will not be shared without permission from the participants, unless the data are deidentified.

Conversation Partner Training

Training of communication partners was completed at Fort Hays State University (FHSU; n = 3) and Wichita State University (WSU; n = 7). Each round of training was identical, delivered uniformly across settings. Uniform delivery was possible using a manual of training procedures and protocols prepared by the primary researcher. In addition to the primary researcher, each training session was attended by a graduate student. The graduate student helped with set-up and role playing activities.

Each communication partner training consisted of two main sections. Section 1 consisted of one 4-hour session that was attended only by the communication partners to learn about, practice, and refine supported communication principles, strategies, and methods. For section 2, the trained communication partners were paired with their spouse/close relative with aphasia to practice and refine trained principles and techniques.

Conversation partner training (section 1). As shown in Table 3.6a, the initial 4-hour training block was organized into four modules, each containing specific topics and goals.

Table 3.6a. *Communication Partner Training – Section 1*

Modules – Topics - Durations			
Module 1	Module 2	Module 3	Module 4
Conceptual Motivational	Technical	Integrative Role-Play	Evaluation
(45 Minutes)	(45 Minutes)	(90 Minutes)	(60 Minutes)

The first module (45 minutes) was the conceptual and motivational module. During this module, a video, *Inside Aphasia* (Bijan, 2007), was shown to increase the insight of the communication partners into aphasia. This video provided a review of stroke and portrayed several different

experiences of persons with aphasia and the impact of aphasia on family and other community members. It also contained discussions from professionals who specialize in working with persons with aphasia. These professionals shared their perspectives about the consequences of aphasia. A bulleted aphasia fact sheet was developed from the content of the video by the primary researcher. This fact sheet was discussed and provided to the communication partners as a supplement for future reference.

The second module was the technical module (45 minutes). This module introduced communication partners to the principles, strategies, and methods of supported communication. Communication partners were shown that it is their job to orchestrate the use of various supports and skills to accomplish effective supported conversations. Further, it was demonstrated that as trained communication partners, their roles included: (a) *acknowledging competence* of persons with aphasia, and (b) helping persons with aphasia *reveal competence* during conversations. In addition to these roles, the communication partners also learned about the skills and roles expected from persons with aphasia. The roles for persons with aphasia included: (a) contributing to the *interactions* (e.g., exchanges) of conversations, and (b) accurately conveying and receiving details and information via the *transactions* embedded within the exchanges of conversations. Exchanges and transactions typically increase in the presence of trained communication partners (Simmons-Mackie et al., 2010). To help reinforce these concepts, skills, and roles of supported communication, the communication partners viewed the video, *Supported Conversation for Aphasic Adults: Increasing Communicative Access* (Kagan, 1995). This video was shown to demonstrate the concepts of supported conversation. It was followed by a presentation by the primary researcher to clarify important points of the video and to respond to questions regarding supported communication. Communication partners viewed and discussed

additional sample videos of supported conversations. These sample videos were retrieved from the American Speech-Language-Hearing Association's (ASHA's) Master Clinician Series *Supported Communication Intervention for Aphasia* (Alarcon & Rogers, 2007). The video role-plays exemplified the pertinent concepts of supported communication and applicable techniques. Specifically, these videos portrayed: (a) conducting natural conversations using supported conversation principles and various supports (e.g., gestures, drawings, pictures, alphabet boards, or maps, etc.), (b) acknowledging and revealing competence of persons with aphasia, and (c) the need for continual self-monitoring throughout conversations so communicative adjustments could be made proactively.

The third module was the integrative role-play module (90 minutes). Model role-plays were conducted with the primary researcher or the attending graduate clinician playing the part of a person with nonfluent aphasia and left hemiplegia. Then the communication partners played themselves during role-plays with each other using information and skills presented in Module 2. Role-plays occurred between two communication partners while the other communication partners observed. During and after the role-plays, the primary researcher, the graduate clinician and other communication partners in the room provided feedback. This served to help reinforce and refine newly learned supported conversation principles, strategies, and methods.

The fourth module was the evaluation module (60 minutes). Within this module, newly trained communication partners viewed previously unseen videos of dyads engaged in supported conversations. Once viewed, trainees completed rating scales regarding the performance and effectiveness of the communication partners and persons with aphasia in the video. The purpose of this module was to reinforce the importance of continual self-monitoring during supported conversations. With guidance from the primary researcher, the newly trained supported

communication partners rated the communication partner's abilities in *acknowledging* and *revealing competence* as well as the *interactions* and *transactions* demonstrated by the person with aphasia.

Conversation partner training (section 2). The primary researcher conducted each scheduled session of section 2 with the assistance of a graduate clinician. As shown in Table 3.6a, individual dyads, consisting of the trained conversation partner and the partner with aphasia, attended one 60-minute session per week for three weeks to further refine skills learned during training.

Table 3.6b. *Communication Partner Training – Section 2*

Weekly Sessions			Session Format
Week	Session	Duration	Agenda
Week 1	Session 1	60 Minutes	1. 5- 10 minutes of introductions and topic review 2. 5-minute conversation (video recorded) 3. 10-15 minutes conversation/video review and refinement of skills 4. Repeat #2 5. Repeat #3 6. 5-10 minutes of conclusions and wrap-up
Week 2	Session 2	60 Minutes	
Week 3	Session 3	60 Minutes	

At the beginning of each session, approximately 10-minutes were allotted to answer questions, review supported communication principles, strategies, and methods, and determine potential conversation topics.

When ready, dyads engaged in a 5-minute spontaneous supported conversation that was video recorded. Both the primary researcher and the graduate clinician were out of the room while the conversation occurred. Once 5 minutes had elapsed, the primary researcher and the graduate clinician entered the room and played the video of the conversation on a computer

monitor. The monitor was positioned so that all persons in the room could see and hear the playback simultaneously. During playback, the 5-minute conversation was analyzed and discussed by the primary researcher and the dyad to reinforce positive aspects of acknowledging and revealing communicative competence of the person with aphasia.

The primary researcher also provided more constructive feedback at times when supported communication skills were not optimally used. At such times, demonstrations of improvements were conducted by the primary researcher and the graduate clinician with subsequent mini role-plays completed by the dyad. The immediate feedback, discussions, and role-plays all were designed to bolster skills of the trained communication partners in conducting supported conversations. After the initial 5-minute conversation and feedback, the process was repeated using a different topic of conversation. Each conversation along with the time for feedback and role-plays lasted approximately 25 minutes. Training was complete after the three practice sessions. The primary researcher conducted all training sessions.

Modified Supported Conversation Rating Scales

Prior to training, the primary researcher developed and adapted communication partner training procedures and protocols used within this study based on Kagan's (1999) supported conversation methods. These methods, used as a model because of their proven effectiveness, are the Measure of Skill in Conversation (MSC) and the Measure of Participation in Conversation (MPC) (Kagan, Winckel, Black, Duchan, Simmons-Mackie, & Square, 2004) shown in appendix U. It is important to note that Kagan's (1999) training procedure was designed for use with unfamiliar, volunteer communication partners. In this study, the communication partners were familiar partners.

For the current study, conversational effectiveness was operationally defined according to the four skills measured with the MSC and the MPC. For the communication partners evaluated with the MSC, the two skills assessed were acknowledging competence and revealing competence of persons with aphasia. Acknowledging competence was defined in the original MSC scale and within this study as being mindful of the person with aphasia as a communicator and being sensitive to their inherent ability to communicate. Revealing competence of persons with aphasia was defined in the original MSC scale and within this study as the ability of communication partners to facilitate participation of the persons with aphasia in conversations by helping them understand and communicate what they think, feel, and know. Ratings of each skill on the original measures were made on 9-point Likert scales. The modified scales used 5-point Likert scales. The modifications made to the original scales were deemed appropriate as Kagan herself recommended they be adapted to settings and purposes as needed (Kagan et al., 2004). For each of these skills, higher ratings represent higher levels of conversational effectiveness demonstrated by the communication partners.

For the persons with aphasia evaluated with the MPC, the two skills measured were of interaction and transaction. Interaction was defined as contributing to the exchanges of the conversation. Transaction was defined as the information and details embedded within the exchanges of the conversation.

For each of these skills, higher ratings represent higher levels of conversational effectiveness demonstrated by the communication partners. Ratings of each skill originally were made on 9-point Likert scales. Modifications to 5-point scales then were adopted by the investigator as suggested by Kagan et al., (2004). To modify the original scales, the primary researcher and two additional researchers familiar with these scales met over a series of sessions

to discuss the content of the original scales and the changes desired. Discussions ensued regarding wording, behavioral descriptions, the rating anchors, and the possible responses. As modifications were made, each one was discussed until 100% consensus was achieved. If the modification could not be agreed upon, further discussions and changes were made until 100% agreement was achieved.

Once the scales were modified (see Appendix W), they were subjected to rigorous testing in order to calibrate responses and maximize consistency from conversation to conversation. Calibration and consistency were completed by viewing samples of recorded 10-minute conversations that were not a part of the study. The sample conversations were realistic for this study in that they were between a dyad consisting of a communication partner and a person with aphasia.

To establish consistency of ratings using the modified scales, the three researchers met to view the recorded conversations. Each researcher rated each conversation individually. Ambiguous and difficult to rate items were identified in subsequent discussions. These items were either modified to improve wording or discarded. Each modification was accepted only when 100% agreement was achieved. This process was repeated five times until the final version of the scales needed for this study emerged.

Each item on the revised scales required a response on a 5-point Likert scale. Anchor points for the modified MSC and MPC ranged between zero and four with equal one-point increments. Rating anchors of both the modified MSC and MPC scales were: (0 - *none*), (1 - *occasional*), (2 - *adequate*), (3 - *frequent*), and 4 (*consistent*). Completed scales yielded ratings ranging from zero to four for communication partners and persons with aphasia in the areas of: (a) *acknowledging competence*, (b) *revealing competence*, (c) *interactions*, and (d) *transactions*.

Scores were reported for each of these areas based on their ratings and summed to provide a total score for the MSC (a + b) scale and a total score for the MPC (c + d) scale. Higher ratings were indicative of more effective supported conversations.

Rating supported conversations. Once calibration was complete and the modified scales were finalized, the primary researcher rated all 20 of the pre- to post-training video recorded conversations of this study in a randomized order (see Appendix X). To ensure consistency, random interrater-reliability checks were completed on three different occasions to prevent drifting. Interrater-reliability of the random checks was consistently above 80%.

Audio-video equipment. Pre- and post-training conversations, as well as practice conversations, were recorded using a Kodak Zi8 pocket digital video camera mounted on top of a standard six to eight-foot tripod (see Appendix T). The Kodak Zi8 had a built-in internal microphone, a resolution of 1920 x 1080 pixels, and the capacity to record at 30 frames-per-second. Use of this camera was field tested as the study was being developed. Through field testing, tripod and camera adjustments were made so that use was consistent from setting to setting during the actual study. For the field testing, five unrelated 10-minute conversations were captured, analyzed and rated successfully. Playback of video was achieved using Apple's QuickTime Player (version 7.7.3 [(1680.64]) because videos stored in the camera were formatted as .mov files. Playback always occurred using a Dell Latitude laptop computer running Windows 7 Enterprise. Computer specifications included an Intel (R) Core(TM) i3-2310M CPU @ 210GHz, installed memory (RAM) of 4.00 GB, and a 32-bit operating system. Sound during playback was enhanced using an attached Bose Companion 2 Series II multimedia speaker system. Both audio and video playback was adequate for analyzing and rating conversations.

Data Analysis

The methods described were developed to answer the four questions pertinent to this study. These questions were: (1) Does conversation training provided to communication partners of persons with aphasia increase conversational effectiveness? (2) Does the communication partner's level of interpersonal cognitive complexity (measured by the RCQ) impact conversational effectiveness? (3) Does the partner's perception of communicative effectiveness of his or her spouse/relative with aphasia (measured by the CaCOAST) impact conversational effectiveness? and (4) Does the partner's perception of the positiveness of his or her marital/close relative relationship with the person with aphasia (measured by the MtS) impact conversational effectiveness? The non-parametric Wilcoxon Signed Rank Test and Spearman's Rank Order Correlation (rho; ρ) coefficients were used to analyze the data from the 10 dyads (IBM SPSS Statistics, Version 19).

Question 1. To answer question 1, "Does conversation training provided to communication partners of persons with aphasia increase conversational effectiveness?" the acknowledging competence (AC) and revealing competence (RC) scales making up the Measure of Skill in Conversation (MSC) scale were scored pre- and post-training. Likewise, the interaction and transaction subscales of the Measure of Participation (MPC) scale were scored pre- and post-training. First, each of the four pre-training scores as a set were compared to the set of the four post-training scores to determine if the change in overall conversational effectiveness was significant for conversations. Second, to determine the change in conversational effectiveness for conversation participants within each conversation, pre- to post-training MSC and MPC scores were compared. Third, once these comparisons were made, pre-training scores for each individual scale were compared to post-training scores for each individual scale to

determine if the change from pre- to post-training was statistically significant. Each of these comparisons was done using the Wilcoxon Signed-Rank Test.

Questions 2 – 4. To determine responses for questions 2-4, relationships were examined between each variable score (i.e., the RCQ, CaCOAST, and MtS) and the conversational effectiveness scores (i.e., MSC and MPC). Prior to this analysis, sum of change scores were calculated for both the MSC and the MPC. Sum of change scores were calculated by subtracting pre-training scores from post-training scores for each scale (i.e., AC, RC, interaction and transaction) Change scores from each scale were then summed to obtain the sum of change scores. Thus, the sum of MSC change scores was calculated by adding AC and RC change scores and the sum of MPC change scores were calculated by adding interaction and transaction change scores. For each one of the questions 2 through 4, the sum of MSC and MPC change scores were compared separately with scores obtained from each one of the three partner variable measures (i.e., RCQ, CaCOAST, and the MtS) using Spearman's Rank Order Correlations (rho; ρ).

CHAPTER 4

RESULTS

Communication Partner Variables Results

The 10 communication partners in this study were administered three scales: (1) The Role Category Questionnaire (RCQ) (Crockett, 1965), (2) the Carer Communication Outcome after Stroke (CaCOAST) scale (Long et al., 2009), and (3) the Mutuality scale (MtS) Archbold et al., 1990). The results for each scale are shown in Table 4.1.

Table 4.1. *Scores of Each Communication Partner Variable*

Dyad	RCQ Scores	CaCOAST Scores	MtS Scores
1	28	55	3.20
2	12	85	3.40
3	9	40	3.67
4	34	59	4.00
5	21	53	3.73
6	44	50	2.93
7	11	46	1.53
8	16	51	3.33
9	20	60	3.60
10	23	55	3.13
Range	9 to 44	40 to 60	3.2 to 4.0
Mean	21.8	55.40	3.25
SD	11.03	11.97	0.68

Data Analysis for Research Question 1

Research question 1 asked, “Does conversation training provided to communication partners of persons with aphasia increase conversational effectiveness”? To answer this question, data were analyzed from the modified version of the Measure of Skill in Conversation scale (MSC) comprised of the acknowledging competence (AC) and revealing competence (RC) scales and the modified version of the Measure of Participation in Conversation (MPC) scale

comprised of the interaction and transaction scales. To determine the overall change in conversational effectiveness of conversations, a related samples Wilcoxon Signed-Rank Test was calculated to compare the difference in pre- to post-training scores of each of the four scales combined. The calculation revealed that conversational effectiveness scores were significantly higher after training (*Mdn* = 4.00) than prior to training (*Mdn* = 2.00), $z = -5.03$, $p < .05$.

To determine the change in conversational effectiveness of the communication partners during conversations, a related samples Wilcoxon Signed-Rank Test was calculated to compare the difference in pre- to post-training MSC scale scores. The calculation revealed that conversational effectiveness scores were significantly higher after training (*Mdn* = 7.84) than prior to training (*Mdn* = 4.00), $z = -2.81$, $p < .05$. To determine the change in conversational effectiveness of the persons with aphasia during conversations, a related samples Wilcoxon Signed-Rank Test was calculated to compare the difference in pre- to post-training MPC scale scores. The calculation revealed that conversational effectiveness scores were significantly higher after training (*Mdn* = 7.00) than prior to training (*Mdn* = 5.00), $z = -2.72$, $p < .05$.

Data obtained for acknowledging competence are shown in Figure 4.1.

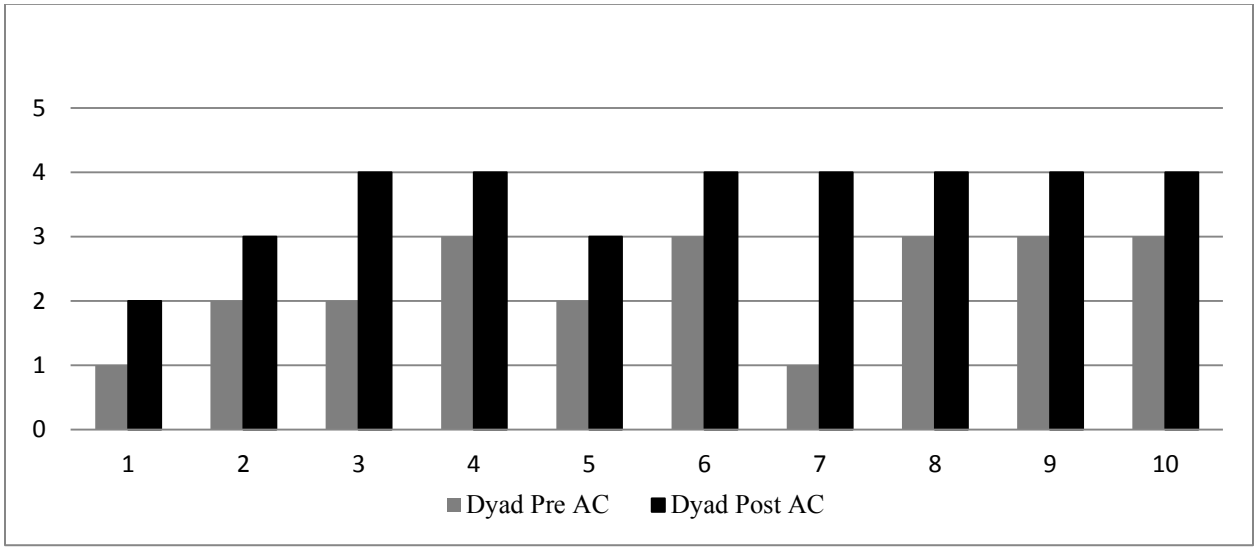

Figure 4.1. Pre- to Post-Training Acknowledging Competence (AC) Scores

These data show that each of the 10 communication partners increased their ability to acknowledge competence. A related samples Wilcoxon Signed-Rank Test was calculated to compare the difference in pre- to post-training scores of acknowledging competence demonstrated by the communication partners. The calculation revealed that acknowledging competence scores were significantly higher after training (*Mdn* = 4.00) than prior to training (*Mdn* = 2.50), $z = -2.97$, $p < .05$.

Data from the revealing competence scale of the modified MSC are shown in Figure 4.2.

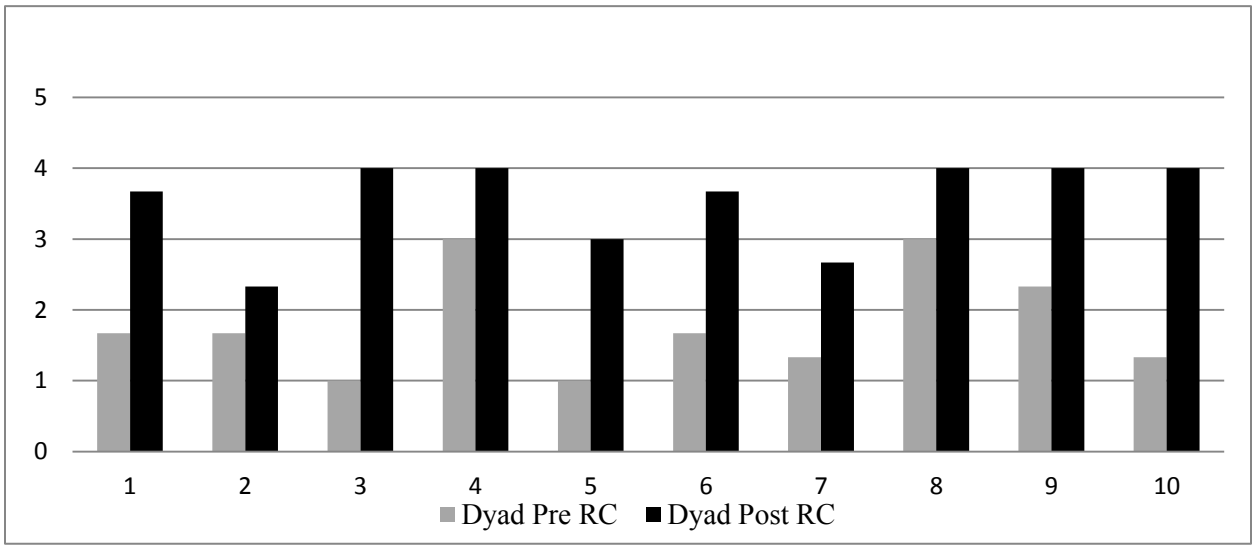

Figure 4.2. Pre- to Post-Training Revealing Competence (RC) Scores

These data show that each of the communication partners increased their ability to reveal competence. A related samples Wilcoxon Signed-Rank Test was calculated to compare the difference in pre- to post-training scores of revealing competence demonstrated by the communication partners. The calculation revealed that revealing competence scores were significantly higher after training (*Mdn* = 3.84) than prior to training (*Mdn* = 1.67), $z = -2.81$, $p < .05$.

Data from the interaction scale of the modified MPC scale are shown in Figure 4.3. Dyads 1, 2, 3, 8, 9 and 10 were at the maximum score at both pre- and post-training measures.

Dyad 7 also showed no change from pre- to post-training measures. Because only 3 of the 10 dyads demonstrated change (although positive) on this scale, no significance test was used.

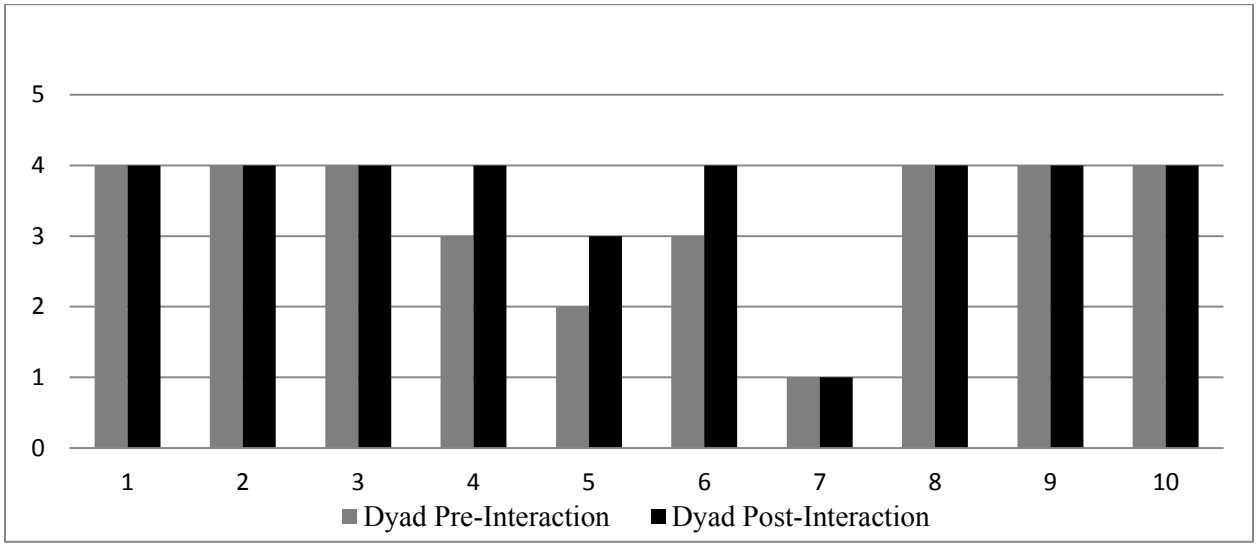

Figure 4.3. Pre- to Post-Training Interaction Scores

Data from the transaction scale of the modified MPC are shown in Figure 4.4. These data show that all but one person with aphasia showed improvement in their ability to transact information. A related samples Wilcoxon Signed-Rank test was calculated to compare the

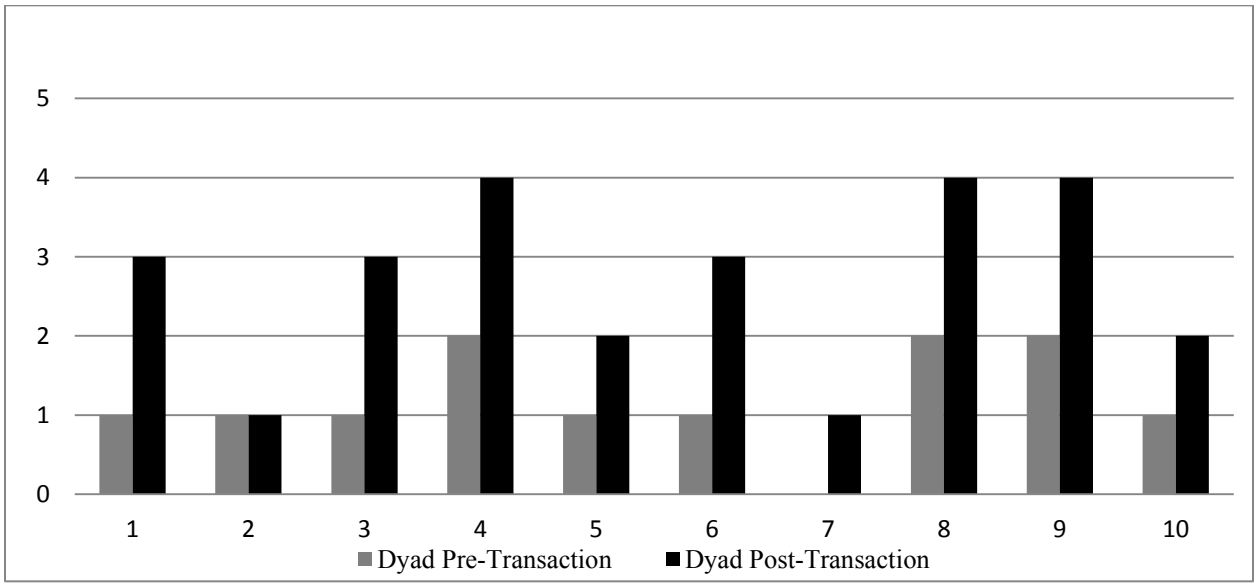

Figure 4.4. Pre- to Post-Training Transaction Scores

difference in pre- to post-training scores of transaction demonstrated by the persons with aphasia. The calculation revealed that transaction scores were significantly higher after training (*Mdn* = 3.00) than prior to training (*Mdn* = 1.00), $z = -2.76$, $p < .05$.

Data Analysis for Research Questions 2-4

Research questions 2 through 4 examined the relationships between each of the communication partner variable scores and the sum of MSC and MPC change scores. Research question 2 asked, "Does the communication partner's level of interpersonal cognitive complexity (as measured by the RCQ) relate to conversational effectiveness"? Data used to determine these relationships are shown in Table 4.2.

Table 4.2. *RCQ Scores and the Sum of MSC and MPC Change Scores*

Dyad	Communication Partners		Persons with Aphasia
	RCQ Scores	Sum of MSC Change Scores	Sum of MPC Change Scores
1	28	3.00	2.00
2	12	1.66	0.00
3	09	5.00	2.00
4	34	2.00	3.00
5	21	3.00	2.00
6	44	3.00	3.00
7	11	4.34	1.00
8	16	2.00	2.00
9	20	2.67	2.00
10	23	3.67	1.00

Research question 3 asked, "Does the partner's perception of communicative effectiveness of his or her spouse/relative with aphasia (measured by the CaCOAST) relate to conversational effectiveness?" Data used for determining these relationships are shown in Table 4.3.

Table 4.3. *CaCOAST Scores and the Sum of MSC and MPC Change Scores*

Dyad	Communication Partners		Persons with Aphasia
	CaCOAST Scores	Sum of MSC Change Scores	Sum of MPC Change Scores
1	55	3.00	2
2	85	1.66	0
3	40	5.00	2
4	59	2.00	3
5	53	3.00	2
6	50	3.00	3
7	46	4.34	1
8	51	2.00	2
9	60	2.67	2
10	55	3.67	1

Research question 4 asked, "Does the partner's perception of the positiveness of his or her marital/close relative relationship with the person with aphasia (measured by the MtS) relate to conversational effectiveness"? Data used for determining these relationships are shown in Table 4.4.

Table 4.4. *MtS Scores and the Sum of MSC and MPC Change Scores*

Dyad	Communication Partners		Persons with Aphasia
	Mutuality Scores	Sum of MSC Change Scores	Sum of MPC Change Scores
1	3.20	3.00	2.00
2	3.40	1.66	0.00
3	3.67	5.00	2.00
4	4.00	2.00	3.00
5	3.73	3.00	2.00
6	2.93	3.00	3.00
7	1.53	4.34	1.00
8	3.33	2.00	2.00
9	3.60	2.67	2.00
10	3.13	3.67	1.00

The relationship results for questions 2 through 4 were obtained using Spearman's Rank Order Correlation (rho; ρ). Correlations are shown in the intercorrelation matrix in Table 4.5.

Table 4.5. *Summary of Intercorrelations for Scores on the RCQ, CaCOAST, MtS, Sum of MSC Change Scores, and Sum of MPC Scores as a Function of Conversational Effectiveness*

Measure	RCQ Scores	CaCOAST Scores	Mutuality Scores	Sum of MSC Change Scores	Sum of MPC Change Scores
RCQ Scores	_____				
CaCOAST Scores	.280	_____			
Mutuality Scores	-.030	.328	_____		
Sum of MSC Change Scores	-.234	-.735*	-.345	_____	
Sum of MPC Change Scores	.618*	-.180	.332	-.096	_____

Note: *$p < .05$

The partner variables were each compared with the sum of MSC and MPC change scores and the correlation coefficients were analyzed. There was a large positive relationship between RCQ scores and sum of MPC change scores, $\rho = .62$, $p < .05$. The r^2 value of this coefficient was .38. There was also a significant high negative relationship between CaCOAST scores and the sum of MSC change scores, $\rho = -.74$, $p < .05$. The r^2 value of this coefficient was .54. There was a low negative relationship between MtS scores and sum of MSC scores, $\rho = -.35$, $p > .05$. There was a low positive relationship between MtS scores and sum of MPC scores, $\rho = .33$, $p > .05$. The r^2 values for the MtS correlations were .12 and .11, respectively. Little if any correlation was noted among the three partner variable scores.

CHAPTER 5

DISCUSSION

The purpose of this study was to examine the relationship of three communication partner variables on conversational effectiveness with 10 persons with aphasia both before and after their communication partner participated in training. The communication partners were trained to use conversation strategies adopted from Kagan's (1999) Supported Conversation for Adults with Aphasia (SCA^{TM}) protocol. Pre- and post-training 10-minute conversations between the dyads were video-recorded and analyzed using versions of Kagan's supported conversation measures that were adapted for this study. These scales consisted of the modified Measure of Skill in Conversation (MSC) scale, to assess the conversational effectiveness of the communication partners, and the modified Measure of Participation in Conversation (MPC) scale, to assess the conversational effectiveness of the person with aphasia. Conversational effectiveness for the communication partners was defined as acknowledging competence and revealing competence of persons with aphasia. Conversational effectiveness for persons with aphasia was defined in terms of interactions and transactions of conversations. Scores obtained from the MSC and MPC scales were compared with the scores obtained from scales that indexed the communication partner variables of interest. Those scales and their associated communication partner variable of interest were: (a) the Role Category Questionnaire (RCQ) (Crockett, 1965), the measure of interpersonal cognitive complexity, (b) the Carer Communication Outcome after Stroke (CaCOAST) scale (Long et al., 2009), the measure of the partners perceptions of communicative effectiveness exhibited by his or her spouse or close relative with aphasia, and (c) the Mutuality Scale (MtS) (Archbold et al., 1990), the measure of the partner's perceptions of the positiveness of their marital/close relative relationship. These scale scores were examined for relationships that may

impact conversational effectiveness during conversations between the communication partners and persons with aphasia.

Discussion of Findings for Research Question 1

Research question 1 asked, "Does conversation training provided to communication partners of persons with aphasia increase conversational effectiveness"? Results showed that the partner training provided in this study was effective as the overall scores on the MSC and MPC measures of conversational effectiveness were significantly increased following training. Further analysis of each measure revealed that communication partners significantly improved scores in acknowledging competence and revealing competence of persons with aphasia. Persons with aphasia significantly improved transaction scores, indicating they embedded more details and information into exchanges of conversations. Interaction scores of persons with aphasia were not significantly different after training.

The non-significant change in interaction scores was not surprising for several reasons. First, scores for the interaction measure were relatively high prior to training and they remained high after training. This may have represented a ceiling effect limiting ratings of further improvement of interaction skills. Secondly, this result supports the suggestion that the persons with aphasia in this study, although burdened with language impairments, did not demonstrate impairments in their abilities to interact or carry on exchanges during conversations (Kagan, 1995). Aphasia may impair language functions, but it typically spares cognitive skills and the social drive necessary for interpersonal communication.

Another reason for the non-significant changes in interaction scores of the persons with aphasia may have been because of the familiarity between the conversational participants. Each dyad was comprised of spouses or close relatives of the person with aphasia. It was likely that an

element of comfort existed between them that enabled conversational exchanges. Unfamiliar conversational partners may have a better potential for making greater gains in interaction scores for the person with aphasia as their comfort with one another grows.

The findings of question 1 mirrored supported conversation outcomes of previous studies conducted by Kagan et al., (2001), Legg et al., (2005), and Rayner and Marshall (2003). Each of these studies revealed similar positive effects of training communication partners to use the principles of SCA™. Each of these studies also revealed similar positive effects of training for persons with aphasia in the area of transaction; interaction scores were not significantly changed in any of these studies.

The fact that similar findings have been shown across prior studies and now in this study suggests that the modifications made to the original SCA™ protocol, the MSC and MPC measures, and the context of training in this study did not compromise the integrity of the original protocol and measures of SCA™. This is important because it supports Kagan's notion of using a generic communication training protocol that is adaptable across settings, needs, and participants. It is also important in terms of translational research (Rubio, 2010); referring to the course SCA™ has taken from: (a) testing and use in optimal conditions, to (b) applied use within clinical settings and clinical research to (c) the health care arena, the community at large, and into organizations within the government and businesses (Simmons-Mackie, 2013). Most recently, Simmons-Mackie (2013) described a potential systems-based approach for partner training that could be implemented in organizations but noted that it would be a time consuming and difficult process without the support of key stakeholders such as upper level administrators and pertinent employees. The end goal of the translational course and trajectory of partner training is to make sure all persons with aphasia and other types of communication disorders

have access to public persons, places, and things in ways similar to the general public and to be able to competently make self-decisions pertinent to relevant life situations.

Discussion of Findings for Research Questions 2

Question 2 asked, "Does the communication partner's level of interpersonal cognitive complexity impact conversational effectiveness"? To respond, the sum of MSC change scores and the sum of MPC change scores were compared with scores obtained from the RCQ, the instrument used to index the interpersonal cognitive complexity of the communication partners. The original hypothesis related to the partner variable of interpersonal cognitive complexity was that communication partners would benefit from training because they would increase their skills in acknowledging and revealing competence of persons with aphasia. Furthermore, partners with high interpersonal cognitive complexity would increase their skills in acknowledging and revealing competence of persons with aphasia to a greater extent than their counterparts with low cognitive complexity. The primary reason for this hypothesis was due to the ties that interpersonal cognitive complexity shared with aspects of interpersonal communication skills and interpersonal skill development.

At first glance, the results of this analysis did not appear to support the original hypothesis as MSC scores were not significantly associated with RCQ scores. Thus, the skills of acknowledging competence and revealing competence of persons with aphasia did not appear to be associated with levels of interpersonal cognitive complexity of the communication partners.

Further analysis did, however, reveal a significant positive relationship between the transaction scores of the MPC scale and RCQ scores. Thus, transaction scores were associated with levels of interpersonal cognitive complexity of the communication partners. This implies when conversing with conversation partners with high interpersonal cognitive complexity,

persons with aphasia were able to embed more information and details within the conversational exchanges of a conversation than when conversing with conversation partners with low interpersonal cognitive complexity. Thus, the training received by the communication partners actually was a benefit to persons with aphasia in terms of transaction skills; however, the amount of benefit was proportional to the level of interpersonal cognitive complexity possessed by the communication partners as a function of the amount of details and information embedded within conversational exchanges.

The conversation partners with high levels of interpersonal cognitive complexity may already intuitively have known how to acknowledge and reveal their conversation partner's competence so that changes on the MSC scale were not significant. The positive correlation with the transaction scores of the MPC may reflect the impact of that richer depth of cognitive complexity in conversations. These findings make sense considering the skills addressed in partner training. Partners are trained in how to acknowledge and reveal the competence of persons with aphasia. That is they are trained to help the person with aphasia unmask their inner competence that is masked by aphasia. Acknowledging competence involves respecting persons with aphasia as viable communicators, adapting to the atypical communication styles and communicative needs, and helping persons with aphasia save face during moments of difficulties. These are all skills highly related to interpersonal cognitive complexity. Additionally, the skill of revealing competence involves helping persons with aphasia to get messages in, to get messages out, and to verify that the details and information embedded within the messages conveyed or received are accurate. Once again, these skills are highly associated with interpersonal cognitive complexity. When combined, the skills of acknowledging competence and revealing competence are geared for increasing the transaction skills of persons

with aphasia. It is the increased transaction skills that allow for the unmasking of inner competence.

Results from question 1 showed that the partners trained in this study significantly increased their abilities to acknowledge and reveal competence of persons with aphasia. In that regard, training was effective. It was also shown in question 1 that transaction skills of persons with aphasia were significantly improved after training. Again, this indicates that training was effective. When the findings of question 1 are considered with findings from question 2, it is now apparent that not only was the training effective, but interpersonal cognitive complexity of the communication partners did proportionally influence the transaction skills of persons with aphasia. Thus, interpersonal cognitive complexity did impact conversational effectiveness.

Discussion of Findings for Research Question 3

Question 3 asked, "Does the partner's perception of communicative effectiveness of his or her spouse/relative with aphasia impact conversational effectiveness?" To obtain results for this question, the sum of MSC change scores and the sum of MPC change scores were compared with scores obtained from the CaCOAST scale, the instrument used to index the partners' perceptions of communicative effectiveness exhibited by spouses/close relatives with aphasia.

The original hypothesis for this question was that there would be a significant positive relationship between partner perceptions of conversational effectiveness of their spouse/close relative with aphasia and conversational effectiveness. It was assumed that the higher the regard the partner had in terms of the communicative skills and abilities of the spouse/close relative with aphasia, the more positive the impact there would be on conversational effectiveness.

The original hypothesis was not supported. Instead, results revealed a significant negative relationship between CaCOAST scores and the sum of MSC change scores. These findings

indicate that when partner perceptions about the conversational effectiveness of their partner with aphasia were already high, the skills of acknowledging competence and revealing competence of the communication partners were not impacted as much. Thus, when partner perceptions begin at a high level, the partners may find less need to implement acknowledging and revealing competence skills in the conversation. Perceptions of higher communicative effectiveness in the partners with aphasia may indicate that the partner assumes that the person with aphasia is capable of participating in the conversation adequately, appropriately, and independently.

This finding makes sense fundamentally, because it would not be as necessary to assist persons deemed to be more capable as communicators. Higher scores on the CaCOAST scale appear to reveal that communication partners adjust and modify their use of supported conversation techniques and strategies to the degree deemed necessary based on their perceptions of what the persons with aphasia need. This would be considered positive because it allows persons with aphasia to maximize their residual communicative capabilities at the most independent level.

Discussion of Findings for Research Question 4

Question 4 asked, "Does the partner's perception of the positiveness of his or her marital/close relative relationship with the person with aphasia impact conversational effectiveness"? To respond, the sum of MSC change scores and the sum of MPC change scores were compared with scores obtained from the MtS, the instrument used to index the partners' perceptions of the positiveness of his or her marital or close family relationship.

The original hypothesis for this question was that there would be a significant and positive correlation between conversational effectiveness and partner perceptions of the

positiveness of his/her marital or closes relative relationship. The reason for this hypothesis was due to research revealing the associations of mutuality with perceptions of wellness, health, caregiver burden and role-strain, psychosocial status, depression, optimism, and even mortality (Lyons et al., 2007; Tanji et al., 2008). It was assumed that more favorable perceptions of mutuality would translate into a significant positive correlation with conversational effectiveness.

Results did not support the original hypothesis. In fact, results showed low correlations between MtS scores and the sum of MSC and MPC change scores. These findings were not expected given the associations mutuality has been shown to have with various illnesses, conditions, and levels of caregiver burden. Tanji et al., (2008) reported that mutuality fluctuates as a function of rewarding and stressful situations. Times of high mutuality have coincided with feelings of abundant intimacy and value within relationships. Additionally, high mutuality has coincided with decreased levels of caregiver burden and favorable outcomes and recoveries after surgeries or serious illnesses. Conversely, times of poor mutuality have been found to associate with heightened depression, decreased quality of life, negative moods, and declines in health. In their research, Tanji et al., (2008) found that mutuality perceived by a spouse married to a person with Parkinson's disease was associated with disease severity, disability, and mental health.

One explanation for this finding is that 9 of the 10 partners in this study showed positive mutuality scores (e.g., greater than 2.0 on a scale of 0 to 4). Seven of those 9 scored above 3. In addition, most of these dyads had been in their relationship for forty years or more. This could suggest that perceptions about the positiveness of the relationship would be relatively based on longevity alone.

Another explanation for these findings could be that the MtS scale did not tap into pertinent aspects of the marital or close relative relationship when one of the spouses or relatives has aphasia. Even though this scale was designed to assess the closeness in couples where one of the members of the dyad is a caregiver of the other, it may not have been as effective as a measure when the person being cared for has difficulty with communication. The RCQ and the CaCOAST scales may have been more appropriate measures because they are both grounded in aspects of communication. The CaCOAST scale also was developed specifically for persons and caregivers with aphasia and/or dysarthria in mind.

It was noted that the MtS score of 1.53 for the partner in dyad 7 was an outlier. This outlier was not unexpected for dyad 7 mainly because the partners in this dyad were dealing with extreme anger and frustration at the time of this study due to the consequences of aphasia. The anger and frustration permeated the relationship and likely influenced the partner's perception of the quality of the relationship. Other factors that may have influenced the low MtS score could have been related to the duration and severity of aphasia. Dyad 7 had been dealing with severe aphasia for 14 months. This is a relatively short duration in terms of recovery. It is likely that both partners of dyad 7 were still dealing with accepting the consequences of aphasia and the new roles suddenly imposed on each other.

Conclusion

There is ample research, this study included, to affirm that communication partner training is an effective tool for improving the communicative efficiency of persons with aphasia. Questions remain however, regarding the foundations of that effectiveness. These foundations are elusive because of the wide array of methods, types, and techniques of partner training reported in the literature. The current study analyzed three communication partner variables and

the impact they had on conversational effectiveness. It was an attempt to delve beyond interactive behavioral observations of desired versus undesired behaviors of partners during conversations. It was also an attempt to go beyond surveys of clinical experts trying to discern what characteristics should be possessed by effective communication partners. While the information gleaned from such studies is invaluable, the current study attempted to get at the origins of the behaviors and characteristics of effective communication partners. With the ability to identify and quantify these important variables, predictions could be made about how best to equip persons to conduct effective conversations with persons with aphasia. Clinically, this information could lead to more effective and efficient care which is important in the current era of decreasing health care budgets and higher productivity standards.

Salient findings of this study include: (a) the communication partner training, as modified, was effective; (b) communication partners with higher cognitive complexity proportionally increased the conversational effectiveness of persons with aphasia, especially in transacting information and details embedded in messages, more so than the communication partners with low cognitive complexity; (c) these familiar communication partners were able to recognize the appropriate amount of conversational support needed during conversations and adjust that support accordingly; and (d) perceptions of the positiveness of relationships were not directly related to conversational effectiveness. Findings are clinically relevant for selecting available communication partners who are best equipped for maximal conversational effectiveness with persons with aphasia.

Limitations

The primary limitation of this study was the small number of participants. This negatively impacted statistical power and made it difficult to know if non-significant findings would have

been significant with more participants or if they truly were non-significant. This study, however, included more participants than most studies of its type. Larger numbers of participants would be desirable, but was difficult to obtain in the settings from which recruitment was made available.

Future Research

This study was the first of its kind to link these specific partner variables together for this type of analysis using familiar partners. One recommendation for future research is to include a greater number of more homogeneous dyads to gain statistical power and to determine if findings would be consistent with other samples.

Another recommendation for future studies is to use the three partner variables incorporated into this study to examine relationships and differences between dichotomous variables such as familiar versus unfamiliar communication partners, male versus female communication partners, younger versus more elderly communication partners, acute stage versus chronic stage persons with aphasia, and participants who have aphasia versus participants who have another type of communication disorder such as Parkinson's disease or amyotrophic lateral sclerosis. The three partner variables could also be examined for relationships and differences between other types and purposes of communicative interactions such as narrative or persuasive discourse.

A third recommendation for future research would be to focus on the impact of environmental contexts to gain understanding about how persons, places, and things surrounding the participants may impact conversational effectiveness. One example would include the training of other potential partners such as graduate or practicing clinicians. Another example

would be to expand training beyond the quiet clinic rooms to home or community settings. More participants in the conversational interaction may also influence the effectiveness of these tools.

A fourth possibility for future research would be to re-organize the subscales of the MSC and MPC measures (Kagan et al., 2004) in a way that may more readily reflect conversational effectiveness between communication partners and their spouses/close relatives with aphasia. Currently, the MSC and MPC measures assign acknowledging competence and revealing competence skills to the communication partners and interaction and transaction skills to the persons with aphasia. This may not be the optimal configuration of these measures based on the evidence. The more optimal configuration of these scales may be to consider the skills of acknowledging competence and interaction simultaneously for both partners and to consider the skills of revealing competence and transaction for both partners also simultaneously during conversations.

The rationale for this re-configuration is that conversations are co-constructed events and the language barrier imposed by aphasia impacts each partner similarly. Because one person in the conversation has aphasia, each partner must skillfully acknowledge and reveal the competence (e.g., skills of the MSC scale) of the other partner and each partner must participate in the conversation via exchanges and contributions of information and details (e.g., skills of the MPC). Each partner must also demonstrate the skills of revealing competence and transaction, both of which are important for increasing the number of accurate details and information embedded within the exchanges of conversations. The fact that persons with aphasia in this study significantly improved their transaction scores within conversations also may be further support for the reorganization of these scales. Future research in this area would help to establish the optimal configuration of these scales.

Finally, further research is needed to examine the potential uses of the modified scales. This may be possible because the findings of question 1 were consistent with supported conversation outcomes of other studies. These scales could be used for different applications such as in University clinics to assess and/or monitor progress of clients with aphasia or other types of communication disorders during conversations with graduate student clinicians. Another possibility is for these scales to be used in real-time to evaluate or monitor progress of clients instead of completing them during video playback. This could provide information to conversation partners in-the-moment to assist them in using the strategies of supported conversation more appropriately and effectively.

This study demonstrated the importance of communication partner variables to the success of conversational effectiveness for persons with aphasia. The Supported Conversation for Aphasia training procedure was shown to be valid as modified for use with familiar partners. The interpersonal cognitive complexity of communication partners had an impact on the person with aphasia and their ability to participate effectively in conversations. In the future, it will be imperative to find ways to maximize the communicative effectiveness of persons with aphasia in the greater social community (e.g., medical settings, business, government, and community organizations). Building a "communication ramp" for persons with aphasia to support the highest levels of access and independence in all settings should become as important as building a physical ramp for persons with mobility issues. Selecting and training efficient communication partners will be one major step toward that goal.

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APPENDICES

APPENDIX A

IRB APPROVAL LETTER – FORT HAYS STATE UNIVERSITY

FORT HAYS STATE UNIVERSITY

Forward thinking. World ready.

DEPARTMENT OF COMMUNICATION DISORDERS
HERNDON SPEECH-LANGUAGE-HEARING CLINIC

01-20-2012

Dear Phillip Sechtem,

Thank you for your submission of Amendment/Modification materials for this research study. Fort Hays State University IRB has APPROVED your submission. This approval is based on an appropriate risk/ benefit ratio and a study design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Administrative Review based on the applicable federal regulation. Please remember that informed consent is a process beginning with a description of the study and insurance of participant understanding followed by a signed consent form unless documentation of consent has been waived by the IRB. Informed consent must continue throughout the study via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document. The IRB-approved consent document must be used.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All SERIOUS and UNEXPECTED adverse events must be reported to this office. Please use the appropriate adverse event forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

Please report all NON-COMPLIANCE issues or COMPLAINTS regarding this study to this office. Please note that all research records must be retained for a minimum of three years.

Based on the risks, this project requires Continuing Review by this office on an annual basis. Please use the appropriate renewal forms for this procedure.

If you have any questions, please contact Leslie Paige at 785-628-4349 or lpaige@fhsu.edu. Please include your study title and reference number in all correspondence with this office.

131 Albertson Hall · 600 Park Street · Hays, KS 67601-4099
(785) 628-5366 · FAX (785) 628-5271 · www.fhsu.edu/commdis/
Graduate Program Accredited in Speech-Language Pathology by the Council on Academic Accreditation of the American Speech-Language-Hearing Association

APPENDIX B

IRB APPROVAL LETTER – WICHITA STATE UNIVERSITY

Date: **January 20th, 2012**

Principal Investigator: **Julie Scherz**

Co-Principal Investigator: Philip R. Sechtem

Department: CSD

Campus Box: Box

75

IRB Number: IRB 12-040

Title: The Impact of Communication Partner Variables on Supported Conversation for Adults with Aphasia

Thank you for your recent IRB submission. This letter is to certify that the WSU IRB has reviewed your protocol and has approved of the determination that your project meets the criteria for reliance upon Fort Hays State University's IRB review.

Please keep this letter with your protocol files as documentation of WSU IRB acknowledgement. If you have any questions, please contact Sarah Haug, IRB Administrator, at (316) 978-6803 or sarah.haug@wichita.edu.

Sincerely,

Sarah Haug
IRB Administrator

Wichita State University, Wichita, Kansas 67260-0007 Telephone: (316) 978-3285 Fax: (316) 978-3750

APPENDIX C

LETTER OF INTRODUCTION TO AGENCY

Letter of Introduction to Agency
(On Letterhead)

[**Date**]

Dear Agency:

My name is Phillip Sechtem. I am currently a doctoral candidate in Communication Sciences and Disorders at Wichita State University. A requirement of the degree program is the development and completion of a dissertation. In order to fulfill this requirement, I have designed a study to evaluate factors that may impact the ability of persons with aphasia to communicate with their partner (e.g., spouse or significant other). If you and your agency agree that I may select persons with aphasia served in your clinic along with their significant partners, they will complete the following activities.

- **Testing 1**: The person without aphasia (from now on referred to as communication partners) and their spouses or significant partners with aphasia will take part in a conversation that will be video recorded. This recording will be analyzed regarding how well they communicate. In addition, both the communication partner and the person with aphasia will complete tests to provide us with added information about them. The video recorded conversation and other tests will take approximately 60-minutes to complete during one session.

- **Group training for the persons without aphasia**: For this activity, only the communication partners who do not have aphasia will complete a 4-hour class. During the class, the communication partners will learn strategies that can be used which may improve their ability to communicate with their partner who has aphasia.

- **Partner training**: The communication partners along with their partners with aphasia will take part in three, one-hour sessions over the course of three weeks. During this time, they will practice using the strategies taught during group training. The communication partners will be provided feedback on their ability to use trained strategies during these sessions.

- **Testing 2**: The communication partners and their spouses or significant partners with aphasia will take part in a conversation that will be video recorded. This recording will be analyzed regarding how well they communicate. In addition, both the communication partner and the person with aphasia will complete tests to provide us with added information about them. The video recorded conversation and other tests will take approximately 60-minutes to complete during one session.

If you agree to the recruitment of participants from your clinic, the supervisor for the persons with aphasia along with their communication partners will be provided with an informational letter and consent form. If they are interested in participating, the couples will notify their clinic supervisor or the researcher using the contact information provided to arrange a meeting to answer questions and obtain

signed consent forms. Thank you for your consideration of allowing me to complete this phase of my study using volunteers from your agency. If you have any questions about this research, you may contact Phillip Sechtem at (785) 639-5414 and/or Dr. Julie Scherz at (316) 978-5344.

Sincerely,

Phillip R. Sechtem

APPENDIX D

INFORMED AGENCY CONSENT FORM
(On Letterhead)

Principal Investigator, Fort Hays State University (FHSU)	*Phillip R. Sechtem, M.S., CCC-SLP Department of Communication Disorders
Principal Investigator, Wichita State University (WSU)	**Julie Scherz, Ph.D. Communication Sciences and Disorders Department

Project Title: *The Impact of Communication Partner Variables on Supported Conversation for Adults with Aphasia*

***** Doctoral student at WSU and faculty member at FHSU
******Research advisor and faculty member at WSU

The ☐ **Geneva Herndon Speech-Language-Hearing Clinic, FHSU**

☐ **Evelyn Hendren Cassat Speech-Language-Hearing Clinic, WSU**

has been informed of this proposed research study to investigate the abilities of communication partners who interact with persons with aphasia during conversations. The indicated agency agrees to the recruitment of clients with aphasia as well as their significant partners (e.g., spouse or life partner) to participate in this study.

The indicated agency understands that:

1. Each person with aphasia and their communication partner agreeing to participate in this study has given their voluntary consent and may withdraw from the study at any time without penalty.

2. All sessions needed for this study will be held at the Geneva Herndon Speech-Language-Hearing Clinic on the Fort Hays State University campus or the Evelyn Hendren Cassat Speech-Language-Hearing Clinic on the Wichita State University campus. These will include one pre-assessment session, one group training session, three individual partner sessions, and one post-training assessment session. **All sessions will be video recorded for reliability purposes.**

3. A modified version of the *Supported Conversation for Adults with Aphasia (SCA™)* program is a routine intervention that is research-based and is an appropriate intervention approach for persons with aphasia and communication partners.

4. The benefits to the participation of my agency and the clients and communication partners include:
    a. The knowledge and skills gained during the study will be obtained at no cost to communication partners and persons with aphasia.
    b. Communication partners and persons with aphasia can continue using supported conversation techniques and strategies learned during the study in daily life settings and situations after completing the study.

5. There are minimal risks involved with the procedures in this study. The *SCA*™ program is currently being used by speech-language pathologists and includes routinely used procedures.

6. Individual and group data will be kept confidential and will be deidentified in that participants will be assigned an identification number to be utilized on all protocols and recordings. Group data and overall findings will be expressed and or published without compromising private protected information.

7. This research project has been approved by the Department of Communication Disorders Human Subjects Review Committee at FHSU, the FHSU Institutional Review Board (IRB), and the WSU Institutional Review Board.

8. Should there be questions concerning this research, contact Phillip Sechtem at FHSU by calling (785) 628-4108 and/or Julie Scherz, PhD at WSU by calling (316) 978-5344.

9. The indicated agency has been provided a copy of this consent form for their records.

Please indicate below if you AGREE or DISAGREE to participate in this research project by printing and signing your name on the appropriate line:

☐ **NO**, this agency **DOES NOT AGREE** to participate in this research project.

_____ _____
Agency Name **Date**

_____ _____
Name of Individual Giving Consent **Signature**
(Please Print)

☐ **YES**, this agency **AGREES** to participate in this research project.

_____ _____
Agency Name **Date**

_____ _____
Name of Individual Giving Consent **Signature**
(Please Print)

APPENDIX E

LETTER OF INTRODUCTION TO PARTICIPANTS

Letter of Introduction to Participants

(On Letterhead)

[**Date**]

Dear Participants:

My name is Phillip Sechtem. I am currently a doctoral candidate in Communication Sciences and Disorders at Wichita State University. A requirement of the degree program is the development and completion of a dissertation. In order to fulfill this requirement, I have designed a study to evaluate factors that may impact the ability of persons with aphasia to communicate with their partner (e.g., spouse or significant other). Because communication between you and your partner with aphasia is of interest in this study, you and your partner with aphasia are being invited to participate in this research. If you and your partner with aphasia decide to participate, you will take part in the following activities.

- **Testing 1**: You and your partner will take part in a conversation that will be video recorded. This recording will be analyzed regarding how well you and your partner are able to communicate. In addition, both you and your partner with aphasia will complete tests to provide us with added information about yourselves. The video recorded conversation and other tests will take approximately 60-minutes to complete during one session.

- **Group training for the persons without aphasia**: For this activity, you, together with the other communication partners who do not have aphasia, will take part in a 4-hour class. During the class, you will learn strategies that can be used which may improve your ability to communicate with your partner who has aphasia.

- **Partner training**: You and your partner with aphasia will take part in three, one-hour sessions over the course of three weeks. During this time, you will practice using the strategies taught during the group training with your partner with aphasia. You will be provided feedback on your ability to use these strategies during these sessions.

- **Testing 2**: You and your partner will take part in a conversation that will be video recorded. This recording will be analyzed regarding how well you and your partner are able to communicate. In addition, both you and your partner with aphasia will complete tests to provide us with added information about yourselves. The video recorded conversation and other tests will take approximately 60-minutes to complete during one session.

If you and your partner with aphasia decide to take part in this study or would like more information, you may arrange a meeting with the researcher (Phillip Sechtem). To participate, you will need to complete the enclosed consent form. Your consideration to participate in this study is greatly

appreciated. If you have any questions or wish to take part, contact Phillip Sechtem at (785) 639-5414 and/or Dr. Julie Scherz at (316) 978-5344.

Sincerely,

Phillip R. Sechtem

APPENDIX F

PARTICIPANT INCLUSION/EXCLUSION DATA – PERSONS WITH APHASIA

PWA ID	Native and Monolingual Speaker of English	Prior Exposure to SCA Training	Married or Significant Relationship w/PWA	≥ Age 45	Aphasia Diagnosis > 6 Months < 5 years	Motor Speech Disorder	Cognitive Deficits or Dementia	Hemiparesis or Hemiplegia	Willing to participate in conversation	Willing to commit to study
HCB -1a*	+	-	+	+	+	-	-	-	+	+
HBB -2a	+	-	-	n/a	n/a	n/a	-	n/a	n/a	-
HDE -3a	+	-	n/a	n/a	-	n/a	-	n/a	n/a	n/a
HSF -4a	+	-	-	-	-	n/a	-	n/a	n/a	n/a
HBL -5a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
HEM -6a*	+	-	+	+	+	-	-	-	+	+
HRM -7a*	+	-	+	+	+	+	-	+	+	+
HRG -8a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
HGW -9a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
HKW -10a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
HRW -11a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
HRB -12a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
HCA -13a	+	-	n/a	-	n/a	n/a	-	n/a	n/a	n/a
HDR -14a	+	-	n/a	n/a	-	n/a	-	n/a	n/a	n/a
WBC -15a	+	-	n/a	n/a	-	n/a	-	n/a	n/a	n/a
WGT -16a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
WLB -17a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
WBD -18a*	+	-	+	+	+	-	-	-	+	+
WMB -19a*	+	-	+	+	+	-	-	+	+	+
WRO -20a*	+	-	+	+	+	-	-	-	+	+
WRR -21a*	+	-	+	+	+	-	-	-	+	+
WRS -22a*	+	-	+	+	+	+	-	+	+	+
WTP -23a*	+	-	+	+	+	+	-	+	+	+
WTS -24a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-

APPENDIX F (continued)

WPH -25a*	+	-	+	+	+	-	-	-	+	+
WPT -26a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
WMB -27a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
WMK -28a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-
WAJ -29a	+	-	n/a	-	n/a	n/a	-	n/a	n/a	n/a
WJC -30a	+	-	n/a	-	n/a	n/a	-	n/a	n/a	n/a
WLC -31a	+	-	n/a	n/a	-	n/a	-	n/a	n/a	n/a
WJT -32a	+	-	n/a	n/a	-	n/a	-	n/a	n/a	n/a
WDT -33a	+	-	n/a	n/a	n/a	n/a	-	n/a	n/a	-

APPENDIX F (continued)

PARTICIPANT INCLUSION/EXCLUSION DATA – COMMUNICATION PARTNERS

Com. Partner ID	Associated Partner with Aphasia	Native and Monolingual Speaker of English	Prior Exposure to SCA Training	Cognitive Deficits or Dementia	Greater than or equal to Age 40	Willing to participate in conversation	Willing to commit to study requirements
FEB - 1b*	HCB -1a*	+	-	+	+	+	+
FBB - 6b*	HEM -6a*	+	-	+	+	+	+
FKM - 7b*	HRM -7a*	+	-	+	+	+	+
WMD - 18b*	WBD -18a*	+	-	+	+	+	+
WKB - 19b*	WMB -19a*	+	-	+	+	+	+
WPO - 20b*	WRO -20a*	+	-	+	+	+	+
WHR - 21b*	WRR -21a*	+	-	+	+	+	+
WTS - 22b*	WRS -22a*	+	-	+	+	+	+
WJP - 23b*	WTP -23a*	+	-	+	+	+	+
WCP - 25b*	WPH -25a*	+	-	+	+	+	+

APPENDIX G

PARTICIPANT/DYAD—DEMOGRAPHICS—CASE REVIEW

Participant w/Aphasia ID: _____ **Site**: _____

Conversation Partner ID: _____ **Dyad ID**: _____

PERSON W/APHASIA **Native Speaker of English Yes _____ No _____**	
1. DOB	_____ / _____ / _____ mo day year
2. AGE	(Write in): _____
3. GENDER (Circle One)	MALE FEMALE
4. HANDEDNESS	RIGHT LEFT
5. EDUCATION (circle one)	EIGHTH GRADE HIGH SCHOOL/GED COLLEGE DEGREE GRADUATE DEGREE
6. EMPLOYMENT STATUS (Circle One)	Employed Unemployed Disability Retired
7. CURRENT or LATEST JOB TITLE	(Write in): _____
8. METHODS of COMMUNICATION (Circle all that apply)	Speaking Drawing Low Tech AAC Gestures Writing High Tech AAC

APPENDIX G (continued)

PARTICIPANT/DYAD—DEMOGRAPICS—CASE REVIEW

Participant w/Aphasia ID: _____ **Site**: _____

Conversation Partner ID: _____ **Dyad ID**: _____

PERSON WITH APHASIA (Continued)	
1. COMPLETED WAB Yes _____ No _____	APHASIA TYPE _____ SEVERITY (AQ) _____
2. ONSET/DURATION of APHASIA	_____ / _____ / _____ mo day year DURATION _____ (Must be within range of 6 months up to 5 years to participate in study.
3. ETIOLOGY of APHASIA	Etiology: _____
4. DX of DEMENTIA	YES _____ NO _____
5. COGNITIVE IMPAIRMENTS	YES _____ NO _____
6. COEXISTING IMPAIRMENTS	Left Weakness _____ Right Weakness _____ Dysarthria _____ AOS _____ Other _____
7. SPEECH PATHOLOGY SERVICES (Circle One)	6 – MONTHS 1 – YEAR 1 – 2 YEARS 2 – 3 YEARS 3 – 4 YEARS 4 – YEARS
8. SPEECH PATHOLOGY FOCUS (Circle all that apply)	IMPAIRMENT-BASED FUNCTIONALLY-BASED SOCIALLY-BASED
9. PREVIOUSLY TRAINED IN SCA	Yes _____ No _____

APPENDIX G (continued)

PARTICIPANT/DYAD—DEMOGRAPICS—CASE REVIEW

Participant w/Aphasia ID: _____ **Site**: _____

Conversation Partner ID: _____ **Dyad ID**: _____

CONVERSATION PARTNER **Native Speaker of English Yes _____ No _____**	
1. DOB	_____ / _____ / _____ mo day year
2. AGE	(Write in): _____
3. GENDER (Circle One)	MALE FEMALE
4. HANDEDNESS	RIGHT LEFT
5. EDUCATION (circle one)	EIGHTH GRADE HIGH SCHOOL/GED COLLEGE DEGREE GRADUATE DEGREE
6. EMPLOYMENT STATUS (Circle One) 7. CURRENT or LATEST JOB TITLE	Employed Unemployed Disability Retired (Write in): _____
8. COMMUNICATION SUPPORTS (Circle all that apply)	None Drawing Alphabet Board Gestures Writing Pictures
9. PREVIOUSLY TRAINED IN SCA	Yes _____ No _____

APPENDIX G (continued)

PARTICIPANT/DYAD—DEMOGRAPICS—CASE REVIEW

Participant w/Aphasia ID: _____ **Site**: _____

Conversation Partner ID: _____ **Dyad ID**: _____

Dyad Information	
1. DURATION OF RELATIONSHIP (total pre/post aphasia)	(Write in): _____
2. DURATION OF RELATIONSHIP (prior to aphasia)	(Write in): _____
3. DURATION OF RELATIONSHIP (since aphasia onset)	(Write in): _____

APPENDIX H

CONSENT FORM FOR NON-APHASIC CONVERSATION PARTNERS
(On letterhead)

Preliminary information:

1. Aphasia is defined as an acquired language disorder that impairs one or any combination of the modalities of listening, reading, writing, or speaking. As such, aphasia creates problems with communication for persons with aphasia and their communication partners. In short, aphasia blocks typical channels of communication forcing different methods to be used to convey and receive messages. However, aphasia does not impair thinking skills.

2. Supported Conversation for Persons with Aphasia (SCA) is a type of therapy for aphasia that is provided only to persons without aphasia so that they may communicate with persons with aphasia. Persons with aphasia do not receive the therapy.

3. Persons without aphasia who undergo supported conversation therapy are referred to as communication partners of persons with aphasia. Prior research has shown this type of therapy to facilitate communication with persons with aphasia.

4. Supported Conversation for Adults with Aphasia is a therapy that is provided routinely in speech-language and hearing clinics and aphasia centers across North America. It is not considered experimental.

Invitation to participate in research:

1. You are being invited to participate in research that examines the relationship between your interpersonal and perceptual qualities as they relate to conversation that you have with your spouse with aphasia every day.

2. I hope to learn about the impact your interpersonal and perceptual qualities have on the conversations between you and your spouse.

3. If you decide to participate, you will be asked to attend one session per week for five to six weeks beginning at the time of your voluntary consent. One session will require a 4-hour block of time. One or two sessions may require up to 2-hours. The remaining sessions should last one hour each.

The purpose of this study:

1. The purpose of this research is to help speech-language pathologists better understand the impact of communication partner qualities on conversations they have with persons with aphasia. This may help in the treatment of persons with aphasia.

Research procedures:

1. If you decide to participate, you will initially complete preliminary questionnaires and assessments to obtain demographic information and to obtain baseline data during the first session. This session may take up to 2-hours.

2. When preliminary tasks are completed, you will then begin Supported Conversation for Adults training. The initial supported conversation training session will take 4-hours. During the session, you will:

    a. Learn about Supported Conversation for Adults with Aphasia

    b. Practice the principles and techniques of Supported Conversation for Adults with Aphasia

    c. Evaluate others who engage in supported conversations

3. After the initial training session, you will be asked to attend one, 1-hour training session each week for 3-weeks with your spouse with aphasia to continue practicing supported conversation. The primary researcher will be present during these and all training sessions.

4. In addition to the training sessions, you and your spouse/partner with aphasia will be video recorded while engaged in 10-minute conversations. One recording will occur prior to supported conversation training and one recording will occur after supported conversation training. You will also be video recorded during the training sessions. In all, you will be video recorded up to a possible six times during this study. Video recordings will allow me to extract the data necessary to analyze and discuss your conversations.

Risks, discomforts, and inconveniences:

1. There are no risks associated with participation in this research.

2. There may be some associated inconveniences as a result of participating in this study due to the duration of some of the training sessions. It may be an inconvenience for communication partners to be apart from their spouses with aphasia during training; however, every effort and strategy will be implemented before and during training sessions to ensure comfort and convenience so that you may be at peace during time apart. Accommodations will be made as much as possible to facilitate full participation in all training sessions with mutually agreeable scheduling. For example, spouses with aphasia may be able to work with other speech-language pathologists during training sessions in individual or group sessions. These sessions would occur concurrently while non-aphasic communication partners are completing training. They could also occur at the same time that training occurs.

Confidentiality:

1. Any information obtained in this study in which you can be identified will remain confidential and will be disclosed only with your permission.
2. Video recordings will be stored digitally in password protected computers and they will be locked in file cabinets within the primary researcher's office. Only the principal researcher will have access to protected collected information and data.

Participation in this study is entirely voluntary.

1. If you agree to participate in this study, you are free to withdraw from the study at any time without penalty. Your decision whether or not to participate will not affect your current or future relations with FHSU.

Contacts:

1. If you have any questions about this research, you can contact the principal researcher:
   Phillip R. Sechtem, M. S.
   Communication Disorders Department
   Fort Hays State University
   600 Park Street
   Hays, Kansas 67601
   Phone: 785.628.4108.

2. You may also contact the primary research advisor:
   Dr. Julie Scherz
   Department of Communication Sciences and Disorders
   Wichita State University
   1845 Fairmount
   Wichita, KS 67260-0075
   Phone: 316.978.5344

Once again, you are under no obligation to participate in this study. Your signature indicates that you have read this information and have voluntarily decided to participate.

You will be given a copy of this consent form.

_____ _____

Signature of Participant Date

APPENDIX I

CONSENT FORM SAMPLE FOR CONVERSATION PARTNERS WITH APHASIA
(On letterhead)

INFORMED CONSENT
For
RESEARCH

Participant

Participant: _____
(Participant's name will be inserted here at the time of study/signing)

Principal Researcher: Phillip R. Sechtem, M.S., CCC-SLP
Doctoral Candidate, Wichita State University
(785) 639-5414

Supervising Faculty: Julie Scherz, Ph.D., CCC-SLP
Department of Communication Sciences and Disorders
Wichita State University
(316) 978-5344

Title

The Impact of Communication Partner Variables on Supported Conversation for Adults with Aphasia

I want to know more about the effectiveness of trained conversation partners.

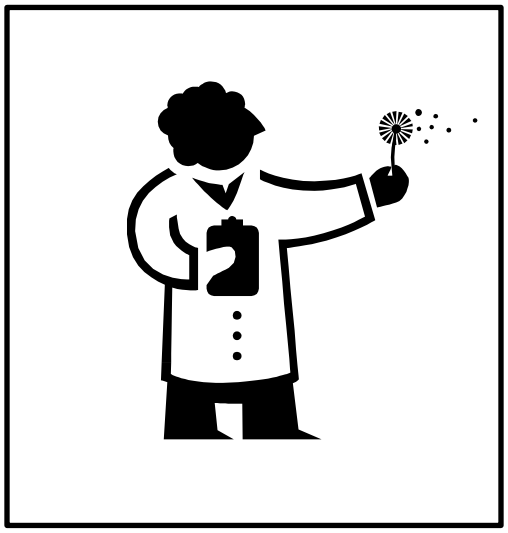
Conversation Partners

What makes them effective in supported conversations?

What can you expect?

Potential Benefits:

- This will help research!
- This will help the Wichita State University and the Fort Hays State University Speech-Language and Hearing Clinics and other people with aphasia!
- This is **NOT** speech therapy



RESEARCH

Will this help research? YES!

Will this help you to talk better? NO!

Where?

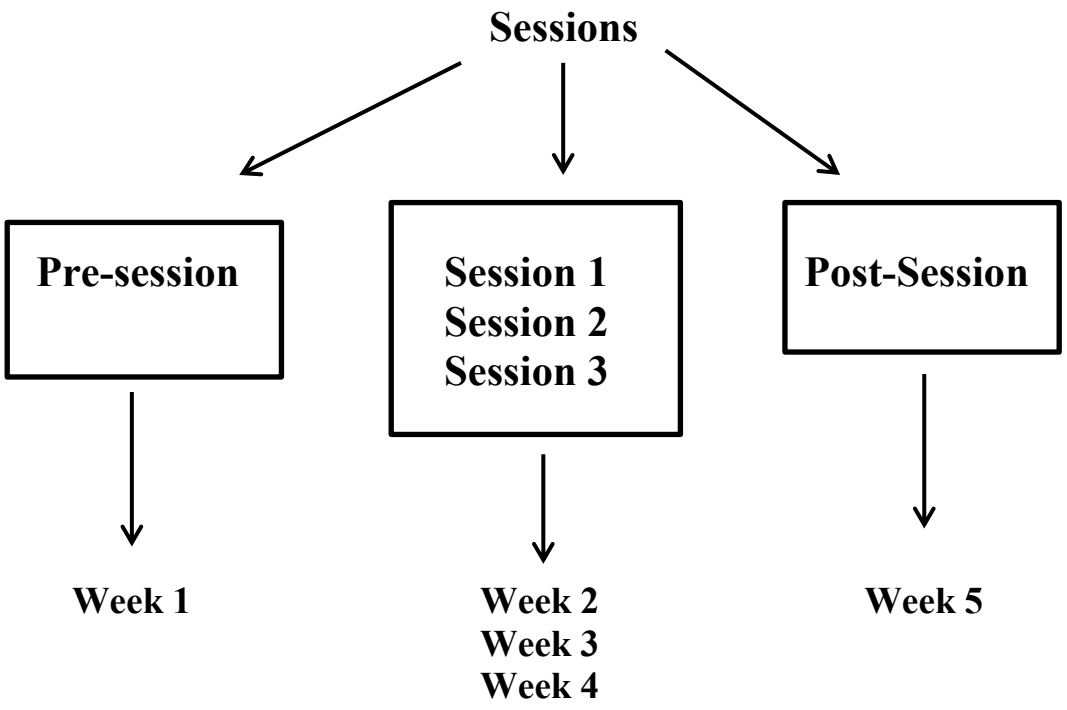
WHERE?

You at Wichita State University

When?

To be arranged

How often?



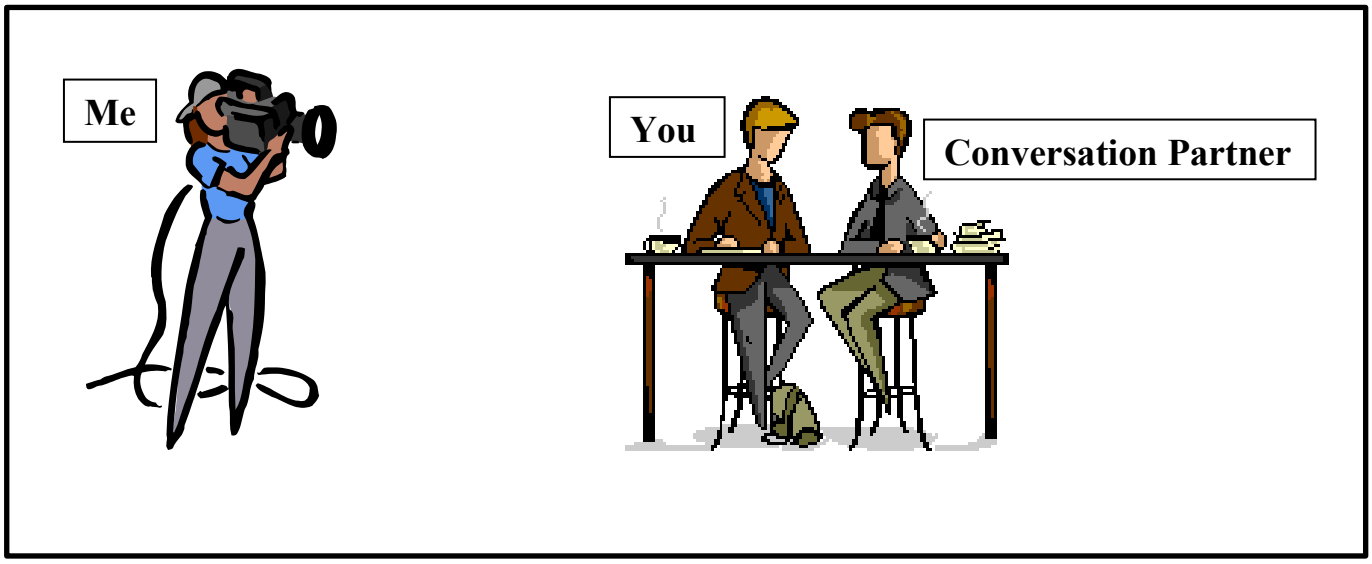
BUT

If you get tired I will stop and start again on another day.

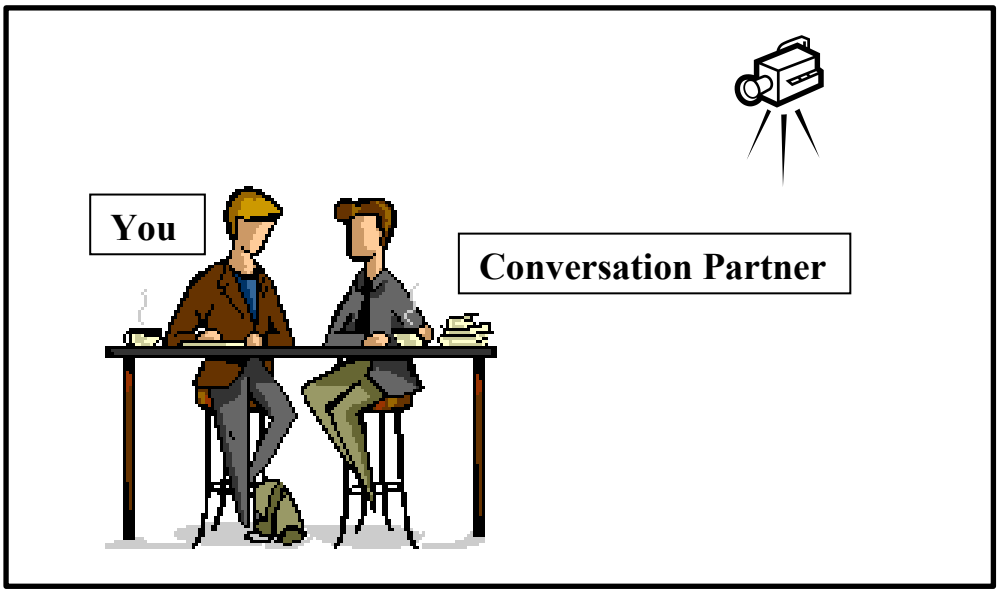
TIRED **STOP** **ANOTHER DAY**

VIDEO RECORDING

I want to make a video of **you** and **your conversation partner**.



10 MINUTE CONVERSATION
EACH SESSION



You will talk with each other.

I will video record the conversation.

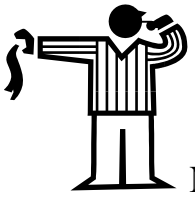
EACH SESSION

RIGHT TO WITHDRAW

You can stop at any time.

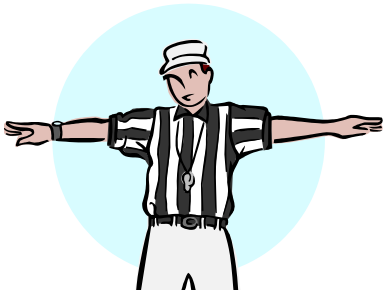
It is your choice.

It is OK to quit.



NO PENALTY!!!

POTENTIAL RISKS



SAFE!

There is **NO DANGER** in participating in the study

Everything is

CONFIDENTIAL

Will this study **HARM** you? NO!

Project Consent

The information presented on the previous pages has been explained to me.

YES  ☐

I agree to participate in this research project.

YES  ☐

NO  ☐

I have been given a copy of this form.

YES  ☐

NO  ☐

_____ _____

Signature of Participant Date

Format adapted from
Kagan, A., Winckel, J., & Shumway, E. (1996). *Pictographic communication resources* (Manual). Toronto, Canada: The Aphasia Centre - North York.

APPENDIX J

PRE-TRAINING FRAMEWORK OF SCREENINGS, ASSESSMENTS, AND SCALES

Activity	Time (min.)	Persons with Aphasia (PWAs)	Communication Partners (CPs)	Supplies
PRE-TRAINING ASSESSMENT ACTIVITIES				
Primary Researcher Trains/Instructs Graduate Clinicians to Administer Preliminary Assessments and Scales; Conduct Video Recorded Conversations	**Up to 3 hours of training over two 90-minute sessions**	**Person with Aphasia are not Included in These Activities**	**Communication Partners are not Included in These Activities**	**Equip./Materials** Audiometer Vision, Hearing, and Cognitive Screening Protocols Rosenbaum Card and Stand Assessment Protocol and Partner Variable Scales Conversation Supports Video Camera Playback System
Preliminary Screenings, Assessments, and Scales Administered to Persons with Aphasia and Communication Partners by Qualified Graduate Clinicians	**Sixty to 120 minutes as needed and/or tolerated per session**	**Screenings** 1. Hearing Screening 2. Vision Screenings 3. Mini-Cognitive Screening **Non-Screening Assessment** 4. WAB-R	**Screenings** 1. Hearing Screening 2. Vision Screening 3. Mini-Cognitive Screening **Non-Screening Partner Variable Scales** 4. RCQ 5. MtS 6. CaCOAST	**Equip./Materials** Audiometer Rosenbaum Card and Stand Visual Scanning Page Protocols Conversation Supports Video Camera Playback System

APPENDIX K

HEARING SCREENING FORM

PARTICIPANT ID: _____ **SITE**: _____

PASS: _____ **FAIL**: _____

CRITERIA MET: _____ **CRITERIA NOT MET**: _____

MATERIALS REQUIRED: Portable audiometer, instruction/recording sheet, pencil or pen.

INSTRUCTIONS: Read the script to participants first and then complete the procedure below (repeating, rephrasing, or redirecting is permitted).

SCRIPT (PLEASE READ)

RESEARCH ASSISTANT: "***I/we are going to place ear phones on you. You will listen for some soft and loud beeps. When you hear a beep, raise your hand (model for participant if needed) or signal that you heard it. We will start with right ear first and then the left. There will be one beep at a time. Are you ready***"? (Answer any questions participants may have.)

PROCEDURE: Make sure the participant is using amplification if typically used (i.e., HAs).

1. Have the participant seated facing away from the examiner.
2. Place the ear phones on the participant.
3. Beginning with the right ear,
   a. Introduce a 1,000 Hz tone at 65 dBHL (as a familiarization tone). Upon a response,
   b. Introduce a 1,000 Hz tone at 35 dBHL and record the appropriate response in the space below.
   c. Introduce a 2,000 Hz tone at 35 dBHL and record the appropriate response in the space below.
   d. Introduce a 4,000 Hz tone at 65 dBHL and record the appropriate response in the space below.
4. Repeat steps 4a-4d for the left ear.

RESPONSES: Place a plus sign for a positive (accurate response) and a minus sign for a negative (inaccurate response.)

	1K	**2K**	**4K**
Right			
Left			

PASS/FAIL CRITERIA: Participant must respond accurately to each frequency in at least one ear at the specified dBHL to pass.

APPENDIX K (continued)

HEARING, VISION, AND COGNITIVE SCREENING RESULTS

Table K1

Hearing Screening Results

Dyad	Communication Partners			Persons with Aphasia		
	1000Hz	2000Hz	6000 Hz	1000Hz	2000Hz	6000 Hz
1	Fail[a]	Pass	Pass	Pass	Pass	Pass
2	Pass	Pass	Pass	Pass	Pass	Pass
3	Pass	Pass	Pass	Pass	Pass	Pass
4	Pass	Pass	Pass	Pass	Pass	Pass
5	Pass	Pass	Pass	Pass	Pass	Pass
6	Pass	Pass	Pass	Pass	Pass	Pass
7	Pass	Pass	Pass	Pass	Pass	Pass
8	Pass	Pass	Pass	Pass	Pass	Pass
9	Pass	Pass	Pass	Pass	Pass	Pass
10	Pass	Pass	Pass	CNT[b]	CNT[b]	CNT[b]

Note. Hz = Hertz; dB = Decibels; R = Right Ear; L = Left Ear.
[a]Communication partner in dyad 1 did not respond to the 1000Hz pure tone at 35dB in either ear.
[b]Could not test the person with aphasia in dyad 10 due to feedback of hearing aids while headphones placed.

APPENDIX L

VISION SCREENING FORM

PARTICIPANT ID: _____ **SITE**: _____

CRITERIA MET: _____ **CRITERIA NOT MET**: _____

MATERIALS NEEDED: One 3x5" index card, one stand, the Rosenbaum Pocket Vision Screener Card, a tape measure, this vision screening recording form, and a pencil/pen.

VISION SCREENING PROCEDURE (Part I)
(Two Research Assistants Required)

STEP 1: RA reads the following script (repeating, rephrasing, or redirecting is permitted).

"***Now we need to screen your vision. First you will identify some numbers on a card. Do you understand?*** (Answer any questions the participant may have.)

STEP 2: Complete the following items sequentially.

1. Ask and make sure the participant is using their corrective lenses if typically used (get if needed).
2. Position the stand in front of the participant with the Rosenbaum Pocket Vision Screener card placed on it.
3. Instruct the participant to move/adjust the stand so that the card is in best focus for them.
4. Position a 3x5" index card over the right eye of the participant and then instruct them to read out loud the smallest line of numbers, directional E's, X's and O's they can successfully.
5. Record the distance equivalent line of the smallest row read successfully.
6. Repeat items 5 thru 6 while the left eye is covered with the index card.
7. Using the tape measure, record the distance from the middle of the Rosenbaum card to the middle of the participant's forehead on the response page.
8. Passing criteria is accurate reading of the 20/100 distance equivalent line with 100% accuracy with at least one eye.

STEP 3: Record the following data.

MEASURED DISTANCE (inches): _____

LEFT eye performance:
Distance Equivalence Line _____
Pass _____ **Fail** _____

RIGHT eye performance:
Distance Equivalent Line _____
Pass _____ **Fail** _____

APPENDIX L (continued)

ROSENBAUM POCKET VISION SCREENER

*Rosenbaum Pocket Vision Screener is commercially available but referenced in the following source: Horton, J. C., & Jones, M. R. (1997). Warning on inaccurate Rosenbaum Cards for testing near vision. *Survey of Ophthalmology, 42*(2), 169-174.

APPENDIX L (continued)

HEARING, VISION, AND COGNITIVE SCREENING RESULTS

Table L1

Vision (Acuity) Screening Results – Part 1 (All Participants)

Dyad	Communication Partners			Persons with Aphasia		
	Right Eye	Left Eye	Pass/Fail	Right Eye	Left Eye	Pass/Fail
1	+	+	Pass	+	+	Pass
2	+	+	Pass	+	+	Pass
3	+	+	Pass	+	+	Pass
4	+	+	Pass	+	+	Pass
5	+	+	Pass	+	+	Pass
6	+	+	Pass	+	+	Pass
7	+	+	Pass	+	+	Pass
8	+	+	Pass	+	+	Pass
9	+	+	Pass	+	+	Pass
10	+	+	Pass	+	+	Pass

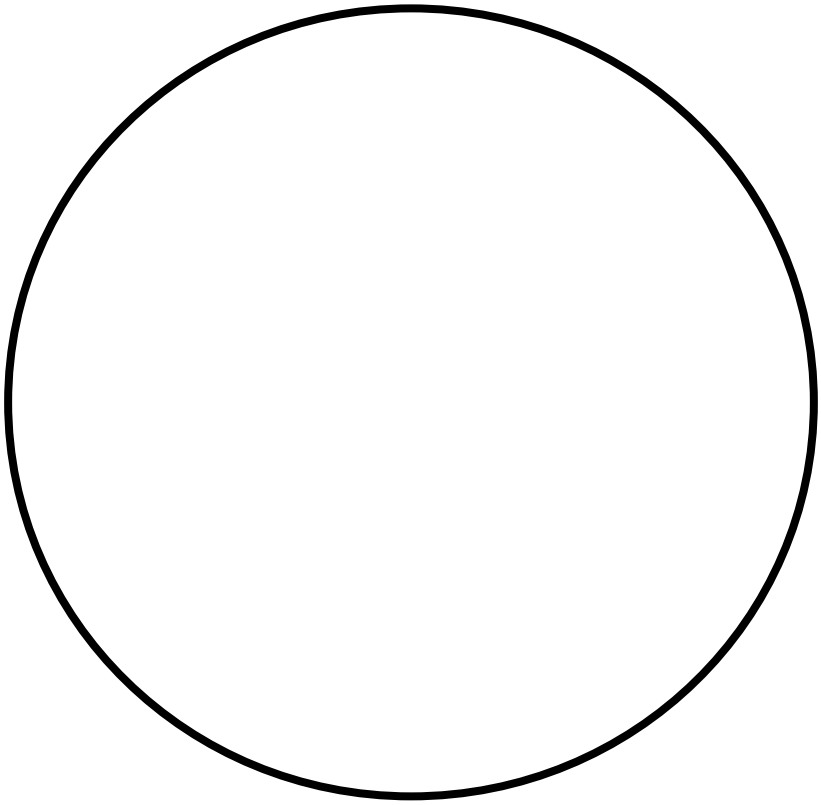
APPENDIX M

CLOCK DRAWING TASK

Participant ID: _____ **Dyad ID**: _____

Examiner ID: _____ **Date**: _____

Directions: 1. Draw a clock.
2. Put in all the numbers.
3. Set the hands to "ten minutes after eleven."
4. Be neat.



INTERPRETATION OF SCORES

Clock Drawing Severity Ratings for Ages 18-69 Years					Clock Drawing Severity Ratings for Ages 70-89 Years				
		Ranges of Severity					Ranges of Severity		
Severity Rating	WNL*	Mild	Moderate	Severe	Severity Rating	WNL*	Mild	Moderate	Severe
Score	13-12	11-10	9-8	7-0	Score	13-11	10-9	8-7	6-0

*Adapted from

Helm-Estabrooks, N. (2001). *Cognitive Linguistic Quick Test (CLQT): Examiner's manual*. San Antonio, TX: NCS Pearson, Inc.

APPENDIX M (continued)

HEARING, VISION, AND COGNITIVE SCREENING RESULTS

Table M1

Cognitive Screening Results – Clock Drawing Task from the CLQT

Dyad	Communication Partner			Person with Aphasia		
	Score	Pass	Fail	Score	Pass	Fail
1	13 of 13	Pass		10 of 13	Pass	
2	13 of 13	Pass		10 of 13	Pass	
3	13 of 13	Pass		08 of 13	Pass	
4	13 of 13	Pass		11 of 13	Pass	
5	13 of 13	Pass		10 of 13	Pass	
6	13 of 13	Pass		11 of 13	Pass	
7	13 of 13	Pass		10 of 13	Pass	
8	13 of 13	Pass		12 of 13	Pass	
9	13 of 13	Pass		12 of 13	Pass	
10	13 of 13	Pass		05 of 13	Pass	

APPENDIX N

PARTICIPANT ID: _____ **SITE**: _____

CRITERIA MET: _____ **CRITERIA NOT MET**: _____

MATERIALS NEEDED: The Scanning/Visual Field/Print Size/Attention Screening worksheet, this recording sheet, and a pencil or a pen.

VISION SCREENING PROCEDURE (Part II)

STEP 1: RA reads the following script (repeating, rephrasing, or redirecting is permitted).

"***There is another activity we need to do to screen your vision. For this second task, you will identify (circle) some words on a page that vary in size. Do you understand?*** (Answer any questions as needed).

STEP 2: Complete the following items sequentially.

1. Continue to use corrective lenses if typically used.
2. Position the participant so they are able to write functionally on a table/desk in front of them with their most functional upper extremity.
3. Place the Scanning/Visual Field/Print Size/Attention Screening Task worksheet on the table/desk in front of the participant. The worksheet should be at a typical/comfortable distance normally used for reading.
4. Instruct the participant to move the sheet where it is in best reading focus for them.
5. Read and have the participant follow the instructions on the Scanning/Visual Field/Print Size/Attention Screening Task worksheet.

STEP 3: Record the following data.

24 point font size: Total correct: _____/5 **Total Percent**: _____

16 point font size: **Total correct**: _____**/10** **Percent Correct**: _____

12 point font size: **Total correct**: _____**/10**

10 point font size: **Total correct**: _____**/10**

Pass: _____ **Fail**: _____

*Vision screening guidelines adapted and retrieved from:

Horton, J. C., & Jones, M. R. (1997). Warning on inaccurate Rosenbaum Cards for testing near vision. *Survey of Ophthalmology, 42*(2), 169-174.

Garrett, K. L., Happ, M. B., Costello, J. M., & Fried-Oken, M. B. (2007). AAC in the intensive care unit. In D. R. Beukelman, K. L. Garrett & K. M. Yorkston (Eds.), *Augmentative communication strategies for adults with acute or chronic medical conditions* (pp. 27-28). Baltimore: Paul H. Brookes Publishing Co.

Scanning/Visual Field/Print Size/Attention Screening Task

Name: _____ Date: _____

Instructions to the patient: Circle or point to the word *good* each time you see it. Read left to right.

Instructions to examiner: Point to referent in the box below. Model for the patient.

Scoring: Tally the number of correctly circled items for each section and record in the Scores box at the bottom of this form. Sections differ in terms of font size and spacing. Results provide descriptive information only.

good

bead	good	take	moth	home
bye	one	good	bee	good
good	good	baby	house	shirt

see	nose	good	good	hope	fine	train
good	show	tired	pies	seem	good	good
talk	maybe	good	snow	pie	good	salt
good	good	deep	dog	said	melt	good

good	table	shine	carpet	good	good	team
paste	good	glue	time	girl	gone	good
good	born	good	socks	pick	tone	glow
glow	good	point	there	see	good	good

good	table	shine	carpet	good	good	team	milk
paste	good	glue	time	girl	gone	good	good
good	born	shout	socks	pick	tone	glow	good
glow	good	point	there	see	good	pass	soda

SCORES
24 pt. ____/5
16 pt. ____/10
12 pt. ____/10
10 pt. ____/10

Retrieved from: Garrett, K. L., Happ, M. B., Costello, J. M., & Fried-Oken, M. B. (2007). AAC in the intensive care unit. In D. R. Beukelman, K. L. Garrett & K. M. Yorkston (Eds.), *Augmentative communication strategies for adults with acute or chronic medical conditions* (pp. 27-28). Baltimore: Paul H. Brookes Publishing Co.

APPENDIX N (continued)

HEARING, VISION, AND COGNITIVE SCREENING RESULTS

Table N1

Vision (Field/Scanning) Screening Results – Part 2 (Persons with Aphasia Only)

Dyad	Person with Aphasia					
	24 Point Font	16 Point Font	12 Point Font	10 Point Font	Pass	Fail
1	5 of 5	10 of 10	10 of 10	10 of 10	Pass	
2	5 of 5	10 of 10	10 of 10	10 of 10	Pass	
3	5 of 5	10 of 10	10 of 10	10 of 10	Pass	
4	5 of 5	10 of 10	10 of 10	10 of 10	Pass	
5	5 of 5	10 of 10	09 of 10	10 of 10	Pass	
6	4 of 5	10 of 10	10 of 10	09 of 10	Pass	
7	5 of 5	09 of 10	10 of 10	10 of 10	Pass	
8	5 of 5	10 of 10	10 of 10	10 of 10	Pass	
9	5 of 5	10 of 10	09 of 10	09 of 10	Pass	
10	5 of 5	09 of 10	10 of 10	10 of 10	Pass	

APPENDIX O

*CROCKETT'S STANDARD TWO-PEER ROLE CATEGORY QUESTIONNAIRE
EXERCISE IN PERCEIVING OTHERS

Familiar Communication Partner: _____

STEP 1

A. Think of a person your own age whom you like and place their initials here _____.

Indicate their gender (circle): M or F

B. Think of a person your own age whom you dislike and place their initials here _____.

Indicate their gender (circle): M or F

STOP! Please wait for instructions before moving on to STEP 2!

STEP 2

On the lines in the table below, describe the **liked *person***, _____, as fully as you can. List the qualities or things that you feel describe this person. List as many as you can think of. Do not simply list words or phrases that make him/her different from other people you know, but list qualities this person has that are common to other people you know. For example, you could:

* Describe what this person respects
* Describe how this person treats others
* Describe things you like or dislike about how this person treats others
* Describe this person's values
* Describe this person's habits
* Describe how this person acts or behaves

Try to describe this person well enough that a stranger would recognize him/her based on your description. If you reach the last line of this page, you may continue on the next page. Remember, you will only have ***five (5) minutes to describe the liked person.***

Liked Person Description

Liked Person Continued

STOP!
Please wait for instructions before moving on to STEP 3!

Step 3

On the lines in the table below, describe the **disliked *person***, _____, as fully as you can. List the qualities or things that you feel describe this person. List as many as you can think of. Do not simply list words or phrases that make him/her different from other people you know, but list qualities this person has that are common to other people you know. For example, you could:

* Describe what this person respects
* Describe how this person treats others
* Describe things you like or dislike about how this person treats others
* Describe this person's values
* Describe this person's habits
* Describe how this person acts or behaves

Try to describe this person well enough that a stranger would recognize him/her based on your description. If you reach the last line of this page, you may continue on the next page. Remember, you will only have ***five (5) minutes to describe the disliked person.***

Disliked Person Description

Disliked Person Continued

STOP!
Please wait for instructions before moving on to STEP 4!

Step 4

How easy/difficult was it for you to describe the two people you knew?

1	2	3	4	5	6	7
Very Easy						**Very Hard**

If you found it at all hard to describe these two people, please say why?

_____

_____

_____

_____

*Adapted from the following source:

Burleson, B. R., & Waltman, M. S. (1988). Cognitive complexity: Using the Role Category Questionnaire measure. In C. H. Tardy (Ed.), *A handbook for the study of human communication: Methods and instruments for observing, measuring, and assessing communication processes* (pp. 1-33). Norwood, NJ: Ablex Publishing Corporation.

APPENDIX P

RULES FOR CODING CROCKETT'S STANDARD TWO-PEER
ROLE CATEGORY QUESTIONNAIRE
(10-19-12)

Background and instructions: The rules that follow serve as guidelines for making judgments about the complexity of an individual's descriptions of others. These guidelines refer to coding people's responses to the Role Category Questionnaire (RCQ) which asks them to describe two people they know: Someone they like and someone they don't like as well. The task for each coder is to code each entry or description into 1 of 2 categories: 1) a non-psychological descriptor/construct; or 2) a psychological descriptor. Alternately, coders can decide that a specific entry is sufficiently vague or repetitious such that it cannot be coded into either category #1 or category #2.

General Rule: **Entries that should *not* be coded as a category 1 or category 2 responses include**:

a. Irrelevant information–refers primarily to self, etc. (IRR)
b. Insufficient or vague information provided (NSF-Vague)
   (e.g., He had a fulfilled life, sad about not having a family)
c. Repeat of an earlier entry (RPT)
d. Ideas or concepts that are similar in meaning and similar in wording should be coded separately, UNLESS they are using the **exact same language**. If the two entries reflect the same meaning, but differ in wording, score as two different entries.

CATEGORY 1
CONCRETE DESCRIPTORS
GUIDELINES & EXAMPLES

1. Physical appearance:

a. A clearly physical characteristic (e.g., height, weight, hair color, including hygiene that is determined to represent how one feels about oneself or the person they are describing. For example, smelly, unkempt, etc.).

2. Social roles or demographics:

a. Social status or position (e.g., Baptist, banker, neighbor, etc.)
   Examples:
   * "Baptist" coded as a "1" - The rationale being that this description refers to a narrow role.
     Note: Religious, Christian, would be considered a category 2 description based on a general disposition.
b. "Democrat" or "Republican" coded as a "1" – The rationale being that this description refers to a narrow role.
   Note: Liberal or conservative is coded as a 2; refers to a general disposition
c. Incidental familial status (e.g., mother, father, single, divorced, etc.).

3.1 Exception if a modifier is attached:

a. If a modifier is attached to the social role or isolated behavior then the entry is coded as a category 2 description. Below is an example:

Involving a Social Role

Modifier	Role	Decision	Rationale
Wonderful, great, fantastic	Mother, Father, Uncle, etc.	YES, i.e., code as "2"	Reflects core value system of the individual

CATEGORY 2

4. General or Global Behaviors:

a. Behavior that can be inferred to reflect a way of relating to other people or seems to describe a trait/disposition.

Examples:

* Works well with others
* Makes people feel welcome
* Organized
* Thinks of others
* Treats others fairly
* Loves to spend time with friends (implies a social ability or sociability or extraversion)
* He likes to have fun or fun loving
* Acts like a child
* She would do anything for me if I asked (reflects the trait of generosity – not important that it is so personal)
* Loves their career choice (reflects dedication to work; general value if it said "Loves being a Florist" would be too specific and coded as a "1")
* He is always joking around when appropriate (found this to be a description of a general behavior, if it said "Jokes around at the gym" would be too specific and coded as a "1")
* She is one of those people that when she talks it just grates on you and you want her to stop (while specific in description, this statement does bring up a variety of abstract images, i.e., annoying, irritating)

5. General Attitudes, Beliefs, or Values:

a. Disposition, feeling, position, general intention etc., with regard to a person (e.g., puts others before self, respectful of women, etc.)

b. Tendency or orientation, especially of the mind (e.g., always looks at the bright side, ignores negative behavior, etc.)

Examples:

* Gets along well (idiom), Treats others as he would like to be treated (idiom), We believe in tough love (idiom), Has high expectations (idiom).
* Willing to help others when a person is a down
* Good to other people/Serves other people
* Values alcohol
* Highly educated (interpreted as values education)
* Her political views are too liberal for my taste

6. Psychological traits or attributes, personality, disposition, or motivational traits:

a. An abstract term or phrase (e.g., outgoing, friendly, caring, rude, cute personality, motherly, puts others before herself) indicative of the psychological realm (i.e., traits, thoughts, motivations, etc.).

Examples:

* She enjoys herself
* Has pushed most friends away (refers to being anti-social)
* Doesn't clean up after himself (not taken literally refers to the trait of irresponsibleness)
* Can't keep a girlfriend (uncomfortable with intimacy)
* Anal, compulsive, obsessive

*Adapted from:

Medvene, L. J., & Latronica, B. (2010). *RCQ Codebook Guidelines*. Unpublished Manuscript. Wichita State University. Wichita, KS.

APPENDIX Q

*CARER COMMUNICATION OUTCOME AFTER STROKE (CARER COAST) SCALE

~Indicates a substitute statement/question from original scale

ID No: _____ **Pre**: _____ **Post**: _____

INSTRUCTIONS: For each item below, the communication partner is to circle a number from 0 to 4 that best fits their observations/perceptions.

1. **In the past week, how well could your partner show that they mean YES or NO**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

2. **Nowadays, how well can your partner use other ways to help them communicate (e.g., pointing or writing)**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

3. **In the past week or so, how well could your partner have a chat with someone they know well**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

4. **In the past week or so, how well could your partner have a short conversation with an unfamiliar person**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

5. In the past week or so, how well could your partner join in a conversation with a group of people?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

6. **Nowadays, how well can your partner make themselves understood in longer sentences**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

7. **In the past week or so, how well could your partner understand simple spoken information**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

8. **Nowadays, how well can your partner show that they don't understand**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

9. **In the past week or so, how well could your partner follow a change of subject in a conversation**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

10. **In the past week or so, how well could your partner read**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

11. **In the past week or so, how well could your partner write**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

~12. **Nowadays, how well can your partner use drawing to communicate**?

0	1	2	3	4
not at all	mildly well	moderately well	significantly well	very well

13. **How much has your partner's communication changed since just after their stroke**?

0	1	2	3	4
not changed	mild change	moderate change	significant change	profound change

14. What do you think about your partner's communication now?

0	1	2	3	4
not functional	minimally functional	mildly functional	moderately functional	completely functional

15. **How often does your partner's confidence about communicating affect what they do**?

0	1	2	3	4
never	infrequently	sometimes	frequently	always

16. **Nowadays, what effect does your partner's language problems have on your family**?

0	1	2	3	4
no effect	negative effect	neutral	positive effect	constantly varies

17. **Nowadays, what effect does your partner's language problems have on your social life**?

0	1	2	3	4
no effect	negative effect	neutral	positive effect	constantly varies

18. **Nowadays, what effect does your partner's language problems have on your interests or hobbies**?

0	1	2	3	4
no effect	negative effect	neutral	positive effect	constantly varies

19. **How often do your partner's communication difficulties make you worried or unhappy**?

0	1	2	3	4
rarely	occasionally	neutral	frequently	constantly

20. **How do you rate your overall quality of life**?

0	1	2	3	4
I have no quality of life	negative quality of life	neutral	positive quality of life	my quality of life is outstanding

Total (Percent): _____

*Adapted from

Long, A., Hesketh, A., & Bowen, A. (2009). Communication outcome after stroke: A new measure of the carer's perspective. *Clinical Rehabilitation, 23*, 846-856.

APPENDIX Q (continued)

CaCOAST Rating Scale

Participant ID: _____ **Date**: _____

Questions on relative's communication	**0**	**1**	**2**	**3**	**4**
Item 1: Show they mean Yes/No					
Item 2: Use Other ways to communicate					
Item 3: Chat with someone they know well					
Item 4: Chat with an Unfamiliar person					
Item 5: Chat with a Group of people					
Item 6: Use Longer sentences					
Item 7: Understand Simple spoken information					
Item 8: Show they Don't understand					
Item 9: Follow a Change of subject					
Item 10: Read					
Item 11: Write					
Item 12: Use Drawing to Communicate					
Item 13: Communication Changed					
Item 14: What do you think now?					
Item 15: Their confidence communicating					
Item 16: Family life					
Item 17: Social life					
Item 18: Interests					
Item 19: Worried/unhappy					
Item 20: Quality of life					

*Adapted from the source:

Long, A., Hesketh, A., & Bowen, A. (2009). Communication outcome after stroke: A new measure of the carer's perspective. *Clinical Rehabilitation, 23*, 846-856.

CaCOAST Scoring Guide

To compute the CaCOAST when ALL items are applicable and answered:

a) Add the respondent's rating (0-4) for each of the twenty items.

b) The total maximum possible CaCOAST score = 80 i.e. 20 items, each with maximum of 4 and minimum of zero.

c) Divide a) by 80 then multiply by 100 = final (%) score. Translation into % score is done for ease of interpretation.

Where items are not applicable:
Not applicable can be a valid response. For example, if a participant reports not being able to read before the stroke, then 'not applicable' will be the response for item 10 – reading. The script for the CaCOAST contains information on when not applicable is an appropriate response.

If 'not applicable' has been selected, you must:

1. Make sure no rating has been recorded for this item so that it is not contributing to the total score – a) in above example.

2. Adjust the maximum possible total accordingly to allow you to compute a final % score. For example if 1 item has been removed due to being 'not applicable' then the overall total number of items = 19. Therefore, the total maximum possible score will now be 76, each with a maximum of 4 and minimum of zero.

Where items have missing values:
If items have missing values (unclear/no response), the above procedure needs to be altered:

1. Compute the % of items with missing values. To do this, divide the number of items with missing values by the total number of APPLICABLE items then multiply by 100.

2. If more than 10% (greater than or equal to 10.5%) are unanswered then CaCOAST is invalid and should not be computed.

3. If 10% or less (less than or equal to 10.4%) are unanswered then the CaCOAST is valid. In this case, each of the items for which there is a 'missing value' is replaced by the mean score of the completed items for that participant. The total is computed as above.

Adapted from

Long, A., Hesketh, A., & Bowen, A. (2009). Communication outcome after stroke: A new measure of the carer's perspective. *Clinical Rehabilitation, 23*, 846-856.

APPENDIX R

*MUTUALITY SCALE

Participant ID: _____ **Dyad ID**: _____

Examiner ID: _____ **Date**: _____

Background and instructions: The Mutuality Scale (MtS) reflects the interactive nature of relationship quality, including dimensions of reciprocity, love, shared pleasurable activities, and shared values. For the items below, check the appropriate box that reflects your perceptions of your relationship with your spouse with aphasia. You should complete the items based on your current status, NOT based on your perceptions prior to aphasia onset.

Items	0 (Not at all)	1	2 (Neutral)	3	4 (A great deal)
Item 1: To what extent do the two of you see eye to eye?					
Item 2: How close do you feel to him or her?					
Item 3: How much do you enjoy sharing past experiences with him or her?					
Item 4: How much does he or she express feelings of appreciation for you and the things you do?					
Item 5: How attached are you to him or her?					
Item 6: How much does he or she help you?					
Item 7: How much do you like to sit and talk with him or her?					
Item 8: How much love do you feel for him or her?					
Item 9: To what extent do the two of you share the same values?					
Item 10: When you really need it, how much does he or she comfort you?					
Item 11: How much do the two of you laugh together?					
Item 12: How much do you confide in him or her?					
Item 13: How much emotional support does he or she give you?					
Item 14: To what extent do you enjoy the time the two of you spend together?					
Item 15: How often does he or she express feelings of warmth towards you?					

*Adapted from the source:

Archbold, P. G., Stewart, B. J., Greenlick, M.R., & Harvath, T. A. (1990). Mutuality and preparedness as predictors of caregiver role strain. *Research in Nursing and Health, 13*, 375-384.

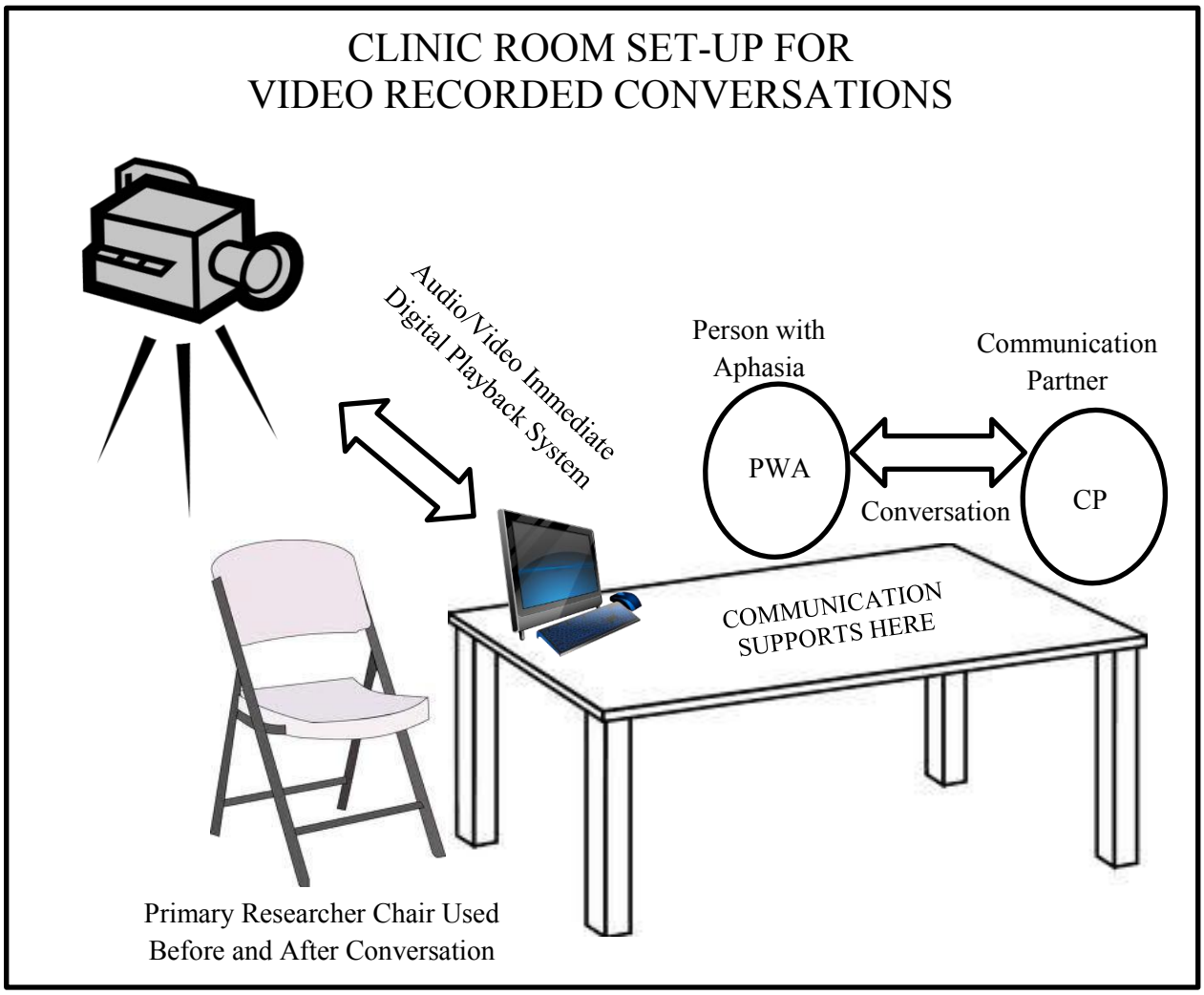
APPENDIX S

PRE- AND POST-TRAINING VIDEO RECORDED CONVERSATION FORMAT

Activity	Time (min.)	Persons with Aphasia (PWAs)	Communication Partners (CPs)	Supplies
PRE- AND POST-TRAINING VIDEO RECORDED CONVERSATIONS				
Pre- and Post-Training Video Recorded Spontaneous 10-Minute Conversation Obtained by Qualified Graduate Clinician	**One, 30-Minute Session Pre-Training** **One, 30-Minute Session Post-Training**	**Person with Aphasia Engaged in Free-Form Spontaneous Conversation with Communication Partner**	**Communication Partner Engaged in Free-Form Spontaneous Conversation with Person with Aphasia**	**Equip./Materials** Video camera and Computer (Capture and Immediate Playback System) Conversation Instructions Timer Supports Table/Chairs and Room Set-Up Instructions

APPENDIX T

VIDEO RECORDED CONVERSATIONS - ROOM SET-UP



APPENDIX U

ORIGINAL MEASURES OF SUPPORTED CONVERSATION

MSC

Measure of skill in

Supported Conversation

Name: _____

Date: _____

Rated by: _____

MPC
Measure of level of Participation in Conversation (for partner with aphasia)

Interaction ☐

Transaction ☐

		Score
A.	**Acknowledges competence**	
B.	**Reveals competence**	
	1. Ensures that Partner with Aphasia understands ☐	
	2. Ensures that Partner with Aphasia has a means of responding ☐	☐ *
	3. Verifies ☐	

*Average of B1, B2 and B3

MSC Behavioral Guidelines: Summary

A. Acknowledging competence

Natural adult talk appropriate to context*

- Feel and flow of natural adult conversation appropriate to context, e.g., social chat vs. interview; respectful approach to verification (verifying that the conversation partner has understood rather than verifying that adult with aphasia knows what they want to say; not oververifying)
- Not patronizing (loudness, tone of voice, rate, enunciation)
- Appropriate emotional tone/use of humor

Sensitivity to partner*

- Incorrect/unclear responses handled respectfully
- Sensitive to adult with aphasia's attempts to engage in conversation
- Encourage when appropriate
- Acknowledge competence when adult with aphasia is frustrated/upset, e.g., "I know you know what you want to say"
- "Listening attitude"
- Taking on communicative burden as appropriate/making adult with aphasia feel comfortable

B. Revealing competence

(How much support is provided relative to what's needed?)

1. Ensures that adult with aphasia understands**
(e.g., topic, questions)

- Verbal (e.g., short, simple sentences; redundancy; is there some verbal adaptation?)
- Nonverbal

Gesture	Meaningful; slightly exaggerated; used to emphasize or clarify
Writing	Clear and visible; appropriate key words
Resources	Used only when necessary (would something simpler suffice?)
Drawing	Simple and clearly presented

- Response to communicative cues (e.g., reacting to facial expressions that indicate lack of comprehension)

2. Ensures that adult with aphasia has a means of responding**

- Verbal (e.g., use of fixed choice and yes/no questions)
- Nonverbal

Gesture	Models response mode (e.g., pointing, thumbs up/down)
Writing	Provides written choices for pointing; clear and visible; appropriate key words Encourages writing (e.g., makes sure that adult with aphasia has paper and pen)
Resources	Provides something so that adult with aphasia can point to it, encourages use of resources
Drawing	Encourages drawing

- Response to communicative cues (e.g., giving enough time to respond)

3. Verification**
(Accuracy of adult with aphasia's response not automatically assumed)

- Verbal (e.g., "So let's see if I've got this right…") - reflecting and expanding
- Nonverbal

Gesture	Model desired response for clarification
Writing	Reflecting, summarization
Resources	As appropriate
Drawing	

- Response to communicative cues (e.g., appropriate handling of inconsistent yes/no response)

NOTE: Verification often involves checking in another modality

*Although these two areas are not scored separately because of considerable overlap, they are useful in guiding observation.

** B1, B2, and B3 are scored separately and then averaged to give the score for "revealing competence."

MSC Example of Rating Anchors for Conversation Partner

(in the context of the Pat Arato Centre)

	Acknowledge competence	**Reveal competence**
0	Competence of AP not acknowledged. Patronizing. Could cause harm. Should not be working with our members.	No use of techniques to reveal competence.
1	Needs a lot of supervision or needs to volunteer with experienced co-leader.	Needs a lot of supervision or needs to volunteer with experienced co-leader.
2	Competence of AP acknowledged implicitly and explicitly as appropriate. Volunteer is ok. You do not have big concerns. Moderate level of supervision e.g., 1 x per month.	Volunteer is able to get some information. You do not have big concerns re leaving them with this member.
3	Doesn't need much supervision, e.g., 1 x per term (4 months).	Doesn't need much supervision, e.g., 1 x per term (4 months).
4	Peer-trainer level. Interactionally outstanding. Just needs motivation and ongoing opportunity to learn as opposed to supervision.	Technically outstanding. May not always succeed but as good as any well-trained professional.

Note: PA = partner with aphasia; CP = conversation partner.

MPC
Measure of Participation in Conversation

Name: _____

Date: _____

Rated by: _____

MSC
(Skill of Conversation Partner)

Acknowledge Competence ☐

Reveals Competence ☐

		Score
A.	Interaction	
	1. Verbal/Vocal	☐
	2. Nonverbal Gesture Writing Drawing Resources	
B.	Transaction	
	1. Verbal/Vocal	☐
	2. Nonverbal Gesture Writing Drawing Resources	

MPC Behavioral Guidelines: Summary

A. Interaction

Verbal/vocal

- Does PA share responsibility for maintaining the feel and flow of conversation (including appropriate affect)?

Nonverbal

- Does PA initiate/maintain interaction with CP or make use of supports offered by CP to initiate/maintain interaction?
- Does PA indicate communicative intent?
- Is PA pragmatically appropriate?
- Does PA ever acknowledge the frustration of the CP or acknowledge their competence/skill?
- Behaviors might include:

  appropriate eye contact, use of gesture, body posture and facial expression, use of writing or drawing in any form, use of resource material, use of verbalization/vocalization in any form.

B. Transaction

Verbal/vocal

- Does PA maintain exchange of information, opinions, and feelings with CP?

Nonverbal

- Does PA ever initiate transaction?

  - introducing or referring back to a previous topic?

  - spontaneously using a compensatory technique?
- Does content of transaction appear to be accurate? (depending on context and purpose of rating, rater would have more/less access to means of verification of information)
- Does PA use support offered by CP for the purpose of transaction? This might include:

  using a gesture modeled by CP; pointing to key-words or pictured resources, collaborating with CP around a drawing.

Note: PA = partner with aphasia; CP = conversation partner.

Example of Rating Anchors for Partner with Aphasia

(in the context of the Pat Arato Centre)

	Interaction	**Transaction**
0	No participation at all. No attempt to engage CP or respond to interactional attempts. Would be very concerned for the volunteer. Would definitely not feel comfortable to leave the volunteer (CP) alone with this member (AP) unless volunteer is highly skilled.	No evidence of being able to understand or get a message across. Would be very concerned for the volunteer. Would definitely not feel comfortable to leave the volunteer alone with this member unless volunteer is highly skilled.
1	AP beginning to take some responsibility for interaction. Still concerned about the volunteer, and would feel obliged to observe frequently and provide support, unless volunteer is highly skilled.	AP beginning to show evidence of being able to understand and convey content. Still concerned about the volunteer, and would feel obliged to observe frequently and provide support, unless volunteer is highly skilled.
2	Clear attempts to be part of the conversation. Feel ok to leave this member with the volunteer, but would need to check in.	Evidence of ability to understand and get a message across in some way at least 50% of the time. Feel ok to leave this member with the volunteer, but would need to check in.
3	AP taking increased responsibility for interaction. Very little concern for volunteer, but would still check in from time to time, e.g., 1 x per term (4 months).	Able to understand and convey content most of the time. Very little concern for the volunteer, but would still check in from time to time, e.g., 1 x per term (4 months).
4	Full and appropriate participation. Takes responsibility for conversational interaction. Full confidence in the member – no concerns at all for the volunteer.	Able to understand and get a message across. Full confidence in the member – no concerns at all for the volunteer.

Note: PA = partner with aphasia; CP = conversation partner.

APPENDIX V

PERMISSION LETTER TO PLACE THE MSC AND MPC

APHASIA INSTITUTE

30 years *of* touching lives
and rebuilding conversation

25 January 2011

Phillip Ross Sechtem
Doctoral Student
Wichita State University
1845 Fairmount St.,
Wichita, Kansas 67260 USA

Aphasia is an acquired communication disorder caused by an injury to the brain that affects a person's ability to use language to communicate. It is most often the result of stroke or head injury.

USE OF MSC & MPC SCALES. BEHAVIORAL GUIDELINES & RATING ANCHORS
Letter Agreement between the
Aphasia Institute ("**TAI**")
and
Phillip Ross Sechtem ("**Licensee**")
For the use of the
work entitled **"measures"**
(referred to herein as the "**measures**")

Dear **Phillip**,

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(over)

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If you are agreeable to the foregoing terms, kindly execute and return this letter agreement.

Yours truly,

Marisca Baldwin Education and Learning Coordinator
Aphasia Institute [over]

I agree to the terms and conditions of this letter agreement. **Please sign and return one copy by mail, email or fax to the Aphasia Institute at 73 Scarsdale Rd., Toronto, ON, M3B 2R2 Canada, Fax: 416-226-3706, training@aphasia.ca**

Phillip Ross Sechtem
Doctoral Student

Per : _____
Name: Title:

I have authority to bind **Phillip Ross Sechtem**

APPENDIX W

MODIFIED CONVERSATION RATING SCALES

MOVIE _____ (VIDEO ID)

CONVERSATION RATING SCALES
FOR THE NONAPHASIC CONVERSATION PARTNER (CP)

DIRECTIONS: For each item below, please circle a number between 0 and 4 that reflects your overall impression about the conversation for the particular construct indicated. Remember to provide your impression based on the entire conversation.

NOTE: If you view this conversation as successful overall, without the need for using additional supports, rate it as a 3 or 4.

ACKNOWLEDGING COMPETENCE

0	1	2	3	4
None	Occasional	Adequate	Frequent	Consistent

REVEALING COMPETENCE – Getting Messages IN

0	1	2	3	4
None	Occasional	Adequate	Frequent	Consistent

REVEALING COMPETENCE – Getting Messages OUT

0	1	2	3	4
None	Occasional	Adequate	Frequent	Consistent

REVEALING COMPETENCE – Checking for message ACCURACY

0	1	2	3	4
None	Occasional	Adequate	Frequent	Consistent

MOVIE _____ (VIDEO ID)

CONVERSATION RATING SCALES FOR THE CONVERSATION PARTNER WITH APHASIA (PWA)

DIRECTIONS: For each scale below, please circle a number between 0 and 4 that reflects your overall impression about the conversation for the particular construct indicated. Remember to provide your impression based on the entire conversation.

NOTE: If you view this conversation as successful overall, without the need for using additional supports, rate it as a 3 or 4.

INTERACTION

0	1	2	3	4
None	Occasional	Adequate	Frequent	Consistent

TRANSACTION

0	1	2	3	4
None	Occasional	Adequate	Frequent	Consistent

APPENDIX X

CONVERSATION RATING SCALES GUIDELINES/CODEBOOK

OVERVIEW

This exercise involves viewing a 10-minute conversation between a person with aphasia (PWA) and their communication partner (CP). After viewing the conversation, your task will be to rate the impressions you formed about the conversation. Ratings of your impressions should be based on the conversation as a whole. The procedures that follow along with descriptions and examples will serve to guide you in this process.

PROCEDURES

1) First, you will observe a 10-minute recording of a conversation between a person with aphasia (PWA) and their communication partner (CP). This partner is typically their spouse/significant partner who does not have aphasia.

2) Considering the conversation as a whole, rate your impression about the conversation across the four constructs listed below. Note that two constructs apply to the CP while the other two apply to the PWA.

Constructs for the CP

a) Acknowledging competence

b) Revealing competence

Constructs for the PWA

c) Interaction

d) Transaction

3) Descriptions and examples of each of these four constructs are provided within the following pages to help you understand them. Based on your understanding of them, you will rate your impressions within the realm of the entire conversation. You will apply your ratings to the appropriate communication partner.

CONSTRUCT DESCRIPTIONS AND EXAMPLES FOR THE NONAPHASIC COMMUNICATION PARTNER (CP)

OVERVIEW: To help you understand what you are rating, some descriptions and examples are provided below for each construct. The only purpose for them is to raise your awareness and understanding of them. The idea is that by understanding these constructs, you will be able to rate your impressions about them. You may see any, all, or none of these examples used in the conversation.

CONSTRUCT DESCRIPTION: **ACKNOWLEDGING COMPETENCE**: ***Acknowledging competence*** means the nonaphasic communication partner (CP) was mindful toward the person with aphasia as a communicator and sensitive to the PWA's inherent ability to communicate.

As needed, the CP may use some or all of the following supports:

EXAMPLE 1: **Assisting the PWA to gain and maintain access to the conversation**.

a) **Including the PWA in the conversation**

- Nudging the PWA gently as a cue to respond or initiate an utterance to begin or maintain the conversation
  - The CP tapped the table lightly or gripped the hand of the PWA gently while looking at him or her saying something like, "*Go ahead*," "*What is it,*" "*Do you want to talk about it,*" or "*Do you have anything else to add*"?

b) **Inviting the PWA to initiate and contribute to the conversation by stating or asking**:

- "*What should we talk about today*"?
- "*You have a lot to say and I'd love to know more.*"
- "*Tell me what's on your mind*"?
- "*Is there something more I should know*"?
- "*Tell me more about…*"
- "*…but you know what really dumbfounds me*?"

As needed, the CP may use some or all of the following supports:

EXAMPLE 2: **Adapting to and accommodating communicative needs and styles used by the PWA**.

a) **Allowing the PWA the time to initiate, respond, and maintain the conversation**

- The CP does not have a one-sided conversation in the presence of the PWA
  - For example, the CP, does not ask the PWA, "*How are you*" and then proceed to answer the question, "*You seem to be doing well*" before the PWA can respond.
  - Allowing the PWA the time to finish his or her messages; tolerated the use of conversational supports as needed.

b) **Remaining positive when the PWA had difficulty**

- Not condescending or patronizing; used appropriate tone of voice and humor, behaved and reacted genuinely.
  - For example, the CP along with the PWA laughed concurrently when a word was stated in an unexpected way (a genuine moment of humor).

- Delays, mispronounced words, and struggles were tolerated caringly
  - For example, the CP did not give attention to mistakes but continued the conversation naturally

- Helped the PWA save face. After a period of time, the CP may have said, "Let me see if I can help" and then facilitated the message of the PWA.
  - For example, the CP assumed more of the communicative burden at the appropriate times, mainly when the PWA was struggling.

As needed, the CP may use some or all of the following supports:

EXAMPLE 3: **The CP recognizes the communicative capability of the PWA; the CP shows interest in what he or she thinks, feels, knows, and understands.**

a) **Validating the communicative integrity of the PWA**

- CP states, "*I know you know*" or a similar type statement
- CP states, "*I can wait; I want to get what you are saying*"

b) **The CP listened and attended appropriately**

- **Used eye contact to demonstrate listening and attending**
  - CP consistently looked at the PWA while he or she was communicating
  - CP focused in on supports being used if any by the PWA; focused in on the PWA anytime he or she was communicating

- **Body language**
  - CP faced the PWA with the whole head and body
  - CP maintained an upright and engaged posture

- **Awareness**
  - CP attended and engaged fully to the conversation at hand
  - CP initiated and took turns appropriately and timely
  - The CP was not preoccupied with any distractions

- **Space**
  - CP maintained a comfortable but reliable distance from the PWA
  - CP leaned toward the PWA to understand him or her better

CONSTRUCT DESCRIPTION: **REVEALING COMPETENCE**: ***Revealing competence*** refers to the CP's ability to facilitate participation of the PWA in the conversation by helping him or her understand and communicate what they think, feel, know.

1) **Getting messages IN** (Help PWA understand messages)
2) **Getting messages OUT** (Help PWA convey messages)
3) **Checking messages for ACCURACY** (Help PWA understand/convey accurate messages)

GETTING MESSAGES IN: This refers to the CP ensuring that the PWA understands what is being communicated.

As needed, the CP may use some or all of the following supports:

a) **The CPs messages and communication were not complex**
   - Used short phrases and sentences to the extent possible
   - Wrote key words to supplement/enhance messages
   - Repeated/rephrased messages
   - Used common and meaningful gestures

b) **The CP used communication supports to help the PWA with understanding such as**
   - Objects and Pictures
   - Drawing
   - Maps
   - Alphabet boards

GETTING MESSAGES OUT: This refers to the CP, ensuring that the PWA communicatively participates in the conversation with any or all available means and supports, and the CP allows the PWA the necessary time to communicate:

As needed, the CP may use some or all of the following supports:

a) **The CP asks yes/no questions for the PWA to respond**
- "*Do you like eggs*"?
- "*Are you feeling OK*"?

b) **The CP asks fixed-choice questions for the PWA to answer specifically**
- "*Do you want eggs or cereal for breakfast*"?
- "*Do you want to go to McDonalds or Cracker Barrel tonight*"?

c) **The CP writes key words or lists choices for the PWA**
- *Did you go to the doctor* (write), *the dentist* (write), *or the chiropractor* (write)"?

d) **The CP models possible response modalities for the PWA to use**
- Thumbs up/down
- Head nods
- Pointing or other gestures

e) **The CP encourages the PWA to uses supports**
- "*Can you show me*?" and
  Hands them a marker and paper for drawing or writing
  Models some type of common gesture
- "*Would using your picture book be helpful*"? as they are hand the picture book to the PWA
- "*Can you show me on a map*"? as a map is placed in front of the PWA.
- "*Point to the letters of the word you want*." - alphabet board is made available

CHECKING FOR MESSAGE ACCURACY: This refers to the CP, ensuring the accuracy of messages received and expressed by the PWA by clarifying any discrepancies if any (accuracy is not automatically assumed). To ensure accuracy of what's being communicated, the nonaphasic partner may use any or all of the following examples:

As needed, the CP may use some or all of the following supports:

a) **The CP reflects and expands to clarify messages**:
- CP says, "*So let's see if I've got this right…"* and then he or she continues to summarize the message from the PWA

b) **The CP writes key words to clarifying messages**:
- CP says, "*So let's see if I've got this correct. You would like to go to McDonalds* (write) *tonight and Burger King* (write) *tomorrow night*"?

c) **The CP models types of responses the PWA can use when clarifying messages**:
- Thumbs up/down
- Head nods
- Pointing
- Other meaningful gestures

d) **The CP makes use of available supports to facilitate clarifications**:
- "*Can you show me*" while handing the PWA a marker and paper for drawing or writing
- "*Would using your picture book be helpful*" as the PWA is handed picture book
- "*Can you show me on a map*" as a map is placed in front of the PWA
- "*Point to the letters of the word you want*" as an alphabet board is made available

CONSTRUCT DESCRIPTIONS AND EXAMPLES FOR THE PERSON WITH APHASIA (PWA)

CONSTRUCT DESCRIPTION: **INTERACTION**: ***Interaction*** refers to the ability of the PWA to socially connect with the CP through the back-and-forth exchanges of the conversation. Examples may include:

EXAMPLE 1: **The PWA shared in co-constructing the conversation.** Possible observations may include the following examples.

a) **PWA initiated and maintained exchanges with the CP throughout the conversation**.

- PWA used gestures to initiate and maintain the conversation
- PWA used available supports as needed

b) **PWA used pragmatics appropriately with the CP**:

- *Eye contact*
- *Body language*
- *Turn-taking*

CONSTRUCT DESCRIPTION: **TRANSACTION**: ***Transaction*** refers to the accurate exchange of information/details embedded in the exchanges of the conversation. Key aspects of transaction for PWA may include the following examples.

EXAMPLE 1: **The PWA initiated and maintained exchange of accurate information**:

a. Used meaningful gestures

b. Pointed to key words, numbers, letters, pictures, maps, or used other supports

c. Used drawings