

ABSTRACT

FACTORS MOTIVATING CAMBODIAN AMERICAN STUDENTS
TO GO TO COLLEGE AND TO STUDY STEM FIELDS

By

Visna Sann

December 2014

Cambodian Americans graduate from college at a lower rate than most Asian American groups. This qualitative study involved interviewing five current Cambodian American college students. This study examined how participants' high school experiences contributed to their decisions to go to college and to study STEM fields, how parental influences guided participants to college, and how college experiences influenced their decisions to stay and succeed in STEM fields. Findings from this study suggest: having supportive teachers in high school may have been important in motivating participants to go to college and to study STEM Fields, Cambodian parents tell stories of their lives in Cambodia to motivate their children to go to college, and Cambodian club on campus was a socially and academically supportive place.

FACTORS MOTIVATING CAMBODIAN AMERICAN STUDENTS
TO GO TO COLLEGE AND TO STUDY STEM FIELDS

A THESIS

Presented to the Department of Science Education

California State University, Long Beach

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Science Education

Committee Members:

Alan Colburn, Ph.D. (Chair)

William Straits, Ph.D.

Laura Henriques, Ph. D.

College Designee:

Lisa Martin-Hansen, Ph.D.

By Visna Sann

B.S., 1996, University of California, Los Angeles

December 2014

UMI Number: 1569896

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI 1569896

Published by ProQuest LLC (2014). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



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

ACKNOWLEDGEMENTS

I would like to thank my advisor and my mentor, Dr. Alan Colburn, for your guidance, insights, and patience. I would not be able to complete this thesis without all of your help. In addition, I would like to thank Dr. William Straits and Dr. Laura Henriques for your feedbacks. Lastly, I would like to thank my participants for sharing your experiences.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	iii
CHAPTER	
1. INTRODUCTION	1
A Brief History of Cambodian Americans	2
Legacy of the Khmer Rouge.....	4
A Culture of High Regard for Teachers.....	4
The Nature of the Research.....	5
Key Terms.....	7
Research Questions.....	7
2. LITERATURE REVIEW	9
Educational Experience of Cambodian American Students	9
Model Minority Myth	13
Communication with Parents.....	14
Attrition Rate and Mentoring.....	14
Student’s High School Ranking.....	15
Factors Influencing College Enrollment.....	15
Reasons for Going to College.....	17
3. RESEARCH METHOD.....	19
Introduction.....	19
Researcher’s Perspective	20
Sample and Setting	20
Data Collection	21
Data Analysis.....	22
Proposed Time Scale.....	23
4. PARTICIPANTS’ EXPERIENCES	24
Tom’s Experience	24
Alex’s Experience.....	26
Phana’s Experience.....	30
Kolab’s Experience.....	33

CHAPTER	Page
Bopha’s Experience	36
5. CONCLUSIONS.....	40
High School Experience	40
Parent Involvement	43
College Experience	47
Final Words.....	51
APPENDICES	58
A. QUESTIONS	59
B. SHORT ANSWER.....	63
REFERENCES	65

CHAPTER 1

INTRODUCTION

The idea that all Asian American students are excelling in school is a myth. Case in point is Cambodian American students. Chhuon, Hudley, Brenner, and Macias (2010) found that Cambodian American students have low high school and college graduation rates compared to other Asian ethnic groups. However, there are successful Cambodian American students who are attending college and are doing very well. My study will look into what makes some Cambodian American students successful. Specifically, I am hoping to interview current Cambodian American students to find common factors that contribute to their success in science, technology, engineering, and mathematics (STEM) fields.

I am interested in this study because there is a perception that successful Cambodian American college students are the exception. Furthermore, it looks like successful Cambodian American college students studying in STEM fields are even bigger exceptions. What accounts for these students differences? Why have they gone onto college when many Cambodian Americans do not, and how have they come to study STEM fields when so few others do so?

I believe one reason why these successful Cambodian American students are in college is because they are getting emotional support from home and school. Furthermore, they tend to have parents who are acculturated, know the American school

system, and are actively taking part in their children's education. I speculate that the parents of Cambodian American students who attend college tend to be more educated and maybe more financially well-off than the parents of those who did not go to college. I know of two orphans who came to America in the late 1980s. The two orphans were raised by their aunts and uncles. One orphan went on to college while one dropped out of college. The uncle of the orphan who went to college had instilled in him the value of college education while the other orphan's uncle did not. The orphan who dropped out of college had to work in his uncle's donut shop after school and at one time he had to make donuts at night and got little sleep while he was in high school. As a result, he was not able to graduate with his class and had to go to summer school before he was able to get his high school diploma.

But this is all just my speculation. Interviewing current students will help uncover whether others' experiences match my thoughts.

The significance of my research is that I will be able to learn about the experiences of Cambodian American students who are studying STEM fields in universities. I hope to find some factors that correlate to or help explain their success in college and STEM fields. I believe that the result of my study will be relevant to the educational community. Teachers and counselors who are working with Cambodian American students will be able to find some informations from my study to further help their students succeed in school and go on to college.

A Brief History of Cambodian Americans

I wrote this thesis section because I recognize readers may be unfamiliar with the history of Cambodian Americans, background information that helps frame the study.

Most Cambodians came to America as refugees as a result of U.S. military involvement in Vietnam to stop the spread of communism (Kim, 2002). In 1969, President Richard Nixon ordered the bombing of Cambodia to destroy supply routes used by the North Vietnamese (Hein, 1995). He did this without the support and approval from the American people. The United States' bombing over Cambodia led to the death of many Cambodians (Wallit, 2008). In addition, many Cambodian were displaced and properties were destroyed as a result.

On April 17, 1975, the communist Khmer Rouge took over the country and evacuated people from the cities to the countryside. It is estimated that 2 million Cambodians (out of 7 million people at the time) died of starvation, forced labor, and executions by the Khmer Rouge. The Khmer Rouge targeted educated Cambodians such as teachers, intellectuals, and doctors for killing. The Khmer Rouge regime imposed more drastic changes on their own people than their communist counterparts elsewhere in Southeast Asia (Hein, 1995). As a result, more Cambodian refugees have physically and emotionally disturbed family structures than other Southeast Asian refugees (Kim, 2002).

In 1979, the Vietnamese invaded Cambodia and toppled the Khmer Rouge regime. Thousands of Cambodians fled to Thai-Cambodian border camps to escape starvation and the continued fighting (Wallitt, 2008). At the camps, Cambodians experienced more problems like rape, robbery, and extortion as they waited in United Nations refugee camps for the chance to resettle in a third country (Smith-Heftner, 1999). According to Wallitt (2008), there was very little formal education in these camps. After many years of waiting, some Cambodians were able to resettle in a third country. Directly or indirectly, many Cambodians ended up living in America as a result of the

U.S involvement in Southeast Asia. Few Cambodians would have left their country if there had been no war.

The first Cambodian refugees came to America in 1975 (Ngo & Lee, 2007). However, the majority of Cambodian refugees came to America between 1980 and 1983. The group that came between 1980 and 1983 tended to come from rural area and was less educated than the group that came in 1975 (Ngo & Lee, 2007). This group brought with them to the United States the trauma that they had experienced during the genocide by the Khmer Rouge regime. This later group did not have support from fellow Cambodians for there was no established Cambodian community in America when they arrived (Kim, 2002).

Legacy of the Khmer Rouge

According to a psychiatry professor and dean of the faculty of medicine at the University of Health Sciences in Phnom Penh, Dr. Ka Sunbaunat, Cambodians in Cambodia and abroad are directly and indirectly affected by the war and the Khmer Rouge regime (Phy, 2011). Moreover, the “next generation” is also affected through the actions of their parents such as domestic violence and fighting in the families. This indicates that the legacy of the Khmer Rouge is still being felt by Cambodians many years after the end of their brutal regime.

A Culture of High Regard for Teachers

Culturally, Cambodians respect teachers and trust them to educate and discipline their children. There is a saying that Cambodians would tell their children’s teachers to leave only their children’s bones and eyes when they first drop their children off at school. What they are trying to say is that they are giving their children’s teachers the

permission to physically punish them whenever their children misbehave. In the old day, corporal punishment was widely practiced in Cambodian schools. This culture of leaving everything up to teachers, I believe, is not helping Cambodian students in America to achieve academically. In America, parents are expected to be involved in their children's education.

The Nature of the Research

According to the White House Initiative on Asian Americans and Pacific Islanders (n.d.), only 11% of Cambodian Americans have a bachelor's degree compared to 20% for Vietnamese Americans, and 29% for Asian Americans as a whole. Here are the three points that I believe contribute to the low performance by Cambodian students in America. First, some parents are suffering from PTSD. When one family member is not healthy then children's schooling is affected. Second, Cambodian parents are not very involved in their children's education because of the culture of leaving everything up to the teachers. The lack of parent involvement leads to the perception from their teachers and children that they do not value education. Third, most Cambodians in America came from a rural background with low educational level. Therefore, they might not know how to emphasize the importance of education to their children. This could explain why there are not many Cambodians in college or who have graduated from college.

Still, some Cambodians *do* go to college, and choose STEM majors. How do they differ from the majority who do not go to college? How did they come to choose STEM majors? Have they needed to overcome the barriers I have been discussing? If so, how were they able to do so?

To investigate my ideas above, I will conduct a qualitative study by interviewing Cambodian American students. Yin (2011) described qualitative research as:

1. Studying the meaning of people's lives, under real-world conditions;
2. Representing the views and perspective of the people in a study;
3. Covering the contextual conditions within which people live;
4. Contributing insights into existing or emerging concepts that may help to *explain* human social behavior; and
5. Striving to use *multiple sources of evidence* rather than relying on a single source alone. (p.8)

By interviewing successful Cambodian American students, I am hoping to hear their views and perspective as to why they decided to go on to college, and why they chose to study in STEM fields. Qualitative research allows me to look thoroughly into “views and perspective” of my participants. I will be able to find out what is different about them and why they are in college and their peers are not. A survey could answer my questions about PTSD, parent involvement, and parent education level. However, with an interview, I could get information that I would not otherwise have gotten from a survey. A student could still be successful in school while having parents who suffer from PTSD, ignore their children's schooling, and have low educational levels. From interviews, I might learn that children are still successful despite all these odds because the parents were getting help for their PTSD. In addition, the parents might not attend back to school night or parent conference but still always make sure their children have all the school supplies they need. Parents might have low educational level but like to read to their children or take their children to the library on a regular basis. With

qualitative research, I believe that I can get details from my participants through interview that would not come through via surveys and other quantitative methods.

As part of this study, I decided to join a Cambodian club at a university in order to get to know prospective participants. I introduced myself and told the club members about the study I hoped to do someday. I eventually recruited volunteers from the club who were willing to participate in my study.

Key Terms

Cambodians: People who were born in Cambodia.

Cambodian Americans: People of Cambodian descent who were born in the United States or naturalized U.S. citizens.

Asian Americans: Americans of Asian descent.

Khmer Rouge: Cambodian communists who ruled Cambodia from 1975-1979.

STEM fields: Fields of study in science, technology, engineering, and mathematics.

Research Questions

My overarching research question is: What factors motivate Cambodian American students to go to college and to study STEM fields? In an effort to answer the above research question, I will look into three aspects of my participants' lives. Those three aspects are:

1. How does high school experience contribute to the decision to go to college and to study a STEM fields?
2. How does parent influence guide the students toward the path of college?
3. How does college experience influence their decision to stay and succeed in

STEM fields?

CHAPTER 2

LITERATURE REVIEW

My study will look into what make Cambodian American students successful and why these successful students choose to study STEM fields. I am hoping to find common factors that contribute to the success of Cambodian American students in science, technology, engineering, and mathematics (STEM) fields.

I had not found any study on Cambodian American students in STEM fields during my literature search. This shows that there haven't been any studies done on the topic. Instead, I found studies and articles on Cambodian American students and their educational experiences in general. This lack of literature shows a need to study the experience of Cambodian American students in STEM fields.

Educational Experience of Cambodian American Students

Low Academic Performance

In their study, Chhuon and Hudley (2010) used participation and observation at one high school in Southern California with a large concentration of Cambodian students. They interviewed 52 students from different academic programs and found that few Cambodian students attended the elite magnet academies while the “lower academies” had more Cambodians, Blacks, and Hispanics. Cambodian students were not doing as well as their Asian peers. Interestingly, Chhuon and Hudley found that some Cambodian students who attended the elite magnet academies did not want to associate with

Cambodian students who attended the “lower academies” because they saw those in “lower academies” as ghetto and trouble makers.

Furthermore, the Cambodian students at the school in Chhoun and Hudley’s study experienced low expectation from teachers. It would be interesting to find out whether Cambodian American college students in my study were also placed in “low academies” because they were Cambodians and were not expected to do well in school. Chhoun and Hudley’s study is the basis for my looking into my participants’ high school experience and asking them about the expectation from their teachers (please see Appendix A).

Cambodian Mothers Are Involved in Their Children’s Schooling

Su (2010) studied the educational resources that were available to Cambodian American students. She interviewed 14 Cambodian American students and their 9 mothers. She found that Cambodian parents used their experience from Cambodia to try to motivate their children to do well in school. In addition, Su found that Cambodian American mothers and siblings played an important role in helping Cambodian American students to do well in school. Contrary to Su’s finding, Smith-Heftner (1999) suggested that Cambodian American parents are encouraging their children to do well in school but they are not directly involved with their children’s education. Su used the term “hidden capital” to describe the resources from parents, families, and communities that are available for Cambodian American students because these resources tend to be overlooked by researchers.

Su’s study is also a basis for my looking into parent influence on their children’s education and I used several of Su’s questions in my study. (Please see Appendix A).

“Structural Variables” Versus “Cultural Variables”

Kim (2002) used the data from the Children of Immigrants Longitudinal Study (CILS), a study of more than 5,000 immigrant students from 42 schools in South Florida and Southern California, to demonstrate the differences between Vietnamese and Cambodian children. She found that Vietnamese American students are catching up with other Asians in terms of academic success while Cambodian American students are falling behind. Kim attributed the difference in academic performance between Cambodian and Vietnamese students to “structural variables” such as parents’ class background, school setting, and parents’ community ties rather than “cultural variables” such as cultural values, norms, and beliefs. Therefore, I asked questions related to high school setting and parent background like educational level in my study in order to determine their influence on academic success of my participants.

Motivational Factors

As part of a larger study on traditional Cambodian values and their relationships to success and academic adjustment in high school and college, Chhuon et al. found that Cambodian American college students feel a sense of obligation for their families and this feeling motivates them to succeed in college. They want to be successful in school in order to maintain “family face,” serving as role models to young siblings, and to be able to economically contribute to their families in the future. In the same study, participants recalled caring teachers, high academic expectation, and the role of their families as important factors for their college goals. Chhuon et al. recommended that school administrators develop programs with the goal of helping Cambodian students and other underserving minority students to succeed in school. This study is a basis for questions

on high school experience and specifically on the reasons for going to college (Please see Appendix A, question number 9).

Jose (2009) studied the internal and external factors that motivated Cambodian American students to attend college. Overall, the six participants in her study reported that family support and expectation, resources such as counseling in high school and after-school youth program, and Educational Opportunities programs (in college) influence Cambodian American students' decision to attend college. Once they are enrolled in college, these Cambodians students utilize peers and cultural identity through the Cambodian club on campus to support and motivate each other. Since the students who participate in my study are also involved in Cambodian clubs, I would like to find out how the Cambodian club and friendships developed from joining the club influence member's college experiences. This study formed the basis for my asking questions about the Cambodian club under college experience. (Please see appendix A).

In their article, "Factors Supporting Cambodian American Students' Successful Adjustment into the University," Chhuon and Hudley (2008) found that Cambodian American students believed that there was little social support when they first arrived on campus. Furthermore, they linked their initial academic struggle with this lack of social support. Overall, the 10 participants in Chhuon and Hudley's study stated that there are four factors contributed to their academic success in college. Those four factors are: an Educational Opportunity Program (EOP), positive contact with professors and teaching assistants, the Cambodian club, and home and community contributions. The participants were members of the Cambodian club on campus. This study formed the basis for question number 20 under college experience. (Please see Appendix A).

Kiang (1996) studied survival strategies used by Cambodian American students in college. The students in Kiang's study were born in Cambodia and came to the United States as refugees. He found that Cambodian American students' motivations to succeed in school were based on factors that are outside of their college environment. He listed those motivational factors as refugee stories, family stories, and race/gender discrimination stories. Kiang concluded that Cambodian American students experience isolation in college. In addition, Cambodian students resort to doing things on their own because they were getting little direct help from family members, friends, or school personnel. It would be interesting to find out whether these conclusions are still true for Cambodian American students currently in college. This study also formed the basis for my asking questions about college experience.

Model Minority Myth

In his case study of six Asian American students, Wing (2007) used quantitative and qualitative data to challenge the model minority myth. He described the "Model Minority Myth" as the idea that Asian Americans as a group has "made it" in America through hard work and education and therefore, other minorities should follow their example. According to Wing, even though it sounds complimentary, the Model Minority Myth is a racial stereotype and carries a negative meaning. Wing studied one high school that documented the grouping of all Asian students on campus as one group regardless of national origins and histories, family backgrounds, immigration status, and languages. Labeling Asian students as one group is hiding the fact that some Asian Americans like Cambodian American students are not doing well in school.

Communication with Parents

Yang (2004) supported the point I made previously that not all Southeast Asian children are model minorities. While some are doing well in school, others are not. Furthermore, Yang wrote that Southeast Asian American parents are having difficulty communicating with their children, teachers, and school personnel. As a result, Yang, a former executive director of the Southeast Asia Resources Action Center, believed that many Southeast Asian American parents have little knowledge of school and have minimum impact on their children's educational development. Therefore, one can conclude that Cambodian American students are having little support from home in regarding to schooling. In my study, I would like to find out whether the lack of parent involvement was also the case for the Cambodian American college students in STEM fields. Yang's assertion that Asian Americans are not doing well in school and that their parents had minimum influence for their schooling is the basis for my interview questions on parent influence. (Please see Appendix A).

Attrition Rate and Mentoring

Griffith (2010) used data from the National Longitudinal Survey of Freshmen (NLSF) and the National Education Longitudinal Study of 1988 to look for factors contributing to the success of all students in STEM fields. He concluded that many students who major in STEM fields will end up not earning a degree in STEM fields. Although the author did not study Cambodian American students specifically, she did find females and minorities were more likely to have switched from STEM fields to other majors. I plan to ask my participants whether they have thought of switching their major from STEM fields to other majors. (Please see Appendix A).

Griffin, Perez, Holmes, and Mayo (2010) studied the importance of faculty mentoring in minority students in STEM fields. They looked at survey data collected by the Higher Education Research Institute at UCLA and they then interviewed 28 African American professors. Griffin et al. concluded that mentoring and advising were important for the participants' success in STEM fields as undergraduate students. In return, these African American professors were identifying and helping students of color by mentoring them. It sounds like the African American professors were mentoring students of color more than others, consciously or unconsciously. As such, I would like to find out whether my participants are getting any mentoring from their professors and whether it helps with their schooling or not. Moreover, it would be interesting to learn more about how they view their mentors and whether the mentors are Cambodians or not (Please see Appendix A)

Student's High School Ranking

Thompson and Bolin (2011) studied signs for success in STEM majors in 1,400 full time freshmen at a large Texas public institution. They found that high school ranking of students is a strong indicator for success in STEM majors. Students with high ranking were less likely to drop out from college or switch majors. I asked a question on class rank in order to find out whether there is any correlation between class rank and success in STEM fields.

Factors Influencing College Enrollment

In their study of postsecondary educational plans of ninth-grade students, Hossler and Stage (1992) tested a structural model of predisposition to attend college by looking at data from 2,497 freshmen high school students and their parents. They cited four

factors as influences on the decision to attend college. Those four factors are: family and student background, parents' educational expectations for children, student involvement in school, and student achievement. It would be interesting to find out whether my participants had the same factors that influence their decision to go to college. I will be able to answer this when I analyze all questions under high school experience and parent influence in Appendix A.

McCarron and Inkelas (2006) studied the role of parental involvement and the gap between educational aspirations and attainment for first-generation college students. They found that parental involvement in school was a viable predictor but was not the main predictor for educational aspiration for first-generation students. Instead, viewing the importance of good grades on the part of students was the main predictor for educational aspiration. McCarron and Inkelas also found that first-generation students did not obtain their degrees within traditional timeframes. Most students in their study did not attain a degree after 8 years out of high school. I will, clearly, be closely examining what my participants say about their parents' education and expectations.

Aschbacher, Li, and Roth (2010) studied 33 ethnically and economically diverse high school students to explore why some students who were once very interested in science in 10th grade were no longer interested in pursuing a career in science by 12th grade. At the end of the study, 15 students (45%) no longer wanted to pursue a career in STEM. Students who were no longer interested in science by 12th grade cited poor science experiences in school, viewed school science as hard, saw science careers as too difficult, had other interests and priorities over science, had no extracurricular science activities, and lacked family encouragement. In contrast, the authors found that students

who were still interested in science after 12th grade had high interests and ambitions for science, positive views for science in school, extracurricular opportunities in science, and family support and extracurricular opportunities. The authors labeled participants into three categories: lost potentials, low achieving persisters, and high achieving persisters. Interestingly, all the seven Asian American students belonged to the high achieving persisters group. Furthermore, most of them reported stereotypical pressure from administrators, teachers, peers, and parents to take AP classes and excel in science and math. I will ask my participants whether they experienced the same “stereotypical pressures” in high school. (Please see Appendix A).

Reasons for Going to College

Kennett, Reed, and Lam (2011) asked undergraduate students to list reasons for attending university and indicate the most important reasons. The participants were 69 freshmen and 63 upper year undergraduate students attending a diverse urban university in Toronto, Ontario, Canada. Students in their study listed internal and external reasons for attending college. Many students listed “wanting the challenge and satisfying the dream of a higher education.” More first year students listed their main reason for attending college as “to prove to others that they had what it takes to attend university and attain a degree.” I would like to find out whether that is also one of the reasons why Cambodian American students decided to go to college and to study STEM field. Therefore, I asked questions number 7 and number 21 in Appendix A.

Yiv and Secombe (1999) studied Cambodian students’ motivation to attend higher education in Australia. The 28 participants completed questionnaires about family background and answered open-ended questions on their reasons for attending college.

Yiv and Secombe found that their motivations for attending higher education were for educational and occupational reasons. Interestingly, one student indicated that one of the motivations is to “to go back to Cambodia to help rebuild the country” (p.61). It would be interesting to find out whether their counterparts in America have the same motivations for attending higher education. Two questions in appendix A were designed with this study in mind (question number 7 and 21).

CHAPTER 3
RESEARCH METHOD

Introduction

Although the number is still low compared to other ethnic groups, Cambodian Americans do go to college. In this study, I investigated factors motivating Cambodian American students to go to college and to study STEM fields. As part of answering the research question, I looked into three aspects of my participants' lives:

1. How does high school experience contribute to the decision to go to college and to study a STEM fields?
2. How does parent influence guide the students toward the path of college?
3. How does college experience influence their decision to stay and succeed in STEM fields?

I used qualitative research methods in my study of Cambodian American students in STEM fields. Qualitative research allowed me to represent the views and perspective (Yin, 2011) of the Cambodian American students in my study. The views and perspective of Cambodian American students are lost in the model minority myth that views all Asians as very successful (Wing, 2007).

My interviewees were Cambodian American students who attended large universities in Southern California.

Researcher' Perspective

Some of the perspectives guiding me, as a researcher, are discussed in Chapter 1. It was important for me to try to maintain objectivity in my study at all times, and I tried to make sure readers understand the viewpoints that might affect how I analyzed my data.

The story of Cambodian American students in STEM fields is similar to my own story. I am a Cambodian American who majored in STEM fields in college. Unlike my participants who are second generation Cambodian Americans, I was born in Cambodia and came to America when I was a teenager. In America I attended high school and college. Thus, I am in a position to compare the Cambodian educational experience with the American educational experience.

As a Cambodian American, I am considered an insider with my insider perspective. I was able to see and understand Cambodian American students' experiences and can relate them to my own experience. This was an advantage for me but it could also lead to bias in my interpretation of the data because I looked at the data through my own experience as a Cambodian American.

Sample and Setting

My study took place at large universities in Southern California. The participants of my study were Cambodian American students who were former or current members of the Cambodian club on campus. They were recruited because they are majoring in STEM fields. Furthermore, the participants have already taken more than one core requirement class in their respective major.

I joined a Cambodian club on campus in the fall 2011 semester and introduced myself to the members. I also informed them of my plan to interview willing members

for my study. The club meets biweekly on Friday evening at a room on campus. I attended the meeting three times in the fall of 2011. Membership is informal and members are categorized into active and non-active based on attendance in club meetings.

Data Collection

Data collection was conducted through interviews and a questionnaire. There are advantages of using interviews in a study. According to Borg and Gall (1989), interviews provide flexibility by allowing the interviewer to follow-up leads and therefore get more data, greater depth, and clarity. In addition, through personal interaction, a skilled interviewer could motivate the subjects to provide information that the subjects would not provide under different circumstances. These advantages were the reasons why I had decided to interview the Cambodian American students as part of this qualitative study.

Borg and Gall (1989) wrote that researchers in education tend to use semistructured interview in their studies. Researchers first ask a series of structured questions then probe deeper, depending on participants' initial responses, by using open-ended questions in order to get complete information. Borg and Gall described the advantage of a semistructured interview as, "being reasonably objective while still permitting a more thorough understanding of the respondent's opinions and the reasons behind them than would be possible using the mailed questionnaire" (p. 452). I decided to use semistructured interview as part of my study because I believed that I could get more data from my participants this way.

Participants were interviewed individually. I spent about an hour with each of the participants asking questions on three aspects of their lives: high school experience,

parent influence, and college experience (please see Appendix A). Some of these questions are mine and some are from literature review. In addition, participants were asked to answer a brief questionnaire that did not require follow up.

Data Analysis

Lichtman (2006) acknowledged that it is time consuming to transcribe the interview data but she recommended that the researcher does his or her own transcribing. Following Lichtman's recommendation, I transcribed the interviews myself. Lichtman views data analysis as an ongoing process. She proposed a circular model for gathering and analyzing data where additional data can be collected after the initial collection process, transcription, and a thorough reading of the resulting text.

According to Lichtman, the six steps of coding are:

Step 1. Initial coding. Going from the responses to some central idea of the responses.

Step 2. Revisiting initial coding.

Step 3. Developing an initial list of categories or central ideas.

Step 4. Modifying your initial list based on additional rereading.

Step 5. Revisiting your categories and subcategories.

Step 6. Moving from categories into concepts (themes). (p. 168)

When analyzing my data, I read and reread the text of my transcripts and followed the steps listed above. I kept going back to the transcripts to clarify my interpretations. I initially divided responses into three categories: high school experience, parent involvement, and college experience.

Under high school experience, I looked for similarities and differences under AP classes, experiences outside formal classroom, mentoring, teachers who made a difference, expectation from teachers, and reasons for going to college.

Under parent involvement, I looked for factors such as expectation from parents (did they tell them to go to college), parent involvement in school events, role models (immediate family members), and did their parents tell interviewees stories about the Khmer Rouge.

Under college experience, I looked for themes such as factors interviewees thought contributed to their success in college, mentoring, and the Cambodian club.

Furthermore, after the interviews, I contacted my participants and asked them to look at the transcripts to make sure that I had documented their thoughts accurately. Unfortunately, I was not able to share with participants my interpretation.

Proposed Time Scale

I started collecting, transcribing, coding, and analyzing data in the fall of 2013 and finished in the fall of 2014.

CHAPTER 4

PARTICIPANTS' EXPERIENCES

My interviewees were all students at large universities in Southern California. All together, 5 students (3 males and 2 females) were interviewed for this study. Below are narratives of their experiences as Cambodian American college students in STEM fields.

Tom's Experience

High School

Tom, a male student, was raised by a single mother. He described himself as “atypical Cambodian.” In high school, the heavily built Tom was involved in the wrestling team. He remembered his teachers as being supportive. Tom said his friends were into sports and they were mostly Cambodians and Asians. In addition, he described himself as someone who got around and befriended anyone he met. He gave credit to his Cambodian language teacher for telling him about the importance of doing well in all his classes. Tom did not take any AP classes and, looking back, he could see that because he was Cambodian, he did not receive high expectation in school. In addition, his counselors did not encourage him to take difficult science classes. Despite the lack of high expectation, Tom took physics and managed to do well in all his classes.

In his senior year, Tom decided to go to college. In addition to being “pushed” by his parents, his reasons for going to college are to get a degree and then to get a job to help his family.

Parent Involvement

According to Tom, his parents did not have much influence on his schooling. Tom did not live with his father, but that did not stop his father from trying to “push” him to do well in school. Tom’s mother was the one who was involved in his schooling. She attended school events like back to school night, open house, and conferences as much as possible.

When asked about expectations from his parents, Tom recalled that they had “good enough expectations” for him and they encouraged him to go to college. His father who had attended two years of college “wanted me to study finance or business and my mother wanted me to be whatever I can or wanted to be.” Tom decided to study engineering “because it is a very highly demanded [field] after you get out of college looking for a job.” In college, he says his parents are not involved in his education but they encouraged him to study hard.

Tom said his mother talked to him about her experiences from Cambodia all the times. According to Tom, “any times I talked to her I would get one of those ‘back in Cambodia’ days. What I am assuming is that she wanted me to see how it was like back then compared to where we are right now.” In addition, Tom stated that stories of his parent’s experiences from Cambodia affected his schooling. It makes him work a lot harder in school, he claimed. He understands that what he is going through now is nothing compared to what his parents went through. One of the main reasons why he is in science and engineering, he said, is because of the story of his parents during the Khmer Rouge time. “Cambodians are smart people but after the Khmer Rouge, many

educated were killed...I don't see anyone else pursuing or having the knowledge of engineering or science," said Tom.

College

Tom, a senior, gives credits to friends, family, professors, and the Cambodian club on campus for his success in college. He is studying chemical engineering because it is a very highly demanded field. Tom said that his classes in college are "ways too intense" but "bearable." He sees his professors for help any time he can or when he is really confused. According to Tom, professors are helpful. After college, Tom plans to pursue a Ph.D. in chemistry because he wants to "help out humanity." I interpreted this to mean that he is a very ambitious young man.

Tom was told about the Cambodian club on campus by his high school friends and decided to join in his freshman year. The club supports him academically because the people in the club are "very smart people." He had a friend from the club who was also a chemical engineering major. They used to study together before his friend graduated. Moreover, the club supports him socially. Tom made friends with people he met in the club and they hang out together. At one time, Tom was one of the leaders of the Cambodian club.

Alex's Experience

High School

Alex, a male student, remembered his high school teachers as being helpful, especially the math teacher. He admitted that he was never strong in math and math teachers allowed him to retake his tests. Moreover, he said that he was doing fine in science classes except for physics. Whenever he failed an exam he said he would talk to

the teacher to see if he could retake the exam. I interpret this to mean that Alex was persistent and determined to succeed in school.

Early on in life, Alex knew that “in order for me to get somewhere, I need to be very educated.” He knew he wanted to be an engineer since he was in high school. His family and personal background motivated him to pursue a college education. He was born prematurely, weighing just one pound and six ounces at birth and he has eyes problem due to a detached retina at birth. He decided to use that personal experience as a motivation to do well in school and to succeed in life.

Starting in high school, Alex participated in a Cambodian club at a college. He found out about the Cambodian club through the martial arts club at his high school and he has been a part of the Cambodian club ever since.

Alex said that one can be influenced negatively or positively by friends, so he picked his peers carefully. He befriended the ones who were serious about school, like himself. He talked about friends who played sports but they focused more in academics and they tried to get big scholarships to play sports in colleges. Alex’s friends were Cambodians, Vietnamese, Hispanic, and Europeans.

Alex discussed having opportunities to visit “a lot of college campus” because of his involvement in a mentorship program. The mentorship program took students to visit college campuses and allowed them to live on campus in the summer. These opportunities allowed him to experience college life at an early age. It was in high school that Alex realized that he wanted to be an engineer in the future.

Parent Involvement

According to Alex, his parents were “not involved” in his education in high school. Alex recalled that they attended parent conferences and made him translate from English to Khmer for them. However, they never went to back to school or open house. His parents separated and he was raised by his mother but stayed in touch with his father. He would tell his father about what he planned to do with his life and how he was doing in school. His parents did not seem to mind about his grades. He just showed them his report card and they would say, “That’s good.” It seems Alex was setting expectations for himself. “I set a standard of the grading myself,” he said.

Even though Alex’s parents were not involved in his schooling, they did encourage him to go to college. However, they did not encourage him to go into STEM fields. Alex’s father “supported whatever I wanted to do and told me to figure out what I wanted to do soon before it takes up too much time. My dad would call me and we would catch up.” This shows that his father was somewhat involved with Alex in his schooling even though they did not live together.

An uncle played an important role in Alex’s life as well and he considers that uncle as a role model. The uncle works in an engineering related field. Every time he saw his uncle he would ask questions such as what should he do to continue furthering his study or how could he get a job in certain area of expertise. Fortunately, for Alex, having an uncle working in engineering related field reassures him about the prospect of getting a job in the field after college.

Like most Cambodian parents, Alex’s parents told him about their experiences back in Cambodia. Alex knew that it was very hard for his parents to leave their country

and brothers and sisters to start a new life in America. The stories about the lives of his parents back in Cambodia make him not to take his life for granted and he “took it heavily.” He said he was determined to do well in school “because they went through a difficult experience [and] we cannot compare our obstacles with theirs.” Alex is reminded that “every time I considered myself messing up here it is easier for me to make it up than if I were in Cambodia.”

College

Alex, a senior, is majoring in computer engineering technology. Originally he was a computer science engineer major but he found out that it was about programming and “the mathematics is not made for him.” So he switched to computer engineering technology, a field of engineering he finds more hands-on; he really likes it. According to Alex, factors contributing to his success in college are seeing professors during office hours to get help, teamwork, and forming study groups with friends. He doesn’t have a mentor right now but in the past he had a supplemental instructor to help him out with some problems.

Alex decided to join the Cambodian club because he thought that it was “interesting.” He found out about the club through a martial arts club at his high school and has since been involved with the club. There were other engineering majors in the club who studied with each other but he was not that close to them so he is more or less studying on his own. According to Alex, the Cambodian club supports him socially by making him become more “talkative.” He made a lot of friends through the club and still sees them once in a while on campus. He feels like the club connects him to the Cambodian culture. There were some stories or some teaching that he never heard of

until he attended the meeting. He participated in the culture show performance, organized by the club, many times.

In summary, Alex struck me as someone who doesn't let personal challenges and obstacles in life get in the way of obtaining a higher education.

Phana's Experience

High school

Phana, a male student, attended a magnet program in high school. He said that he started out high school wanting to study engineering in college and become an engineer one day. He took an engineering class in high school and realized he did not like it very much. So after having taken that engineering class, he did not want to study engineering or become an engineer anymore. In high school, Phana took many challenging classes like AP biology and AP chemistry classes. He remembered his teachers to be very supportive. He would ask them for help and advice in science related careers. For example, a world history teacher recommended an ROP program and he took a class called pharmacy tech. The class helped him form a goal of becoming a pharmacist.

Phana's dream of going to college started in high school. Interestingly, Phana's father "did not actually want me to go to college. He did not believe in college career." Contrary to his father, Phana's mom told him to ignore his father's advice and to go to college and get a degree. "A college education will bring you more opportunities," she told him.

Phana decided to go to college for economic and personal reasons. "I want to pursue a higher education so I can get a job...pretty much any job...I had pharmacy in my mind...but I was open to anything, actually. I wanted to support my family because I

am the second child but my oldest is autistic...so I have to support him later on...so I am actually somewhat the oldest one. So I set examples for my siblings.” I interpreted this to mean that Phana felt a sense of obligation to support his family and his siblings. This sense of obligation influenced his decision to go to college.

Parent Involvement

According to Phana, his mother was the only one who was involved with his education in high school. She attended back to school and open house events up to middle school but stopped attending in high school because she was busy with his siblings. Phana believes that she had high expectation for him and supported his decision to go into engineering. He tried engineering but did not like it. In his freshman year of college, Phana’s mother talked to him regularly about his education. Last semester, she was concerned when he told her that he was switching his major from microbiology to Asian American studies.

In addition to having a supportive mother, Phana has an uncle in New Hampshire whom he talked to about a career in pharmacy. The uncle encouraged Phana to find an internship [in pharmacy] and he continues to receive guidance from his uncle throughout his college years.

Unlike other Cambodian parents, Phana’s parents did not really tell him anything about the Khmer Rouge. So he had to find out about Cambodian history on his own in high school. He learned that his mother lost many family members under the Khmer Rouge regime. Stories about the Khmer Rouge, he says, motivate him to work harder with the hope of supporting his family. He understands that his parents struggled to get out of the country to find a new life. He feels blessed that he was born in the United

States and has all the opportunities. “I will use the opportunity to help my family and to help family members in Cambodia,” he said.

College

Phana, a senior, initially majored in microbiology in college because he thought that it would help him prepare for pharmacy school after graduation. Later on he learned that one can be in any major and still can apply to pharmacy school. He chose to study microbiology, he said, because it has connection to diseases. He saw a lot of Cambodians in his community suffering from diseases. They were not taking their medications properly and he had to read prescriptions to them because they were mostly in English and most of them do not understand English. So he had to translate for them and he wanted to help people like that in his community. To me, this shows that he is a compassionate person.

During his freshman year in college, Phana participated in a mentoring program. The program helped transition freshman into science majors. In his junior year, he decided to help others back in return by becoming a mentor himself. “I saw many students struggled in biology and chemistry and I wanted to help them succeed,” he said. He stopped being involved in the mentoring program when he himself did not do too well in classes because he believed that someone else should take his spot to help others. Phana credits the university’s freshman year program for helping him successfully transition to college. Without the program, he believes he would have struggled more in college. He saw the lack of mentors as being a challenge for Cambodian American students.

Phana decided to change his major from microbiology to Asian American studies in spring 2014 because he felt he was not doing well in chemistry classes. He was doing very well in biology classes, but found chemistry classes to be places where there were tough competitions. Phana knew that even though he is no longer majoring in microbiology, he could still apply to pharmacy school after college.

Phana joined the Cambodian club on campus in his sophomore year. He joined the club because he thought that it was interesting and he remembered his mother telling him to “make Cambodian friends.” He was heavily involved in the Cambodian club during his sophomore year but he had to scale back his involvement when he realized that he had to focus more on his study.

According to Phana, the Cambodian club supports him academically. He used to study with one club member who, interestingly, was not a Cambodian American. In addition, the club supports him socially and connects him to Cambodian culture. Phana philosophically described his experience in the Cambodian club as, “It was great to see different backgrounds and how they struggle and such because I did not care much about Cambodians until college...to see how their parents suffer...how they adjust to American life.” It sounds like the Cambodian club helps Phana find his identity through learning about fellow Cambodian Americans’ experiences.

Kolab’s Experience

High School

Kolab, a female student, remembered her high school teachers as being supportive by offering help after school. In addition, her teachers had high expectation for her and they expected her to take AP classes because she did very well in other classes. So Kolab

took five AP classes in high school (calculus AB, statistics, US government, and Geography). According to Kolab, there was “a little bit of pressure to take AP classes but mainly because I wanted to take them.”

Despite taking many challenging classes, Kolab found the time to get involved in a community service club on campus. Socially, Kolab only had a couple of Cambodian friends because there were not that many of them at her school. Many of her friends were interested in science.

Kolab had the opportunities to visit many University of California campuses like UCLA, UC Irvine, UC Santa Barbara, UC Berkeley, and UC Riverside. During those college trips, she listened to people talking about majors and what jobs one can get with a particular major. These opportunities made her want to go to college after high school.

Parent Involvement

According to Kolab, her parents encouraged her to attend college. They knew that she tried to do everything by herself. Kolab knows that her parents supported her in schooling even though they did not go to school events like back to school or open house. Her parents worked until late in the evening so they were not able to attend school events. Kolab thinks that her parents had high expectation but they were pretty understandable if she was having trouble. She thinks that her parents encouraged her (a little bit) to pursue a career in STEM fields.

Like most parents in this study, Kolab’s parents told her about their experience under the Khmer Rouge. Kolab said that they shared those stories in order to “motivate me to do well in school and in life. They wanted me to know that they did not have a chance to go to school. They had to suffer a lot and they did not have many chances [like

me]. It makes me think that I am lucky to go to school here and not have to pay for stuff.” These stories motivate her to study harder.

College

Kolab, a junior, contributes her success in school to factors such as supports from family, friends, and some of her teachers. She chose to major in mathematics because she was not sure of what to study. At one point, she thought of studying electrical engineering but decided to stay with mathematics. After college, she plans on being a math teacher or maybe going into business but she is not too sure right now.

In college, Kolab participates in a mentoring program that helps her with academic counseling. As a transferred student from a community college, Kolab thinks that classes at the four year college are more difficult. She sees professors for help sometimes but she thinks that professors at the four year college are more intimidating than professors at a community college. Thus she tend to not ask for help from them that much.

When she transferred to the four year college, Kolab joined the Cambodian club on campus. She met one of the club members during transfer day and decided to join the club. The club offers her a chance to meet people with a lot of things in common. In addition to connecting her to Cambodian culture, the club supports her socially and academically. She makes friends who have many interests in common with her and learns a lot of Cambodian culture through the club. She formed study groups with members from the Cambodian club and found them to be very helpful and encouraging. In her free times, Kolab volunteers for an outreach program to provide tutoring and mentoring opportunities for high school students.

Bopha's Experience

High School

Bopha, a female student, went to a magnet high school. She remembered her science classes as being among her favorites. She said teachers had high expectations and they were “well trained and taught her really well.” In addition, Bopha recalled having good counselors that always came in at certain times of the year to talk to students about getting ready for college. Teachers and counselors were the reasons she thinks she had a good foundation for college. She also noted there were few Cambodian students in her magnet program.

Bopha does not recall making a conscious decision to go to college. According to her, she always knew that she was going to go to college, even as a little girl. Bopha eloquently stated:

Both of my parents went to college and I never assume that I was not going to college. I always had an internal motivation, wanted to push myself farther, and wanted to be the most educated person that I can be. I want to go to physician assistant school. I want to be a physician assistant that is not only able to work in the US but be able to work internationally, in places like Cambodia. So in order to do that, school is definitely the most important things.

In high school, Bopha recalled an outreach program that sent Cambodian college students to talk to Cambodian high school students about college and financial aid.

Bopha was mentored by Cambodian college students from the outreach program. The Cambodian college students from the program made a big impression on Bopha and she considered them as role models.

Starting at an early age in high school, Bopha was involved in her community. During her free times, she volunteered to file and take patients in and out of a hospital. She also volunteered at an aquarium where she got to learn about marine animals and experience many hands-on activities. The volunteer opportunity at the aquarium, Bopha said, made her want to study marine biology in college.

Parent Involvement

Bopha reported her parents as having high expectation and being very involved in her education. However, she said they were fine with it if she got a B in a class, just as long as she tried her very best. “They were not the kind of parents who forced me to study or forced me to do good in a class. They always told me to try my best,” she recalled. Her mother attended school activities most of the times. Her father was more involved in the academic side of her life and played a role in influencing her to pursue a career in STEM fields. She described her father as being “a science and math oriented person.” He would always help her with homework and writing essays. He knew that she wanted to be a doctor so he encouraged her and did not push her to be an engineer or anything else. Her father, as she described, understood that career choice or field of study was based on personality. Bopha recalled her father encouraging her to take certain classes and at some point she would not want to take the classes. Then her father would just explain to her as to why he thought that it was a good decision to take the classes. However, if she decided not to take a class, he would be fine with that also.

Bopha’s parents are highly educated compared to most Cambodians. Her father has a bachelor’s degree in engineering and a master’s degree in mathematics, and her mother has a bachelor’s degree. They immigrated to the United States in 1980. They

told her a lot of stories about Cambodia such as their experiences under the Khmer Rouge and how they affected them and their families. She thinks that they shared those stories with her because they wanted her to know the hardships that they went through. Those stories make her appreciate what they did even more. “It makes me even more motivated to do well in school,” she said. At one time, her mother told her a story about how Cambodian teachers would slap students in the heads with rulers or hit them on the back. This story serves to remind her that she is very fortunate because she doesn’t have to worry about being hit by teachers in America.

College

Bopha is in her third year of college studying marine biology. She said she chose to study marine biology because she wanted to learn about marine organisms. Her fascination with marine organisms started in high school with a volunteer opportunity at an aquarium. With a marine biology degree, Bopha feels she would still be able to prepare for physician assistant school or medical school.

Bopha gives credits to friends and family and some clubs that she had joined for her success in college. She said she used to be involved in other clubs and is still receiving informal mentoring from members in those clubs even though she no longer attends meetings. They helped her with questions and advices about college life. She thinks that “mentoring [from my peers] was really helpful in my first two years of college.” Now that she is in her third year, she has had more experiences and thus has started to navigate college life on her own.

Bopha has two cousins in the medical fields. One cousin is a nurse and the other is in medical school. She talks to them over Facebook and asks them for advice like which field is better, medical school or nursing school.

When she is not going to class or studying, Bopha volunteers at a hospital, works to pay for her tuition, and does research to further her learning.

Currently, the Cambodian club on campus is the main club that she is actively involved with. She joined the Cambodian club when she started college. She was mentored by Cambodian college students from the Cambodian club back in high school. She always knew that the Cambodian club was the club she wanted to join because she looked up to the members of the club when she was in high school. "I knew that it is one club that I can feel like at home. A lot of people in the club are interested in Khmer culture or are Cambodians. We all have a common foundation," said Bopha. In addition, she feels the club supports her academically because she studies with people from the club. Lastly, the club connects her to Cambodian culture through activities like organizing and practicing to prepare for culture show during Cambodian New Year.

CHAPTER 5

CONCLUSIONS

My research question for this study is: “What factors motivate Cambodian American students to go to college and to study STEM fields?” I set out to answer the question by interviewing five participants and asked them questions on three aspects of their lives. The five participants that I interviewed have shed some light on the questions of why they went to college when many Cambodian Americans do not, and how they came to study STEM fields when so few others do so?

High School Experience

Influence of Teachers

Chhuon and Hudley (2010) found that Cambodian students at one school experienced low expectation from teachers and Cambodian students who did very well in school did not want to associate with Cambodian students from the “low academies.” My study, on the other hand, showed that participants generally experienced high expectation from their teachers. In addition, my participants had few Cambodian friends in high school because there were few Cambodian students at their high schools.

All five participants remembered at least one teacher who had made a difference in their lives. This suggested to me that supportive and encouraging teachers contributed to their decisions to go to college and to study STEM fields. For example, Tom credited his Cambodian language teacher for emphasizing success in school. Alex remembered a

pre-calculus teacher as making a difference in his life. Even though Alex struggled in her class she motivated him to keep going. Phana thanked his world history teacher for encouraging him to make a goal for college and recommending him to the ROP program in high school. He took an ROP class called pharmacy tech and this experience made him want to be a pharmacist. Kolab remembered a math teacher and a tennis coach for making a difference in her life. Lastly, Bopha praised her high school teachers for teaching her “really well.” Bopha described her high school teachers:

All the teachers were well trained and really care about their students...all teachers impacted me in different ways. My English teacher (junior year) always had thought provoking things to say in class in regard to literature we were reading. He was also funny and had a good sense of humor. Everyone really respected him.

In another study, Chhuon et al. reported caring teachers, high academic expectation, and the role of families as important factors for the participants’ college goals in their study. Similarly, participants in my study stated that they had caring teachers with high expectation in high school as described above. Thompson and Bolin (2011) found high school ranking as a strong predictor for success in STEM fields. However, only two participants in my study ranked very high in high school.

Decision to Study STEM Fields

My participants’ decisions to study STEM fields in college seem to have influenced by high school experience. From the interviews, I interpreted that they had good experience with science classes. Bopha recalled her science classes as being among her favorites. “I really enjoyed it, especially my biology and math classes,” she said.

Phana decided to take an extra year of science by challenging himself to AP biology and AP chemistry and he got a score of five on the AP biology test. As for Alex, he was doing very well in science classes except for physics. Tom, a wrestler in high school, took biology, chemistry, and physics. He recalled that his physics teacher “really tried to emphasize subject to get us through it.” As for his biology teacher, “he taught the subject really well,” recalled Tom.

High School Experiences Outside Formal Classrooms

Some participants were part of outreach and mentoring programs in high school and these programs provided them the opportunity to learn about college early. These are opportunities that they would probably not have had otherwise. For example, members of a Cambodian club from a college went to high schools to talk to students about college and financial aids. The club members had a big influence on Bopha. “There were a lot of role models to look up to. I know that they made a big impact on high school students by motivating them,” said Bopha, a participant of the program. The Cambodian club and its program left a big impression on Bopha. She knew that was the one club that she wanted to join when she went to college.

Alex is another example of someone who seems to have benefited from a mentoring program. In high school, through a mentoring program from a nearby college, Alex was able to visit many college campuses and attended a summer program where he got to experience college life by staying on college campus in the summer. This experience furthered his resolve to better his life by pursuing higher education. This suggests that outreach and mentoring programs were important in shaping at least two participants’ paths to college.

Volunteer opportunity seems to play an important part in influencing and shaping future career choice for one participant, Bopha. She gives credit to a volunteer opportunity in high school working at an aquarium as helping her chose her field of study in college. She got to learn about marine animals and experience many hands-on activities. She got so much from the experience that she decided to study marine biology in college in order to learn more about marine animals.

Parent Involvement

Some of my interviewee's parents were directly involved in their children's education and some were not. However, the lack of direct parent involvement does not mean to me that they are not supportive of their children's schooling. It only means that they are not familiar with the school system and what is to be expected of them from schools. Parents still support their children and want them to be successful in lives. One female participant, Kolab, stated that her parents "do not know much about the school system. They just know that you go to college after high school." This shows that even though they do not know the detail of the school system, they do have some general ideas. Kolab knew that even though her parents never attend school events, they supported her schooling and encouraged her to attend college. "My parents just support me," said Kolab.

In addition, I also observed how parents encouraged their children to pursue higher education. Alex said that his parents "were not involved in my education in high school." However, he said that they did "encourage me to go to college." Alex lived with his mother and he talked to his father often about school and grades. Another participant, Tom, stated that my parents "did not have too much influence on my

schooling (but) they encouraged me to go to college.” Tom did not live with his father but he said that his father tried to “push” him from the side. It seems to me that the parents of Alex and Tom were influential in their children’s education because they did encourage them to go to college.

Yang (2004) stated that Southeast Asian American parents are facing difficulty in these areas: communicating with their children, have little knowledge of school, and have minimum impact on their children’s education. However, my study suggested to me that Cambodian parents are playing an important role in influencing their children to attend college. This is evidenced by the fact that all five participants reported that one or both of their parents encouraged them to go to college. They might not have attended school events and had limited knowledge about school, but they all supported their children’s education and did encourage them to go to college. Only two participants, Phana and Bopha reported that their parents were influencing them to study STEM fields.

I think this study suggests that the educated parents are not only involved but also very supportive of their children’s education. They work together as a team to help their children succeed in school. A case in point is Bopha. With a bachelor’s and master’s degree, Bopha’s father is a highly educated man. He encouraged Bopha to take classes by explaining to her as to why he thought she should take certain classes. However, he respected her decision if at the end she chose not to take certain class. Bopha went on to describe her parents:

Both parents involved in different ways: mom was involved with people interaction like meeting teachers, and knowing when to pick me up from school. Dad was more involved in academic side. Dad was more science and math

oriented person. He would always help us with homework, writing easy, and applying for college. My parents had strong expectation but never pressure me to do really well. They were very strict. They did not allow me to go out with friends or anyone outside of school for too long because my parents believe that who you hang out with is who influences you.

McCarron and Inkelas (2006) found that parental involvement in school was a viable predictor but was not the main predictor for educational aspiration for first-generation students. They concluded that good grade were the main predictor for educational aspiration. Similarly, I found that finding to be true for my participants. They all had good grades and went to college but not all of their parents were involved in their schooling.

It also struck me that the lack of a father did not stop some participants from doing well in school. Two male participants were raised by single mothers but they talked to their fathers regularly about school and college. One of the students, Tom, recalled that his father “wanted me to study finance” in college. Tom’s father encouraged him to do well in school even though he did not live with his son. Another participant, Alex, stated that his parents were not involved in his education. However, Alex recalled telling his father about his grades and his plans after high school. Despite the lack of father figures in their lives, the two students are doing very well, academically. This shows that they are very resilient.

“Hidden Capital”

“Hidden capital” is one of the main reasons that I think contributed to the success of my participants in this study. Su (2010) describe hidden capital as resources that are

available to Cambodian American students. Examples of hidden capital are parents, families, and communities. In the cases of my participants, I believe that Cambodian parents used their experiences from Cambodia to try to motivate their children to do well in school. Four of my participants recalled their parents telling them about their lives under the Khmer Rouge. One participant, Tom, said that one of the main reasons he is studying engineering is because of the lack of educated people in Cambodia.

“Cambodians are smart people but after the Khmer Rouge, many educated were killed...I don’t see anyone else pursuing or having the knowledge of engineering or science,” said Tom. Another participant, Bopha, said the stories her parents told her make her appreciate what they did even more. “It makes me even more motivated to do well in school,” said Bopha. Bopha was already self-motivated to do well and her parents’ experiences provide extra push for her to go far and beyond. This suggests that Cambodian parents play a crucial role in motivating their children to pursue higher education--to study STEM fields, in two cases-- by telling their children about their hardships under the Khmer Rouge.

Yiv and Secombe (1999) studied Cambodian students in Australia and found that their motivations for attending higher education were for educational and occupational reasons. One Cambodian student in the study indicated that one of the motivations is to “to go back to Cambodia to help rebuild the country” (p.61). Most participants in my study learned about Cambodia and the Khmer Rouge from their parents. All of them were motivated to do well by the stories of their parents under the Khmer Rouge. Three participants expressed an interest in doing something in the future to help Cambodia and the Cambodian people.

College Experience

Participants in this study mentioned, families, friends, and the Cambodian club as some factors contributing to their success. For example, Kolab thinks that factors that contribute to her success are “support from my family and friends, and then some of my teachers.” She decided to join the Cambodian club in order to be “with a group of people with a lot of things in common.” Kolab talked about the benefit of joining the Cambodian club on campus:

I think they also support me academically because they go through similar problems and we also form really helpful study groups. Even though they take different courses, it is really helpful being able to study with them because they are very encouraging.

Griffin et al. found that mentoring and advising were important for minority undergraduate student’s success in STEM fields. Similarly, I found that Cambodian students need mentors and encouraging person from inside and outside of school. For example, some participants in my study were getting mentoring from Cambodian club members while in high school and some were getting advised from relatives. Bopha has two cousins in the medical fields. One cousin is a nurse and the other is in medical school. She talks to them over Facebook and asks them for advice like which field is better, medical school or nursing school.

All participants think that the Cambodian club on campus supports them academically and socially. They make friends with other club members and hang out together. They support each other by forming study group and study together.

Furthermore, participants agree that the Cambodian club connect them to Cambodian culture. All participants have participated in Cambodian culture shows sponsored by the Cambodian club. One participant, Bopha, was responsible for coordinating a Cambodian culture show event.

When asked about factors contributing to her success in college, Bopha said, “not so much the professors. They are there to just lecture. You can get help from them if you go to office hour. So much supports come from my friends and family and some club that I have joined.” Bopha described her connection to the club this way, “a lot of people in the club are interested in Khmer culture or are Cambodians. We all have a common foundation.” Another participant, Alex, gave credits to his friends and seeing professors during office hours. In addition, teamwork and study groups are also important for his success in college. Alex gave credits to the Cambodian club for helping him become “more talkative.” As for Phana he attributed his success to mentoring program for helping him transition to college. He decided to join the Cambodian club partly because his mother “always told him to make Cambodian friends.”

This study suggests that Cambodian club on campus plays an important role in helping Cambodian students to stay and succeed in STEM fields. All participants have at one time or another been a member of the Cambodian club on campus.

Jose (2009) stated that the Cambodians students in her study utilize peers and cultural identity through the Cambodian club on campus to support and motivate each other. Similarly, my participants also stated that the Cambodian club allows them to make friends with people that have “common foundation” like them. They form study groups or study together and motivate each others.

Chhoun and Hudley (2008) found that Cambodian American students believed that there was little social support on campus when they first arrived. My participants did not face the same experience. They all joined the Cambodian club on campus when they first arrived. Moreover, they reported that the Cambodian club supports them socially and academically.

Similar to Chhoun and Hudley (2008), Kiang (1996) studied survival strategies used by Cambodian American students in college. Kiang concluded that Cambodian American students experience isolation in college. In addition, Cambodian students resort to doing things on their own because they were getting little direct help from family members, friends, or school personnel. The Cambodian American students in my study did not seem like those in these previous studies. There are clubs that they can join and all five participants in my study belonged to the Cambodian club on campus. However, Cambodian students in my study are still “doing things” on their own. Most of them cannot depend on their parents because their parents have limited knowledge of school and the English language. However, doing things on your own can be interpreted as a sign of maturity and independence and those are good qualities to have for young people.

Chhuon et al. found that Cambodian American college students feel a sense of obligation for their families, serving as role models to young siblings, and economically contribute to their families. Similarly, one participant in my study, Phana, reported a sense of obligation for his family. He “pursues a higher education so I can get a job...I want to support my family because I am the second child but my oldest is autistic...so I have to support him later on...so I set examples for my siblings,” he said.

Comparisons with Other Asian American Students

Most participants have mixed feelings when asked to compare Cambodian American students with other Asian American students. Bopha described her friends in the Cambodian club:

A lot of people in the Cambodian club are science majors (now) unlike three or four years ago when most of them were into humanity majors. As science majors we definitely have to study a lot more. Cambodian students are doing about average (compare to other Asians). It all depends on the person. Some are more studious than others. A lot of us want to go to medical school or optometry school or the health fields.

Kolab thinks that Cambodian American students are not doing as well as other Asian American students. This view supports Wing (2007)'s study that the idea that all Asian American students are academically successful is a myth. "We do not have as many people going to college. Other Asians have more people going to college," said Kolab. Phana thinks that Asian Americans who have been here longer are doing better than Cambodian American students. He points out that those Asians who have been here longer have more resources and more mentors. "Since most of us are second generation, we tend to be like an arrowhead. We experience everything first hand, some of us will fail, some will succeed. Even though we make mistakes, these mistakes will be learned by younger generation and they will do better than us," Phana said. Tom said that most Cambodians that he knows of are "into accounting." "Academically, Cambodians are in the middle. We are in the group with whites and Mexicans. We are not so much like the Chinese. Chinese, Korean, and Japanese are overachievers," said Tom. As for Alex, he

does not see “many Cambodian Americans in STEM fields.” “Most of them are in business administration or business related fields. To be honest, when I grew up and I talked to peer, they see that the value of money is everything and with that they can do as they please,” said Alex. Alex sees the “value of money” as the reason for Cambodian American in business related fields.

Final Words

“Structural Variables” Versus “Cultural Variables”

Kim (2002) found that Vietnamese American students are academically catching up with other Asians while Cambodian American students are falling behind. Kim stated that “structural variables” such as parents’ class background, school setting, and parents’ community ties rather than “cultural variables” such as cultural values, norms, and beliefs as the basis for the difference in academic performance between Cambodian and Vietnamese students. My study supports Kim’s claim that structural variables and not cultural variables are responsible for the success of Cambodian students. All five participants had supportive parents and good school settings with high expectations from teachers. These are all structural variables that help them succeed in school.

This study suggests that Cambodian parents who do not know much about the school system in America can still support and encourage their children to do well in school. Not all the parents in this study were well-educated, acculturated, from high socioeconomic, knew the American school system, or were actively taking part in their children’s education. However, most parents did their best to motivate their children such as telling stories of their difficult lives in Cambodia in order to push their children to

do well in school. This motivation by Cambodian parents in this study can be interpreted as one factor contributing to their children's decisions to go to college.

All five participants did not necessarily get all the support from home and some were raised by single mothers. Despite these obstacles, four of them are doing very well in college in their choice of study: STEM fields. One participant decided to switch major from STEM fields to liberal arts. It seems to me that their decisions to study STEM fields have their roots in high school. I think they had supportive teachers at schools and this could be interpreted as a factor motivating them to go to college to study STEM fields. Furthermore, I interpreted their resiliencies as playing an important role in helping them to stay and succeed in college.

The participants in this study decided to go to college because they wanted to be educated. As for their decisions to study STEM fields, I found out that it is varied and personal. For examples, one participant sees better job prospect in his field of study after graduation and two participants were influenced by opportunities while in high school. While they have different reasons for studying STEM fields, they all share one thing in common, that is, they all want to better themselves and feel a sense of obligation to help others in the future.

Change, Sharkness, Hurtado, and Newman (2014) longitudinal study looked at factors that contribute to the success of underrepresented racial minority (URM) undergraduates in STEM fields. This quantitative study recommended that colleges can improve URM STEM persistence by encouraging URM students to be involved in academic experiences such as study groups, undergraduate research, and academic clubs or organization. My findings are consistent with this study in that my participants are

former or current members of a Cambodian club on campus. They reported that the clubs support them socially and academically.

Initial Assumptions

At the start of this study, I had three assumptions about the low performance by Cambodian American students. First, I thought parents typically suffered from PTSD and this would negatively impact how they treated their children. Second, I thought that the low academic performance by Cambodian American students can be explained through the culture of leaving everything up to teachers. Third, I thought that parents with low educational background contributed to low academic performance by Cambodian American students. After having done the interviews, my thought about each of these factors has changed. Only one participant reported that his parents had some signs of PTSD. I thought PTSD effects would be much more pronounced.

As for the culture of leaving everything up to teachers, it is debatable. Most of my parents in this study reported that their parents were not involved with their schooling and yet they were doing fine and they end up going to college. Lastly, only three parents in this study had completed college or had taken some classes in college and yet all five participants did very well in school.

Limitation of the Study

There are some limitations in this study. First, like all my participants, I am a Cambodian American. Therefore, I am an insider with an insider's perspective because I understand Cambodian American students' experience and I can relate them to my own experience. Even though I tried to maintain objectivity in interpreting the data, it is not possible to eliminate *all* bias from my interpretation. Lichtman (2006) described the role

of the researchers as one of the critical elements of qualitative research. Lichtman stated that:

It is through his or her eyes and ears that data are collected, information is gathered, settings are viewed, and realities are constructed. All information is filtered through the researcher's eyes and ears. It is influenced by his or her experience, knowledge, skill, and background. There is no "getting it right" since there could be many "rights." Descriptions, understandings, and interpretations are based on the data you collect and your ability to organize and integrate them to make a meaningful whole. (p.12)

Furthermore, Lichtman did not believe that bias could be eliminated or controlled.

Again Lichtman stated:

One view is that bias can be eliminated or at least controlled by careful work, triangulation, and multiple sources. I do not believe this is true. The position that I take here is that striving for objectivity by reducing bias is not important for much of qualitative research. I think that some are reluctant to adopt a qualitative research approach because they think the researcher is biased. Well, of course, the researcher has views on the topic. After all, she probably would not be investigating a particular topic if she had not thought about the topic. (p.13)

Continuing from there, all my interviewees were members of the Cambodian club on campus. Therefore, it is possible that they had favorable view points about how the Cambodian club supports them socially and academically. Next, only five students were interviewed for this study. Therefore, this study cannot be generalized for all Cambodian American students. It is important to keep in mind that there are many Cambodian

American students who did not go to college and that there are Cambodian American college students who left STEM fields.

Erlandson, Harris, Skipper, and Allen (1993) talked about the importance of building trustworthiness in inquiry. According to Erlandson et al. researchers must establish credibility, transferability, and dependability, in their inquiries in order to build trustworthiness. Under credibility, Erlandson et al. mentioned strategies as pointed out by Guba and Lincoln (1985). The strategies to accomplish credibility are: prolonged engagement, persistent observation, triangulation, referential adequacy materials, peer debriefing, and member checks.

Looking at the strategies above, I see more limitations for this study. Under prolonged engagement, Erlandson et al. talked about the importance of spending enough time with the subjects being studied. I cannot say that I had spent enough time with my participants. As part of this study, I joined a Cambodian club on campus and this is how I met three of my participants. I did not have persistent observation because I did not have a prolonged engagement with participants. I did not have multiple viewpoints and therefore I did not really have triangulation. All my participants were members of Cambodian club on campus. I had no videotapes, documents, or photographs of my participants other than an oral questionnaire and one person's interpretation of what people said. Therefore, I was not able to establish referential adequacy materials. There was no peer debriefing in my study for I was not able to debrief my perceptions, insights, and analyses with professionals as recommended by Erlandson et al.

For member checks, Erlandson et al. stated that the researcher needs to have data and interpretations verified by participants of their study. In my attempt to establish

credibility, I sent out my description for each participant to all five participants asking them to verify my depiction of their stories. Four out of five participants replied. Three participants said that I had described their stories accurately. One participant clarified her view of the Cambodian club. She stated that the Cambodian club supports her academically as well as socially. She pointed out that she and other members of the Cambodian club formed study groups and that she found them to be helpful and encouraging. However, I was not able to share my interpretations with my participants, just my descriptions of what they said.

On transferability, Erlandson et al. mentioned two strategies as pointed out by Guba and Lincoln (1985): thick description and purposive sampling. I believe that I may have somewhat met the thick description requirement by describing my participants' experience with enough details. As for purposive sampling, Erlandson et al. stated that, "this requires a sampling procedure that is governed by emerging insights about what is relevant to the study and purposively seeks both the typical and the divergent data that these insights suggest." I believe that my study partly met the purposive sampling because I did look for what makes the interviewees decide to go to college and to study STEM fields --the typical and the divergent data. Still, there was a certain convenience to my sample--I could only interview students willing to be interviewed. They may or may not be representative of Cambodian American STEM students participating in clubs.

On the last point of building trustworthiness, Erlandson et al. talked about dependability or reliability and this can be achieved through dependability audit. I believe that I have met this requirement for I have provided my advisor with

documentations such as interview notes, a letter from the club's president, and a picture as proof of my participation in the Cambodian club on campus.

Overall, not meeting *all* the requirements for building trustworthiness is a limitation for this study.

APPENDICES

APPENDIX A
QUESTIONS

High School Experience

1. How were your science/math classes like in high school (easy or hard)?
 - a. Were the teachers supportive?
2. Did your teachers have high expectation for you?
 - a. What is an example of high expectation from your teacher?
3. Did you belong to any club?
 - a. What club did you belong to?
4. What kind of students did you befriend with?
 - a. Were they also Cambodians?
5. Were your friends in high school interested in science?
 - a. Did they care about studying?
 - b. Did they attend class regularly?
 - c. Did they get good grade?
 - c. Did they plan to go to college?
- Aschbacher, Li & Roth (2010)
6. Was there a teacher from high school that you remember the most for making a difference in your life?
 - a. If so, what were the qualities of the teacher?
7. What are your reasons for going to college?
 - a. When did you decide to go to college?
 - b. Did anyone help you with college application?
 - c. Did you visit any college campus while in high school?
 - d. What was your class rank in high school?
 - e. Did any club or program try to reach out to you during high school?
8. Did you experience any stereotypical pressure from administrators, teachers, peers, and parents to take multiple AP classes because you were Asian or Cambodian?
Aschbacher, Li & Roth (2010) OR
 - a. Did you get little expectation to do well in school or to take AP classes because you were Cambodian? Aschbacher, Li & Roth (2010)
9. Did your counselors in high school encourage you to take difficult science classes? Aschbacher, Li & Roth (2010)
10. Did you participate in any extracurricular science opportunities like hands-on experiences in real science lab, hospitals, or zoos? Aschbacher, Li & Roth (2010)

Parent Influence (Questions 16-19 are from Su's Dissertation-2010)

11. Were your parents involved with your education in high school?
 - a. Did they go to back to school night/open house?
 - b. Did they attend parent conference?
12. In high school, did your parents have a strong expectation for effort, grades, advanced courses, and extracurricular activities?
 - a. Did they support you to pursue a career in STEM fields? Aschbacher, Li & Roth (2010)
 - b. Did they encourage you to go on to college?
13. Are your parents involved with your education in college?
 - a. Do they pick you up and drop you off on the weekend?
 - b. Do they encourage you to study hard?

14. Do you believe your parents have a lot of knowledge about the school system?
15. Do you have intermediate or extended family members that served as role models and talked to you about pursuing a career in STEM field?
 - a. If so, do you continue to receive expectation and guidance from them during your year in college?
 - b. How do you feel about that? Aschbacher, Li & Roth (2010)
16. What have your parents told you about Cambodia's history?
 - a. Why do you think they shared that with you?
 - b. How do you think it has affected the way you think about school?
 - c. Has Cambodian history involving the Khmer Rouge motivated you in school? If so, how?
17. What have your parents told you about schooling in Cambodia?
 - a. Why do you think they share that with you?
 - b. How do you think it has affected the way you think about school?
 - c. Do you think you have more educational opportunity here than if you were in Cambodia? If so, how do you think these opportunities affect you?
18. What have your parents told you about them immigrating to the U.S.?
 - a. Why do you think they shared that with you?
 - b. How do you think it has affected the way you think about school?
19. What Cambodian values or beliefs did your parents try to teach you?
 - a. Do any of these values affect your schooling?

College Experience

20. What factors contribute to your success in college?
 - a. Is it family, friends, teachers/professors, or Cambodian club?
21. What is your major?
 - a. Why did you decide to major in ___?
22. Have you always been a STEM major?
 - a. Have you thought of switching major from STEM to other majors?
23. How many of your high school friends (Cambodians) are in college?
 - a. Do any of them study science, math or engineering?
24. Are you getting any mentoring from anyone in college?
 - a. Is your mentor Cambodian or Asian?
 - b. How do you feel about your mentor?
25. How are your science/math classes like?
 - a. Do you go see professors for help?
 - b. Were they helpful?
 - c. Do you see them regularly?
26. How long will it takes you to graduate?
 - a. Do you plan to go to graduate school?
27. When did you join the Cambodian club on campus?
 - a. Why did you decide to join the Cambodian club?
 - b. How did you find out about the Cambodian club?
 - c. Does the Cambodian club support you academically? How?
 - d. Does the Cambodian club support you emotionally/socially? How?
 - e. Does the Cambodian club connect you to the Cambodian culture? How?

General Questions

28. Have you ever thought of going to Cambodia after college to help rebuilt the country?
29. How could teachers help Cambodian American students to do better in high school?
 - a. Are there any aspects of Cambodian cultures that teachers should know of that would help them to be more effective in working with Cambodian American students in high school?
30. What kind of problems/challenges do you face today as a Cambodian American college student?
 - a. What about your Cambodian peers?
 - b. How could professors/administrators help Cambodian American students do better in college?
 - c. How are Cambodian American college students doing academically compare to other Asian American students?

APPENDIX B
SHORT ANSWER

ADAPTED FROM JOSE (2009)

Name:

Date of Birth:

Place of Birth:

Current Residence: (city)

Elementary School:

High School:

Year Graduated:

GPA:

Hobbies:

Extracurricular Activities, Involvements:

Honors, Awards:

Volunteer Experience:

Employment:

Future Goals:

Number of Siblings:

Age of Siblings:

Father's/Legal Guardian 1 Occupation:

Mother's/Legal Guardian 2 Occupation:

Father's/Legal Guardian 1 highest level of education:

Mother's/Legal Guardian 1 highest level of education:

Family Income (estimate):

Anything you'd like me to know?

REFERENCES

REFERENCES

- Aschbacher, P. R., Li, E., & Roth, E. J. (2010). Is science me? High school students' identities, participation and aspiration in science, engineering, and medicine. *Journal of Research in Science Teaching*, 47(5), 564-582.
- Borg, W. R., & Gall, M. D. (1989). *Educational research*. NY: Longman.
- Chang, M. J., Sharkness, J., Hurtado, S., & Newman, C. B. (2014). What matters in college for retaining aspiring scientists and engineers from underrepresented racial groups. *Journal of Research in Science Teaching*, 51(5), 555-580.
- Chhuon, V., & Hudley, C. (2008). Factors supporting Cambodian American students' successful adjustment into the university. *Journal of College Student Development*, 49(1), 15-30.
- Chhuon, V., & Hudley (2010). Asian American ethnic options: How Cambodian students negotiate ethnic identities in a U.S. urban school. *Anthropology and Education Quarterly*, 41(4), 341-359.
- Chhuon, V., Hudley, C., Brenner, M. E., & Macias, R. (2010). The multiple worlds of successful Cambodian American students. *Urban Education*, 45(1), 30-57.
- Erlanson, D.A., Harris, E. L., Skipper, B. L., Allen, S. D. (1993). *Doing naturalistic inquiry: A Guide to Methods*. Newbury Park, CA: SAGE Publishers.
- Griffin, K. A., Perez, D., II, Holmes, A. P. E., & Mayo, P. E. (2010). Investing in the future: The importance of faculty mentoring in the development of students of color in STEM. *New Directions for Institutional Research*, 2010(148), 95-103.
- Griffith, A. (2010). Persistence of women and minorities in STEM field majors: Is it the school that matters? *Economic of Education Review*, 29, 911-922.
- Hein, J. (1995). *From Vietnam, Laos and Cambodia: A refugee experience in the United States*. New York, NY: Twayne.
- Hossler, D., & Stage, F. K. (1992). Family and high school experience influences on the postsecondary educational plans of ninth-grade students. *American Educational Research Journal*, 29(2), 425-451.

- Jose, J. (2009). *In pursuit of higher education: External and internal factors influencing the decision to attend college among Cambodian American students*. (Master's thesis). University of Southern California. Retrieved from ProQuest Dissertations and Theses databases. (1473465).
- Kennett, D., Reed, M. J., & Lam, D. (2011). The importance of directly asking students their reasons for attending higher education. *Issues in Educational Research*, 21(1), 65-74.
- Kiang, P. (1996). Persistence stories and survival strategies of Cambodian Americans in college. *Journal of Narrative and Life History*, 6(1), 39-64.
- Kim, R. (2002). Ethnic difference in academic achievement between Vietnamese and Cambodian children: Cultural and structural explanations. *The Sociological Quarterly*, 43(2), 213-235.
- Lichtman, M. (2006). *Qualitative research in education: A user's guide*. Thousand Oaks, CA: Sage.
- McCarron, G. P., & Inkelas, K. K. (2006). The gap between educational aspirations and attainment for first-generation college students and the role of parental involvement. *Journal of College Student Development*, 47(5), 534-549.
- Ngo, B., & Lee, S. J. (2007). Complicating the image of model minority success: A review of Southeast Asian American education. *Review of Educational Research*, 77(4), 415-453.
- Phy, S. (2011, October 26). Post war, continued poverty, add to mental illness. *Voice of America Khmer*. Retrieved from <http://www.voacambodia.com/content/past-war-continued-poverty-add-to-mental-illness-professor-132629698/1359409.html>
- Smith-Hefner, N. (1999). *Khmer American: Identity and moral education in a diasporic community*. Berkeley: University of California Press.
- Su, D. N. (2010). *Educational resources of Cambodian American adolescents: The role of "hidden capital"*. (Doctoral dissertation). University of California, Santa Cruz. Retrieved from ProQuest Dissertations and Theses database. (3421245).
- Thompson, R., & Bolin, G. (2011). Indicators of success in STEM majors: A cohort study. *Journal of College Admission*, 2011, 18-24.
- Wallitt, R. (2008). Cambodian invisibility: Student lost between the “achievement gap” and the “model minority.” *Multicultural Perspectives*, 10(1), 3-9.

- White House Initiative on Asian Americans and Pacific Islanders. (n.d.) *White House Initiative on Asian Americans and Pacific Islanders key facts and figures*. Retrieved from <http://www.whitehouse.gov/administration/eop/aapi/data/facts-and-figures>
- Wing, J. (2007). Beyond black and white: The model minority myth and the invisibility of Asian American students. *The Urban Review*, 39(4), 455-487.
- Yang, K. (2004). Southeast Asian American children: Not the "model minority." *The Future of Children*, 14 (2), 127-133.
- Yin, R. K. (2011). *Qualitative research from start to finish*. New York, NY: Guilford Press.
- Yiv, C., & Secombe, M. (1999). Cambodian students and motivation to participate in higher education. *Curriculum and Teaching*, 15, 85-98.