CAREER ASPIRATIONS AND EMOTIONAL ADJUSTMENT OF CHINESE AND

AMERICAN COLLEGE STUDENTS

by

DEANNA LOUISE COZART

(Under the direction of Jay W. Rojewski)

ABSTRACT

There are more Chinese student-scholars than any other group of international students studying in the United States (Institute of International Education [IIE], 2010). Despite large and growing numbers of Chinese students studying in the United States, relatively few studies have focused on their specific educational needs and required support services. The purpose of this comparative survey study was to determine the relationship between career aspirations and emotional adjustment of Chinese immigrant and non-Chinese domestic graduate students. The Emotional Symptoms Index of the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 2004) measured emotional adjustment, and career aspirations were measured by an open-ended survey question. Analysis did not show statistically significant differences between Chinese and domestic students in terms of emotional adjustment or career aspirations. Regression analysis revealed social stress, an emotional adjustment subscale, was a statistically significant predictor of career aspirations for domestic students, while none of the subscales were statistically significant predictors of career aspirations for Chinese students. Chinese and domestic students chosen for this study were more alike than different on the factors examined, and for graduate students, educational similarities appear to outweigh cultural differences. These

findings confirm the need for Chinese students on college campuses to have equal access to services as their domestic peers, and that college administrators need to be aware of the social stress associated with graduate school to provide necessary resources to help mitigate any negative effects this may have on graduate student performance and career decisions.

INDEX WORDS:    Chinese, Career aspirations, Emotional adjustment, College students, Social Cognitive Career Theory, Acculturation, Career development

CAREER ASPIRATIONS AND EMOTIONAL ADJUSTMENT OF CHINESE AND

AMERICAN COLLEGE STUDENTS


by


DEANNA LOUISE COZART

BBA, The University of Georgia 2003

M. Ed., The University of Georgia 2006




A Dissertation submitted to the Graduate Faculty of The University of Georgia in Partial

Fulfillment of the Requirements for the Degree




DOCTOR OF PHILOSOPHY




ATHENS, GEORGIA

2011

CAREER ASPIRATIONS AND EMOTIONAL ADJUSTMENT OF CHINESE AND

AMERICAN COLLEGE STUDENTS


by


DEANNA LOUISE COZART


|  | | |
|---|---|---|
| Major Professor: | Jay W. Rojewski | |
| | | |
| Committee: | Robert Grafstein | |
| | Karen H. Jones | |
| | Diane B. Napier | |


Electronic Version Approved:

Maureen Grasso
Dean of The Graduate School
The University of Georgia
August 2011

ACKNOWLEDGMENTS

Even though the degree is only conferred upon me, it is certainly not an individual

process. Rather, I am forever indebted to many people who helped me complete this academic

journey.

First and foremost, I must thank my husband, Joe, for his unending support in so many

ways throughout this process – from the initial application to the doctoral program to the final

stressful weeks of writing. He has put up with more than I can imagine in hours I spent away

writing, missed home-cooked meals, rants over the frustrations during data collection, and the

reoccurring doubt I had in finishing the whole thing. Completing this degree is as much about his

hard work and commitment over the last four and a half years as it is mine. I love experiencing

life with him and the way he pushes me to be better in all areas; I hope he never stops.

I knew I wanted Dr. Jay Rojewski to be my major professor my first semester in the

doctoral program when he gave the best and most authentic feedback on my writing I had

received in years. Thankfully, the criticism and advice did not end there. I certainly would not

have developed the academic writing ability or vision for research without his guidance and

direction over the past several years. I am exceptionally grateful for his willingness to meet,

consult, direct, and advise me through this process. His door and inbox were always open, and I

am so thankful to have had the pleasure of working with him.

I also want to thank all of my committee members for their support and encouragement.

Dr. Grafstein, it was a pleasure to see and experience China with you, and your perspective on

this study has been refreshing and much appreciated. Dr. Jones, I am so blessed to have worked

closely with you the first few years of my doctoral program. I learned so much about research – which was eternally valuable to me during the analysis portion of this project – and I learned equally as much about working with people. The relationships you have with previous students and colleagues are an inspiration. Dr. Napier, your point of view and wisdom about the academic process have been invaluable over the past several years. I so appreciate the discussions we have had and the support and guidance you have offered for both the research and teaching parts of my program.

I would also be remiss to not thank the rest of my family for their encouragement and help along the way, particularly from my Mom, Janice Codington; Dad, Randy Meincke; brother, Alan Meincke; and aunt, Dr. Angelyn Hayes. Knowing you believed I could finish made all the difference sometimes, as did your willingness to help with childcare in the last few months!

Finally, I have to thank my friends from graduate school, Lesley Graybeal, InHeok Lee, Kelly McFaden, and, Mary Michael Sellers Pontzer for sharing and enduring this journey with me, and my friends from small group, particularly Courtney Ficken and Carolyn Hemingway, for their unending support.  You all have helped me to have fun along the way – I am forever grateful to each of you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

**Rationale**

Asian households maintain the highest median income of any ethnic group in the United States at $64,200 per year. This figure is $13,500 more than white families and twice the median income for black families (*"Household income,"* 2007). Further, more than half of all self-identifying Asians in the U.S. over the age of 25 possess a bachelor's degree or higher, while only 32% of whites, 19% of blacks, and 13% of Hispanics hold similar educational credentials (Bernstein, 2008). Asian students also achieve the highest standardized test scores and high school graduation rates compared to all other ethnic groups of U.S. students (Wang, 2008).

Within Asian communities in the United States, the Chinese are the largest; Chinese are also the second leading group of immigrants into the United States each year, only trailing Mexicans (Brittain, 2002). Research also shows there are more Chinese student-scholars than any other group of international students studying in the United States (Institute of International Education [IIE], 2010). The University of Georgia alone has 408 international Chinese student-scholars, with 327 of those pursuing graduate study, making Chinese the largest international group of students at the university (Allen, 2010). Despite large and growing numbers of Chinese students studying in the United States, there are relatively few studies that have focused on their specific educational needs and required support services.

Both American-born and foreign-born Asian students in the U.S. face an exceptional amount of pressure to perform financially and academically at levels beyond their peers. In fact,

recent studies have shown Asian students face a unique set of challenges in both school and the

workplace (Alba, Rumbaut, & Martoz, 2005; Portes & Zady, 2001; Yan & Berliner, 2009; Zhou,

Peverly, Xin, Huang, & Wang, 2003). Educational challenges include many different things,

such as an expectation to excel at math and science and pressure to outperform peers in all

classes. These pressures do not come without cost. Zhou et al. found higher incidence of

depression, anxiety, and social stress in Chinese students with few outlets for emotional and

academic support. These findings are not surprising, especially given that Asian students perform

above state and national standards, such as those put forth in the *No Child Left Behind Act*, and

subsequently receive less classroom attention from teachers and peers (Li & Wang, 2008).

The majority of research on American- and foreign-born Asian high school and college

students' issues currently centers on acculturation, which refers to the battle many Asian students

feel between the heritage of their county of origin and the pull to fit in with dominant American

culture, regardless of generation status (Lee, Yoon, & Liu-Tom, 2006; Liao, Rounds, & Klein,

2005). This cultural tension can result in problems with emotional adjustment, compounded by

the emotional strain of being pegged a *model minority*. This term reflects the performance of

Asians at the highest academic and professional levels, outpacing all ethnic groups independent

of the native Asian country (Kiang, Yip, Gonzales-Backen, Witkow, & Fuligni, 2006; Kim &

Omizo, 2005; Witkow & Fuligni, 2007).

Although Chinese Americans make up the largest group of Asians within the United

States and need individual attention on mental health issues like *model minority* status and

acculturation, they have received little consideration in the research literature. The studies that

have been conducted, however, reveal that Chinese students experience increased psychological

distress with higher incidence levels of depression and anxiety (Yan & Berliner, 2009; Yeh,

Ching, Okubo, & Luthar, 2007; Zhou et al., 2003). Psychological distress or emotional adjustment of Asian students in general has received more coverage in research than that for just Chinese students, and the Behavior Assessment Scale for Children (BASC) has been used in many of these studies as a reliable method for determining the emotional condition of foreign students (Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005; Jung, 2000; Jung & Stinnett, 2005; Zhou et al., 2003).

The emotional issues frequently ensuing from the combination of acculturation and *model minority* challenges has received some coverage in recent literature, as have studies examining the career aspirations of Asian students. The literature is fairly consistent noting little research has been conducted on the career development needs of minorities and Asians in particular (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006; Flores et al., 2006; Leung, Ivey, & Suzuki, 1994). The studies that have been conducted with students across race/ethnicity typically find self-efficacy and parental expectations play the largest role in shaping aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Chung, 2002; Fuligni & Witkow, 2004; Kaplan, Liu, & Kaplan, 2001; Louie, 2004a, 2004b).

What past studies have failed to examine is the intersection of two issues–what happens when Asian students are faced with navigating through *model minority* pressure on their career aspirations while simultaneously handling emotional adjustment with a possibly clashing culture? Leong and Serafica (1995) noted that a solid theory has yet to be advanced about how outside pressure impacts career goals, and ultimately career decisions for Asian workers. Furthermore, research has not examined how emotional adjustment, which is defined as collective social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance,

impacts the career aspirations of Asian students, and specifically Chinese students (Reynolds & Kamphaus, 2004).

Career aspirations, meaning an individual's career-related ambitions or decisions under perfect circumstances, have consistently shown over time to be strong predictors of occupational attainment (Rojewski, 2005). While we may never understand fully the impact of emotional experiences at school on Chinese students' career aspirations, we can gain insights and look for patterns to better understand this phenomenon. Therefore, studying how Chinese students balance the emotional issues surrounding acculturation with the career pressure of being a *model minority* can help educators better know how to support and guide these students regarding future career decisions.

## Purpose of the Study

The purpose of this comparative survey study was to determine the relationship between career aspirations and emotional adjustment of Chinese immigrant college students and non-Chinese domestic college students. A Chinese immigrant or non-Chinese domestic college student was an individual enrolled for a minimum of three graduate credit hours at the University of Georgia during the 2010-2011 academic year. The Emotional Symptoms Index of the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 2004) measured emotional adjustment, which included measures of social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance. The dependent variable, career aspirations, referred to an individual's career-related ambitions or decisions under ideal conditions (Rojewski, 2005).

## Research Questions

1. What are the career aspirations of Chinese college students?

2. What is the emotional adjustment of Chinese college students?

3. What is the best set of emotional adjustment variables to explain career aspirations of Chinese and domestic graduate students?

## Theoretical Framework

There are four main psychological theories that guide research in the area of career aspirations – Holland's (1959) theory of vocational personalities in work environments, Super's (1990) self-concept developmental theory, the theory of career circumscription and compromise (Gottfredson, 1981), and social cognitive career theory (Lent, Brown, & Hackett, 1994). Conversely, there are few specific overarching theories guiding current research surrounding emotional adjustment. Rather, most contemporary studies examine emotional adjustment as an independent construct or part of a social identity framework where ethnic identity is linked to emotional well-being (Kiang et al., 2006; Kim & Omizo, 2005; Leung et al., 1994; Zhou et al., 2003). Still others have incorporated the idea of emotional stability into the self-efficacy construct within Social Cognitive Career Theory (Yakushko, Backhaus, Watson, Ngaruiya, & Gonzales, 2008). For the purposes of this paper, emotional adjustment will be included in the discussion of Social Cognitive Career Theory (Lent et al., 1994).

One of the earliest theories of career development is Holland's (1959) theory of vocational personalities in work environments, which seeks to explain the rationale for how and why career and work-related decisions are made by assigning people into six vocational/personality types (Holland, 1959; Spokane & Curza-Guet, 2005). This theory of career development states career-related choices not only reflect a person's motivation, knowledge, and ability, but also insight and self-understanding, connecting experiences, likes, dislikes, and choice for work (Song & Glick, 2004). Super's (1990) self-concept developmental theory focuses on the more developmental aspects of career choice, and on the whole examines a

person's aspirations as a manifestation of one's self-concept (Rojewski, 2005). The theory of career circumscription and compromise (Gottfredson, 1981) views career aspirations and outcomes as more psychology based stages of development.

Social cognitive career theory (SCCT; Lent et al., 1994) emphasizes that self-efficacy, outcome expectations, and goals work in conjunction with other aspects of each person, like family background, socioeconomic status, immigrant status, and ethnicity, to shape career goals. This means that career development is ultimately a series of interlocking processes of interest development, choice, and performance. SCCT is largely a derivative of Bandura's (1986) social cognitive theory, which features the importance of individuals in facilitating their own occupations interests and aspirations, as well as the factors that can enhance or detract this facilitation. SCCT further postulates that positive career development depends on individual experiences resulting from interactions with the environment and personal factors (Yakushko et al., 2008). This theory offers a particularly important difference to other career development theories in that SCCT is one of the only career development theories to emphasize the role of learning and relationships in decision-making.

In the SCCT framework, self-efficacy refers to individual appraisals of capabilities to take action and succeed towards a specific goal, and it is a dynamic attribute that is always changing (Lent, 2005; Lent et al., 1994). This construct is the one that best fits with the idea of emotional adjustment in SCCT, as emotional well-being is likely to influence individual perceptions of their ability to work towards and achieve personal goals. The second major component of SCCT is outcome expectations, and it refers to the question, "If I do this, what will happen?" In other words, outcome expectations are the "imagined consequences of particular behaviors" (Lent et al., 1994, p. 83). In the case of this proposed study, outcome expectations are

viewed as a manifestation of internal behavior factors, such as parents, peers, and the immigrant experience influencing Chinese students. The final construct of SCCT asserts that goals are an important piece of the self-regulation of behavior (Lent et al., 1994). Lent et al. (1994) also identified three major outcomes of goals – they organize and guide behavior; they can sustain behavior over long periods of time, even without external reinforcement; and, their presence increases the likelihood that the individual will attain the desired outcomes.

Given the range of career theories, it is important to identify the theory that best explains the possible role of emotional adjustment in the development and expression of career aspirations, particularly as applied to Chinese students. Social Cognitive Career Theory (Lent et al., 1994) can be applied in a proposed study of Chinese students to provide a theoretical framework for organizing variables like career aspirations and emotional adjustment in relationships (Mau & Bikos, 2000). The three main components of SCCT –- self-efficacy, outcome expectations, and goal expectations –- align well with the constructs associated with such a proposed study. Self-efficacy relates to emotional adjustment; outcome expectations relate to internal behavior factors that will be in play with emotional adjustment; goal expectations relate to career aspirations.

Another important consideration in the selection of a theoretical framework is its application to use with minority students. SCCT is one of the only theories of career development that adequately accounts for the role of the individual, which means this theory would allow and expect variation based on ethnicity. For this reason, SCCT is the theoretical framework of choice for many career-related studies involving minority students (Kiang et al., 2006; Mau & Bikos, 2000; Navarro, Flores, & Worthington, 2007; Yakushko et al., 2008). In summary, social cognitive career theory (Lent et al., 1994) was applied in a completed study of

Chinese students to provide a theoretical framework for organizing variables like career aspirations and emotional adjustment in relationships (Mau & Bikos, 2000).

## Significance of the Study

There has been limited literature examining the career development needs of international minority students, therefore this study fills a gap in the current literature (Chang et al., 2006; Leung et al., 1994; Leung & Chen, 2009; Reynolds & Constantine, 2007). Further, although Asian Americans represent one of the fastest growing minority groups, the psychological needs and issues have not been extensively recognized or discussed in recent studies (Lau, Chan, & Lau, 1999; Lorenzo, Frost, & Reinherz, 2000). As the Asian population continues to grow in the United States, it is important for educators to have access to information about the specific needs of this group. Additionally, the majority of studies that have been founded in SCCT have not applied the theory to minority groups, meaning there is a need for more studies to use this career development theory in relation to minority groups (Navarro et al., 2007). More minority career development research is needed to better reflect the diversity of the U.S. population, as well as research evaluating the way this is related to emotional adjustment; without such research, the literature about minority career development may promote a biased understanding of career development and the psychology of work (Flores et al., 2006).

CHAPTER II

REVIEW OF LITERATURE

**Chinese Students in America**

Chinese immigrants were the first Asian immigrants to the United States. In order to understand the way in which educational experiences have evolved for this group, it is important to understand reasons why people decided to leave China for the United States. Large numbers of Chinese immigrated to the United States in response to specific employment opportunities, namely labor contracts to work in gold mines beginning in 1848, and later the transcontinental railroad. Most immigrants came from the Canton region on the southeast coast of China (Chang, 2003). The majority of immigrants were male, because it was easier to travel and find work, while women remained at home in China with families (Zhou, 2001).

While most Chinese immigrant workers were single males, there were some families that moved together. Confucian Chinese culture emphasizes the importance of hard work, and immigrant parents felt like their hard work should pay for their children's education, ultimately leading to a better life. Immigrant Chinese children, however, were continually denied the right to attend public schools in California where most lived. In 1859, San Francisco board members shut down a public school for Chinese children; despite the fact their parents paid property taxes (Chang, 2003). During the Reconstruction period after the Civil War, all other ethnic groups were given legal protection for separate but equal schools, but Chinese children were again left without the right to a public education. From 1871 to 1885, Chinese children were the only ethnic group in the United States deprived of a state-funded education (Chang, 2003). In 1884,

some Chinese families began court battles over access to school, but did not have any major successes, even as court battles continued for decades. Discrimination was the single biggest obstacle to Chinese students' educational pursuits. They were only able to gain access to public education systems by attending white schools and blending in as much as possible (Chang, 2003). This practice perhaps contributed to the development of the *model minority* label applied to Asian students in the United States in the second half of the 20th century.

The experience was somewhat different for international students who chose to come to the United States specifically to attend school. It was during the first wave of Chinese immigration in the mid-1800s that the Qing dynasty approved overseas educational missions, where between 1872 and 1881 several hundred Chinese students came to the United States to pursue academic study. The arrangement between the governments of China and the U.S. allowed Chinese students to attend military institutes. This program was abruptly terminated with discontent on both sides in 1881 after the Chinese government was frustrated with the American lifestyles students were leading and the United States government was succumbing to increasing anti-Chinese sentiments sweeping the country (Ye, 2001).

Meanwhile, immigrants working in the United States to make extra money and send it home to China did not find school and education a high priority. Chinese workers were willing to work for lower pay than most other Americans, which led to a severe anti-Chinese movement in the United States. The culmination of the anti-Chinese movement was the passing of the Chinese Exclusion Act in 1882 that no longer allowed any Chinese to immigrate to the United States (Zhou, 2001). The law was renewed and expanded in 1892 to exclude all Asians from immigrating to the United States.

Despite the passage and renewal of the Chinese Exclusion Act, some Chinese scholars were able to come to the United States in the early 1900s through the Boxer Indemnity Scholarship Program. The scholarship included the cost of room and board, tuition, and travel expenses to and from China. This program was founded in response to the Boxer Rebellion, which took place in China from 1899-1901 where Chinese peasants massacred white Christians and Chinese converts in northern China and Beijing (Chang, 2003). The peasants were eventually defeated by foreign troops from eight different nations, including the United States. In order to not appear overbearing in victory and foster reform within China, the United States began the scholarship program to allow bright, Chinese scholars opportunities for academic study at American institutions, typically Ivy Leagues schools like Yale, Princeton, Harvard, and Cornell (Ye, 2001). The selection procedure for this program was highly competitive and required top academic achievement, so participants were usually from wealthy families within China (Chang, 2003). Between 1909 and 1929, over 1300 people completed the scholarship program, with so much popularity that a preparatory school specifically for prospective candidates was founded in Beijing. Additionally, Chinese students in the United States mobilized themselves through such gatherings as the 1911 Princeton Conference of the Chinese Students' Alliance of the Eastern States, which allowed for cooperation and collaboration among the students studying in the United States (Ye, 2001).

Students that participated in this scholar-exchange program had mixed reactions to their academic experiences in the United States. Many expressed frustration with the emotional stress of learning English, and consternation with the clashing cultural norms, especially in terms of male/female relations on college campuses. The United States was still heavily segregated during this period, and the Chinese Exclusion Act was still in place, so many students were also

subjected to racism and discrimination on campuses; one student noted from his experience, "In America, only white people are respected. The colored people (here the yellow, black, and red people are called colored) are barbarians" (Ye, 2001, p. 106). For many male students who were already engaged in China, the experience in the Untied States caused them to rethink arranged marriages, leading to additional family conflict where arranged marriages may have been set up for financial or political gain for the parents. Despite the various trials of being separated from families for so long, many of the graduates became prominent leaders and some of China's best scholars and educators (Ye, 2001).

During this same period, other Chinese students were permitted to come to the United States for study as well. The 1924 Immigration Act allowed some Chinese graduate students admission to American universities. The caveat, however, was they must have already completed a college degree, gained acceptance independently to an American university, possess English-language skills, and verify financial stability and backing to assure they would have enough money to pay for a trip home to China (Chang, 2003). While the Boxer Indemnity Scholarship Program ended in 1929, many students continued to travel to the United States for study under the Immigration Act (Ye, 2001). The inflow of Chinese scholars continued until the victory of Mao Zedong's communist army, which established the People's Republic of China on October 1, 1949. Mao's victory left 4675 Chinese scholars and intellectuals stranded in the United States, most of whom were students at colleges and universities throughout the country. The revolution in China had stripped most students of their scholarships and payments from home, and many of these students ended up staying in the United States and finishing an even higher degree than their original intent because they had few available options. Those who were already completing

terminal degrees were often appointed to research positions as visiting scholars in different universities (Chang, 2003).

The Chinese were not allowed to immigrate as families to the United States again until the repeal of the Chinese Exclusion Act in 1943 and subsequent passage of the War Bride Act in 1945, both of which were responses to World War II. By repealing the Exclusion Act, families were allowed to reunite after many years apart, though only about 100 spots in the quota system were allocated to Chinese (Zhou, 2001). Most of the reunited families settled in the San Francisco region of California, and this was one of the first places Chinese-American children began attending public school. The War Bride Act allowed the brides and families of servicemen who had fought in the South Pacific to come home with them outside of the quotas imposed by other legislation. The Hart-Celler Act eventually abolished strict quotas in the late 1960s, and since that time until 1996 over one million Chinese immigrated to the United States, the majority coming in the period from 1976-1996. Even today, the majority of Chinese immigrant families are centered along the west coast in California or on the east coast in New York (Zhou, 2001).

During Mao's reign in China from 1949 until 1976, and then the two years of transition for his replacement to 1978, Chinese scholars had few options for international study; it was the new open door policy implemented in 1978 that allowed thousands of students to begin seeking educational opportunities outside of China (Ngok, 2006). Since 1979, more than 500,000 Chinese students have traveled to other countries to study, including the United States, with approximately 125,000 Chinese students studying at American universities at any one time (Huang, 1997; IIE, 2010). The Chinese government has viewed these international academic experiences necessary to continue rapid growth and development, and ultimately modernization by cultivating a wider range of knowledge within its scholars. At the same time, students

continue to be motivated to pursue study in the United States because it can offer greater economic opportunities over their lifetime, and there is a perception schools are easier in the United States than in China (Brittain, 2003).

<div align="center">**Emotional Needs of Chinese Students**</div>

Chinese are the largest group of Asian immigrants in the United States; Chinese are also the second leading group of legal immigrants to the United States each year, only trailing Mexico (Brittain, 2002). There are more Chinese student-scholars than any other group of international students studying in the United States (IIE, 2010). The University of Georgia alone has 408 international Chinese student-scholars, with 327 of those pursuing graduate study, making Chinese the largest group of international students at the university (Allen, 2010). Despite a large and growing number of Chinese students studying in the United States, there are relatively few studies that have focused on their specific educational needs and required support services.

**Generation Status**

When considering the emotional needs of Chinese students, it is also important to consider the role of generation status. While many relate the idea of generation to genealogical rank in a family, in immigrant studies it is more commonly used as a measure of distance from the country of origin (Foner, 2009). For example, the first person to move to the United States is referred to as *first generation*, their American-born children as *second generation*, and their children as *third generation*. Immigrants are also sometimes categorized as *1.5 generation* if they are from a family with one foreign born parent and the other American born (White & Glick, 2009).

Generation status can influence several different aspects of the immigrant experience, including the degree to which a person continues to identify with the country of origin. This can

be particularly important for how an immigrant develops an ethnic identity – does an immigrant consider himself Chinese, Chinese American, or simply American? Tsai, Ying, and Lee (2000) completed a study on the point at which Chinese immigrants identify themselves as Chinese versus American. They found first-generation immigrants were more likely to identify themselves as only Chinese, while second- and third-generation immigrants favored identifying themselves as Chinese Americans. Yip, Gee, and Takeuchi (2008) confirmed these findings in that first-generation Asian immigrants were more apt to describe their ethnic identity using their national origin, while second- and third-generation immigrants preferred to use hyphenated American labels. Additionally, both studies also found the more involved an immigrant is with the Chinese community, the more likely it is for him or her to associate with being Chinese, even while in America. Thus, perceiving oneself as Chinese is related to being engaged in Chinese culture (Tsai et al., 2000).

The amount of continued exposure to the country of origin's culture also varies by generation status. Not surprisingly, first-generation immigrants are often the ones with the greatest cultural attachment; however, there is some deviation from this within immigrant Chinese communities. First-generation immigrants are much more prone to live in areas comprised of people mostly from their own race in what is known as an ethnic enclave, and Chinese immigrants are more likely to live in neighborhoods comprised of their own race than other Asian ethnic groups (Alvarez, Juang, & Liang, 2006). Chinese enclaves are particularly important to support the daily needs of Chinese immigrants. An example of this support is through Chinese language schools; one in New York City run by the Chinese Coalition Benevolent Association is the largest youth-oriented organization in all of the Chinatowns in the United States (Zhou, 2009). The connections made in the enclaves are important as well, since

Chinese arguably have access to the most ethnic social connections of all Asian groups in the United States, which is important for encouraging educational achievement (Keller & Tillman, 2008).

Perhaps it is the educational achievement of Chinese immigrants that is most surprising in light of their generation status. Multiple reports continue to find that first- and second-generation Chinese immigrants are more likely to attend college than later generations (Keller & Tillman, 2008; Song & Glick, 2004; White & Glick, 2009; Zhou, 2009). Keller and Tillman reported second-generation Chinese students are 4847.5% more likely to attend college than U.S.-born white students after adjusting for socioeconomic status and background characteristics, offering further evidence Asian students benefit more than other children from having foreign-born parents. Considering the importance of children's educational success in immigrant Chinese families, the higher odds seem reasonable. Chinese parents, both those that remain in China for first-generation students and those in the United States with second-generation students, place an amazing amount of pressure on the children to succeed educationally.  Parents' sacrifices to get children in a U.S. school make academic success the child's duty within the Chinese family. The pressure to perform is stronger with newer immigrants, but decreases over time (White & Glick, 2009; Zhou, 2009).  The family also places high significance on hard work, rather than natural ability or intelligence, in relation to education.  Thus, the high achievement of second-generation Chinese students may be a perfect combination of these family dynamics with fewer first-generation challenges such as non-citizen status or language difficulties (Keller & Tillman, 2008).

Generation status is a further valuable consideration in how immigrants perceive and respond to discrimination. While there may be no differences in the ultimate outcome of the

effects of discrimination on immigrants (Yip et al., 2008), first-generation immigrants perceive and report higher levels of discrimination than American-born students (Juang & Cookston, 2009; Qin, Way, & Rana, 2008). This discrimination includes physical and verbal harassment, even though these experiences are often ignored (Patel, Salahuddin, & O'Brien, 2008). Both first- and second-generation Chinese students were often easy targets for bullying, since they were allegedly, small, weak, skinny, and nerdy (Qin et al., 2008). Further, while second-generation Chinese students reported lower perceptions of discrimination at the beginning of a longitudinal study, their perceptions had risen to match those of the first-generation students two years later (Juang & Cookston, 2009). Conversely, Ogbu (1992) found the *voluntary* decision by Chinese to immigrate to a new country carried positive expectation outcomes that outweighed negative impacts of discrimination once in the United States as evidenced by successful school performance of Chinese students.

Ethnic identity, the relationship to culture, educational achievement, and discrimination are all important facets of the immigrant experience in the United States, and each of these can vary based on the distance from the country of origin. Therefore, generation status is a significant consideration for research examining the emotional well being and occupational aspirations of Chinese students. This is particularly significant in light of studies showing college attendance is significantly more likely in first- and second-generation students, which may contribute to higher career aspirations for this group.

**Model Minority Stereotype**

Asian students in the U.S. face an exceptional amount of societal pressure to perform financially and academically at levels beyond their peers, largely because this particular minority group has historically out-performed other demographic groups in these areas. In fact, recent

studies have shown Asian students face a unique set of challenges in both school and the workplace where they are expected by teachers, supervisors, and peers to exceed the performance of all other groups (Alba, Rumbaut, & Martoz, 2005; Portes & Zady, 2001; Zhou, Peverly, Xin, Huang, & Wang, 2003). Educational challenges include many different things, such as an expectation to excel at math and science and pressure to out perform peers in all classes. These pressures from teachers, parents, and peers do not come without cost. Zhou et al. (2003) found higher incidence of depression, anxiety, and social stress in Chinese students with few outlets for emotional and academic support. These findings are not surprising, especially given that Asian students perform above state and national standards, such as those put forth in the *No Child Left Behind Act*, and subsequently receive less classroom attention from teachers and peers (Li & Wang, 2008).

Other reasons Chinese students may face difficulty studying in the United States is the prevalence of stereotypes. The main stereotype applied to Asian students is that of *model minority*, which implies Asians are financially and educationally successful with high goals, while simultaneously being well adjusted and incorporated into predominant American occupations, culture, and society (Leong & Grand, 2008). Many Americans hold these misconceptions, and they can negatively impact the way they interact with Asian students by limiting opportunities and access to resources, especially in relation to developing psychological needs (Alba et al., 2005; Kim & Yeh, 2002). This can also mean educators and peers of Asian students pay little attention to racism or more traditional minority issues, believing that Asian students do not struggle with feeling different, alone, or isolated from much of society (Liang, Li, & Kim, 2004). In fact, research has confirmed Asian students feel more isolated and report less social support than white students or other minority groups (Kiang, Yip, Gonzales-Backen,

Witkow, & Fuligni, 2006; Liao, Rounds, & Klein, 2005; Yeh, Ching, Okubo, & Luthar, 2007; Zhou et al., 2003). Thus, it is clear that unique circumstances impact Asian, including Chinese, students in the United States. Additional research focused on Asian students should help facilitate change by providing educators a better understanding of how to work with these students and guide the development of support services for Chinese students.

**Immigration Studies and Chinese Students**

Many of the Asian immigrant studies conducted in the United States have focused on the idea of *model minority* and the way in which this stereotype impacts Asian students. The roots of the term *model minority* go back to an article by William Peterson published in the New York Times Magazine in 1966 entitled, "Success Story, Japanese American Style." The United States was in the midst of the civil rights movement; the Civil Rights Act was passed only two years later in 1968. While the article was not out-right political, there were certainly undertones of a majority preference for Asian minorities over African Americans; Asians were blending in, succeeding in school, not committing crime, and working in prestigious jobs, while African Americans were holding riots and marches (Li & Wang, 2008). This represents a sharp shift from even 25 years earlier when the immigration of Asians into the United States was heavily regulated and anti-Chinese and anti-Japanese sentiment was common, including the use of the term *Orientals* (Chang, 2003). This marked the beginning of a new frame of mind in which Asians were portrayed in the media from more exclusive coverage to inclusive, as well as marking a shift in the perceptions surrounding this group of people. Thus, the term *model minority* refers to the characteristics of Asians that were so readily displayed in the 1966 article – Asians set high goals, are financially and educationally successful, commit few crimes, are well

adjusted, and incorporate into predominant American occupations, culture, and society (Leong & Grand, 2008).

Because part of the *model minority* myth is that all Asian students are well adjusted, this group has largely been ignored in terms of research concerning career development and mental health needs. A trend analysis over 36 years of career development journal publications found 381 articles that examined minority career development, but only 10 of those, 3.6% of the entire sample, addressed Asian American concerns (Flores et al., 2006). Among the articles that focused on one specific minority group, the majority of articles were focused on career issues of African Americans. An earlier review found a similar gap in the literature surrounding the career behavior of Asians and Asian Americans (Leung, Ivey, & Suzuki, 1994). Leong and Serafica (1995) noted that a solid theory has yet to be advanced about how outside pressure impacts career goals, and ultimately career decisions for Asian workers.

In addition to having career development needs overlooked, the *model minority* label often restricts Asian students' access to resources for addressing their psychological needs. This mainly occurs when teachers and counselors assume Asian students are handling life well because they have high grades, even though this may not be the case (Alba et al., 2005). One example of this is the surprise of many in response to the Virginia Tech campus shootings of 2007, where the shooter was an Asian student; Asian students are supposed to do well in school and certainly do not commit such crimes, so this action completely went against the *model minority* perception (Tang, 2008). Unfortunately, Asian students such as the one in that case and others are often overlooked for psychological referral because they may not necessarily have the same behavior problems often used to identify other minority students for services (Kim & Yeh, 2002). Because of the unique nature of the Asian student stereotype, there is additional pressure

to perform at academic levels much higher than their peers, which comes at a cost. Research has confirmed Asian students feel more isolated and report less social support than white students or other minority groups (Kiang et al., 2006; Liao et al., 2005; Qin et al., 2008; Zhou et al, 2003).

According to the 2000 U.S. census, the top two countries with the greatest immigrant populations in the United States were Mexico and China; this trend is expected to repeat in the 2010 census (Bailey, 2008). Perhaps because they are the two largest immigrant groups residing in America, Chinese and Mexican students are most often compared. Brittain's (2002) book *Transnational Messages* looked exclusively at these two groups. She found the Chinese in an educational context most valued and identified with relationships with other Chinese immigrants at the same school, the perception of academic excellence, the promotion of positive perceptions of Chinese students' academic abilities, a less restrictive school environment than in China, and teachers who establish more positive student-teacher relations than those in China. On the other hand, the Mexican students had only one thing in common with Chinese students – highly valuing the relationships with other immigrant students at their school. They also valued the free services and materials available from schools and caring teachers, which are slightly different perceptions of school in the United States than Chinese students. Other studies comparing these groups confirmed the high emphasis of Chinese students on academics by demonstrating they have higher levels of performance goals, exhibited higher levels of anxiety, and reported being significantly less happy than students from Mexican backgrounds (Kiang et al., 2006; Witkow & Fuligni, 2007; Yan & Berliner, 2009). Thus, *model minority* pressure certainly adds emotional strain to the immigrant experience for Chinese students versus those from Mexico.

In addition to the challenges that come with being labeled a *model minority*, Asian immigrants are also confronted with the challenges of acculturation. Acculturation refers to the

process of adopting the values and behaviors of a new culture, often resulting in an internal battle between the heritage of their county of origin and the pull to fit in with dominant American culture, regardless of generation status (Lee, Yoon, & Liu-Tom, 2006; Liao et al., 2005). Each immigrant must decide whether to accept or reject the host community's cultural values and practices, while simultaneously making those same decisions about their home country's cultural values and practices (Yashushko, Backhaus, Watson, Njaruiya, & Gonzalez, 2008).

Berry (1980) developed one of the most commonly used acculturation models that details the process by assigning immigrants to the different outcomes of rejection/encapsulation, deculturation/marginalization, assimilation, or integration/biculturalism. Rejection/encapsulation refers to an individual decision to withdraw from norms of larger society; a cultural identity from the home country is retained, but within terms of a negative relationship to dominant society. For example, a Chinese immigrant that moves into a Chinese neighborhood and continues only speaking Chinese and interacting only with other immigrants in the immediate vicinity could be viewed as assuming the rejection variety of assimilation. Deculturation/marginalization is fixed upon individual confusion and anxiety about personal cultural identity and relationships to larger society. This is the most negative outcome possible, where there is not retention of cultural identity and there is not a positive relationship with dominant society. Assimilation on its own is similar to the old *melting pot* idea that new immigrants should give up their personal cultural identities in favor of greater, more dominant societal norms. Immigrants who changed their names upon arriving in America, such as changing the German-sounding "Von Meincke" to the more Anglo "Miller", would be acting within the assimilation outcome of acculturation. Thus, individual cultural identity is lost, but a positive relationship to the dominant society is established. The final outcome of assimilation is the most positive, and is referred to as

integration/biculturalism. This type of acculturation results in the retention of cultural identity and a positive relationship to dominant society. Using this model, integration/biculturalism is the best acculturation outcome for immigrants' psychological wellbeing because of the balance struck between the culture of the home country and that of the new one. Other studies have revealed acculturation as a predictor of mental health scores, where the more positive an acculturation outcome, the better the psychological well being of an immigrant (Ogbu, 1992; Portes & Rumbaut, 2006; Rahman & Rollock, 2004; Yashushko et al., 2008).

Portes and Rumbaut (2001) developed a more recent acculturation model, which shows the segmented process of assimilation. Their model was created using the results of a longitudinal study of immigrant children. Over time, they found varying background factors of the first generation, including parental human capital, reception and supports of the new environment, and family structure, lead to three different intergenerational acculturation patterns – dissonant acculturation, consonant acculturation, and selective acculturation. According to this model, dissonant acculturation transpires most often when an immigrant directly experiences racism without support from friends or family, and enters the labor market with only individual resources and little guidance. Or, in the case of families involving first generation parents and second-generation children, dissonant acculturation occurs when children learn the language and dominant culture of the new country, while parents continue to speak the language and maintain the customs of the country of origin. If this type of acculturation takes place, it is likely to lead to heated intergenerational conflict over fractured social expectations between children and parents and downward assimilation. The second outcome is referred to as consonant acculturation, where racism is confronted directly with family support, and the supportive parents and family resources guide career choices for the second generation. Further, parents and children

simultaneously learn the language and dominant culture of the new community, resulting in fewer conflicts and upward assimilation. Finally, selective acculturation is the third possible outcome. Discrimination is filtered through ethnic networks and confronted with family and community support and career decisions benefit from parental guidance bolstered by family and community resources. The ultimate result of this type of acculturation is upward assimilation, joined with bi-culturalism.

There is obviously significant stress associated with the acculturation process. In addition to links between acculturation and mental health, other studies have found a relationship between acculturation, occupational goals, and a willingness to seek help (Liao et al., 2005; Tang, Fouad, & Smith, 1998). Seemingly, the better acculturated an immigrant, the more comfortable he or she is in setting assertive occupational goals, such as choosing the career he or she is most interested in, and asking for assistance if needed. Acculturation also affects family relationships, where children typically accept the new culture more quickly than parents (Chung, 2001). This can be particularly true for immigrant students whose parents may expect them to continue to adhere to the traditional, hierarchal Chinese parenting system. When Chinese parents want to implement more traditional systems, they may expect children to have the same behavior as children in mainland China, even though students may see more open, free parent-child relationships of peers and media in the United States and want to have that type of relationship. Intergenerational conflicts can lead to painful clashes between parents and children, and ultimately, a greater amount of stress and pressure on students (Chung, 2001).

Other factors that have been identified as stressors and international pressures on immigrant students are separation, economic challenges and pressure, language barriers, bicultural conflicts, and high academic pressure (Qin, 2008). Separation can be especially

difficult on immigrant students who may have to leave parents, a spouse, or even children behind for months or years at a time. Even when spouses, typically wives, join their husbands in another country, they are often left to take care of the house, as opposed to pursuing a career (Huang, 1997). The economic challenges and pressure on immigrants can be severe, especially for students. Often, student visas limit work only to the institution of study, which can make budgeting and finding an adequate place to live difficult; while immigrant workers in the private sector can end up working 12-hour shifts every day to make ends meet, leaving little time to spend with family or friends (Huang, 1997; Qin, 2008).

Language barriers are another source of pressure for immigrants. In her study of Chinese students in the United States, Huang (1997) found many students chose their major based on their English proficiency; meaning, many students from Chinese backgrounds ended up studying in mathematics, physical sciences, and computer science. These subject areas have a greater emphasis on logic and mathematics and less verbal and written communication in English than subjects such as education, history, or communication, making it easier for students who struggle with English to succeed. She also noted that the stress levels in students with more limited language capabilities were significantly higher, which seems logical since there are vast differences between Chinese and English (Chi, 1999). There is also the issue of losing some of the proficiency in the home language while not having opportunities to speak it in daily life (Qin, 2008). One Chinese professor at the University of Georgia complains he can still speak Chinese well, but he has lost much of his ability to read more complex characters (J. Wang, personal communication, May 30, 2008).

One final piece of interesting evidence that appears in literature about the Chinese immigrant experience is the high expectations of parents, regardless of the families'

socioeconomic status or parents' own educational achievement (A. Lee, 2007; Louie, 2004a). This phenomenon in particular seems to place exceptional pressure on Chinese students, who feel that if their parents have sacrificed for them, then they should at least graduate with a bachelor's degree (Qin, 2006). Many times, Chinese students from lower, working-class families feel isolated because other Chinese immigrant students do not face the same issues; working-class Chinese students have parents with very high educational aspirations, but who did not have the time, knowledge, money, and frequently English language skills to assist them with school (Louie, 2008). Subsequently, it is important for any study on Chinese immigrant students to examine family socioeconomic status along with parents' educational background.

### Factors Influencing Educational and Career Attainment in Chinese Students

Despite the negative implications of the *model minority* label, Chinese students continue to do very well in the United States in terms of educational achievement. This brings up the question, "What is driving the educational attainment of this group?" Literature shows parents are by far the biggest factor influencing the educational decisions of Chinese students, and they have been for some time (Fulgini & Witkow, 2004; Kaplan, Liu, & Kaplan, 2001; Louie, 2004a, 2004b, 2008; Mau & Bikos, 2000; Orleans, 1988; Song & Glick, 2004; Wong, 1992). One reason for this is the more collectivist nature of Chinese culture. In traditional Chinese families, parents are at the center of educational decisions and control much of the direction in a students' future academic development (Leung, Hou, Gati, & Li, 2011; Qin, 2006; Zhou, 2009). Further, children are expected to continue to provide for their parents and extended family into old age, which means parents are supremely motivated to push their children to achieve at the highest levels (Song & Glick, 2004). Especially in the case of immigrant students, parents tend to continue to hold to the traditional Chinese hierarchical, more obedience-driven parenting model

that compares a students' behavior to what would be expected in China; this can be particularly challenging for students who are living in a new cultural system with different values where students around them are free to make decisions independent of their parents and communicate openly about their personal educational and occupational ambitions.  Qin (2006) refers to this phenomenon as parents and children working on "different, *parallel* 'dual frames of reference'" (p. 173) where parents are continuing to compare behaviors, actions, and educational decisions based on children in China, while students compare their parents to the parents of American friends or parents presented in movies or television. These intergenerational conflicts can lead to painful clashes between parents and children over the degree of autonomy allowed in making important life decisions, and ultimately, a greater amount of stress and pressure on students (Chung, 2001; Zhou, 2009).

The role of parents' influence on the educational aspirations of Chinese students cannot be understated. Parents' aspirations for their children are consistently high, regardless of class, gender, and the parents' own educational achievement (A. Lee, 2007; Louie, 2004a). Particularly in immigrant families, if parents have sacrificed to provide for their children, then they are likely to feel even more obligated to pursue educational attainments that will meet their parents' wishes (Louie, 2004b; Zhou, 2009). Chinese students have reported that their parents send a clear message that a bachelor's degree is the minimum educational attainment expected, and the end goal of education is to secure a stable, high-paying job in a practical and safe field (Louie, 2004b). Parents actively discourage interests in history, literature, music, dance, sports, or any other subject they consider unlikely to result in profitable, secure employment (Leung et al., 2011; Zhou, 2009). These findings were confirmed by Song and Glick (2004) where foreign-

born students were more likely to attend college than native-born students, leading them to conclude college entrance itself is the point of greatest parental influence.

Chinese students have the highest occupational aspirations and academic values among all other groups of students and parents, and the amount of time a student has been in the United States is another factor influencing these aspirations (Fuligni & Witkow, 2004). Park (2003) found that both educational and occupational aspirations in Asian students were significantly impacted by the length of time they resided in the United States. Aspirations increased the longer students had been in the United States, with students residing here between 8 and 15 years having the highest aspirations of all groups of Asian students. Perhaps these findings should not be too surprising, since studies have focused on the way in which language can be a barrier to academic success in the United States for Chinese students (Chi, 1999). Thus, the longer a student has lived in the United States, the greater their English language skills. Ultimately, language is a key factor in determining the academic path, including majors, Chinese students choose (Huang, 1997; Wong, 1992; Yakushko et al., 2008).

Peers are also an important influence on the value Chinese students place on school and continuing their education. In fact, peers can be just as powerful in shaping educational goals across genders and ethnicity (Ryan, 2001). Peers who hold college in high regard and value education can have a significant impact on both the decision of whether or not to pursue higher education and the choice about what school to attend (Patel et al., 2008). Peers can also be particularly influential in families where children become more alienated from their parents during adolescence; this has been found to be the case in immigrant Chinese families where parents may work long hours to provide for their children, straining the parent-child relationship because they have little contact with one another (Qin, 2006).

One final indicator of educational aspirations that appears in repeated literature is self-efficacy (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Chung, 2002; Patel et al., 2008). Self-efficacy refers to an individuals' belief about how well he or she can make things happen to achieve desired outcomes (Lent, Brown, & Hackett, 1994). This belief is instrumental in a student's commitment to future planning and goal setting, regardless of minority status (Chung, 2002). In fact, Patel et al. (2008) found that self-efficacy relates to career interests, career aspirations, career commitment, self-esteem, anxiety, internal locus of control, and identity formation, all of which represent important personal factors of educational attainment. Overall, parents certainly are the most important factor influencing the educational aspirations of Chinese students, but the length of time spent in the United States, relationships with peers, and self-efficacy also contribute to the aspirations of this group.

## Theoretical Framework

### Immigration Theories

Immigrant research has sparked numerous studies encompassing different fields such as education, geography, sociology, anthropology, history, and economics. While the focus and details of such investigations certainly varies by field, there are six major theories that appear in immigrant research as migration theories. These include assimilation theory, push/pull theory, transnational theory, neo-classical economics/human capital theory, social capital theory, and new economics of labor migration.

**Assimilation theory.** Assimilation theory is perhaps one of the oldest theories explaining immigration and is more concerned with an individual's integration into a new society than the reasons why an individual would leave one country for another (Zhou & Gatewood, 2007). This model was designed and originally applied to European immigrants, with an underlying

assumption that as immigrants come into contact with the dominant culture of the host country, they would learn and adopt the culture of the majority group (Brittain, 2002). Subsequent generations in the United States would be able to assimilate and blend in more quickly than the original immigrants (Cheng, 1994). This is reminiscent of the old *melting pot* idea that as immigrants come into the Untied States, they lose their cultural heritage and become a part of the American mass; distinctive ethnic characteristics fade, becoming only symbolically important.

This theory has come under particularly harsh critique in the past 60 years as immigration patterns significantly shifted from mostly Europeans to include much of the rest of the world, especially Asia and Latin America, and because it implies there is only a single path to success in a new country for all immigrants (Zhou & Greenwood, 2007). This view of immigrants can be especially demeaning as well, where immigrants are clearly labeled as foreigners and continually identified as outsiders to the majority; the *model minority* stereotype applied to Asians in the United States is one such example as a way to keep Asians from fully assimilating by continuing to define them based on another form of otherness. Despite these shortcomings, assimilation theory has received some revival in recent literature by people who feel it is useful in understanding the immigrant experience in clashing cultures, but without the caveat that immigrants must mold into the dominant culture (Brettell & Hollifield, 2008). Still others advocate a segmented assimilation view where new immigrants have three different paths to assimilate – (a) acculturate and assimilate into the mainstream culture of the host country (in the United States, this would be the white middle class), (b) assimilate into the lower, under class that has severe economic disadvantages (common in illegal immigrants), or (c) assimilate into immigrant communities, which allows for preservation of home culture more than other paths (Brittain, 2002; Portes, 1995). An example of this modified theory in practice is in a recent

anthropological study investigating the role of acculturation in Chinese youth's relationships with their parents; the author used assimilation theory to demonstrate how the children and parents had each assimilated differently, which ultimately strained their relationships with each other (Qin, 2006).

**Push/pull theory.** A second major theory of immigration is push/pull theory. The tenets of this theory are that certain factors associated with the home country and the intended destination can push or pull people wanting to leave one place for another; it is a balancing act of incentives to stay or leave one place for another. Segal (2002) developed a framework for immigration based on this theory. She details some of the more common push factors, such as lack of opportunity, persecution, national disasters, etc and pull factors, like increased opportunity, freedom, family reunification, and so on. For example, many Chinese felt pushed out of China because of a lack of independence and limited economic opportunities, and were pulled to the United States because of eased immigration restrictions, more personal freedoms, and better job opportunities (Wong, 1992). This is also a useful method for understanding the different pressures that lead people to immigrate, and it was used as a guiding framework for *The Chinese in America* (Chang, 2003), where a history of push and pull factors were detailed surrounding the Chinese immigrant experience.

**Transnational theory.** An additional theory in immigrant research is transnational theory, which is built on the idea of transnationalism, where immigrants maintain social, economic, and cultural contacts with their native country and destination countries (Wong, 2007). Simultaneous membership in two nations does not necessarily mean they are equal within each person, because adult immigrants normally have a greater identification with the native country and children typically having a strong association with the new country (Brettell &

Hollifield, 2008). This theory has gained particular momentum in recent years because it can be used across many different disciplines due to the nature of all the various components that can be social and economic, to name a few. Also, the improved technology associated with globalization, such as the Internet and mobile phones, has offered more outlets for communication between family members and friends across country borders (Wong). Additionally, transnational theory considers how immigrant children can be influenced by not only experiences within the United States, for example, but also experiences that link them with their country of origin (Brittain, 2003). The different experiences of immigrants living within the transnational space have been well documented (Al-Ali, 2002; Barot, 2002; Blion, 2002; Erel, 2002; Izuhara & Shibata, 2002; Kane, 2002; Merolla, 2002; Salzbrunn, 2002; Timera, 2002; van Dijk, 2002; Vuorela, 2002), and many of the people in this situation report similar struggles of feeling torn between two identities, not having a national persona that is their own, and having difficulty dealing with a far-flung extended family that can span nations (Bryceson & Vuorela, 2002).

**Human capital theory.** Human capital theory, an application of neo-classical economics, explains immigration at both the micro- and macro- levels based on differences in wages. Under this theory, people are willing to immigrate to maximize their earning potential within the market (Cheng, 1994). In other words, people are viewed as a tangible resource to achieve the greatest financial benefit through migration (J. Lee, 2007). Human capital explains difference in wages, employment conditions, and migration costs, which combined create or mitigate an economic incentive to move. Chiswick (2008) quantified this model by showing that migration occurs when rate of return from the investment in migration is greater than or equal to the interest cost of funds (the cost of borrowing or lending money for migration, which is less for the wealthy and

greater for the poor) for investment in human capital. He also argued the rate of return will be higher for higher ability workers and lower for low skilled workers. Of course, these calculations would not actually be tabulated for each immigrant, but the human capital theory does offers insight to the reasoning and weighting of variables that can effect a person's decision to move countries.

**Social capital theory.** Contrastingly, social capital theory does not quantify the immigration decision, but rather, questions why people continue to migrate. It looks at migration through the different social structures that would facilitate the action of movement – i.e., what migration networks are accessible. For example, Korean entrepreneurs in the United States established rotating credit associations where Korean immigrants pay into the association, and then receive a lump sum of cash later – each person gets a turn receiving the payout (J. Lee, 2007). Here, Korean immigrants may be more motivated to migrate if they know they are coming into a large, immigrant community with structures in place to aid in success in the new country. This theory is often applied to immigrants who want to be entrepreneurs in a new country because it looks at the resources that characterize an entire group, but this should be taken with a bit of warning since it would not be useful to compare groups of immigrants across different settings where immigrant entrepreneur data is difficult to obtain and compare. In that case, the individual circumstances of each person would be a better indication as to the motivation for migration (Kloosterman & Rath, 2003).

**New economics of labor migration.** The final theory is the idea of new economics of labor migration, which views immigration as a deliberate decision by families to diversify income, minimize unemployment, and provide better benefits, like a pension and health insurance. Families strategize to maximize the household income (Kaushal & Reimers, 2007).

This type of immigration typically occurs when a family moves from a developing country to a developed one, such as the immigration of Chinese workers into the United States (Bailey, 2008). The financial gains can be greater for both skilled workers, such as professors, doctors, and nurses, and unskilled workers, like cooks, farm laborers, and factory workers. While the idea that families would make a collective migration decision based on maximizing their income makes logical sense, empirical studies that have investigated this approach have had mixed results indicating the financial gain may simply be the result of two individual capital decisions about monetary gains rather than a collective one (Blau, Kahn, Moriarty, & Souza, 2003; Dunleep & Sanders, 1993). Ultimately, new economics has three underlying assumptions – (a) a demand for migrant labor must exist, (b) labor demand must be made known, and (c) work opportunities must be desirable (Portes & Rumbaut, 2006). These assumptions are a source of some of the greatest criticism, particularly because it is difficult for unskilled workers to become aware of job opportunities without outside intervention, such as recruiters or social networks (Portes & Rumbaut, 2006).

While it is important to recognize the theoretical underpinnings that guide immigrant research, they do not meet the overall goals for the current study because they do not provide a psychological framework for understanding career decisions. Rather, these theories provide a support for the context of accepting exactly how one makes the decision to migrate to a different country, if only for a temporary educational basis. This means it is important to recognize the importance of the factors, whether social or economic, that influence an immigration decision, but to then examine these factors in the context of career development theory.

**Career Development Theories**

Although Chinese Americans make up the largest group of Asians within the United States and need individual attention on mental health issues like *model minority* and acculturation, they have received little attention in the research literature, with no specific theory addressing the combination of these issues. Rather, acculturation is most commonly discussed within an immigration theoretical framework and other mental health issues are relayed through psychological frameworks or fit into other areas. This is likely because as Leong and Serafica (1995) noted, a solid theory has yet to be advanced about how outside pressure impacts career goals, and ultimately career decisions for Asians. Furthermore, research has not examined how emotional adjustment, impacts the career aspirations of Asian students, and specifically Chinese students. Therefore, a proposed study would need to incorporate dominant theoretical frameworks of career aspirations studies to include an emotional component.

There are four main psychological theories that guide research in the area of career aspirations – Holland's (1959) theory of vocational personalities in work environments, Super's (1990) self-concept developmental theory, the theory of career circumscription and compromise (Gottfredson, 1981), and social cognitive career theory (Lent, Brown, & Hackett, 1994). Conversely, there are few specific overarching theories guiding current research surrounding emotional adjustment. Rather, most contemporary studies examine emotional adjustment as an independent construct or part of a social identity framework where ethnic identity is linked to emotional well-being (Kiang et al., 2006; Kim & Omizo, 2005; Leung et al., 1994; Zhou et al., 2003). Still others have incorporated the idea of emotional stability into some of the constructs within Social Cognitive Career Theory (Yakushko et al., 2008). For the purposes of this paper,

emotional adjustment will be included in the discussion of Social Cognitive Career Theory (Lent et al., 1994).

**Theory of Vocational Personalities in Work Environments.** One of the earliest theories of career development is Holland's (1959) theory of vocational personalities in work environments, which seeks to explain the rationale for how and why career and work-related decisions are made by assigning people into six vocational/personality types. These vocational types include motoric - like laborers, farm workers and machine operators; intellectual - such as scientists and researchers; supportive - including social workers, teachers, and therapists; conforming - like bank tellers, secretaries, and bookkeepers; persuasive - such as sales, politicians, and managers; and, esthetic – for example musicians, artists, and writers (Holland, 1959; Spokane & Curza-Guet, 2005). These theories of career development state career-related choices not only reflect a person's motivation, knowledge, and ability, but also insight and self-understanding, connecting experiences, likes, dislikes, and choice for work (Song & Glick, 2004). While personality types are easily interpreted and applied to vocational situations, this theory in particular has faced criticism for relying too heavily on data collected from white males and has subsequently been used sparingly in cases evaluating career development with women or minorities (Song & Glick, 2004; Spokane & Curza-Guet, 2005).

**Self-Concept Developmental Theory.** Super's (1990) self-concept developmental theory focuses on the more sociological aspects of career choice, and on the whole examines a person's aspirations as a manifestation of the concept he or she has in an occupational context (Rojewski, 2005). Under this theory if a child sees himself or herself as a doctor, then he or she is likely to aspire to be such, without much outside intervention. This theory, in particular, links developmental psychology and career behavior while offering a perspective for career

development over a lifetime where individuals move through life and career development stages concurrently. A disadvantage to this theory, however, is that because the emphasis is so strongly on the individual's role in vocational choice, it does not adequately account for outside factors that eventually influence occupational outcomes. Because these outside factors are so important and have been well documented with Chinese students, this theory, while interesting and partially applicable, would not sufficiently account for all of the variables at play in this study.

**Theory of Career Circumscription and Compromise.** The theory of career circumscription and compromise (Gottfredson, 1981) views career aspirations and outcomes as more psychologically based, stages of development. In stage one, a preschooler views careers through the lenses of big versus little where big people (adults) have jobs and little people (children) do not, which leads to stage two in elementary school where children see careers segmented based on traditional gender occupations (e.g., men = firefighters, women = nurses). In middle school stage three emerges where careers are valued according to prestige (e.g., doctors are high in prestige, truck drivers are low) and along a spectrum of gender-appropriate roles. Stage four emerges in high school and beyond where individuals find a balance between prestige, gender norms, and the internal, unique self (Gottfredson, 2005).

This theory incorporates the multitude of influences that can shape individual career aspirations by emphasizing how adolescents respond to the different occupational choices that are available; students must find a career match that ultimately meets with their individual preferences. According to Gottfredson (1981), the matching process is a balance between cognitive abilities that develop over time (cognitive growth), individual spurred self-development (self-creation), the elimination of unwanted occupation alternatives (circumscription), and eventual acquiescence to outside factors influencing vocational choice

(compromise). While this theory does incorporate several facets that would be applicable to the current study, such as including the compromise that would take place based on family expectations for Chinese students, it has received some criticism that it is not entirely universally specific across cultures. For example, Hwang, Kim, Ryu, and Heppner (2006) found the developmental tasks occurred at different times that this model predicted when used with South Korean students.

**Social Cognitive Career Theory.** Social cognitive career theory (SCCT; Lent et al., 1994) emphasizes that self-efficacy, outcome expectations, and goals work in conjunction with other aspects of each person, like family background, socioeconomic status, immigrant status, and ethnicity, to shape career goals. This means that career development is ultimately a series of interlocking processes of interest development, choice, and performance. SCCT is largely a derivative of Bandura's (1986) social cognitive theory, which features the importance of individuals in facilitating their own occupations interests and aspirations, as well as the factors that can enhance or detract this facilitation. SCCT further postulates that positive career development depends on individual experiences resulting from interactions with the environment and personal factors (Yakushko et al., 2008). This theory offers a particularly important difference to the previous ones in that SCCT emphasizes the role of learning and relationships in decision-making.

Self-efficacy refers to individual appraisals of capabilities to take action and succeed towards a specific goal, and it is a dynamic attribute that is always changing (Lent, 2005; Lent et al., 1994). The components of self-efficacy include individual choices about activities and environments, the amount of effort put forth, persistence, thought patterns, and emotional reactions to obstacles; self-efficacy is an individual asking the question, "Can I do this?" (Lent et

al., 1994). This construct is certainly highlighted by the emotional stability of an individual, such that it would be within the realm of reason that a study focusing on emotional adjustment and career aspirations could adequately use this theoretical framework, where an emotional adjustment scale can provide insight to one measure of self-efficacy.

The second major component of SCCT is outcome expectations, which refers to the question, "If I do this, what will happen?" Outcome expectations are the "imagined consequences of particular behaviors" (Lent et al., 1994, p. 83). There is a strong reciprocal relationship between self-efficacy and outcome expectations, as either can be dominant for a behavior in a particular situation. This is especially true in the case where large life decisions at stake and certain outcome expectations, like the support or lack thereof from family members, can ultimately determine what decision is made. A good example of this is the pressure many Chinese students feel to choose a practical, stable career based on their parents' expectations such as medicine or engineering, even though as an individual he or she might prefer something from the liberal arts (Louie, 2004a). Thus, self-efficacy and outcome expectations can be intertwined, with similar variables contributing to the stability and strength of each.

The final construct of SCCT asserts that goals are an important piece of the self-regulation of behavior. Lent et al. (1994) identified three major outcomes of goals–they organize and guide behavior; they can sustain behavior over long periods of time, even without external reinforcement; and, their presence increases the likelihood that individuals will attain desired outcomes. The goals portion of the SCCT framework asks the question, "What kind of job do you expect to have?" (Rojewski, 2005). Thus, the goal representations portion of SCCT provides a parallel to career aspiration studies that ask a similar question.

Given the range of career theories, it is important to identify the theory that best explains the possible role of emotional adjustment in the development and expression of career aspirations, particularly as applied to immigrant Chinese. SCCT (Lent et al., 1994) is the most relevant to a study investigating the career aspirations and emotional adjustment of Chinese students. SCCT is one of the few career development theories that specifically accounts for ethnicity, as it features the importance of *self* in career decision-making. The theory has also been used successfully in studies examining variables similar to those being examined in this analysis (e.g., Bandura et al., 2001; Turner & Lapan, 2002). In addition, the SCCT framework involves internal variables, such as emotional adjustment, in the model for career aspirations. If certain positive internal variables are higher, such as self-esteem, then career aspirations are expected to be greater according to SCCT. Similarly, if Chinese students possess higher self-esteem, then they might feel more confident in their ability to succeed in more prestigious occupations, ultimately leading to greater career aspirations than students with lower self-esteem.

Another important consideration in the selection of a theoretical framework is its application to use with minority students. SCCT is one of the only theories of career development that adequately accounts for the role of the individual, which means this theory allows and expects variation based on ethnicity. For this reason, SCCT was the theoretical framework of choice for many career-related studies involving minority students (Kiang et al., 2006; Mau & Bikos, 2000; Navarro, Flores, & Worthington, 2007; Yakushko et al., 2008).

In summary, Social Cognitive Career Theory (Lent et al., 1994) was applied in this study of Chinese students to provide a theoretical framework for organizing variables like career aspirations and emotional adjustment in relationships (Mau & Bikos, 2000). The three main components of SCCT—self-efficacy, outcome expectations, and goal expectations—align well

with the constructs associated with my study. Self-efficacy relates to emotional adjustment, outcome expectations relate to internal behavior factors that will be in play with emotional adjustment, and goal expectations relate to career aspirations. A model showing this alignment appears in Figure 1, where the major constructs of SCCT each have an associated factor.
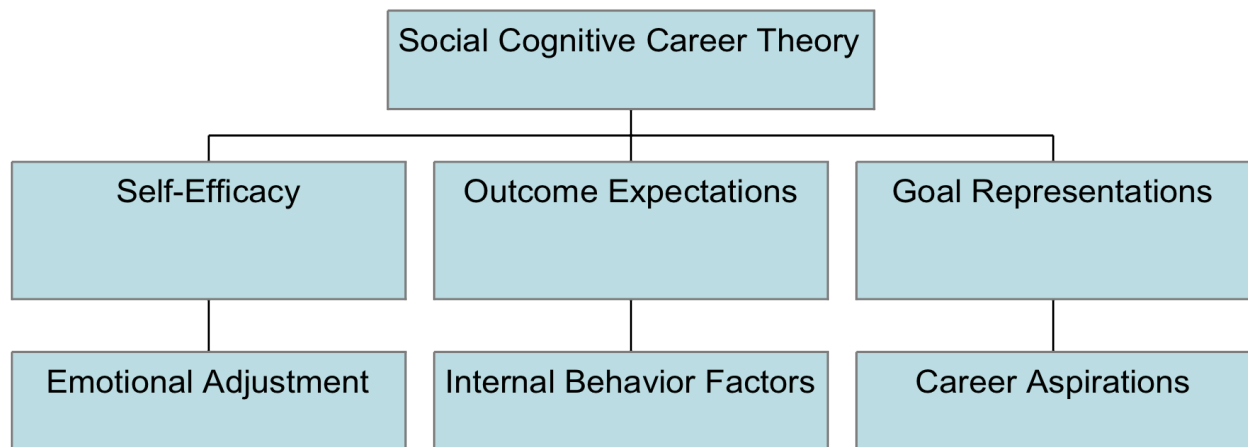


*Figure 1*. Elements of Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994) and associated factors of emotional adjustment and career aspirations applied to the study of immigrant Chinese and domestic graduate students.

CHAPTER III

METHOD

This chapter details the methods and procedures used in this study. The chapter begins

with a restatement of the purpose for the study and then provides information regarding the

research design, population and sample selection, and instrumentation. The form of data analysis

is also discussed.

**Purpose of the Study**

The purpose of this comparative survey study was to determine the relationship between

career aspirations and emotional adjustment of Chinese immigrant college students and non-

Chinese domestic college students. A Chinese immigrant or non-Chinese domestic college

student was an individual enrolled for a minimum of three graduate credit hours at the University

of Georgia during the 2010-2011 academic year. The Emotional Symptoms Index of the

Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 2004) measured

emotional adjustment, which included measures of social stress, anxiety, depression, sense of

inadequacy, self-esteem, and self-reliance. The dependent variable, career aspirations, referred to

an individual's career-related ambitions or decisions under ideal conditions (Rojewski, 2005).

**Research Questions**

1. What are the career aspirations of Chinese college students?

2. What is the emotional adjustment of Chinese college students?

3. What is the best set of emotional adjustment variables to explain career aspirations of

   Chinese and domestic graduate students?

**Research Design**

A correlational survey research design, using a group-administered survey, was utilized for this study. A survey design uses written questionnaires or other similar instruments to gather information in either verbal or written feedback (Hill, 2001). Questionnaires can be in printed or electronic form and asks the same questions of all participants (Gall, Gall, & Borg, 2007). The main advantage to using a group-administered survey is that the cooperation rate is usually high and questions about the survey from participants can be addressed directly (Fowler, 2002). A survey design allows researchers to contact a large sample with less cost and in less time than other data collection methods, such as individual interviews (Gall et al., 2007). A group-administered situation is also desirable because non-response rates are virtually nonexistent and any non-response does not reflect poorly on the content of the instrument (Dillman, 2007).

While surveys are typically convenient and cost effective, they are not entirely flawless. One disadvantage to using a survey is the difficulty in gaining the depth of information that could be gathered through personal interviews or other more time-intensive methods, like participant observation. Additionally, once surveys are given to participants, researchers are unable to make changes or modifications (Gall et al., 2007). Other disadvantages of using survey research include limitations in the types of data collected and participant attitudes to surveys that can negatively influence the accuracy of information they provide (Hill, 2001). Despite these potential limitations, a survey is the best approach for conducting this study because of lower costs and time efficiency.

It is also important to address the internal and external validity of survey designs. According to Gall et al. (2007), internal validity refers to the extent that extraneous or non-included variables have been controlled so that results can be attributed solely to the treatment.

Since the design of this study does not include specific interventions or treatments, internal threats to design validity are minimized. However, there are threats to external validity. External validity refers to the generalizability of a study's results to people and situations beyond those involved in the study. External validity addresses whether study results are actually representative of the broader population of interest. Given that surveys contain self-reported information, one of the largest threats is that the sample will not be either large or diverse enough because the group administration takes place at one specific school in a specific group at a specific time. Thus, it could be a challenge to the validity of the survey that other participants in other settings might respond differently.

## Population

The abstract population for this study was immigrant Chinese and non-Chinese domestic students attending institutions of higher education in the United States. According to the U.S. Census Bureau (Davis & Bauman, 2008), 534,000 Asian-born students attended 2- and 4-year colleges in the 2006 school year. The Institute for International Education (IIE, 2010), reports there were over 127,000 Chinese students studying at American universities during the 2009-2010 academic year. Also, cost and time limitations made it unreasonable to find contact information for a randomly selected group of Chinese-born college students, and to gain research approval at every 4-year institution with Chinese students in the U.S. Because of the challenges with accessing the abstract population of all international Chinese students and all non-Chinese domestic students studying in the United States, a convenience sample of Chinese students and non-Chinese domestic students were surveyed within one university.

In order to access Chinese college students, the University of Georgia (UGA), located in Athens, Georgia, was the site of survey administration. UGA has over 33,000 students, and is the

largest institution in the University System of Georgia. During the 2009-2010 academic year, the University of Georgia had 408 international Chinese student-scholars, with 327 of those pursuing graduate study. Chinese were also the largest group of international student-scholars attending the University of Georgia (Allen, 2010). Because participants were not randomly selected, but volunteered via contacts initiated through the University of Georgia's Office of International Education, the Family and Graduate Housing Office, and International Student Life Coffee Hour, or through a course they were taking, this was a convenience sample. A convenience sample refers to participants who are readily available and easy to sample (Gall et al., 2007). Because a convenience sample is not randomly selected, it is difficult to generalize results from the sample to make inferences about a population. Also, in a random sample, any bias of participants will be distributed over the population, where a convenience sample does not allow for this distribution. However, these challenges can be somewhat mitigated by providing additional details about the population and being clear about the generalizability of the study. While other regional universities could have been utilized, The University of Georgia Chinese and non-Chinese domestic students were selected because of accessibility and the number of available participants.

**Sample Selection**

The first round of recruitment of participants from the UGA Chinese community took place with the assistance of the Office of International Education (OIE). OIE maintained an email list of all international students on campus, and sent two emails soliciting participants for the group-administered survey. The first email was sent out two weeks prior to the survey administration, with a reminder email the day of the survey, October 21, 2010. All international Chinese graduate students attending UGA were invited to participate. No incentives were offered

for student participation. In addition to the emails, students were also recruited for participation by flyers posted around campus and personal communication. A second round of recruitment took place via flyer distribution through the Family and Graduate Housing Office, postings around campus, and flyer distribution at the Chinese student association Thanksgiving dinner in November 2010. Again, all international Chinese graduate students attending UGA were invited to participate, and the second survey administration took place December 5, 2010. A pizza dinner was offered as an incentive to encourage participation at the suggestion of participants from the first administration. However, the students who responded and attended this administration had all been contacted personally through different Thanksgiving dinners, leading to the conclusion the pizza was less of an enticement and personal contact was a greater factor in students' decision to participate. A third round of recruitment took place during the International Student Life's International Coffee Hour on February 11, 2011. A table and booth were set up where students already attending the coffee hour could complete the survey. Announcements of the survey were also made to all students attending this event. Students who participated in the third round of survey administration, as well as those simply attending coffee hour, could provide their name and address to be entered to win a $50.00 gift card to the university book store as an incentive to participate. Because these student participants were already attending the coffee hour event, it seems the gift card itself had little bearing on students' decision to complete the survey, but rather, students who were approached and individually invited to participate did so. Thus, while some incentives were offered, they seem to have had little bearing on the actual Chinese students who completed surveys. More selection bias may be present from the nature of personal relationships with Chinese students, and that more outgoing, emotionally adjusted students in general would be open to completing a survey at a group administration.

Interested students were directed to attend one of the three survey administrations, all of which took place on the UGA campus. This assured that students had transportation to the administration via University transit and the location was familiar to participants. Administration at each of the three sessions was similar. After arrival, participants were given copies of both the demographic questionnaire and the *Behavior Assessment for Children* (2nd ed.; Reynolds & Kamphaus, 2004) to complete. Completion of both took approximately 20-30 minutes. Because both instruments were in English, a translator was available to assist answering any questions.

University of Georgia professors teaching graduate level courses were contacted to see if they would allow the survey to be administered during one of their course meetings. Three different university professors allowed research to be conducted during their classes, Education Research in Workforce Education (WFED 9100) in October 2010, Applied Statistical Methods in Education (ERSH 6300) in November 2010, and Research Design (POLS 7010) in December 2010. No incentives were provided for student participation, and students in the above courses were not required to complete the survey as a part of their course.

**Determining Adequate Sample Size**

There are four factors that need to be considered in order to determine the necessary sample size in a research study: alpha level, statistical power, effect size, and the type of data analysis (Olejnik, 1984). The alpha level, or level of significance, is the probability that a researcher will conclude that a relationship exists between two variables in a sample, even though there is no relationship in the population. This is known as a Type I error. It is helpful to think of the level of significance in the context of hypothesis testing where the null hypothesis supposes there is no relationship between variables, and an alternative hypothesis asserts there is a relationship (Aron, Aron, & Coups, 2006). A null hypothesis for this study might be that there

is no statistically significant relationship between career aspirations and emotional adjustment, while the alternative hypothesis would be that there is a statistically significant relationship between career aspirations and emotional adjustment. Thus, the alpha level is the probability that the null hypothesis will be rejected, even though it is actually true. Level of significance is related to sample size because the likelihood of committing a Type I error is decreased the larger the sample ($n$). However, regardless of sample size, .05 is the most commonly used and accepted alpha level in social science research (Aron et al., 2006; Bakeman & Robinson, 2005; Olejnik, 1984). Therefore, an alpha level of .05 was used in this study.

Researchers can also incorrectly fail to reject or retain a null hypothesis when it is actually false, which is known as a Type II error (Bakeman & Robinson, 2005). The term statistical power ($\beta$) is used to describe the probability that the test will fail to reject a false null hypothesis, or that a Type II error will occur. The appropriate power level is also closely tied to the number of participants needed for a study in that they are positively related and an increase in power will require a larger sample size. Conversely, a lower amount of statistical power requires a smaller sample size. There is not a consensus among researchers about an appropriate power level to set in studies. However, most power between .70 and .85 are considered acceptable (Olejnik, 1984). In order to have an acceptable level of statistical power, I set the power level for this study at .70.

Effect size refers to the degree to which the null hypothesis is false, or the difference between real-world (practical) significance and statistical significance (Bakeman & Robinson, 2005; Olejnik, 1984). For example, statistical analysis may return statistically significant results, even if there is little practical significance to the findings, particularly in large sample sizes. Another way of thinking of effect size's relationship to sample size is in terms of the magnitude

of the relationship between variables. If there is a large relationship between variables, then it would take only a small sample to notice the degree to which the null hypothesis is false. However, if a relationship is smaller, it requires a larger sample to see this difference (Gall et al., 2007). When planning a study, it is difficult to precisely estimate this difference, so most researchers identify a minimal relationship that would be practically significant. Cohen (1988) identified small, medium, and large effects as being .20, .50, and .80 standard deviation units when comparing means, and coefficients of determination of 1%, 6%, and 13% when using correlations. For this study, minimal practical significance was set at a medium effect size of .50 for comparing means and .06 for the coefficient of determination in correlations.

Another consideration in determining appropriate sample size is the selected statistical analysis. Analysis is largely dependent on the research questions and research design of a study (Rojewski, 2001). Because this study involves research questions centered on the relationship between career aspirations and emotional adjustment variables, it is considered correlational research. The data analysis procedure was Pearson correlation to determine the strength and magnitude of the relationship among variables. Gall et al. (2007) suggested that correlational studies needed a minimum of 30 participants. However, in light of all the considerations outlined by Olejnik (1984), including statistical significance level of .05, statistical power of .70, and medium effect size, a minimum sample of 66 participants was needed for this study. After three rounds of data collection for both Chinese and non-Chinese students, the final sample size of Chinese students was $n$=24 and non-Chinese students was $n$=46, for a total of 70 participants once incomplete responses, extraneous international student responses, and outliers were removed.

**Instrumentation**

Instruments measured two different variables. One instrument measured emotional adjustment, and a second instrument measured career aspirations and demographic information. There was not a single instrument that addressed both these issues; therefore, multiple instruments were used.

**Emotional Adjustment**

The *Behavior Assessment System for Children*, 2nd edition (BASC-2; Reynolds & Kamphaus, 2004), was used to measure emotional adjustment. This instrument was designed to aid in the clinical diagnosis of different emotional and behavioral disorders, such as emotional behavioral disorder and attention deficit disorder, and behavioral characteristics. However, it can also be used to assist with educational classifications of disorders and characteristics, such as emotional disturbance and manifestation determination, which means examining the origins of behaviors, program evaluation, forensic evaluation, and research. The BASC-2 is comprised of five different measures of behavior, including Teacher Rating scale (TRS), Parent Rating scale (PRS), Self-Report of Personality (SRP), Structured Developmental History (SDH), and Student Observation System (SOS). The measures can be used collectively or independently. Only the Self-Report of Personality was used for this study because it included a specific form to measure emotional disturbance, which was of interest for this study.

The SRP is available in three different age level forms, child (ages 8–11), adolescent (ages 12–21), and college (ages 18–25). Given the population for this study, the college form of the SRP was utilized. The college form of the SRP measures 16 different categories, with these divided into clinical scales and adaptive scales. Clinical scales measured maladjustment, and higher scores in these categories showed negative or undesirable traits that make it difficult to

develop positive relationships and interactions with peers, family, school, and the community. Examples of these included alcohol abuse, anxiety, depression, and sense of inadequacy. Conversely, the adaptive scales measured positive adjustment, and higher scores reveal constructive and desirable attributes (Reynolds & Kamphaus, 2004). Things such as self-esteem and self-reliance are included in the adaptive scales. Table 1, adapted from Reynolds and Kamphaus (2004), lists all 16 categories with a brief description of each. They are grouped according to clinical and adaptive scales.

Table 1

*SRP College Form Scale Classifications and Definitions*

| Scale | Definition |
|---|---|
| Clinical | |
| Alcohol abuse | The tendency to use alcohol to feel better or to calm down and to experience adverse outcomes as a result of alcohol use |
| Anxiety | Feelings of nervousness, worry, and fear; the tendency to be overwhelmed by problems |
| Attention problems | The tendency to report being easily distracted and unable to concentrate more than momentarily |
| Atypicality | The tendency toward bizarre thoughts or other thoughts and behaviors considered odd |
| Depression | Feelings of unhappiness, sadness, and dejection a belief that nothing goes right |
| Hyperactivity | The tendency to report being overly active, rushing through work or activities, and acting without thinking |
| Locus of control | The belief that rewards and punishments are controlled by external events or people |
| School maladjustment | Perceived difficulties associated with attending postsecondary institutions, including feeling overwhelmed, unmotivated and forced to attend school |
| Sensation seeking | The tendency to take risks and to seek excitement |
| Sense of inadequacy | Perceptions of being unsuccessful in school, unable to achieve one's goals, and generally inadequate |
| Social stress | Feelings of stress and tension in personal relationships; a feeling of being excluded from social activities |
| Somatization | The tendency to be overly sensitive to, to experience, or to complain about relatively minor physical problems and discomforts |
| Adaptive | |
| Interpersonal relations | The perception of having good social relationships and friendships with peers |
| Relations with parents | A positive regard towards parents and a feeling of being esteemed by them |
| Self-esteem | Feelings of self-esteem, self-respect, and self-acceptance |
| Self-reliance | Confidence in one's ability to solve problems; a belief in one's personal dependability and decisiveness |

*Note.* From *BASC-2: Behavior assessment for children manual* (2nd ed., p. 74), by C. R. Reynolds and R. W. Kamphaus. Copyright © 2004 NCS Pearson, Inc. Reproduced with permission. All rights reserved.

The SRP took about 20 to 30 minutes to complete, and included *True/False* and Likert-

type items with *Never, Sometimes, Often,* or *Almost Always* response options (Reynolds &

Kamphaus, 2004). Once completed, the college form yielded four different composite scores: Internalizing Problems, Inattention/Hyperactivity, Personal Adjustment, and the Emotional Symptoms Index (ESI). While all scores were tabulated, only the ESI was included in the data analysis. The ESI is composed of the summative scores from six different scales including, social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance (Reynolds & Kamphaus, 2004). Of the six scales included in the ESI, anxiety, depression, sense of inadequacy, and social stress, are clinical scales, and self-esteem and self-reliance are adaptive scales. The range of raw scores across these scales is from 0-38, with maximum scores varying per scale. Table 2 summarizes the ESI scales and their raw score ranges. Additionally, it shows how many items on the BASC-2 are used to calculate the raw score. Each one of the aforementioned scales was used as a continuous independent variable, with individual scores from each scale evaluated separately and collectively to reveal various levels of emotional adjustment and determine statistical significance of each with the selected population.

Table 2

*ESI Components Score Ranges and Item Counts*

| Component | Raw score range | Number of items |
|---|---|---|
| Social stress | 0-28 | 10 |
| Anxiety | 0-38 | 14 |
| Depression | 0-30 | 13 |
| Sense of inadequacy | 0-24 | 9 |
| Self-esteem | 0-20 | 8 |
| Self-reliance | 0-20 | 7 |

The BASC-2 manual (Reynolds & Kamphaus, 2004) provided reliability estimates for internal consistency and test-retest reliability. Overall, internal consistency coefficients calculated by age range and gender for SRP scores were reported in the middle .90s for the ESI, indicating the coefficient was sufficiently reliable for testing emotional adjustment (Tan, 2007).

Individual scales have reflected lower reliability coefficients ranging from the high .60s to the

high .80s; so, the individual scales alone should not be used as determents of emotional

disturbance. For example, a student showing healthy range scores in all categories except for

anxiety, may not necessarily be experiencing emotional distress on an ongoing basis. The

composite ESI score gave more insight to the emotional well-being, as opposed to making

evaluations based only on scores from one scale. This idea was further reflected in the higher

internal consistency coefficients for the ESI as a whole as opposed to individual scales.

However, this did not hinder an analysis to see which individual scale is of greatest importance

in a statistical comparison of relationship with an outside variable.

Further, the test-retest reliabilities are high for the composite scales, especially for the

college form where coefficients range from the upper .80s to the low .90s. The median standard

error measurement was smaller for the composite scores, including the ESI, than the other

individual scales on the SRP that had standard error measurements in the range of half a standard

deviation, which is quite large. Therefore, these reports provided strong reliability evidence in

using composite scores, such as the ESI, from the SRP. Cronbach's $\alpha$, the coefficient of

reliability, was calculated to determine the internal consistency of scores for the ESI for this

study. The $\alpha$ value for all students together was .809; Chinese students only equaled .795; and

American students only equaled .821. Cronbach's $\alpha$ values of .70 or higher are considered

acceptable in social science research, showing strong reliability evidence for using the ESI (Gall,

Gall, & Borg, 2007).

The SRP included three different indexes to evaluate the validity of individual responses,

*F*, *V*, and *L*, each of which identified unlikely response patterns by participants and questionably

valid results. The *F* index was designed to detect excessively negative responses, which

identified an unrealistic number of problems. Items included in this index are denoted by the omission of a shaded box on the scoring page of the SRP, and included items such as, "I am someone you can rely on", "I do things over and over and can't stop", and "I fail at things." There were 15 items evaluated in calculating an *F* score, including *True/False* and Likert-type items with *Never, Sometimes, Often,* or *Almost Always* response options, where one counts the number of omitted shaded boxes for these specific items. *F* scores falling in the 0-3 range were considered "Acceptable", 4-6 were "Caution", and 7-15 "Extreme Caution"; scores appearing in the last two categories were evaluated individually to determine if the responses were valid. (Reynolds & Kamphaus, 2004).

The *V* index includes nonsensical items, such as "I have just returned from a 9-month trip on a ocean liner", "I sleep with my schoolbooks", "I have not seen a car in at least 6 months", and "I take a plane trip from New York to Tokyo at least twice a week." These may have been marked because of confusion or carelessness in understanding the questions, or a failure to cooperate in the assessment process. There were four Likert-type items with *Never, Sometimes, Often,* or *Almost Always* response options reviewed in the calculation of the *V* score. Additional shaded box responses were tabulated here for the final score. *V* scores falling in the 0-3 range were "Acceptable", 4 was "Caution", and 5-10 were "Extreme Caution". Scores in the last two ranges were typical of an uncooperative participant (Reynolds & Kamphaus, 2004).

The final validity index was the *L* index, which detected attempts to deny problems by "faking good" (Reynolds & Kamphaus, 2004, p. 37). There were 13 items examined in calculating the *L* score, including *True/False* and Likert-type items with *Never, Sometimes, Often,* or *Almost Always* response options such as, "I always do assignments on time", "I always do what my parents expect of me", and "I tell my parents everything." *L* scores falling in the 0-6

range were considered "Acceptable", 7-9 were "Caution", and 10-13 "Extreme Caution". Several things can explain high scores on the L index, a lack of insight into personal behavior, defensiveness or unwillingness to share, or a lack of comprehension of the items. This index can also detect a person's idealized views of himself, where he selects items based on how he wishes others saw him, as opposed to how he actually behaves (Reynolds & Kamphaus, 2004). High scores here may have indicated higher than average scores on the entire SRP.

In terms of the validity of data collected using the BASC-2, Reynolds and Kamphaus (2004) compared scores obtained from the college form of the SRP to scores obtained on other self-report scales, including the *Achenbach System of Empirically Based Assessment* (ASEBA; Achenbach & Rescorla, 2001), the *Brief Symptom Inventory* (BSI; Derogatis, 1993), the *Beck Depression Inventory-II* (BDI-II; Beck Steer, & Brown, 1996), and the *Minnesota Multiphasic Personality Inventory-2* (MMPI-2; Butcher, Graham, Ben-Porath, Tellegen, Dahlstrom, & Kaemmer, 2001), by using Pearson correlation coefficients. Correlations were adequate with *r*'s greater than .40 in all areas, except for that of alcohol abuse; thus, the SRP should not be used alone in evaluating such abuse in college students, but provides adequate assessment of other personal inventories in college students (Reynolds & Kamphaus, 2004; Tan, 2007). Lastly, the ESI from the SRP has successfully been used in other studies to evaluate the emotional well-being of foreign-born students from a non-diagnostic approach, even though the instrument was normed using the general United States population (Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005; Jung, 2000; Jung & Stinnett, 2005; Zhou, Peverly, Xin, Huang, & Wang, 2003).

**Career Aspirations**

In addition to evaluating emotional adjustment, this study further sought to ascertain information on career aspirations. Unfortunately, unlike emotional adjustment, which can be

measured using an instrument with a strong record of valid and reliable results, career aspirations are much more difficult to measure. Some studies have used instruments like the *Revised Occupational Checklist,* but this is more specific to gender roles in relation to career aspirations (Mendez & Crawford, 2002). More often, career aspirations are obtained through open-ended questions that basically ask, "What do you want to be when you grow up?" (Rojewski, 2005, p. 131). For that reason, career aspirations were measured in this study by an open-ended question included in the demographic questionnaire. Specifically, the question asked, "If you were completely free to choose any job in any setting, what job would you most like to have 10 years from now?" without using any specific prompts or job lists for participants to choose from, which is an approach used in many other studies (Arbona & Novy, 1991; Hellenga, Aber, & Rhodes, 2002; Mau & Bikos, 2000; McNulty & Borgen, 1988; Rojewski, 1996). This question allowed for a single career aspiration from each participant. While this approach may seem overly simplistic, other studies have shown career aspirations remain relatively stable over time; thus, even using one question was an adequate mean to evaluate this construct (Mau & Bikos, 2000; Rojewski & Yang, 1997).

To quantify the open-ended responses about desired career, answers were categorized as a continuous variable using four-digit prestige codes from the Socioeconomic Index (SEI; Nakao & Treas, 1992). The four-digit prestige codes range from 17.07 to 97.16, with higher codes reflecting higher-prestige occupations and lower codes less prestigious ones. For example, welder receives a prestige score of 32.31, while aerospace engineer receives one of 93.34. There are 504 detailed occupations and 13 major occupational groupings contained in the SEI. These scores reflect income and educational attainment associated with occupations throughout the workforce. Though this method of coding assigns theoretical prestige to each position, it

provides a continuous variable for career aspirations that allows data analysis and considers the assumptions of students on the value of their desired future occupation (Lee & Rojewski, 2009; Rojewski, 2005).

For this study, some occupations were not specifically listed within the SEI, such as housewife and positions within the armed services. Therefore, in order to code these responses, housewife was assigned a score of 34.44, which appears as "personal service occupations, not elsewhere coded", and armed services positions were coded as "supervisors, police and detectives" under protective service occupations with a score of 70.46. These were selected because they represented the highest prestige scores within the different occupational groupings.

A challenge to using this type of approach to gathering data on career aspirations is it can be exceedingly difficult to gather information on reliability and validity of the instrument. Thus, a pilot study used the career aspiration question with eight postsecondary international students at the University of Georgia, without any overlap from the intended sample. The pilot study served two purposes—one, it allowed for testing of the career aspirations question, and two, it gave me an opportunity to become familiar with the coding and recording of responses using the SEI and the BASC-2. There were seven graduate and one undergraduate participant in the pilot study. The average age of participants was 32. The mean score for career aspirations from the pilot study was 77.75 with a standard deviation of 11.25. The mean emotional adjustment score was 50.75 with a standard deviation of 6.96. Of the eight respondents, 62.5% ($n$=5) reported *professor* as their career aspiration. The questionnaire also asked respondents to provide feedback about the clarity of the aspiration question and whether or not it needed to be reworded. No participants indicated they had any confusion in relation to the question or recommended rewording.

The student questionnaire also included questions regarding the degree level, age, major, length of time in the United States, educational and occupational information for both parents, and parental career aspirations. Although these were not the focus of this study, the literature showed these were important factors to consider when evaluating international Chinese students (Chung, 2001; Fuligni & Witkow, 2004; Lee, A., 2007; Leung et al., 2011; Louie, 2004a, 2004b; Park, 2003; Zhou, 2009). Thus, these questions were included to provide additional context for understanding and interpreting results.

## Procedure

In order to access Chinese college students, a 4-year institution, the University of Georgia (UGA), located in Athens, Georgia, was the site for of the survey administration. The survey was administered to active students who responded to the participant solicitation in the first, second, or third round of administration.

In August of 2010, I completed the student questionnaire and submitted it, along with copies of the BASC-2 and flyers to the Institutional Review Board (IRB) at the University of Georgia. At that time, one IRB application was submitted requesting permission to conduct both the pilot study and the first round survey administration with Chinese students. IRB approval was received on September 20, 2010. The pilot study took place on September 23, 2010.  The email from the Office of International Education went out in October and flyers were distributed throughout campus. The first attempt at Chinese survey administration took place on October 21, 2010, however; only four participants completed the survey at that time. The first round of non-Chinese domestic students were surveyed in Education Research in Workforce Education (WFED 9100) on October 14, 2010, and eight students completed the survey.

Based on the recommendations of the Chinese students attending the first administration, IRB amendment paperwork was filed to perform a second survey administration for Chinese students while offering a free pizza dinner as an incentive for students to participate. IRB approval was received on November 12, 2010. Students were notified about the additional survey administration via the Association for Chinese Professionals email list and flyers distributed by the Family and Graduate Housing office on campus. The second survey administration with Chinese students took place on December 5, 2010, and eight additional students completed the survey. The second administration to non-Chinese domestic students took place in Applied Statistical Methods in Education (ERSH 6300) in November 2010; 29 students completed the survey. The final administration of the survey to non-Chinese domestic students was given to 16 students in Research Design (POLS 7010) in December 2010.

Chinese students who attended the second survey administration recommended adding a gift card to the UGA bookstore as an incentive to recruit more participants. Thus, a second IRB amendment was filed for a third survey administration to take place at International Student Life's International Coffee Hour with the option for students to enter a drawing to receive a $50.00 gift card to the UGA bookstore. IRB approval for this amendment was received on January 27, 2011, and the survey administration took place on February 11, 2011. Fifteen Chinese students completed the survey at this time. A table summarizing this time frame is included in Appendix B. Copies of the initial IRB approval and amendment approvals are included in Appendix C.

## Data Analysis

Six independent variables comprising six scales of the Emotional Symptoms Index (ESI; Reynolds & Kamphaus, 2004)—social stress, anxiety, depression, sense of inadequacy, self-

esteem, and self-reliance—were included in the analysis. Each of the six scales were used as distinct continuous independent variables, with individual scores from each scale evaluated separately and collectively. While not manipulated, these variables are independent in that they vary among participants and were evaluated separately to determine their contribution to an explanation of the shared variance on career aspirations, and also collectively, to determine overall emotional adjustment.. The dependent or outcome variable for this study was career aspirations, which was a continuous variable and reflected an individual's career-related ambitions or decisions under perfect circumstances (Rojewski, 2005).

The first research question asked for a description of career aspirations, while the second question asked for a description of emotional adjustment of Chinese students. Statistical analysis was accomplished using descriptive statistics, including mean, standard deviation, and frequencies. The third research question involved using a correlation matrix and multiple linear regression to determine the relationship between career aspirations and scores from the ESI and component subscales for Chinese college students, as well as to determine the ESI components that best predicted career aspirations. Because these questions inquired about a relationship and prediction between a single response variable (career aspirations) and a collection of response variables (emotional adjustment), multiple regression analysis was appropriate (Huberty & Petoskey, 1999).

Regression is a statistical tool to explain whether or not one variable depends on another, in this case, "Do career aspirations depend on a student's emotional adjustment?" A key idea to using multiple regression analysis is seeking relationship and predictive information about a single outcome variable and a collection of criterion variables, where the collection of response

variables makes sense as a construct. In this study, the six different scales composing the ESI formed the construct of emotional adjustment.

One result of multiple regression analysis is a prediction equation for the dependent variable, generally written as $Y = a + bX$, whereby $Y$ represents the dependent variable score, $a$ equals the intercept, $b$ represents the regression coefficient, and $X$ represents the independent variable score. This formula is expanded to $Y = a + b_1X_1 + b_2X_2 + \ldots + b_kX_k$ to accommodate any number of independent variables, $X_1$, $X_2$, and so on (Pedhazur, 1997). The $b$ values are particularly important because they show the weight, or amount of importance, of each independent variable in terms of its contribution in explaining the variance in overall dependent variable scores. The $b$ values are subsequently evaluated for statistical significance by comparing their $p$ values to the set significance level for the study, in this case, $\alpha = .05$. This comparison reveals which of the independent variables are significant predictors of the dependent variable.

In addition to generating a prediction equation and significance values for independent variables, multiple regression analysis also provides a measure of the strength of the relationship between the dependent and independent variables in the form of a multiple correlation coefficient, shown as $R$ or $R^2$. When conducting regression analysis, it is recommended to use the adjusted $R^2$ value ($R^2_{adj}$) to reduce any bias in the $R^2$ value (Huberty & Petoskey, 1999). Based on this value, one can see approximately how much of the variation in career aspirations is shared with the composite of the six components (social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance).

The steps to complete multiple regression analysis were as follows. First, it was important to review the data itself, including evaluating outliers and missing values. An outlier is a data point that either does not follow the same model or prediction equation as the rest of the

data, or a point that has an usually large residual (Evans, 1999; Weisberg, 2005). While not inherently bad, in the case of multiple regression, an outlier can shift the model and unduly influence the $b$ and $R^2_{adj}$ values. Therefore, it was important to be sure one or two records did not overly influencing the model. These can be evaluated in several ways (weighted least squares, significance level testing, Cook's $D$); however, Grubbs (1950) provided the most straightforward evaluation method for outliers, where any records with scores more than three standard deviations from the mean are removed.

Another challenge to the data itself is missing information. Particularly in survey data, participants may inadvertently skip questions or intentionally leave an answer blank while completing other portions of the survey. The easiest approach to such incomplete records is to simply delete missing values from the analysis (listwise deletion) or to fill in the missing values with the mean score for the entire sample of complete records (Baraldi & Enders, 2010). However, when a small sample size is a concern or for other reasons a researcher does not want to simply eliminate records, modern statistical software offers two main options, maximum likelihood and expectation maximization, to impute missing values.

The maximum likelihood approach is an iterative process where multiple values are substituted for the missing values until a value is found that has the best fit into a regression equation based on the complete data set (Peugh & Enders, 2004). The expectation maximization (EM) algorithm (Dempster, Laird, & Rubin, 1977) uses regression prediction to impute missing values based on a prediction equation for that specific value. This estimation places a point specifically on the regression line, missing the added error that would have been seen in an actual response (Peugh & Enders, 2004). So, the algorithm then looks at a correlation matrix, and adds back an estimated error based on the correlations of all of the components. This approach is

further expanded in multiple imputation, which adds another step to EM by creating multiple imputed data sets and averaging the analyses from all sets to reach a final value (Weisberg, 2005). The EM algorithm is specifically recommended for studies employing means and correlations in the analysis (Baraldi & Enders, 2010; Peugh & Enders, 2004).

Once outliers have been removed from the data set and missing values imputed, the next step in multiple regression is to collect information on the dependent variable (career aspirations), as well as each of the scales contributing to the total ESI score. While not directly related to the regression, it is often helpful to see this information for a broader picture of the data. In this study, it was helpful to see the average scores on the ESI and career aspirations to better understand the sample prior to more complex analysis. The first step in determining the nature of this relationship was to calculate individual correlations for each of the subscales of the ESI with each other and then with career aspirations to determine a Pearson correlation matrix for all of the variables. The correlation matrix shows a correlation coefficient, *r*, which is a measure of strength or relationship for each of the independent variables with each other and the dependent variable. The *r* values are subsequently evaluated for statistical significance. This evaluation reveals which of the independent variables have statistically significant relationships with each other and the dependent variable, as well as giving an indication to the magnitude of that relationship (Huberty & Petoskey, 1999).

Once the correlation matrix has been examined, it is important to verify the assumptions of multiple regression before proceeding with the analysis. The first assumption is independence of the vector scores within the correlation matrix. Multiple regression assumes that the independent variables are measured without error.  This assumption is basic to the data itself, so

there is not a good basic statistical test to verify this assumption (Pedhazur, 1997). Therefore, most analyses proceed with a presumption that this assumption is met.

Next, there is an assumption of linearity, which means the mean of the regression has a linear relationship with the independent variables. This assumption can be verified by examining the scatterplot of standardized residuals and unstandardized predicted values. Residuals are the errors calculated as the difference between the sample value and the function value (Pedhazur, 1997). The scatterplot of the residual values and the predicted values gives a graphical representation of exactly how great the differences are between the sample values and predicted values. The goal is for the scatterplot to appear spread out throughout the graph, which indicates that errors are uncorrelated.

The scatterplot of standardized residuals and unstandardized predicted values is further useful for testing the assumption of homoscedacity, or the assumption that the variance of the errors does not change around the independent variables, or that the variance of errors is constant across all levels of $X$, the independent variable (Pedhazur, 1997). Much like the assumption of linearity, homoscedacity is verified by viewing a scatterplot with points spread throughout the graph. If the points on the residual plot are spread out without a specific curve, one can assume the homogeneity condition is satisfied (Huberty & Petosky, 1999). If it appears linearity and homoscedacity are violated, the variables can be transformed, such as taking the natural log of all values, and the assumptions retested.

Finally, there is an assumption of multivariate normality, meaning that errors are independent and normally distributed, which can be determined by examining a normal probability plot and statistical tests within analysis software. The QQ Plot compares a sample of data on the vertical axis and a statistical population on the horizontal axis. In the case where the

errors are normally distributed, this curve appears linear. Two statistical tests can also help determine whether or not the assumption of normality is violated. The Kolmogorov-Smirnov and the Shapiro-Wilk tests for normality provide *p* values testing the null hypothesis that the residuals are normally distributed. If *p* values are obtained that are higher than the alpha level for the study, then this is considered enough evidence to support the conclusion that errors are independent and normally distributed. Significance levels falling below the indicated alpha would suggest rejection of the null and a determination that the assumption of normality has been violated (Weisberg, 2005).

Once these assumptions have been verified, it is safe to proceed with the main regression analysis. Thus, it is appropriate to examine the overall regression analysis for the $R^2_{adj}$ value to measure the strength of the relationship between the dependent and independent variables, and to also evaluate the *b* values for statistical significance. Table 3 summarizes the research questions and appropriate analysis.

Table 3

*Data Analyses for Research Questions*

| Research Questions | Independent variable | Dependent variable | Data analysis |
|---|---|---|---|
| 1. What are the career aspirations of Chinese college students? | | Career aspirations | Means, standard deviations, frequencies |
| 2. What is the emotional adjustment of Chinese college students? | | Emotional adjustment | Means, standard deviations, frequencies |
| 3. What is the best set of emotional adjustment variables to explain career aspirations of Chinese and domestic graduate students? | Social stress, Anxiety, Depression, Sense of inadequacy, Self-esteem, Self-reliance | Career aspirations | Pearson correlation matrix, multiple regression |

CHAPTER IV

ANALYSIS OF DATA AND RESULTS

This chapter presents results regarding the career aspirations and emotional adjustment of international Chinese and non-Chinese domestic graduate college students. The purpose statement is restated and followed by demographics of the sample and results from analysis of data gathered to answer the research questions.

**Purpose of the Study**

The purpose of this comparative survey study was to determine the relationship between career aspirations and emotional adjustment of Chinese immigrant college students and non-Chinese domestic college students. A Chinese immigrant or non-Chinese domestic college student was an individual enrolled for a minimum of three graduate credit hours at the University of Georgia (UGA) during the 2010-2011 academic year. The Emotional Symptoms Index of the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 2004) measured emotional adjustment, which included measures of social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance. The dependent variable, career aspirations, referred to an individual's career-related ambitions or decisions under ideal conditions (Rojewski, 2005).

**Demographic Information**

The two questionnaires used for this study were administered to both Chinese and non-Chinese college students enrolled in graduate degree programs at UGA. Participants completed the questionnaires in six different administrations from October 2010 to February 2011. The final sample size of Chinese students was $n=24$ and non-Chinese students was $n=46$, for a total of 70

participants once questionnaires containing incomplete responses, extraneous international student responses, and outliers were removed.

The gender distribution of participants from both Chinese and domestic student groups were similar, with each group of students including half males and half females, even though this is not representative of UGA as a whole. This difference may be a result of the sampling strategy employed for this study. However, there was more variation between the groups in terms of age, department of study, and time at UGA. The average age for Chinese students participating in the study was 25.4 years (SD=3.79), and over one-third ($n$=9) were students within the College of Arts and Sciences. Further, 67 percent ($n$=16) of participants had been in the United States for less than one year. All Chinese students participating in the survey, except for one, had been studying at UGA for less than three years.

Of the non-Chinese domestic students who completed surveys, the combined average age was 28.74 (SD=7.48), indicating a slightly older group than the Chinese students. In terms of department of study, domestic students were more homogenous than the Chinese students. Domestic students who participated in the study were mainly students within the College of Education and the School of Public and International Affairs ($n$=44), a result of the sampling strategy for that group. This group had also been studying at UGA longer than the Chinese students. This information is expanded and summarized in Table 4.

Table 4

*Demographic Information by Group*

| Characteristic | Chinese (*n*=24) | | American (*n*=46) | | UGA (*n*=8,705) | |
|---|---|---|---|---|---|---|
| | *n* | *%* | *n* | *%* | *n* | *%* |
| Gender | | | | | | |
|    Male | 12 | 50.0 | 23 | 50.0 | 3,616 | 41.5 |
|    Female | 12 | 50.0 | 23 | 50.0 | 5,089 | 58.5 |
| College/School | | | | | | |
|    Education | 2 | 8.3 | 28 | 60.9 | 2,255 | 25.9 |
|    Pharmacy | 2 | 8.3 | 0 | 0.0 | 609 | 7.0 |
|    Public & International Affairs | 2 | 8.3 | 16 | 34.8 | 297 | 3.4 |
|    Arts & Sciences | 9 | 37.5 | 2 | 4.3 | 1,787 | 20.5 |
|    Agriculture & Environmental Science | 3 | 12.5 | 0 | 0.0 | 449 | 5.2 |
|    Family & Consumer Sciences | 1 | 4.2 | 0 | 0.0 | 154 | 1.8 |
|    Journalism & Mass Communication | 3 | 12.5 | 0 | 0.0 | 113 | 1.3 |
|    Law | 1 | 4.2 | 0 | 0.0 | 724 | 8.3 |
|    Veterinary Medicine | 1 | 4.2 | 0 | 0.0 | 151 | 1.7 |
|    Other | 0 | 0.0 | 0 | 0.0 | 2,166 | 24.9 |
| Time in United States | | | | | | |
|    Less than 1 year | 16 | 66.7 | - | - | - | - |
|    Greater than 1 year but less than 3 years | 5 | 20.8 | - | - | - | - |
|    More than 3 years | 3 | 12.5 | - | - | - | - |
| Time at UGA | | | | | | |
|    Less than 1 year | 17 | 70.8 | 17 | 37.0 | - | - |
|    Greater than 1 year but less than 3 years | 6 | 25.0 | 5 | 10.8 | - | - |
|    More than 3 years | 1 | 4.2 | 24 | 52.2 | - | - |

     The demographic questionnaire for this study also included supplemental questions regarding family background and expected job outcomes. While not directly related to the research questions, this data does provide some context to better understand the sample and ultimate results. Parents' occupational level, students' expected job, and parents' career aspirations for each student were all coded using the Socioeconomic Index (SEI; Nakao & Treas, 1992). Table 5 provides an overview of this information.

Table 5

*Supplemental Demographic Information by Group*

| Characteristic | Chinese (*n*=24 ) | | American (*n*=46) | |
|---|---|---|---|---|
| | *n* | *%* | *n* | *%* |
| Parents' Educational Level | | | | |
| Mother | | | | |
| Did not finish high school | 4 | 16.7 | 1 | 2.2 |
| High school graduate | 9 | 37.5 | 8 | 17.4 |
| Completed some college | 4 | 16.7 | 10 | 21.7 |
| 2-year college graduate | 1 | 4.2 | 3 | 6.5 |
| 4-year college graduate | 5 | 20.7 | 12 | 26.1 |
| Graduate/professional degree | 0 | 0.0 | 12 | 26.1 |
| Not sure | 1 | 4.2 | 0 | 0.0 |
| Father | | | | |
| Did not finish high school | 2 | 8.3 | 1 | 2.2 |
| High school graduate | 5 | 20.7 | 4 | 8.7 |
| Completed some college | 6 | 25.0 | 9 | 19.6 |
| 2-year college graduate | 3 | 12.5 | 4 | 8.7 |
| 4-year college graduate | 7 | 29.2 | 14 | 30.4 |
| Graduate/professional degree | 1 | 4.2 | 12 | 26.1 |
| Not sure | 0 | 0.0 | 2 | 4.3 |
| Students' Expected Country of Job Obtainment | | | | |
| The United States of America | 4 | 16.7 | 45 | 97.8 |
| China | 3 | 12.5 | 1 | 2.2 |
| Both the U.S. and China | 17 | 70.8 | 0 | 0.0 |
| Neither the U.S. or China | 0 | 0.0 | 0 | 0.0 |
| | *M* | SD | *M* | SD |
| Parents' Occupational Level | | | | |
| Mother[a] | 56.86 | 21.4 | 53.90 | 18.4 |
| Father[b] | 65.62 | 19.3 | 55.61 | 19.8 |
| Students' Expected Job[c] | 78.72 | 10.8 | 80.36 | 7.7 |
| Parents' Career Aspiration for Student[d] | 78.77 | 12.8 | 77.62 | 14.0 |

[a]Chinese students had two missing values; American students had four missing values. [b]Chinese students had three missing values; American students had four missing values. [c]American students had three missing values. [d]Chinese students had six missing values; American students had four missing values.

## Analysis of Research Questions

Descriptive and inferential statistics were used to evaluate each research question, using

the Statistical Package for the Social Sciences (SPSS) release 19.0. Initial review of the data

revealed one outlier in the Chinese student group based on the maximum normed residual test (Grubbs, 1950), which is designed to evaluate and detect outliers based on criteria of having values three or more standard deviations from variable mean scores. Analyses were conducted with that case record removed. Further, two Chinese students and two domestic students did not respond to the career aspiration question. Therefore, those missing values were imputed using the expectation maximization algorithm discussed in Chapter 3 (Baraldi & Enders, 2010; Peugh & Enders, 2004). Results for each question are presented below.

**Research Question One**

The first question of this study asked, "What are the career aspirations of immigrant Chinese students?" Career aspirations were obtained via an open-ended survey question where responses were subsequently coded using prestige codes from the Socioeconomic Index (SEI; Nakao & Treas, 1992). The SEI includes 13 different occupational groups that are further broken down into 504 separate occupations. The four-digit prestige codes range from 17.07 (shoe machine operator) to 97.16 (physician), with higher codes reflecting higher-prestige occupations and lower codes less prestigious ones. Prestige scores for Chinese students in this study ranged from 34.44 (housewife) to 97.16 (physician), while domestic students ranged from 34.44 (housewife) to 87.49 (biological science teacher). In order to better understand and logically interpret the data, a range of scores were divided into low, medium, and high prestige occupations by grouping codes into three sections. Low prestige occupations included scores ranging from 17.07 (shoe machine operator) to 43.77 (sheet metal worker, apprentice); scores from 43.78 (production tester) to 70.47 (supervisor, police and detectives) were described as medium prestige occupations; and, high prestige occupations had scores ranging from 70.48 (librarian) to 97.16 (physician) (Domenico, 2005).

For Chinese students, only one student (4.5%) indicated a low-prestige score, five students (22.8%) specified medium-prestige occupations, and 16 student (72.7%) selected high-prestige occupations. Domestic students had similar results. Three (6.8%) indicated low-prestige occupations, four students (9.0%) indicated medium-prestige occupations, and 37 students (84.2%) selected high-prestige occupations. The most common response across both groups was *professor*, which has a prestige score of 86.98 when a specific field is not clearly listed. The Chinese student group had a mean occupational prestige score of 78.76 (SD=14.08), while the domestic student group reported a mean occupational prestige score of 77.62 (SD=13.69).

Another part of this question was to determine whether the career aspirations of Chinese students were statistically different from career aspirations of domestic students. This was tested using an independent samples t-test for group mean difference. Results showed no statistically significant difference between Chinese and domestic students' career aspirations, $t_{(68)}$ = .329, *p* =.743, *p* = .05.

**Research Question Two**

The second research question asked, "What is the emotional adjustment of Chinese college students?" Emotional adjustment scores were obtained by calculating a score for the Emotional Symptoms Index (ESI) within the Self-Report of Personality from the *Behavior Assessment System for Children*, 2nd edition (Reynolds & Kamphaus, 2004). The ESI is composed of the summative scores from six different scales including, social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance. Scores range from 22 to 100 for each scale. Chinese students reported an average ESI score of 47.5 (SD=6.3), while domestic students reported an average score of 45.9 (SD=6.8). Scores that fall between 41 and 59 are considered average within the general population. Subscale scores were similar for both groups,

though domestic students had a slightly higher mean on the anxiety scale, which had the highest reported scores for both groups. Table 6 summarizes average scores and standard deviations for Chinese and American students on the ESI and associated subscales.

Table 6

*ESI and Component Scores by Group*

| Scale | Chinese (*n*=24 ) | | American (*n*=46) | |
|---|---|---|---|---|
| | *M* | SD | *M* | SD |
| Emotional Symptoms Index | 47.5 | 6.3 | 45.9 | 6.8 |
| Social stress | 46.7 | 8.0 | 47.8 | 8.9 |
| Anxiety | 49.7 | 9.2 | 51.2 | 9.4 |
| Depression | 47.5 | 4.1 | 46.0 | 4.8 |
| Sense of inadequacy | 45.1 | 5.8 | 42.6 | 6.7 |
| Self-esteem | 49.5 | 6.8 | 47.0 | 6.6 |
| Self-reliance | 49.4 | 8.2 | 46.2 | 7.8 |

The final aspect of the second research question was to determine if a statistically significant difference existed between Chinese and domestic students' emotional adjustment as measured by the ESI. This was determined by using an independent samples *t*-test for group means. On this variable, there was not a statistically significant difference between Chinese and domestic students' emotional adjustment, $t_{(68)} = .951$, $p = .345$, $p = .05$. Statistically significant differences also did not appear in independent samples *t*-tests for each of the ESI component scores between Chinese and domestic students.

**Research Question Three**

The third research question involved using a Pearson correlation matrix and multiple linear regression to determine the relationship between career aspirations and scores from the ESI and component subscales for Chinese college students, as well as to determine which of the ESI components best explained the variance of career aspirations. To best answer this question, the analysis was run in two different ways. Initially, because results of the first two analyses

indicated no group differences between Chinese and domestic students, all students were grouped together for the regression analysis; however, further reflection deemed separate analyses for each group necessary as well. Therefore, a combined analysis is initially presented, followed by the results of individual regression analyses for each group of students.

The first step in determining the nature of this relationship was to calculate individual correlations for each of the subscales of the ESI with each other and then with career aspirations. As expected, statistically significant relationships were present for most emotional adjustment subscales with each other. However, there were no significant relationships found between each of these variables and career aspirations, though social stress had the highest correlation with career aspirations, $r = .215$. Results are displayed in Table 7.

Table 7

*Component Correlation Matrix for Combined Groups*

| | Social stress | Anxiety | Depression | Sense of inadequacy | Self-esteem | Self-reliance |
|---|---|---|---|---|---|---|
| Social stress | | | | | | |
| Anxiety | .560** | | | | | |
| Depression | .626** | .438** | | | | |
| Sense of inadequacy | .497** | .462** | .440** | | | |
| Self-esteem | .561** | .501** | .378** | .554** | | |
| Self-reliance | .208 | .115 | .335** | .527** | .483** | |
| Career aspiration | .215 | -.084 | .093 | -.058 | .075 | -.025 |

** Correlation is significant at the 0.01 level (2-tailed).

In order to proceed with the regression analysis, it was important to verify the different assumptions of regression. The first assumption was the independence of the vector scores within the matrix. However, there is not a basic statistical test to confirm this. There are some more complex evaluation methods that will test for this, such as structural equation modeling, but those methods are beyond the scope of this study. Therefore, for this study the independence

condition was assumed met. Next, I examined the assumption that the mean of the regression had

a linear relationship with the independent variables (i.e., linearity). This assumption can be

verified by examining the scatterplot of standardized residuals and unstandardized predicted

values. The goal is for the scatterplot to appear spread out throughout the graph. The scatter plot

for this data was largely spread throughout the graph with a cluster of points in the center.

However, it was not concentrated enough to indicate that this assumption was violated.

Therefore, I concluded that the assumption of linearity was met. This plot is shown in Figure 2
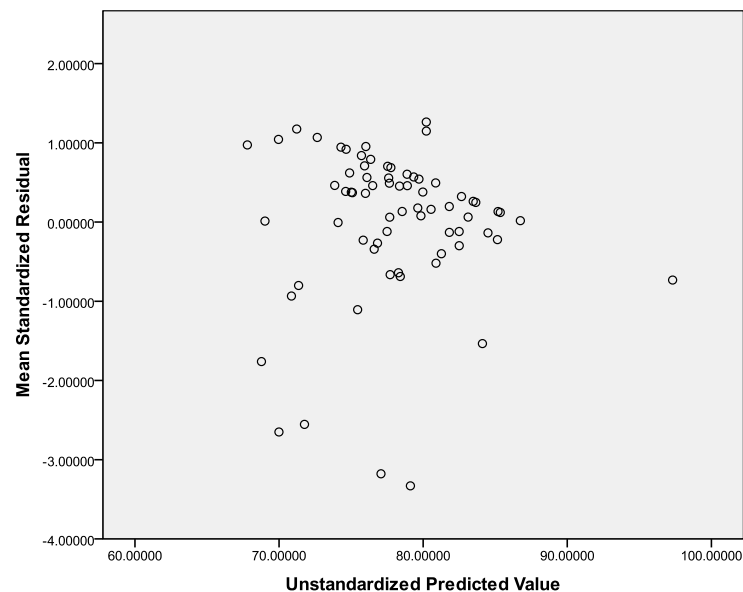
below.



*Figure 2.* Scatterplot of standardized residuals and unstandardized predicted values to verify
linearity and homoscedacity.

The scatterplot of the standardized residuals and unstandardized predicted values was

further useful for testing the assumption of homoscedacity, or the assumption that the variance of

the errors does not change around the independent variables. Because this plot is spread out

within the graph, I determined that this assumption was met. To confirm that the assumption that

the mean of the errors (residuals) equaled zero, I examined descriptive statistics, which indeed

showed the mean of the standardized residuals equaled zero.

The final assumption I examined was that of multivariate normality, meaning that errors

are independent and normally distributed, which was determined by examining a normal

probability plot. The best way to verify this is by examining the QQ Plot and the tests for

normality in SPSS.  The QQ Plot compares a sample of data on the vertical axis and a statistical

population on the horizontal axis. In the case where the errors are normally distributed, this curve

appears linear. The actual QQ Plot for this data showed that the assumption of normality is

violated because the points do not appear in a linear fashion. The QQ Plot for this data set is
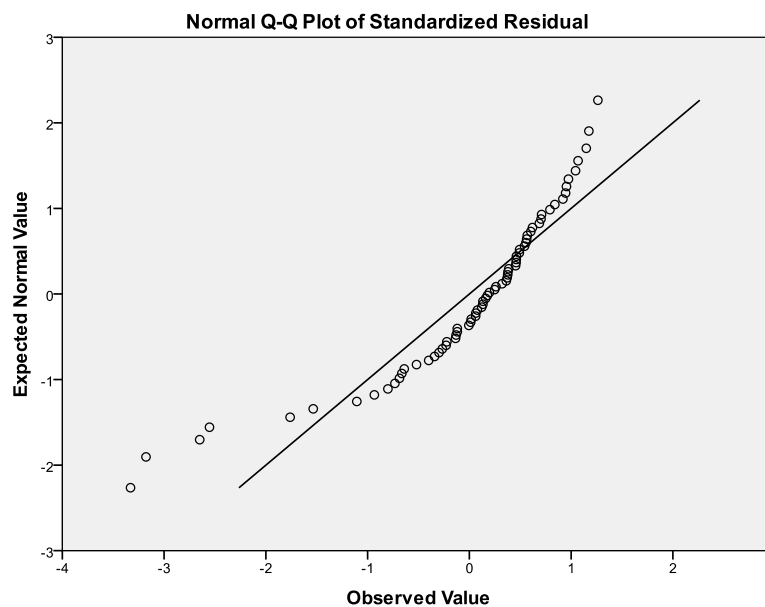
shown in Figure 3 below.



*Figure 3*. QQ Plot of sample data and statistical population to verify normal distribution of errors. In this case, the points are nonlinear; indicating the assumption of normality is violated.

Two statistical tests can also help determine whether or not the assumption of normality

is violated. For this analysis, the Kolmogorov-Smirnov and the Shapiro-Wilk significance levels

were .000 and .000 respectively, $\alpha = .05$, both significant values to suggest we should reject the

null hypothesis that the residuals are normally distributed. Previous research has shown when this assumption is violated, *t* tests and *F* tests are not particularly affected; however, confidence intervals and significance testing values may be too broad or too narrow depending on the nature of the normality violation. Normality is also not necessarily required for accurate regression parameters and estimations of variance (Rawlings, Pantula, & Dickey, 1998; Zimmerman, 1998). While there are further options for handling non-normality, such as transforming the data using natural logs, given the previous findings non-normality is not entirely detrimental to regression output, the analysis was conducted with an understanding that an assumption of normality was violated.

When the regression model was run including all of the variables, $R^2 = .129$ and $R^2_{adj} = .046$, indicating there was a minimal relationship between emotional adjustment components and career aspirations. Additionally, the omnibus test of all independent variables was not significant where $F_{(6, 63)} = 1.548$, $p = .177$ with $\alpha = .05$. However, these results do not show whether or not any of the emotional adjustment components are strong predictors of career aspirations. This was determined by examining the significance values of each variable ($b_1$, $b_2$, . . . . $b_6$) compared to $\alpha = .05$ for the hypotheses:

$H_0$: $b_1 = b_2 = b_3 = b_4 = b_5 = b_6 = 0$

$H_A$: $b_1 \neq 0$, or $b_2 \neq 0$, or $b_3 \neq 0$, or $b_4 \neq 0$, or $b_5 \neq 0$, or $b_6 \neq 0$

By comparing the *p*-values for the independent variables, all components with the exception of social stress ($p = .032$) were nonsignificant predictors of career aspirations. Therefore, the analysis revealed a minimal relationship between emotional adjustment and career aspirations for Chinese and domestic graduate students, but did show social stress as a statistically significant

predictor of career aspirations. Table 8 summarizes the significance values for each of the

emotional adjustment components as predictors of career aspirations.

Table 8

*Regression Statistics for Combined Groups*

| Variable | $B$ | $SE\ B$ | $\beta$ | $R^2$ | $R^2_{adj}$ | $p$ value |
|---|---|---|---|---|---|---|
| All students | | | | .129 | .046 | |
| Social stress | .638 | .291 | .397 | | | .037 |
| Anxiety | -.418 | .231 | -.283 | | | .244 |
| Depression | .050 | .476 | .017 | | | .222 |
| Sense of inadequacy | -.349 | .351 | -.164 | | | .318 |
| Self-esteem | .201 | .349 | .098 | | | .268 |
| Self-reliance | -.071 | .267 | -.042 | | | .418 |

After initial analysis of all students combined, a secondary analysis was conducted for

each student group separately. Results are presented below for a regression analysis of both

Chinese and American student groups. The first step in determining the nature of this

relationship was to calculate individual correlations for each of the subscales of the ESI with

each other and then with career aspirations for both groups of students. As expected, statistically

significant relationships were present for most emotional adjustment subscales with each other.

However, there were no significant relationships found between each of these variables and

career aspirations, though depression had the highest correlation with career aspirations, $r = .241$

for Chinese students, and social stress had the highest correlation with career aspirations, $r =$

.251 for domestic students. Results are displayed in Tables 9 and 10.

Table 9

*Component Correlation Matrix – Chinese Students*

|  | Social stress | Anxiety | Depression | Sense of inadequacy | Self-esteem | Self-reliance |
|---|---|---|---|---|---|---|
| Social stress |  |  |  |  |  |  |
| Anxiety | .701** |  |  |  |  |  |
| Depression | .649** | .650** |  |  |  |  |
| Sense of inadequacy | .429* | .399 | .361 |  |  |  |
| Self-esteem | .623** | .447* | .324 | .585** |  |  |
| Self-reliance | .133 | .094 | .145 | .374 | .473* |  |
| Career aspiration | .149 | -.070 | .241 | .123 | .162 | .236 |

\* Correlation is significant at the 0.05 level (2-tailed). \*\* Correlation is significant at the 0.01 level (2-tailed).

Table 10

*Component Correlation Matrix – American Students*

|  | Social stress | Anxiety | Depression | Sense of inadequacy | Self-esteem | Self-reliance |
|---|---|---|---|---|---|---|
| Social stress |  |  |  |  |  |  |
| Anxiety | .493** |  |  |  |  |  |
| Depression | .644** | .376** |  |  |  |  |
| Sense of inadequacy | .554** | .526** | .447** |  |  |  |
| Self-esteem | .564** | .564** | .380** | .520** |  |  |
| Self-reliance | .269 | .153 | .395** | .576** | .460** |  |
| Career aspiration | .251 | -.087 | .019 | -.154 | .019 | -.182 |

\*\* Correlation is significant at the 0.01 level (2-tailed).

In order to proceed with the regression analysis, it was important to again verify the different assumptions of regression. The first assumption was the independence of the vector scores within the matrix. However, as previously mentioned, there is not a basic statistical test to confirm this. Therefore, for this study the independence condition was assumed met for both groups. Next, I examined the assumption that the mean of the regression has a linear relationship with independent variables (i.e., linearity). This assumption can be verified by examining the scatterplot of standardized residuals and unstandardized predicted values. The goal is for the

scatterplot to appear spread out throughout the graph. The scatter plot for the data for both

groups was largely spread throughout the graph. Therefore, I concluded that the assumption of

linearity was met. Plots for both groups are shown in Figures 4 and 5 below.
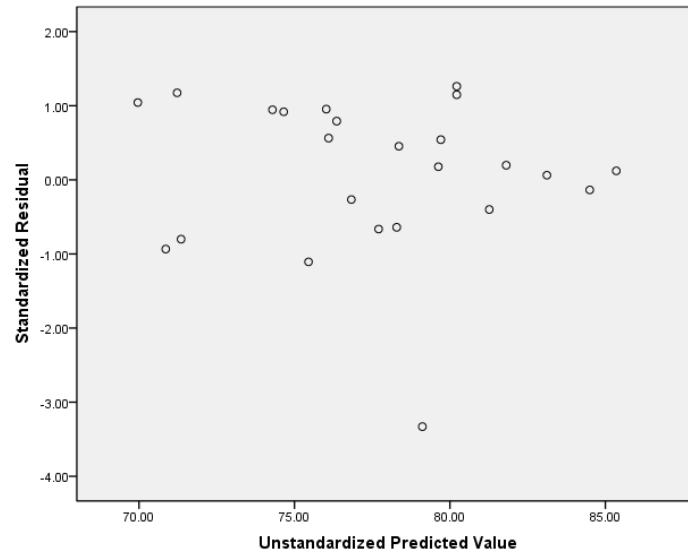


*Figure 4.* Scatterplot of standardized residuals and unstandardized predicted values to verify
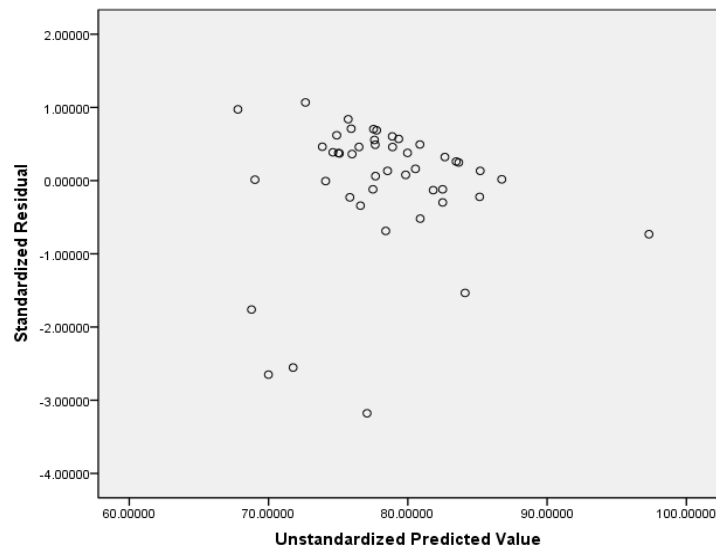linearity and homoscedacity for Chinese student group.



*Figure 5.* Scatterplot of standardized residuals and unstandardized predicted values to verify
linearity and homoscedacity for American student group.

The scatterplot of the standardized residuals and unstandardized predicted values was further useful for testing the assumption of homoscedacity, or the assumption that the variance of the errors does not change around the independent variables for both Chinese and domestic students. Because both plots were spread out within the graph without a specific curve, I determined that this assumption was met for both groups. To confirm that the assumption that the mean of the errors (residuals) equaled zero, I examined descriptive statistics, which indeed showed the mean of the standardized residuals equaled zero.

The final assumption I examined was that of multivariate normality, meaning that errors are independent and normally distributed, which was determined by examining a normal probability plot. The best way to verify this is by examining the QQ Plot and the tests for normality in SPSS.  The QQ Plot compares a sample of data on the vertical axis and a statistical population on the horizontal axis. In the case where the errors are normally distributed, this curve appears linear. The actual QQ Plot for both sets of data showed that the assumption of normality is violated because the points do not appear in a linear fashion. The QQ Plots for each group are shown in Figures 6 and 7 below.
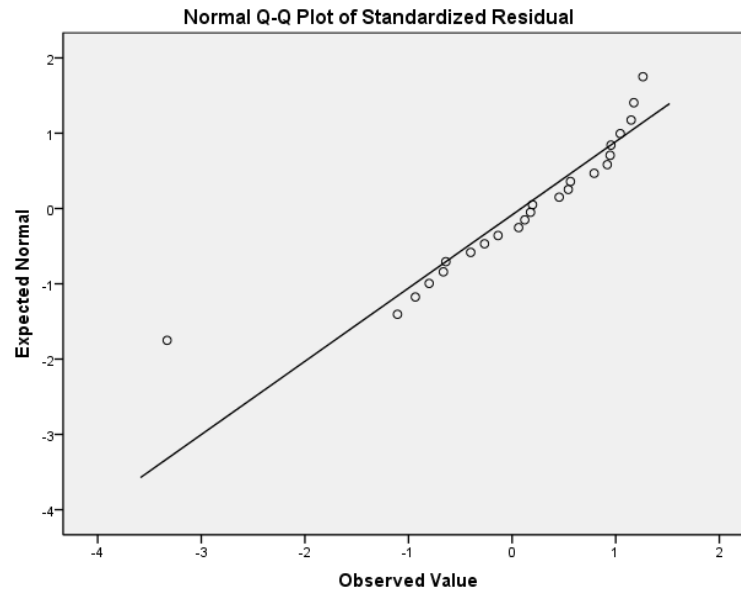
*Figure 6.* QQ Plot of sample data and statistical population to verify normal distribution of errors. In this case, the points are nonlinear; indicating the assumption of normality is violated for Chinese students.



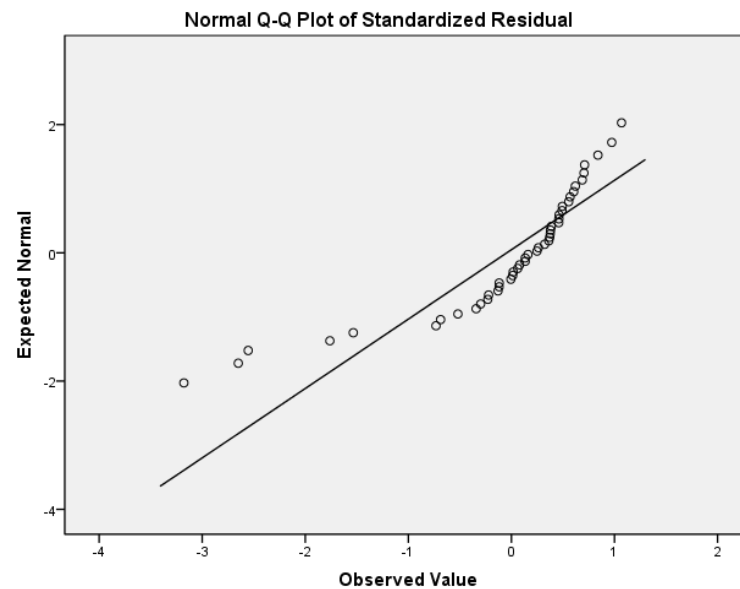*Figure 7.* QQ Plot of sample data and statistical population to verify normal distribution of errors. In this case, the points are nonlinear; indicating the assumption of normality is violated for American students as well.

Two statistical tests can also help determine whether or not the assumption of normality

is violated. For the analysis of Chinese students, the Kolmogorov-Smirnov and the Shapiro-Wilk

significance levels were .200 and .004 respectively, $\alpha$ = .05; split significant values to suggest

we should reject the null hypothesis that the residuals are normally distributed. While these tests

varied in their conclusions, given the QQ Plot also showed normality was violated for the

Chinese students, there is enough evidence to suggest that normality is indeed violated for the

Chinese student group. For the analysis of domestic students, the Kolmogorov-Smirnov and the

Shapiro-Wilk significance levels were .000 and .000 respectively, $\alpha$ = .05, both significant

values to suggest we should reject the null hypothesis that the residuals are normally distributed.

Again, previous research has shown when this assumption is violated, $t$ tests and $F$ tests

are not particularly affected; however, confidence intervals and significance testing values may

be too broad or too narrow depending on the nature of the normality violation. Normality is also

not necessarily required for accurate regression parameters and estimations of variance

(Rawlings, Pantula, & Dickey, 1998; Zimmerman, 1998). Therefore, the regression analysis for

both groups was conducted with an understanding that an assumption of normality was violated

without using data transformation procedures.

When the regression model was run including all of the variables for Chinese students, $R^2$

= .210 and $R^2_{adj}$ = -.068, indicating there was a minimal relationship between emotional

adjustment components and career aspirations. The negative $R^2_{adj}$ value also indicates the model

included variables that were not helpful in prediction of career outcomes. Additionally, the

omnibus test of all independent variables was not significant where $F_{(6, 17)}$ = .755, $p$ = .614 with

$\alpha$ = .05. However, these results do not show whether or not any of the emotional adjustment

components are strong predictors of career aspirations. This was determined by examining the

significance values of each variable ($b_1$, $b_2$, . . . . $b_6$) compared to $\alpha$ = .05 for the hypotheses:

$H_0$: $b_1 = b_2 = b_3 = b_4 = b_5 = b_6 = 0$

$H_A$:  $b_1 \neq 0$, or $b_2 \neq 0$, or $b_3 \neq 0$, or $b_4 \neq 0$, or $b_5 \neq 0$, or $b_6 \neq 0$

By comparing the *p*-values for the independent variables, all components were nonsignificant predictors of career aspirations for Chinese students.

The regression model for domestic students yielded $R^2 = .228$ and $R^2_{adj} = .109$, further indicating a minimal relationship between emotional adjustment components and career aspirations. The omnibus test of all independent variables was not significant where $F_{(6, 39)} = 1.915$, $p = .1.03$ with $\alpha = .05$. Again, these results do not show whether or not any of the emotional adjustment components are strong predictors of career aspirations. Using the same hypothesis tests with this student group, the *p*-values for the independent variables revealed social stress ($p = .011$) was a statistically significant predictor of career aspirations. Therefore, the analysis revealed a minimal relationship between emotional adjustment and career aspirations for Chinese and domestic graduate students, but did show social stress as a statistically significant predictor of career aspirations for domestic students.

Table 11 summarizes the significance values for each of the emotional adjustment components as predictors of career aspirations for both Chinese and American students.

Table 11

*Regression Statistics by Group*

| Variable | B | SE B | β | $R^2$ | $R^2_{adj}$ | p value |
|---|---|---|---|---|---|---|
| Chinese students | | | | .210 | -.068 | |
| Social stress | .300 | .677 | .171 | | | .663 |
| Anxiety | -.769 | .502 | -.502 | | | .144 |
| Depression | 1.40 | 1.075 | .411 | | | .210 |
| Sense of inadequacy | -.005 | .668 | -.002 | | | .994 |
| Self-esteem | .139 | .726 | .067 | | | .851 |
| Self-reliance | .292 | .444 | .170 | | | .519 |
| American students | | | | .228 | .109 | |
| Social stress | .917 | .344 | .594 | | | .011 |
| Anxiety | -.276 | .285 | -.189 | | | .340 |
| Depression | -.392 | .557 | -.138 | | | .486 |
| Sense of inadequacy | -.565 | .450 | -.274 | | | .217 |
| Self-esteem | .085 | .430 | .041 | | | .845 |
| Self-reliance | -.209 | .351 | -.119 | | | .556 |

CHAPTER V

DISCUSSION

This chapter begins by restating the purpose of the study and research questions. A summary of the study and of its findings is also included. Conclusions from the data analysis, discussion and implications of these findings, and recommendations for further practice and research regarding Chinese college students' career and emotional needs are also discussed.

**Purpose of the Study**

The purpose of this comparative survey study was to determine the relationship between career aspirations and emotional adjustment of Chinese immigrant college students and non-Chinese domestic college students. A Chinese immigrant or non-Chinese domestic college student was an individual enrolled for a minimum of three graduate credit hours at the University of Georgia during the 2010-2011 academic year. The Emotional Symptoms Index of the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 2004) measured emotional adjustment, which included measures of social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance. The dependent variable, career aspirations, referred to an individual's career-related ambitions or decisions under ideal conditions (Rojewski, 2005). This study focused on the following research questions:

1. What are the career aspirations of Chinese college students?

2. What is the emotional adjustment of Chinese college students?

3. What is the best set of emotional adjustment variables to explain career aspirations of Chinese and domestic graduate students?

**Research Design**

A comparative correlational research design, using a group-administered survey, was utilized for this study. Correlational research identifies the relationship between two or more variables from the same sample (Huberty & Petoskey, 1999). Because this study was focused on determining the relationship between career aspirations and emotional adjustment for Chinese and non-Chinese domestic college students, a correlational research design was chosen.

**Population and Sample**

The abstract population for this study was composed of immigrant Chinese and non-Chinese domestic students attending institutions of higher education in the United States. Because of the cost and time challenges associated with contacting all members of the abstract population of international Chinese students and non-Chinese domestic students studying in the United States, a convenience sample of Chinese students and non-Chinese domestic students enrolled at The University of Georgia were surveyed. Using Olejnik's (1984) guidelines, a sample size of 66 participants was needed based on an estimated medium effect size, an alpha level of .05, and statistical power of .70. Twenty-four Chinese college students and 46 non-Chinese domestic students completed surveys, for a total of 70 participants once incomplete responses, extraneous international student responses, and outliers were removed.

**Instrument**

This study required instruments that measured two different variables – emotional adjustment and career aspirations. There was not a single instrument that addressed both these issues; therefore, multiple instruments were used. The *Behavior Assessment System for Children*, 2nd edition (BASC-2; Reynolds & Kamphaus, 2004), was used to measure emotional adjustment. The BASC-2 is comprised of five different measures of behavior, including the

Teacher Rating scale (TRS), Parent Rating scale (PRS), Self-Report of Personality (SRP), Structured Developmental History (SDH), and Student Observation System (SOS). The measures can be used collectively or independently. Only the Self-Report of Personality (SRP) for college-aged students was used because it included a specific form to measure emotional disturbance, which was the interest for this study. The SRP took about 20 to 30 minutes to complete, and included *True/False* and 4-point Likert-type items with *Never, Sometimes, Often,* or *Almost Always* response options. Once completed, the college form yielded four different composite scores: Internalizing Problems, Inattention/Hyperactivity, Personal Adjustment, and the Emotional Symptoms Index (ESI). While all scores were tabulated, only the ESI scores were analyzed. The ESI is composed of the summative scores from six different scales including, social stress, anxiety, depression, sense of inadequacy, self-esteem, and self-reliance. The BASC-2 manual (Reynolds & Kamphaus, 2004) provided reliability estimates for internal consistency and test-retest reliability. Overall, internal consistency coefficients calculated by age range and gender for SRP scores were reported in the middle .90s for the ESI, indicating the coefficient was sufficiently reliable for testing emotional adjustment (Tan, 2007). The SRP included three different indexes to evaluate the validity of individual responses, *F*, *V*, and *L*, each of which identified unlikely response patterns by participants and questionably valid results. None of the participants in this study had scores outside of the normal range on any of these indexes. Cronbach's α values were also calculated to show internal consistency of scores. These values were .809 for all students together, .795 for Chinese students, and .821 for American students. Values greater than .70 are considered acceptable for social science research (Gall, Gall, & Borg, 2007).

In addition to evaluating emotional adjustment, I also examined career aspirations. Career aspirations were measured by an open-ended question included in the demographic questionnaire. Specifically, the question asked, "If you were completely free to choose any job in any setting, what job would you most like to have 10 years from now?" without using any specific prompts or job lists. This question allowed each participant to record a single career aspiration. To quantify the open-ended responses about desired career, answers were categorized as a continuous variable using four-digit prestige codes from the Socioeconomic Index (SEI; Nakao & Treas, 1992). Reliability and validity were addressed for the career aspirations instrument by conducting a pilot study of eight international students who did not overlap with the sample in the main study. The pilot study served two purposes—one, it allowed for testing of the career aspirations question, and two, it provided an opportunity to become familiar with the coding and recording of responses using the SEI and the BASC-2.

The student questionnaire also included questions regarding degree level, age, major, length of time in the United States, educational and occupational information for both parents, and parental career aspirations. Although these were not the focus of this study, the literature showed these were important factors to consider when evaluating international Chinese students (Chung, 2001; Fuligni & Witkow, 2004; Lee, A., 2007; Leung et al., 2011; Louie, 2004a, 2004b; Park, 2003; Zhou, 2009). Thus, these questions were included to provide additional context for understanding and interpreting results.

**Research Procedures**

Permission to conduct this research was granted through the Institutional Review Board (IRB) at The University of Georgia, and data collection began in October of 2010. There were three rounds of data collection for both Chinese and domestic students. Data collection was

completed in February of 2011. Both groups of participants anonymously completed the BASC-2 and demographic questionnaire, which included the career aspirations question. A translator was available for Chinese students during each survey administration to help with any language-based questions, and all participants were reminded if they were uncomfortable or wanted to cease participation, they could at any time.

**Data Analysis**

Descriptive and inferential statistics were used to evaluate each of the research questions. Analyses were completed using the Statistical Package for the Social Sciences (SPSS) release 19.0. Means and standard deviations were tabulated to compare the career aspirations and emotional adjustment between Chinese and domestic students. Multiple regression analysis was also used to determine the relationship between career aspirations and emotional adjustment, as well as to determine which emotional adjustment variables best explain career choice.

**Summary of Findings**

Career aspirations are discussed in the context of prestige scores, which were reported in Chapter 4. The first research question inquired into the career aspirations of Chinese college students. Prestige scores for Chinese students in this study ranged from 34.44 (housewife) to 97.16 (physician), while domestic students ranged from 34.44 (housewife) to 87.49 (biological science teacher). A majority of students from both groups indicated that they aspired to high prestige occupations. The most common response across both groups was *professor*, which has a prestige score of 86.98 when a specific field is not identified. Chinese students had a mean prestige score of 78.76; domestic students reported a mean prestige score of 77.62. An independent samples *t*-test for group mean difference showed no statistically significant difference between Chinese and domestic students' career aspirations.

The second research question asked about the emotional adjustment of Chinese students. Emotional adjustment scores were obtained by calculating a score for the ESI within the Self-Report of Personality form from the BASC-2 (Reynolds & Kamphaus, 2004); possible ESI scores range from 22 to 100. Chinese students reported an average ESI score of 47.5 with a standard deviation of 6.3, while American students reported an average score of 45.9 with a standard deviation of 6.8. Scores falling between 41 and 59 are considered average within the general population. An independent samples *t*-test for group mean difference showed there was no statistically significant difference between Chinese and domestic students' emotional adjustment.

The third research question inquired about the relationship between career aspirations and ESI subscales, as well as questioning which of the ESI components best explained career aspirations. This analysis was calculated two different ways – first, all students were grouped together, and second, Chinese student and domestic student scores were analyzed separately. To determine the nature of the relationship between career aspirations and ESI subscales, individual correlations were calculated for each of the subscales of the ESI with each other and then with career aspirations. Statistically significant relationships were present for almost all of the emotional adjustment subscales with each other in all three analyses, however, there were no significant relationships found between each of these variables and career aspirations. Though, social stress had the highest correlation with career aspirations ($r = .215$) for all students and domestic students ($r = .251$), while depression had the highest correlation ($r = .241$) for Chinese students.

The completed regression model including all of the variables revealed $R^2 = .129$ and $R^2_{adj} = .046$, indicating a minimal relationship between emotional adjustment components and

career aspirations. Additionally, the omnibus test of all independent variables was not statistically significant where $F_{(6, 63)} = 1.548$, $p = .177$ with $\alpha = .05$. Further analysis calculated $p$-values for the independent variables to test their predictive value on career aspirations. All components with the exception of social stress ($p = .032$) were nonsignificant predictors of career aspirations.

The completed regression model for Chinese students including all of the variables revealed $R^2 = .210$ and $R^2_{adj} = -.068$, indicating a minimal relationship between emotional adjustment components and career aspirations. The negative $R^2_{adj}$ value also indicates the model included variables that were not helpful in predicting career outcomes. The omnibus test of all independent variables was not statistically significant where $F_{(6, 17)} = .755$, $p = .614$ with $\alpha = .05$. Calculated $p$-values for the independent variables to test their predictive value on career aspirations showed no ESI components were statistically significant predictors of career aspirations.

The completed regression model for domestic students including all of the variables revealed $R^2 = .228$ and $R^2_{adj} = .109$, still indicating a minimal relationship, but higher than the relationship seen with Chinese students. Additionally, the omnibus test of all independent variables was not statistically significant where $F_{(6, 39)} = 1.915$, $p = .103$ with $\alpha = .05$. Calculated $p$-values for the independent variables revealed social stress ($p = .011$) as a statistically significant predictor of career aspirations.

Therefore, multiple regression analysis for Chinese and domestic students together and separately found a minimal relationship between emotional adjustment and career aspirations for this sample, but did show social stress as a statistically significant predictor of career aspirations for domestic students.

**Conclusions**

Chinese and domestic graduate students both aspire to high prestige occupations, with most students aspiring to be college professors in various subjects. Both groups further demonstrated emotional adjustment scores consistent with scores from the general population. Statistically significant differences did not exist between these groups on either career aspirations or emotional adjustment, rather both groups displayed striking similarities given the divergent backgrounds of the sampled students. A strong relationship was not present between career aspirations and emotional adjustment, though social stress, one of the emotional adjustment subscales, did have a small but statistically significant predictive value on career aspirations for domestic students.

**Discussions and Implications**

There are more Chinese student-scholars than any other group of international students studying in the United States (Institute of International Education [IIE], 2010). Despite large and growing numbers of Chinese students studying in the United States, there are relatively few studies that have focused on their specific educational needs and required support services. In fact, recent studies have shown that Asian students face a unique set of challenges in both school and the workplace (Alba, Rumbaut, & Martoz, 2005; Portes & Zady, 2001; Yan & Berliner, 2009; Zhou, Peverly, Xin, Huang, & Wang, 2003). Zhou et al. (2003) found higher incidence of depression, anxiety, and social stress in Chinese students with few outlets for emotional and academic support. Additional studies also reveal that Chinese students experience increased psychological distress with higher incidence levels of depression and anxiety (Yan & Berliner, 2009; Yeh, Ching, Okubo, & Luthar, 2007).

Therefore, it is surprising that Chinese students in this study did not demonstrate any emotional adjustment group differences when compared to domestic students. This lack of difference may be attributed to the fact that all students were graduate students with similar career goals, and that, as a result, any differences were mitigated. For example, undergraduate or high school students may exhibit emotional adjustment differences simply due to immaturity that graduate students have already learned how to overcome or cope with through additional life experience (Luzzo, 2000). Or possibly, as Hsu (2010, p. 422) reported, Chinese who make the decision to immigrate and attend school in the United States may be more "extroverted and open to experience" that those students who choose to pursue graduate study within China.

A few studies did find similar outcomes that the graduate school experience can transcend other factors influencing students, such as socioeconomic and immigrant status. Moss (2005) found socioeconomic status and cultural capital were not statistically significant predictors of graduate student achievement. Further, Fuligni and Witkow (2004) found immigrant students performed as well as American-born students in post-secondary settings regardless of type of degree pursued or grade point average, with East Asian students having the most positive academic achievement. In any event, it appears that the select groups of Chinese and American students in this study were more alike than different on the factors examined, and for graduate students, educational similarities appear to outweigh cultural differences.

The lack of difference is also interesting given that a majority of Chinese students in this study (66.7%, $n = 16$) had been in the United States and at this specific university less than one year. Acculturation studies have revealed that the first year is often the most difficult for an immigrant adjusting to a new country and culture (Lo, 2010; Tong, 2010; Tsai, Ying, & Lee, 2000). Language barriers and difficulties finding a strong friendship community are further

challenges to the early immigrant experience (Chae & Foley, 2010; Hsu, 2010; Zhang, Mandl, & Wang, 2010), plus the hardship of being away from family and friends. The challenges associated with the immigrant experience would subsequently lead to the conclusion that members of this group would have shown heightened emotional issues simply given the nature of their current life stage and limited time living in the United States.

It is important to note, however, that the lack of observable difference may have been attributed to the low Chinese sample size and the sampling strategy. Because most of the participants were contacted personally, the sample may have neglected to include Chinese students who were more socially isolated, thus skewing the results to represent only the more outgoing, well-adjusted students (i.e. a Chinese student having a more difficult time adjusting would not be as likely to attend an open survey call, dinner, or coffee hour). Another possible explanation for Chinese responses are positive outreach programs sponsored by UGA that help students make the transition to studying in the United States. For example, there are six different student organizations specifically dedicated to the needs of Chinese students while on campus at UGA, not to mention the other services available to all international students through the Office of International Education and International Student Life, such as socials, information sessions, and trips. However, because the Chinese students did not demonstrate any problems and inquiries to students' specific experiences were not a part of this study, it certainly makes a compelling case for future qualitative research to provide in-depth study of the experiences these students have while studying in the United States.

In terms of career aspirations, the literature is fairly consistent in noting little research has been conducted on the career development needs of minorities and Asians in particular (Chang, Chen, Greenberger, Dooley, & Heckhausen, 2006; Flores et al., 2006; Leung, Ivey, & Suzuki,

1994). The studies that have been conducted with students across race/ethnicity typically find that self-efficacy and parental expectations play the largest role in shaping aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Chung, 2002; Fuligni & Witkow, 2004; Kaplan, Liu, & Kaplan, 2001; Louie, 2004a, 2004b). Further, Liu (2009) reported acculturation was a statistically significant predictor of career self-efficacy for international graduate students. Self-efficacy refers to individual appraisals of capabilities to take action and succeed towards a specific goal, and it is a dynamic attribute that is always changing (Lent, 2005; Lent, Brown, & Hackett, 1994). This construct relates to the idea of emotional adjustment, as emotional well-being is likely to influence individual perceptions of their ability to work towards and achieve personal goals.

Subsequently, given the results of other studies, I expected to find some relationship between career aspirations and emotional adjustment. The regression model found a minimal relationship between these variables, showing that the aspects of emotional adjustment account for roughly 10 percent of career aspirations for domestic students and do not account for career aspirations of Chinese students. This opens many more questions about what does significantly contribute to how these students make career decisions. For example, what is the role of parents in career decision-making, particularly for Chinese students? If parents were giving students' career aspirations, then career aspirations could lead to emotional adjustment issues, ultimately making emotional adjustment dependent on career aspirations –the inverse of how these variables were explored in this study.

The supplemental information collected on the demographic questionnaire showed Chinese students' parents had higher average occupational levels than American students, but American students' parents had higher educational attainment. Therefore, it is difficult to know

exactly how much influence parents were exerting in students' decisions because parental relationships were not significantly explored in this study. This lack of information could cloud results given parent/child relationships were such strong career predictors in other studies (Chung, 2002; Fuligni & Witkow, 2004; Kaplan, Liu, & Kaplan, 2001; Louie, 2004a, 2004b). Also, these results confirm little about the group of students itself, whereby the entire population of this study acts perhaps as an outlier because of the homogenous nature of graduate students. Thus, while career development theories such as Social Cognitive Career Theory (Lent, Brown, & Hackett, 1994) and Self-Concept Developmental Theory (Super, 1990) suggest culture and emotional well-being should play a significant role in career decision-making, this study shows educational similarities of graduate students overshadow the influence of cultural and psychological differences.

While this study is more exploratory than explanatory in terms of better understanding the relationship between emotional adjustment and career decision making in immigrant Chinese students, it does open interesting avenues to guide future research and practice. Suggestions for both of these areas are listed below.

## Recommendations for Future Practice

Based on the findings and conclusions from this study, the following recommendations for further practice are suggested.

1. Given the similar nature of Chinese and domestic students' emotional adjustment, it is important for career counselors and educators to make sure Chinese students are not being overlooked in terms of counseling and educational services that are currently available. Literature has shown Asian students receive less classroom attention from teachers and peers and have less access to resources for psychological and career needs

(Alba, Rumbaut, & Martoz, 2005; Kim & Yeh, 2002; Li & Wang, 2008); thus, it is important to be sure Chinese students on college campuses have equal access to services as their domestic peers.

2. Because social stress was a significant predictor of career aspirations for all of the students in this study, it is important for college administrators to be aware of the social stress associated with graduate school and to provide necessary resources to help mitigate any negative effects this may have on graduate student performance.

## Recommendations for Further Research

Based on the findings and conclusions from this study, the following recommendations for further research are suggested.

1. Despite three pushes to recruit Chinese students to survey for this study, only 24 Chinese students fully completed both questionnaires. The nature of personal relationships with Chinese students in the recruitment process cannot be understated. Small sample size is likely one factor as to why I did not see significant differences between Chinese and domestic students. Because of the importance of personal relationships in recruiting participants, future research on Chinese graduate students should be qualitative in nature and focus on in-depth interviews with a few students who have a relationship with the interviewer.

2. If possible, this study should be replicated with a larger and more diverse sample size to determine if a relationship between career aspirations and emotional adjustment does actually exist, however, because of the small sample size, it was not seen in this particular study. A larger sample size and broadening the participant criteria to include

undergraduate students could both increase the likelihood of seeing group differences in the future.

3. This study could also be further replicated by surveying a cross section of international and domestic graduate students, not only Chinese and American, to see if scores remain consistent across all graduate students. If so, this research could lead to a better understanding of the emotional and career decision strain on graduate students as a group.

REFERENCES

Achenback, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.

Al-Ali, N. (2002). Loss of status or new opportunities? Gender relations and transnational ties among Bosnian refugees. In D. Bryceson & U. Vuorela (Eds.), *The transnational family: New European frontiers and global networks* (pp. 83-102). New York, NY: Berg.

Alba, R., Rumbaut, R.G., & Marotz, K. (2005). A distorted nation: Perceptions of racial/ethnic group sizes and attitudes toward immigrants and other minorities. *Social Forces, 84*, 901-919. doi:10.1353/sof.2006.0002

Allen, M. (Ed.). (2010). *The University of Georgia fact book 2010*. Retrieved from http://irhst40.irp.uga.edu/html/eFactbook/2010/S00Front.pdf#page=A

Alvarez, A. N., Juang, L., & Liang, C. T. H. (2006). Asian Americans and racism: When bad things happen to "model minorities." *Cultural Diversity and Ethnic Minority Psychology, 12*, 477-492. doi:10.1037/1099-9809.12.3.477

Arbona, C., & Novy, D. M. (1991). Career aspirations and expectations of Black, Mexican American, and White students. *Career Development Quarterly, 39*, 231-240.

Aron, A., Aron, E. N., & Coups, E. J. (2006). *Statistics for psychology*. Upper Saddle River, NJ: Pearson Education.

Bailey, R. (2008). *Immigration and migration*. New York, NY: Facts on File.

Bakeman, R., & Robinson, B. F. (2005). *Understanding statistics in the behavioral sciences*. Mahwah, NJ: Erlbaum.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*(1), 187-206. doi:10.1111/1467-8624.00273

Baraldi, A. N., & Enders, C. K. (2010). An introduction to modern missing data analyses. *Journal of School Psychology, 48*, 5-37. doi:10.1016/j.jsp.2009.10.001

Barot, R. (2002). Religion, migration, and wealth creation in the Swaminarayan movement. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 197-216). New York, NY: Berg.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II*. San Antonio, TX: The Psychological Corporation.

Bernstein, R. (2008, January 10). *One-third of young women have bachelor's degrees*. Retrieved from http://www.census.gov/newsroom/releases/archives/education/cb08-10.html

Berry, J. W. (1980). Acculturation as varieties of adaptation. In A. M. Padilla (Ed.), *Acculturation: Theory, models, and some new findings* (pp. 9-25). Boulder, CO: Westview.

Blau, F. D., Kahn, L. M., Moriarty, J. Y., & Souza, A. P. (2003). The role of the family in immigrants' labor market activity: An evaluation of alternative explanations: Comment. *American Economic Review, 93,* 429-447. doi:10.1257/000282803321455403

Blion, R. (2002). North of south: European immigrants' stakeholdings in southern development. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 231-244). New York, NY: Berg.

Brettell, C. B., & Hollifield, J. F. (2008). Introduction. In C. B. Brettell & J. F. Hollifield (Eds.), *Migration theory: Talking across disciplines* (2nd ed., pp. 1-30). New York, NY: Routledge.

Brittain, C. (2002). *Transnational messages: Experiences of Chinese and Mexican immigrants in American schools*. New York: LFB Scholarly.

Brittain, C. (2003). Sharing the experience: Transnational information about American schools among Chinese immigrant students. In C. C. Park, A. L. Goodwin, & S. J. Lee (Eds.), *Asian American identities, families, and schooling* (pp. 177-200). Greenwich, CT: Information Age.

Bryceson, D., & Vuorela, U. (Eds.). (2002). *The transnational family: New European frontiers and global networks*. New York, NY: Berg.

Butcher, J. N., Graham, J. R., Ben-Porath, Y. S., Tellegen, Y. S., Dahlstrom, W. G., & Kaemmer, B. (2001). *Minnesota Multiphasic Personality Inventory-2*. Minneapolis, MN: University of Minnesota Press.

Chae, M. H., & Foley, P. F. (2010). Relationship of ethnic identity, acculturation, and psychological well-being among Chinese, Japanese, and Korean Americans. *Journal of Counseling and Development, 88*, 466-476.

Chang, I. (2003). *The Chinese in America*. New York, NY: Viking.

Chang, E. S., Chen, C., Greenberger, E., Dooley, D., & Heckhausen, J. (2006). What do they want in life?: The life goals of a multi-ethnic, multi-generational sample of high school seniors. *Journal of Youth and Adolescence, 35*, 321-332. doi:10.1007/s10964-006-9034-9

Cheng, Y. (1994). *Education and class: Chinese in Britain and the US*. Brookfield, VT: Avebury.

Chi, M. M. (1999). Linguistic perspective on the education of Chinese-American students. In C. C. Park & M. M. Chi (Eds.), *Asian-American education: Prospects and challenges* (pp. 18-46). Westport, CT: Bergin & Garvey.

Chiswick, B. R. (2008). Are immigrants favorably self-selected? In C. B. Brettell & J. F. Hollifield (Eds.), *Migration theory: Talking across disciplines* (2nd ed., pp. 63-82). New York, NY: Routledge.

Chung, R. H. G. (2001). Gender, ethnicity, and acculturation in intergenerational conflict of Asian American college students. *Cultural Diversity and Ethnic Minority Psychology, 7*, 376-386. doi:10.1037//1099-9809.7.4.376

Chung, Y. B. (2002). Career decision-making self-efficacy and career commitment: Gender and ethnic differences among college students. *Journal of Career Development, 28*, 277-284.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. New York, NY: Academic Press.

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and practice. *Journal of Applied Psychology, 78*, 98-104. doi:10.1037/0021-9010.78.1.98

Davis, J. W., & Bauman, K. J. (2008). *School enrollment in the United States: 2006*. Retrieved from http://www.census.gov/prod/2008pubs/p20-559.pdf

Demaray, M. K., Malecki, C. K., Davidson, L. M., Hodgson, K. K., & Rebus, P. J. (2005). The relationship between social support and student adjustment: A longitudinal analysis. *Psychology in the Schools, 42*, 691-706. doi:10.1002/pits.20120

Dempster, A. P., Laird, N. M., & Rubin, D. B. (1977). Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society, Ser. B, 39*, 1-38.

Derogatis, L. R. (1993). *Brief Symptom Inventory*. Minneapolis, MN: National Computer Systems.

Dillman, D. A. (2007). *Mail and internet surveys: The tailored design method* (2nd ed.). Hoboken, NJ: Wiley.

Domenico, D. M. (2005). *Career aspirations of pregnant and parenting adolescents*. (Doctoral dissertation). Available from UGA Electronic Theses and Dissertations.

Dunleep, H. O., & Sanders, S. (1993). The decision to work by married immigrant women. *Industrial and Labor Relations Review, 46*, 677-690.

Erel, U. (2002). Reconceptualizing motherhood: Experiences of migrant women from Turkey living in Germany. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 127-146). New York, NY: Berg.

Evans, V. P. (1999, January). *Strategies for detecting outliers in regression analysis: An introductory primer.* Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX. Retrieved from ERIC database. (ED427059)

Flores, L. Y., Berkel, L. A., Nilsson, J. E., Ojeda, L., Jordan, S. E., Lynn, G. L., & Leal, V. M. (2006). Racial/ethnic minority vocational research: A content and trend analysis across 36 years. *The Career Development Quarterly, 55,* 2-21.

Foner, N. (2009). *Introduction: Intergenerational relations in immigrant families*. In N. Foner

(Ed.), *Across generations: Immigrant families in America* (pp. 1-20). New York, NY:

New York University Press.

Fowler, F. J. (2001). *Survey research methods* (3rd ed.). Thousand Oaks, CA: Sage.

Fuligni, A. J., & Witkow, M. (2004). The postsecondary educational progress of youth from

immigrant families. *Journal of Research on Adolescence, 14*(*2*), 159-183.

doi:10.1111/j.1532-7795.2004.01402002.x

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.).

New York, NY: Allyn and Bacon.

Gottfredson, L. S. (1981). Circumscription and compromise: A developmental theory of

occupational aspirations [Monograph]. *Journal of Counseling Psychology, 28*, 545-579.

doi:10.1037//0022-0167.28.6.545

Gottfredson, L. S. (2005). Applying Gottfredson's theory of circumscription and compromise

and career guidance and counseling. In S. D. Brown & R. W. Lent (Eds.), *Career

development and counseling: Putting theory and research to work* (pp. 71-100).

Hoboken, NJ: Wiley.

Grubbs, F. E. (1950). Sample criteria for testing outlying observations. *Annals of Mathematical

Statistics, 21*, 27-58. doi:10.1214/aoms/1177729885

Hellenga, K., Aber, M. S., & Rhodes, J. E. (2002). African American adolescent mothers'

vocational aspiration-expectation gap: Individual, social, and environmental influences.

*Psychology of Women Quarterly, 26*, 200-212. doi:10.1111/1471-6402.00059

Hill, R. B. (2001). *Survey research*. In E. I. Farmer & J. W. Rojewski (Eds.), *Research

*pathways: Writing professional papers, theses, and dissertations in workforce education* (pp. 201-222). Blue Ridge Summit, PA: University Press of America.

Holland, J. L. (1959). A theory of vocational choice. *Journal of Counseling Psychology, 6,* 35-45. doi:10.1037/h0040767

*Household income rises, poverty rate declines, number of uninsured up*. (2007, August 27). Retrieved from http://www.census.gov/PressRelease/www/releases/archives/income_wealth/010583.html

Hsu, C. (2010). Acculturation and communication traits: A study of cross-cultural adaptation among Chinese in America. *Communication Monographs, 77*, 414-425. doi:10.1080/03637751.2010.499367

Huang, J. (1997). *Chinese students and scholars in American higher education*. Westport, CT: Praeger.

Huberty, C. J., & Petoskey, M. D. (1999). Use of multiple correlation analysis and multiple regression analysis. *Journal of Vocational Education Research, 24*(1), 15-43.

Hwang, M., Kim, J., Ryu, J. Y., & Heppner, M. J. (2006). The circumscription process of career aspirations in South Korean adolescents. *Asia Pacific Education Review, 7*(2), 133-143. doi:10.1007/BF03031537

Institute of International Education (IIE). (2010). *Open doors 2010 fast facts*. Retrieved from http://www.iie.org/en/Research-and-Publications/Open-Doors/Data

Izuhara, M., & Shibata, H. (2002). Breaking the generational contract? Japanese migration and old-age care in Britain. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 155-172). New York, NY: Berg.

Juang, L. P., & Cookston, J. T. (2009). Acculturation, discrimination, and depressive symptoms among Chinese American adolescents: A longitudinal study. *Journal of Primary Prevention, 30*, 475-496. doi:10.1007/s10935-009-0177-9

Jung, W. S. (2000, February). Cultural influences on ratings of behavioral and emotional problems and school adjustment for Korean, Korean American, and Caucasian American children. In *National Association of African American Studies & National Association of Hispanic and Latino Studies: 2000 Literature Monograph Series*. Houston, TX: International Association of Asian Studies Section. Retrieved from ERIC database (ED454466)

Jung, W. S., & Stinnett, T. A. (2005). Comparing judgments of social, behavioral, emotional, and school adjustment functioning for Korean, Korean American, and Caucasian American children. *School Psychology International, 26*, 317-329. doi:10.1177/0143034305055976

Kane, A. (2002). Senegal's village Diaspora and the people left ahead. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 245-264). New York, NY: Berg.

Kaplan, D. S., Liu, X., & Kaplan, H. B. (2001). Influence of parents' self-feelings and expectations on children's academic performance. *Journal of Educational Research, 94*, 360-370. doi:10.1080/00220670109598773

Kaushal, N., & Reimers, C. (2007). How economists have studied the immigrant family. In J. E. Lansford, K. Deater-Deckard, & M. H. Bornstein (Eds.), *Immigrant families in contemporary society* (pp. 100-117).  New York, NY: Guilford Press.

Keller, U., & Tillman, K. H. (2008). Postsecondary educational attainment of immigrant and native youth. *Social Forces, 87*(1), 121-152.

Kiang, L., Yip, T., Gonzales-Backen, M., Witkow, M., & Fuligni, A. J. (2006). Ethnic identity and the daily psychological well-being of adolescents from Mexican and Chinese backgrounds. *Child Development, 77*, 1338-1350. doi:10.1111/j.1467-8624.2006.00938.x

Kim, A., & Yeh, C. J. (2002). *Stereotypes of Asian American students*. New York, NY: ERIC Clearinghouse on Urban Education. Retrieved from ERIC database (ED462510)

Kim, B. S. K., & Omizo, M. M. (2005). Asian and European American cultural values, collective self-esteem, acculturative stress, cognitive flexibility, and general self-efficacy among Asian American college students. *Journal of Counseling Psychology, 52*, 412-419. doi:10.1037/0022-0167.52.3.412

Kloosterman, R., & Rath, J. (2003). Introduction. In R. Kloosterman & J. Rath (Eds.), *Immigrant entrepreneurs: Venturing abroad in the age of globalization* (pp. 1-16). New York, NY: Berg.

Lau, S., Chan, D. W. K., Lau, P. S. Y. (1999). Facets of loneliness and depression among Chinese children and adolescents. *Journal of Social Psychology, 139*, 713-729.

Lee, A. (2007). Turning against myself. In A. Garrod & R. Kilkenny (Eds.), *Balancing two worlds: Asian American college students tell their life stories* (pp. 47-63). Ithica, NY: Cornell University Press.

Lee, I. H., & Rojewski, J. W. (2009). Development of occupational aspiration prestige: A piecewise latent growth model of selected influences. *Journal of Vocational Behavior, 75*, 82-90. doi:10.1016/j.jvb.2009.03.006

Lee, J. (2007). Striving for the American dream. In M. Zhou & J. V. Greenwood (Eds.), *Contemporary Asian America: A multidisciplinary reader* (2nd ed., pp. 243-248). New York, NY: University Press.

Lee, R. M., Yoon, E., & Liu-Tom, H. (2006). Structure and measurement of acculturation/enculturation for Asian Americans using the ARSMA-II. *Measurement and Evaluation in Counseling and Development, 39*, 42-55.

Lent, R. W. (2005). A social cognitive view of career development and counseling. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 101-129). Hoboken, NJ: Wiley.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior, 45*, 79-122. doi:10.1006/jvbe.1994.1027

Leong, F. T. L., & Grand, J. A. (2008). Career and work implications of the model minority myth and other stereotypes for Asian Americans. In G. Li & L. Wang (Eds.), *Model minority myth revisited: An interdisciplinary approach to demystifying Asian American educational experiences* (pp. 91-115). Charlotte, NC: Information Age.

Leong, F. T. L., & Serafica, F. C. (1995). *Career development of Asian Americans: A research area in need of a good theory*. In F. T. L. Leong (Ed.), *Career development and vocational behavior of racial and ethnic minorities* (pp. 67-102). Mahwah, NJ: Erlbaum.

Leung, S. A., Hou, Z., Gati, I., & Li, X. (2011). Effects of parental expectations and cultural-values orientation on decision-making difficulties of Chinese university students. *Journal of Vocational Behavior, 78*, 11-20. doi:10.1016/j.jvb.2010.08.004

Leung, S. A., Ivey, D., & Suzuki, L. (1994). Factors affecting the career aspirations of Asian Americans. *Journal of Counseling & Development*, *72*, 404-410.

Leung, S. A., & Chen, P. (2009). Counseling psychology in Chinese communities in Asia: Indigenous, multicultural, and cross-cultural considerations. *Counseling Psychologist, 37*, 944-966. doi:10.1177/0011000009339973

Li, G., & Wang, L. (2008). Introduction: The old myth in a new time. In G. Li & L. Wang (Eds.), *Model minority myth revisited: An interdisciplinary approach to demystifying Asian American educational experiences* (pp. 1-18). Charlotte, NC: Information Age.

Liang, C. T. H., Li, L. C., & Kim, B. S. K. (2004). The Asian-American racism-related stress inventory: Development, factor analysis, reliability, and validity. *Journal of Counseling Psychology, 51*, 103-114. doi:10.1037/0022-0167.51.1.103

Liao, H., Rounds, J., & Klein, A. G. (2005). A test of Cramer's (1999) help-seeking model and acculturation effects with Asian and Asian American college students. *Journal of Counseling Psychology, 52*, 400-411. doi:10.1037/0022-0167.52.3.400

Liu, X. (2009). Examining the impact of international graduate students' acculturation experiences on their career decision-making self-efficacy. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 70*(5-A), 1569.

Lo, Y. (2010). The impact of the acculturation process on Asian American youth's psychological well-being. *Journal of Child and Adolescent Psychiatric Nursing, 23*(2), 84-91. doi:10.1111/j.1744-6171.2010.00227.x

Lorenzo, M. K., Frost, A. K., & Reinherz, H. Z. (2000). Social and emotional functioning of older Asian American adolescents. *Child and Adolescent Social Work Journal, 17*, 289-304.

Louie, V. (2004a). "Being practical" or "Doing what I want": The role of parents in the academic choice of Chinese Americans. In P. Kasinitz, J. H. Mollenkopf, & M. C. Waters (Eds.), *Becoming New Yorkers: Ethnographies of the new second generation* (pp. 79-109). New York, NY: Russell Sage Foundation.

Louie, V. (2004b). *Compelled to excel: Immigration, education, and opportunity among Chinese Americans*. Stanford, CA: Stanford University Press.

Louie, V. (2008). The "model minority" struggling in college: Voices of working-class Chinese Americans. In G. Li & L. Wang (Eds.), *Model minority myth revisited: An interdisciplinary approach to demystifying Asian American educational experiences* (pp. 43-64). Charlotte, NC: Information Age.

Luzzo, D. A. (2000). Career development of returning-adult and graduate students. In D. A. Luzzo (Ed.), *Career counseling of college students: An empirical guide to strategies that work* (pp. 191-200). Washington, DC: American Psychological Association.

Mau, W., & Bikos, L. H. (2000). Educational and vocational aspirations of minority and female students: A longitudinal study. *Journal of Counseling & Development, 78*, 186-194.

McNulty, W. B., & Borgen, W. A. (1988). Career expectations and aspirations of adolescents. *Journal of Vocational Behavior, 33*, 217-224. doi:10.1016/0001-8791(88)90057-7

Mendez, L. M. R., & Crawford, K. M. (2002). Gender-role stereotyping and career aspirations: A comparison of gifted early adolescent boys and girls. *Journal of Secondary Gifted Education, 13*, 96-107.

Merolla, D. (2002). Deceitful origins and tenacious roots: Moroccan immigration and new trends in Dutch literature. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 103-126). New York, NY: Berg.

Moss, G. (2005). Cultural capital and graduate student achievement. *Electronic Journal of Sociology.*

Nakao, K., & Treas, J. (1992). *The 1989 socioeconomic index of occupations: Construction from the 1989 occupational prestige scores* (GSS Methodological Report No. 74). Chicago, IL: NORC.

Navarro, R., Flores, L., & Worthington, R. (2007). Mexican American middle school students' goal intentions in mathematics and science: A test of social cognitive career theory. *Journal of Counseling Psychology, 54*, 320-341. doi:10.1037/0022-0167.54.3.320

Ngok, K. (2006). Globalization and higher education reform in China. In N. S. Pang (Ed.), *Globalization: Educational research, change, and reform* (pp. 73-99). Hong Kong: Chinese University Press.

Ogbu, J. U. (1992). Adaptation to minority status and impact on school success. *Theory into Practice, 31*(4), 287-296. doi:10.1080/00405849209543555

Olejnik, S. F. (1984). Planning educational research: Determining the necessary sample size. *Journal of Experimental Education, 53*, 40-48.

Orleans, L. A. (1988). *Chinese students in America: Policies, issues, and numbers*. Washington, DC: National Academy Press.

Park, C. C. (2003). Educational and occupational aspirations of Asian American students. In C. C. Park, A. L. Goodwin, & S. J. Lee (Eds.), *Asian American identities, families, and schooling* (pp. 135-156). Greenwich, CT: Information Age.

Patel, S. G., Salahuddin, N. M., & O'Brien, K. M. (2008). Career decision-making self-efficacy of Vietnamese adolescents. *Journal of Career Development, 34*, 218-240. doi:10.1177/0894845307308488

Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and prediction* (3rd ed.). Fort Worth, TX: Harcourt Brace.

Peterson, W. (1966, January 9). Success story, Japanese American style. *New York Times*, 21.

Peugh, J. L., & Enders, C. K. (2004). Missing data in educational research: A review of reporting practices and suggestions for improvement. *Review of Educational Research, 74*, 525-556. doi:10.3102/00346543074004525

Portes, A. (1995). Segmented assimilation among new immigrant youth: A conceptual framework. In R .G. Rumbaut & W. A. Cornelius (Eds.), *California's immigrant children: Theory, research, and implications for educational policy* (pp. 71-76). San Diego, CA: University of California at San Diego, Center for U.S.-Mexican Studies.

Portes, A., & Rumbaut, R. G. (2001). Conclusion – The forging of a new America: Lessons for theory and practice. In R. G. Rumbaut & A. Portes (Eds.), *Ethnicities: Children of immigrants in America* (pp. 301-317). Berkely, CA: University of California Press.

Portes, A., & Rumbaut, R. G. (2006). *Immigrant America: A portrait* (3rd ed.). Berkely, CA: University of California Press.

Portes, P. R., & Zady, M. F. (2001, April). *Determinants of reading achievement of immigrant adolescents: The role of demographic and psycho-cultural factors in school adaptation*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA. Retrieved from ERIC database. (ED455320)

Qin, D. B. (2006). "Our child doesn't talk to us anymore:" Alienation in immigrant Chinese families. *Anthropology and Education Quarterly, 37*(2), 162-179.

Qin, D. B. (2008). The other side of the model minority story. In G. Li & L. Wang (Eds.), *Model minority myth revisited: An interdisciplinary approach to demystifying Asian American educational experiences* (pp. 133-156). Charlotte, NC: Information Age.

Qin, D. B., Way, N., & Rana, M. (2008). The "model minority" and their discontent: Examining peer discrimination and harassment of Chinese American immigrant youth. In H. Yoshikawa & N. Way (Eds.), Beyond the family: Contexts of immigrant children's development. *New Directions for Child and Adolescent Development, 121*, 27-42. doi:10.1002/cd.221

Rahman, O., & Rollock, D. (2004). Acculturation, competence, and mental health among south Asian students in the United States. *Journal of Multicultural Counseling and Development, 32*, 130-142.

Rawlings, J. O., Pantula, S. G., & Dickey, D. A. (1998). *Applied regression analysis: A research tool* (2nd ed). New York, NY: Springer.

Reynolds, A. L., & Constantine, M. G. (2007). Cultural adjustment difficulties and career development of international college students. *Journal of Career Assessment, 15*, 338-350. doi:10.1177/1069072707301218

Reynolds, C. R., & Kamphaus, R. W. (2004). *BASC-2: Behavior assessment system for children manual* (2nd ed.). Minneapolis, MN: NCS Pearson.

Rojewski, J. W. (1996). Educational and occupational aspirations of high school seniors with learning disabilities. *Exceptional Children, 62*, 463-476.

Rojewski, J. W. (2001). Considerations in significance testing. In E. I. Farmer & J. W. Rojewski, (Eds.), *Research pathways: Writing professional papers, theses, and dissertations in workforce education* (pp. 349-366). Lanham, MD: University Press of America.

Rojewski, J. W. (2005). *Occupational aspirations: Constructs, meanings, and application.* In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 131-154). Hoboken, NJ: Wiley.

Rojewski, J. W., & Yang, B. (1997). Longitudinal analysis of select influences on adolescents' occupational aspirations. *Journal of Vocational Behavior, 51*, 375-410. doi:10.1006/jvbe.1996.1561

Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development, 72*, 1135-1150. doi:10.1111/1467-8624.00338

Salzbrunn, M. (2002). Hybridization of religious and political practices amongst west African Muslim migrants in Paris. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 217-230). New York, NY: Berg.

Segal, U. A. (2002). *A framework for immigration: Asians in the United States*. New York, NY: Columbia University Press.

Song, C., & Glick, J. E. (2004). College attendance and choice of college majors among Asian-American students. *Social Science Quarterly, 85*, 1401-1421. doi:10.1111/j.0038-4941.2004.00283.x

Spokane, A. R., & Cruza-Guet, M. C. (2005). Holland's theory of vocational personalities in work environments. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 24-41). Hoboken, NJ: Wiley.

Super, D. E. (1990). A life-span, life-space approach to career development. In D. Brown, L. Brooks, & Associates (Eds.), *Career choice and development: Applying contemporary theories to practice* (2nd ed., pp. 197-261). San Francisco, CA: Jossey-Bass.

Tan, C .S. (2007). Test review [Review of *Behavior assessment system for children* (2nd ed.)]. *Assessment for Effective Intervention, 32*(2), 121-124.

Tang, M. (2008). Psychological impacts of "model minority" on Asian Americas. In G. Li & L. Wang (Eds.), *Model minority myth revisited: An interdisciplinary approach to demystifying Asian American educational experiences* (pp. 117-132). Charlotte, NC: Information Age.

Tang, M., Fouad, N. A., & Smith, P. L. (1998). Asian Americans' career choices: A path model to examine factors influencing their career choices. *Journal of Vocational Behavior, 54*, 142-157. doi:10.1006/jvbe.1998.1651

Timera, M. (2002). Righteous or rebellious? Social trajectory of Sahelian youth in France. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 147-154). New York, NY: Berg.

Tong, Y. (2010). Foreign-born concentration and acculturation to volunteering among immigrant youth. *Social Forces, 89*(1), 117-143. doi:10.1353/sof.2010.0048

Tsai, J. L., Ying, Y., & Lee, P. A. (2000). The meaning of "being Chinese" and "being American:" Variation among Chinese American young adults. *Journal of Cross-Cultural Psychology, 31*, 302-332. doi:10.1177/0022022100031003002

Turner, S., & Lapan, R. T. (2002). Career self-efficacy and perceptions of parental support in adolescent career development. *Career Development Quarterly, 51*(1), 44-55.

van Dijk, R. (2002). Religion, reciprocity, and restructuring family responsibility in the Ghanaian Pentecostal diaspora. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 173-196). New York, NY: Berg.

Vuorela, U. (2002). Transnational families: Imagined and real communities. In D. Bryceson & U. Vuorela (Eds.). *The transnational family: New European frontiers and global networks* (pp. 63-82). New York, NY: Berg.

Wang, L. L. (2008). Myths and realities of Asian American success: Reassessing and redefining the "model minority" stereotype. In G. Li & L. Wang (Eds.), *Model minority myth revisited: An interdisciplinary approach to demystifying Asian American educational experiences* (pp. 21-42). Charlotte, NC: Information Age.

Weisberg, S. (2005). *Applied linear regression*. Hoboken, NJ: Wiley.

White, M. J., & Glick, J. E. (2009). *Achieving anew: How new immigrants do in American schools, jobs, and neighborhoods*. New York, NY: Russell Sage Foundation.

Witkow, M. R., & Fuligni, A. J. (2007). Achievement goals and daily school experiences among adolescents with Asian, Latino, and European American backgrounds. *Journal of Educational Psychology, 99*, 584-596. doi:10.1037/0022-0663.99.3.584

Wong, B. P. (2007). Immigration, globalization, and the Chinese American family. In J. E. Lansford, K. Deater-Deckard, & M. H. Bornstein (Eds.), *Immigrant families in contemporary society* (pp. 212-228).  New York, NY: Guilford Press.

Wong, L. Y. (1992). *Education of Chinese children in Britain and the USA*. Philadelphia, PA: Multilingual Matters.

Yakushko, O., Backhaus, A., Watson, M., Ngaruiya, K., & Gonzalez, J. (2008). Career development concerns of recent immigrants and refugees. *Journal of Career Development, 34*, 362-398. doi:10.1177/0894845308316292

Yan, K., & Berliner, D. C. (2009). Chinese international students' stressors in the United States. *College Student Journal, 43,* 939-960.

Ye, W. (2001). *Seeking modernity in China's name: Chinese students in the United States 1900-1927*. Stanford, CA: Stanford University Press.

Yeh, C. J., Ching, A. M., Okubo, Y., & Luthar, S. S. (2007). Development of a mentoring program for Chinese immigrant adolescents' cultural adjustment. *Adolescence*, *42*, 733-747.

Yip, T., Gee, G. C., & Takeuchi, D. T. (2008). Racial discrimination and psychological distress: The impact of ethnic identity and age among immigrant and United States-Born Asian adults. *Developmental Psychology, 44*, 787-800. doi:10.1037/0012-1649.44.3.787

Zhang, J., Mandl, H., & Wang, E. (2010). Personality, acculturation, and psychological adjustment of Chinese international students in Germany. *Psychological Reports, 107*(2), 511-525.

Zhou, M. (2001). Chinese: Divergent destinies in immigrant New York. In N. Foner (Ed.), *New immigrants in New York* (pp. 141-172). New York, NY: Columbia University Press.

Zhou, M. (2009). *Conflict, coping, and reconciliation: Intergenerational relations in Chinese immigrant families*. In N. Foner (Ed.), *Across generations: Immigrant families in America* (pp. 21-46). New York, NY: New York University Press.

Zhou, M., & Gatewood, J. V. (2007). Transforming Asian America: Globalization and contemporary immigration to the United States. In M. Zhou & J. V. Greenwood (Eds.), *Contemporary Asian America: A multidisciplinary reader* (2nd ed., pp. 115-138). New York, NY: University Press.

Zhou, Z., Peverly, S. T., Xin, T., Huang, A. S., & Wang, W. (2003). School adjustment of first-generation Chinese-American adolescents. *Psychology in the Schools, 40*(1), 71-84. doi:10.1002/pits.10070

Zimmerman, D. W. (1998). Invalidation of parametric and nonparametric statistical tests by concurrent violation of two assumptions. *Journal of Experimental Education, 67*(1), 55-68. doi:10.1080/00220979809598344

APPENDIX A

STUDENT QUESTIONNAIRE

**Student Questionnaire – Main Study**

Dear Student:
Thank you for volunteering to complete this two-page questionnaire. The answers you provide
will be completely confidential and used to study the career aspirations and emotional well being
of international Chinese students. Career aspirations are like a dream job or the job you would
have under ideal circumstances.

1. What degree are you currently pursuing?

    ① Undergraduate
    ② Graduate

2. As of your last birthday, how old are you today?  (Example: 25 years)

3. What is your gender?

    ① Male
    ② Female

4. What is your current department?

5. What country were you born in?

6. How long have you been living outside China? (Example: 0 years, 7 months)

7. How long have you been studying at The University of Georgia? (Example: 0 years, 7 months)

8. What is the educational level of your mother?

    ① Did not finish high school
    ② High school graduate
    ③ Completed some college
    ④ 2-year college graduate
    ⑤ 4-year college graduate
    ⑥ Graduate/Professional degree
    ⑦ Not sure

9. What is the educational level of your father?

      ① Did not finish high school
      ② High school graduate
      ③ Completed some college
      ④ 2-year college graduate
      ⑤ 4-year college graduate
      ⑥ Graduate/Professional degree
      ⑦ Not sure

10. What is your mother's current occupation?

11. What is your father's current occupation?

12. What job do you expect to obtain upon graduation from your current degree program?

13.  Where do you expect to obtain this job?

      ① The United States of America
      ② China
      ③ Both the United States and China
      ④ Neither the United States or China

14. If you were completely free to choose **any** job in **any** setting, what job would you most like to have 10 years from now? (Write your answer below.)

15. If your **parents** were completely free to choose any job for you in any setting, what job would they most like to see you have 10 years from now? (Write your answer below.)

APPENDIX B

TIMELINE

Timeline

| Month/Year | Objective |
| --- | --- |
| August 2010 | Finished drafting student questionnaire; submitted necessary paperwork for study to Institutional Review Board (IRB) |
| September 2010 | Received study approval from IRB; conducted pilot study |
| October 2010 | Email solicitation for participants sent out from Office of International Education; flyers distributed throughout UGA campus; first group survey administration with Chinese students completed; survey administration to WFED 9100 with domestic students completed |
| November 2010 | IRB Amendment submitted for second group survey administration with Chinese students; IRB approval received; survey administration to ERSH 6300 with domestic students completed; flyers distributed at Thanksgiving dinner soliciting Chinese participants for second group survey administration |
| December 2010 | Flyers distributed through Family and Graduate Housing soliciting Chinese participants for second group survey administration; second group survey administration with Chinese students completed; survey administration to POLS 7010 with domestic students completed |
| January 2011 | IRB Amendment submitted for third group survey administration with Chinese students; IRB approval received |
| February 2011 | Third group survey administration with Chinese students completed; updated Chapters 1-3 and appendices; began coding data |
| March 2011 | Analyzed data; summarized results. Began writing Chapter 4 |
| April 2011 | Finished Chapter 4; began Chapter 5. Finalized Chapters 4 and 5. Edited complete dissertation and turned in to committee |
| May 2011 | Final Defense |
| August 2011 | Graduation |

APPENDIX C

IRB APPROVAL FORMS

# APPROVAL FORM

**Date Proposal Received:** 2010-08-06          **Project Number:** 2011-10085-0

| Name | Title | Dept/Phone | Address | Email |
|------|-------|-----------|---------|-------|
| Dr. Jay W. Rojewski | PI | Dept. of Workforce Education 210 Rivers Crossing 2639 706-542-4461 | | rojewski@uga.edu |
| Ms. Deanna L. Cozart | CO | Workforce Education 706-410-1941 | 255 Tara Way Athens, GA 30606 | dmeincke@uga.edu |

**Title of Study:** Career Aspirations and Emotional Adjustment of Chinese College Students: A Comparative Study

**45 CFR 46 Category:** Administrative 2
**Parameters:**
None;

**Change(s) Required for Approval:**
Receipt of Recruitment Script;
Revised Application;
Revised Consent Document(s);

**Approved : 2010-09-20     Begin date : 2010-09-20     Expiration date : 2015-09-19**

NOTE: Any research conducted before the approval date or after the end data collection date shown above is not covered by IRB approval, and cannot be retroactively approved.

**Number Assigned by Sponsored Programs:**                    **Funding Agency:**

**Your human subjects study has been approved.**

**Please be aware that it is your responsibility to inform the IRB:**
**. . . of any adverse events or unanticipated risks to the subjects or others within 24 to 72 hours;**
**. . . of any significant changes or additions to your study and obtain approval of them before they are put into effect;**
**. . . that you need to extend the approval period beyond the expiration date shown above;**
**. . . that you have completed your data collection as approved, within the approval period shown above, so that your file may be closed.**

**For additional information regarding your responsibilities as an investigtor refer to the IRB Guidelines.**
**Use the attached Researcher Request Form for requesting renewals, changes, or closures.**
*Keep this original approval form for your records.*

Chairperson or Designee,
Institutional Review Board

# The University of Georgia

Office of The Vice President for Research
DHHS Assurance ID No. : FWA00003901

Institutional Review Board
Human Subjects Office
612 Boyd GSRC
Athens, Georgia 30602-7411
(706) 542-3199
Fax: (706) 542-3360
www.ovpr.uga.edu/hso

## APPROVAL OF RENEWALS / CHANGES

**Request Date:** 2010-10-25          **Project Number:** 2011-10085-1

| Name | Title | Dept/Phone | Address | Email |
|---|---|---|---|---|
| Dr. Jay W. Rojewski | PI | Dept. of Workforce Education 221 Rivers Crossing 2639 706-542-1682 | | rojewski@uga.edu |
| Ms. Deanna L. Cozart | CO | Workforce Education 706-410-1941 | 255 Tara Way Athens, GA 30606 | dmeincke@uga.edu |

**Title of Study:** Career Aspirations and Emotional Adjustment of Chinese College Students: A Comparative Study

**45 CFR 46 Category:** Continuing Review          **Renew : No**          **Change(s) :** Added incentive; Revised recruitment materials;
**Parameters:**                                                                      Revised Consent Document(s);
APPROVAL OF ABOVE NOTED CHANGES.

**Approved : 2010-11-11     Begin date : 2010-11-11     Expiration date : 2015-09-19**

*NOTE: Any research conducted before the approval date or after the end data collection date shown above is not covered by IRB approval, and cannot be retroactively approved.*

**Number Assigned by Sponsored Programs:**                                    **Funding Agency:**

**Your request for approval of renewal and/or changes has been approved.**

**You must report any adverse events or unanticipated risk to the IRB within 24 to 72 hours.** Refer to the IRB Guidelines for additional information.

**Use the attached Researcher Request Form for requesting renewals, changes, or closures.**
*Keep this original approval form for your records.*

Chairperson or Designee,
Institutional Review Board

## APPROVAL OF RENEWALS / CHANGES

**Request Date:** 2011-01-05          **Project Number:** 2011-10085-2

| Name | Title | Dept/Phone | Address | Email |
|---|---|---|---|---|
| Dr. Jay W. Rojewski | PI | Dept. of Workforce Education 221 Rivers Crossing 2639 706-542-4461 | | rojewski@uga.edu |
| Ms. Deanna L. Cozart | CO | Workforce Education 706-410-1941 | 255 Tara Way Athens, GA 30606 | dmeincke@uga.edu |

**Title of Study:** Career Aspirations and Emotional Adjustment of Chinese College Students: A Comparative Study

**45 CFR 46 Category:** Continuing Review          **Renew :** No          **Change(s) :** Added incentive; Added recruitment materials; Revised Consent Document(s);
**Parameters:**
APPROVAL OF ABOVE NOTED CHANGES.

**Approved : 2011-01-27     Begin date : 2011-01-27     Expiration date : 2015-09-19**

*NOTE: Any research conducted before the approval date or after the end data collection date shown above is not covered by IRB approval, and cannot be retroactively approved.*

**Number Assigned by Sponsored Programs:**                                    **Funding Agency:**

Your request for approval of renewal and/or changes has been approved.

**You must report any adverse events or unanticipated risk to the IRB within 24 to 72 hours. Refer to the IRB Guidelines for additional information.**

Use the attached Researcher Request Form for requesting renewals, changes, or closures.
*Keep this original approval form for your records.*

Chairperson or Designee,
Institutional Review Board