DO THEY WANT TO STAY OR DO THEY WANT TO RETURN?

THE STAY INCLINATIONS FOR CHINESE UNDERGRADUATE STUDENTS

IN A PUBLIC MID-WEST RESEARCH UNIVERSITY

By

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Abstract

This study expands understanding of Chinese international undergraduate students' stay inclinations in the United States. It analyzed a sample of 247 Chinese undergraduate students from a public Midwestern research university during Spring 2017. This study compared the differences in stay inclinations between Chinese undergraduate students who completed the pathway program and those who were regularly admitted. Particularly, compared to Chinese undergraduate students who were not enrolled in the pathway program, Chinese undergraduate students who were enrolled in the pathway program were significantly more likely to apply for graduate schools after their studies. Meanwhile, Chinese undergraduate students who were enrolled in the pathway program were significantly less confident about achieving their goals than those who were not enrolled in the pathway program.

This study validates the use of push-pull model for Chinese undergraduate students and confirm the importance of demographic characteristics, educational experiences, cultural and social factors, and post-graduation factors in relation to predicting stay inclinations for Chinese students studying in the United States when they graduate. The validity of the model was assessed using logistic regression and Structural Equation Modeling (SEM) and model fit was established. Specifically, major, GPA, perceived post-graduation factors in China, and perceived post-graduation factors in the U.S. are significant predictors for Chinese undergraduate students' immigration decisions after their studies.

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CHAPTER ONE: INTRODUCTION

Background

China sent no students to the United States (U.S.) during the period from the 1950s to the mid-1970s (IIE, 2015). Beginning in 1978, according to the *Chinese Reform and Open Door Policy*, the Chinese government renewed its policy of sending students overseas. According to this new policy, Chinese students were permitted to study abroad. Since 1989, China has become one of the top sending countries to the U.S. (IIE, 2015). By the 2015-2016 academic year, 328,547 Chinese students chose to study in the U.S. which comprised 31.5% of all international students studying in the U.S. Forty-one percent of these Chinese international students were undergraduate students, compared with 37.5% who were graduate students (IIE, 2016a).

Much of the existing research focuses on Chinese graduate students rather than Chinese undergraduate students. However, research on Chinese undergraduate students is important not only because of the number of Chinese undergraduate students present in the U.S., but also because they may have different characteristics when compared to Chinese graduate students. Most Chinese undergraduate students in the U.S. are sponsored by their families for tuition and costs, rather than being sponsored by the Chinese government or American universities (Yin, 2013). Chinese undergraduates are relatively young and in the process of learning to be independent (Wu, 2013; Yin, 2013). Most of them come from middle or high-income families (Wu, 2013). Lastly, Chinese undergraduate students find it more difficult than Chinese graduate students to stay in the U.S. after they graduate because of American immigration policy (Yin, 2013).

There are two main strategies for Chinese undergraduates to stay in the U.S. after they graduate. Chinese undergraduate students can apply for Optional Practical Training (OPT) as an

extension of sorts to their student visa, allowing them to stay at least nine months after graduation and train to be more competitive in the job market. According to the U.S. Citizenship and Immigration Service (USCIS), OPT is a temporary employment period for students with F-1 visa status who have completed or have been pursuing their degrees for more than nine months. Another strategy to stay in the U.S. is to enroll in a graduate school to continue their F-1 student visa status.

When Chinese undergraduate students choose to study in the U.S., one of the questions that they need to answer for themselves is where to live after they complete their studies. This study examines Chinese undergraduate students' inclination to stay or not stay in the U.S. when they graduate from a public Midwestern research university in the United States. This study examines the "pull" and "push" factors that may influence their inclinations to stay in the U.S. or to return to China.

This study seeks to understand the factors that may influence the immigration decisions these Chinese undergraduates graduate. They may want to go back to China because they think receiving a bachelor's degree from an American institution will help them in the highly competitive job market in China (Cho, 2013), or they may consider returning to China because of their family ties and friends in China (Cho, 2013; Hazen & Alberts, 2006; Soon, 2012). On the other hand, they may want to stay in the U.S. because they believe they have job opportunities in the U.S. to get OPT opportunities, or to attend a graduate school in the U.S. (Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014).

The number of international students studying in the U.S. has increased year by year after 2002 (IIE, 2015). This is partly attributed to the growth of conditional acceptance programs of U.S. institutions generally referred as pathway programs (Miller, Berkey, & Griffin, 2015).

Pathway programs are programs organized by U.S. institutions or education companies in which they lower the language requirements to help recruit international students (Klahr, 2015; Miller, et, al., 2015). These pathway programs are designed for international students to learn English language and cultural skills (Klahr, 2015; Miller, et, al., 2015). The goal of pathway programs is to help international students prepare academically and linguistically for "regular" undergraduate courses in American universities (Miller, et, al., 2015). In recent years, as the number of pathway programs expands at many U.S. institutions, the number of Chinese undergraduate students in these programs has increased (Redden, 2014). In order to study in the U.S., Chinese undergraduate students in pathway programs have to spend more time and pay more money than international students who are recruited as traditional undergraduate students. Thus, Chinese undergraduate students in these programs may come from a higher socio-economic status than other Chinese undergraduates. Few scholars or researchers have paid attention to these programs. It is important for American institutions and policy makers to understand Chinese undergraduate students in these programs, not only their enrollment, but also their career plans. It is possible that the unique characteristics and experiences in the pathway program influence Chinese undergraduate students' decision to stay as compared to the Chinese undergraduate students who were normally enrolled in American universities.

Purpose Statement

The purpose of this quantitative study is to compare the differences in stay inclinations of Chinese undergraduate students, both those who were enrolled in a pathway program and those who were not enrolled in a pathway program at the same public Midwestern research university. This research uses Altbach's (2004) push and pull theory to examine variables that influence Chinese undergraduate students' inclination to stay or not stay in the U.S. when they complete

their degree. Based on Altbach's (2004) theory, when considering inclination to stay or not stay after studying in American universities, Chinese international students are "pushed" by a variety of factors from China to return while they are "pulled" by some variables to stay in the U.S. More specifically, this study focuses on examining whether demographic factors, educational experiences, cultural and social factors, and perceived post-graduate factors influence Chinese undergraduate inclination to stay or not stay in the U.S.

Research Questions

This study investigates the following research questions:

1) Do Chinese undergraduate students' want to stay in the U.S. when they graduate?
2) Are there mean differences in stay inclinations of Chinese undergraduate students who were enrolled in the pathway program and those who were regularly enrolled at the same institution?
3) To what extent do demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors explain stay inclinations in the U.S. for Chinese undergraduate students at a public Midwestern research university?

Demographic characteristics include gender, age, major, parental education, and parental socio-economic status; educational experiences include the length of study in the US, extracurricular experience, work experience, and Grade Point Average (GPA); cultural and social factors include strength of family ties in China, friends influence in China, the level of cultural adjustment in the U.S., faculty and friends support in the U.S.; and perceived post-graduation factors include perceived job opportunities in China, perceived job opportunities in the U.S., perceived graduate school opportunities in the U.S., and high salary expectation in the U.S.

To address these research questions, this study explores the method of Structural

Equation Modeling (SEM) and logistic regression to evaluate the influence of variables of demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors on Chinese undergraduate students' inclination of destination decisions. A survey was designed for all Chinese undergraduate students at a public Midwestern public research university.

Conceptual Framework

The approach to understanding the factors influencing Chinese undergraduate students' inclination to stay in or leave the U.S. is through push and pull theory (Altbach, 2004; Cho, 2013; Gungor & Tansel, 2006; Kruanak & Ruangkanjanases, 2014; Mazzarol & Soutar, 2002). Push and pull factors are defined as the variables that motivate Chinese undergraduate students to return to China as well as the variables that encourage them to stay in the U.S. (Altbach, 2004). Chinese undergraduate students' stay inclinations in the U.S. after graduation are believed to be motivated by many "pull" factors, such as better career opportunities in the U.S. (Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014), the length of stay in the U.S. (Güngör and Tansel, 2006), the level of cultural adjustment in the U.S. (Baruch, Budhwar & Khatri, 2007; Kruanak & Ruangkanjanases, 2014), the level of faculty support in the U.S. (Kruanak & Ruangkanjanases, 2014). If Chinese undergraduate students want to stay in the U.S., it indicates the gain of highly skilled people entering a country (Stark, Helmenstein, & Prskawetz, 1997; Lee & Kim, 2010), which is defined as "brain gain" in the U.S. At the same time, it indicates the loss of highly skilled people through leaving a country, which is defined as "brain drain" in China (Lee & Kim, 2010; Stark, Helmenstein, & Prskawetz, 1997). On the other hand, this study also points out that there are some push factors that promote the desire for Chinese undergraduate students to return. For example, Chinese undergraduate students' return inclination after

graduation are motivated by "push" factors such as the lack of ties to family and friends from China (Cho, 2013; Hazen & Alberts, 2006; Soon, 2012) and perceived lack of job promotion opportunities in the U.S. (Cheung & Xu, 2013; Cho, 2013). If Chinese undergraduate students want to return, it indicates highly skilled individuals move back with human capital and education experiences, which is defined as "brain circulation" (Lee & Kim, 2010).

This study also uses other concepts: human capital, cultural and social factors. Human capital theory is defined as the knowledge and skills that influence individuals' productivity (Woodhall, 1987). According to Woodhall (1987), international undergraduate study is an educational investment for Chinese undergraduate students where their returns will exceed costs. Chinese undergraduate students' stay inclinations might be influenced by the comparison of economic conditions between China and the U.S., especially the perception of different wage expectations between the two countries. Cultural factors are defined as cultural knowledge Chinese undergraduate students have. Specifically, in this context, it means the level of cultural adjustment Chinese undergraduate students have (Lee & Kim, 2010). In other words, if Chinese undergraduate students have higher level of cultural adjustment, they would be more likely to stay in the U.S. when they graduate. Social factors are defined as social networks and connections. In this case, Chinese undergraduate students' social factors are related to their networks with family and friends in China and their relationships with friends and faculty in the U.S. A more specific discussion of push and pull model, human capital, cultural and social factors occurs in Chapter Two.

Hypotheses of the Study

This study hypothesizes that demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors could be related to Chinese

undergraduate students' inclination to stay or not stay in the U.S. when they graduate. Demographic characteristics include gender, age, major, parental education, and parents' socio-economic status. Chinese undergraduate students' educational experiences include the length of stay in the U.S., extracurricular experience, work experience, and GPA. Cultural and social factors include family ties in China, friends influence in China, cultural adjustment in the U.S., faculty relationships in the U.S., and friends influence in the U.S. This study examines if perceived post-graduation factors such as perceptions of job opportunities in China, graduate school opportunities in the U.S., job opportunities in the U.S., and high salary expectation in the U.S. influence Chinese undergraduate students' decisions to stay or not stay in the U.S.

Push and pull theory suggests that the stay inclination may be due to human capital variables such as demographic and educational experiences. Chinese undergraduate students may respond to the general push and pull factors differently depending on their different demographic characteristics and educational experiences. Also, push and pull theory suggests that Chinese undergraduate students' different levels of cultural and social networks in China and in the U.S. could influence their stay inclinations (Baruch, et al., 2007; Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014; Soon, 2012; Zweig & Changgui, 1995). In this case, cultural factors could be related to the Chinese international undergraduate students' cultural knowledge such as cultural adjustment level. Specifically, the present study hypothesizes that Chinese undergraduate students who are more culturally adjusted to the U.S., will be more likely to stay in the U.S. Social factors could be related to Chinese undergraduate students' social network in the U.S. This research hypothesizes that Chinese undergraduates who have more networks in the U.S., will be more likely to want to stay in the U.S. when they graduate. In other words, the level of cultural adjustment and social network in the U.S. could be the "pull" factor that might promote Chinese

undergraduate students to stay after their studies in the U.S. The current study hypothesizes that the strength of social networks the Chinese undergraduate students receive from China, such as family ties and friends support in China, will be negatively associated with their stay inclination in the U.S. after their studies. The presence of family and friends support in the U.S. might be the "push" factor that encourages them to return to China when they graduate.

The perception of better career opportunities, graduate study opportunities, and high salary expectation in the U.S. could be the "pull" factors that may incentivize Chinese undergraduate students to stay in the U.S. when they graduate. According to U.S. immigration policy, the two common ways Chinese undergraduate students can stay are through graduate school enrollment and OPT permission. Thus, the present study hypothesizes that those who have better career opportunities and graduate study opportunities in the U.S. are more likely to want to stay in the U.S. According to human capital theory, this study hypothesizes that those who have a higher salary expectations in the U.S., will be more likely to want to stay in the U.S. On the other hand, the perception of lack of job opportunities in the U.S. could be the "push" factor that may motivate Chinese undergraduate students to return to China when they graduate.

This study hypothesizes that there may be a significant difference of inclination to stay or return between Chinese undergraduate students who were enrolled in the pathway program and Chinese undergraduate students who were not enrolled in the pathway program because these two groups of Chinese undergraduate students have different characteristics such as coming from different socio-economic backgrounds and having different educational experiences and different work experience. For instance, Chinese undergraduate students may be more likely to return to China if they have higher socio-economic status because they may have more resources in China. While they may be more likely to stay in the U.S. because they have more extracurricular

experiences to get involved in the American society.

Significance of the Study

Much research has focused on the desire of international students to study in the U.S. while little literature has targeted international students' decision to stay or not to stay when they complete their degree (Kim, Bankart, & Isdell, 2010). According to U.S. immigration policy, it is hard for international undergraduates to stay in the U.S. Most Chinese undergraduate students can stay only if they get a job offer to apply for an OPT, or they can stay if they enroll in a graduate program. This study focuses on the current Chinese undergraduate students' immigration inclination after graduation. There is some existing research on inclination to stay or not to stay looking at international students from different countries (Cho, 2013; Hazen & Albert, 2006; Szelenyi, 2006). However, not many researchers focus on Chinese undergraduate students' destination inclination following their graduation. Significantly, no research investigates Chinese undergraduate students' decision to stay in the U.S. after their graduation from a pathway program. This research will fill the gap in the literature by examining the inclination to stay or return of Chinese undergraduate students including those who were enrolled in a pathway program and who were enrolled as traditional undergraduates.

Research on Chinese undergraduate students' stay inclinations in the U.S. is important for both the U.S. and China for the global brain circulation phenomenon (Yu, 2016; Zweig, 1997). Although inclination is not the real future decision, it is still important to understand how Chinese students assess their migration options, particularly Chinese undergraduate students starting from a pathway program. Inclination is a decision-making process that leads to the real decision, although the future decision may or may not be the same as one's original inclination.

If Chinese undergraduate students want to stay, they have two common options: go to

graduate school or work in the U.S. The perception of graduate school as a valid option to stay could increase the number of potential applications to graduate schools in the U.S. Meanwhile, applying for an OPT as a way to extend a student's stay in the country could give U.S. immigration officials and policy makers an idea of the future number of OPT holders. In addition, these inclinations might affect the Chinese and American high-skilled labor markets (Yu, 2016; Zweig, 1997). It is particularly useful to understand the unique characteristics and educational experiences of Chinese undergraduate students going through pathway programs. The results of this research can advance knowledge of mobility paths that Chinese undergraduate students take after graduation. Further, the findings have important policy implications such as career guidance policies for international students at American colleges. This research will help future researchers to consider their instruments and studies in studying education migration for international students.

CHAPTER TWO: LITERATURE REVIEW

In this chapter, I review the theoretical literature regarding Chinese undergraduate students' stay inclinations in the United States (U.S.). First, I write about the literature on Chinese undergraduate students at American institutions. Then, I review the theories that provide an understanding of the reasons for Chinese undergraduate students' stay inclinations when they graduate in the U.S. Lastly, I discuss the conceptual framework and the factors influencing Chinese undergraduate students' decision to stay or not stay in the U.S. after their studies.

Chinese Undergraduate Students in American Institutions

This section provides an overview of what we know about Chinese international undergraduate students in the U.S. First I review U.S. immigration policy regarding international students. Then I discuss the Chinese international undergraduate students in the past and current America universities. Next, I focus on the unique characteristics of Chinese undergraduate students and pathway programs in the U.S. This analysis underscores the importance of studying this population.

Immigration Policy Regarding International Students in the United States

The first of the American government's policies relating to international students is the *Fulbright Act* of 1946 (O'Mara, 2012). This policy offered funds to sponsor international students to study in American colleges on a small scale thereby attracting international students to study in the U.S. Due to budget growth, the Fulbright Act was subsumed into the *Smith-Mundt Act* of 1948, which enhanced international education. The *National Defense Education Act* of 1958 brought research and development funding in science and mathematics research, which was concentrated at the large research universities that were enrolling international students (O'Mara, 2012). This research and development funding was utilized to establish area studies and world

language centers, which was attractive to international students applying study at U.S. institutions. The number of international students in the U.S. increased almost 170% between 1959 and 1964 (IIE, 2015). More importantly, it was during this period that the U.S. became the biggest importer of international students in higher education (O'Mara, 2012). However, due to the political reason, China sent no students to the U.S. from the 1950s until 1974/75 (IIE, 2015).

The *Fulbright-Hays Act* of 1961 (the *Mutual Education and Cultural Exchange Act*) targeted international students and expanded the international programs financially (O'Mara, 2012). From President John F. Kennedy to President Richard Nixon, the government emphasized more private investment in international education. Meanwhile, the number of international students during this period increased year by year (IIE, 2015). Significantly, President Nixon's 1972 visit to China contributed to making China become the top country sending students to the U.S. (O'Mara, 2012). According to *Chinese Reform and Open Door Policy* in 1978, American universities began to enroll Chinese international students again. The number of Chinese undergraduate students kept increasing. The renewal of *Higher Education Act* of 1986 mentioned the development of international business. In the 1980s, the government debated how to balance the benefit and value through establishing connections between American higher education and international business (O'Mara, 2012). The number of international students in the U.S. decreased by 0.6% in 1983-1984 and 2.9% in 1988-89 (IIE, 2015). However, the number of Chinese international students was still increasing during that period (IIE, 2015).

The visa situation in the U.S. received increasing attention since the events of September 11 2001 (Hazen & Alberts, 2006). The number of international students in the U.S. decreased from 2001 to 2005 (IIE, 2015). It was not easy to attract international students during that era. In order to attract highly skilled laborers and reduce post-September 11 influence, the government

changed its strict visa policy in 2005 and made it easier for international students, especially Chinese international students, to get a green card in science, technology, engineering and mathematics (STEM) fields (Guruz, 2008). In the last ten years, the number of international students has grown from 564,766 in 2005 to 1,043,839 in 2016 (IIE, 2016a).

President Barack Obama pointed out the need for immigration reform in his inaugural address in January 2013: "*Our journey is not complete until we find a better way to welcome the striving, hopeful immigrants who still see America as a land of opportunity; until bright young students and engineers are enlisted in our workforce rather than expelled from our country*" (Obama, 2013). In other words, in order to increase global competitiveness and human capital, the U.S. government would benefit from recruiting and retaining international students who go on to become highly skilled workers (Yu, 2016). As mentioned in the introduction, China is one of the top countries sending students to the U.S. Specifically, 328,547 Chinese students chose to study in the U.S. in the 2015-2016 academic year (IIE, 2016a).

However, President Donald Trump's presidential memorandum signed on March 6, 2017 enhanced screening and vetting of applications for visas. Thirty-eight percent of U.S. universities reported a decline in international applicants this fall because they perceive that "*the climate in the U.S. is now less welcome from other countries*" according to a recent survey conducted by five higher education associations (Redden, 2017). President Donald Trump's new immigration reform plan emphasized reducing the number of legal skilled temporary migrant workers. This plan also required companies to hire American workers first, which could increase the regulatory cost for American firms hiring skilled foreign workers in specially occupations. It could be more difficult for Chinese undergraduate students to stay in the U.S. in the Trump's era.

What is clear from this history is that U.S. immigration policies play a critical role in

influencing Chinese undergraduate students staying and working in the U.S. after earning their degree (Lee & Kim, 2005). In order to develop an effective place-marketing strategy, policy makers and managers need to understand the factors that influence location inclination for Chinese undergraduate students when they graduate.

Chinese International Students in American History

Yung Wing was the first Chinese student who studied in the American university; he graduated from Yale College in 1854 (Peng, 2008). According to his study abroad experience, he persuaded the Chinese imperial government of Qing Dynasty to send young Chinese students to the U.S. to learn Western science and engineering, which influenced the later plans for Chinese students studying abroad. His idea of "*improving Eastern culture to develop country through Western science*" was generally accepted by most Chinese students who studied abroad (Dow, 1998; Peng, 2008). Chinese students were encouraged to study in America, absorb knowledge and ideas, then return to China. This was seen as an act of Chinese patriotism. These returning students impacted and contributed to the development of Chinese modern society, especially during modern Chinese history (from 1911 to 1949) (Peng, 2008; Shen, 2014).

Due to historical colonial attitudes, before 1911, the Chinese imperial government of the Qing Dynasty era did not have a clear and specific policy concerning the direction of higher education, thus the development of higher education was slow and out-of-date (Altbach, 1989). The Republican Revolution of 1911 was a movement, led by Sun-Yat Sen that toppled the last emperor and a two thousand-year-old imperial government. The period between 1911 to 1949 is considered the first time in modern Chinese history when Chinese society truly began to make some changes, particularly to Chinese higher education (Shen, 2014). As more and more Chinese students returned from studying in the U.S. after 1911, American higher education became

significantly influential (Shen, 2014). These returning students chose to return due to a passionate desire to save the country.

Although most Chinese students in the early 1900s studied science and engineering in the U.S. (Altbach, 1989), students who returned from America not only became higher achievers in science and technology but excellent in other areas as well. The number of Chinese students returning from America to China, especially those who studied education was significantly high (Zhang, 2002). Regardless of what they studied at American institutions, most of them entered into the academic and education sector in China (Peng, 2008). Evidence can be seen in some studies that 35% of Chinese students who returned from America were engaged in work for Chinese education institutions from 1911-1926 (Dow, 1998; Peng, 2008). They played a noticeable role in impacting Chinese higher education. Their teachings exemplified the American education in China and their adopted American way of life was envied and emulated by younger generations (Zhang, 2002), which established the foundation for Chinese education reform.

The reason that I mention the Chinese higher education in that era is the belief of "*save country through the education reform*" significantly encouraged students who studied in America to return to serve their home country through education (Peng, 2008). Actually, this statement was not only a reflection of the traditional Chinese view as to the function of education, but also a genuine expression of the American educational spirit of non-involvement in politics (Dow, 1998). Chinese students studied in the U.S. and recognized the gap between China and America (Peng, 2008). They realized it was possible and crucial to develop China through developing higher education (Peng, 2008; Dow, 1998). This belief increased the returned students' confidence and passion to further contribute to the Chinese higher learning in order to develop the country during the period from 1911 to 1949.

Although today's situation is different, it is still important to know the historical reasons that Chinese international students studied in the U.S. and chose to return upon graduation. It seems Chinese international students studied in the U.S. and returned after their studies mainly due to political reasons during this special period. However, the decision-making process today for Chinese international students is no longer solely based on political reasons. This study focuses on individual reasons to stay in the U.S. or return to China, such as demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors.

Current Chinese Undergraduate Students in American Universities

International higher education is a big business (Altbach, 2004). Today, two thirds of international students report that they and their families pay for their study in the U.S. (IIE, 2016b). Specifically, 81.2% of international undergraduate students pay for schooling on their own or with family assistance (IIE, 2016b). The rest are sponsored by their governments or by American universities or other institutions (IIE, 2016b). Most who have sponsorship are international graduate students (Yin, 2013). In the current environment of budget cuts, American universities are trying to enroll more international students through a pathway program to increase their tuition (Redden, 2010).

The U.S. has been a major recipient of international students since the 1960s and the international student population has grown annually (Hazen & Alberts, 2006). As mentioned, there were 1,043,839 international students in the U.S. during the 2015-2016 academic year and China remains the top sending country (IIE, 2016a). Chinese students make up 31.5% of international students studying in the U.S. (IIE, 2016a). In 2015-2016, Chinese students in American colleges and universities contributed $11.43 billion to the American economy (IIE,

2016a). Chinese students do not just contribute to the national economy, they also contribute to the American global competitiveness by increasing the number of highly trained workers in key disciplines (Altbach, 2004). Even though Chinese international students are officially temporary migrants, many might become more permanent immigrants to the U.S. after their studies.

The Unique Characteristics of Chinese International Undergraduate Students

According to Cheung and Xu (2015), the majority of studies focus on professional migrants who enter the U.S. with H1B visas, rather than international students with F-1 student visa. Much research focuses on graduate students' location decision-making process when they graduate; not as many scholars do research on undergraduate students' stay inclinations. However, when compared to graduate Chinese students, Chinese undergraduate students in the U.S. are different and have their own unique characteristics.

Chinese undergraduate students are normally 17-18 years old when they come to the U.S. (Wu, 2013). Chinese undergraduate students are younger and less mature than Chinese graduate students. The only way for Chinese high school graduates to attend Chinese colleges is through an annually competitive national college entrance test called *Gaokao*. This test requires years of round-the-clock preparation. The family and high schools ask the Chinese students in high school not to consider any other issues besides the preparation for the test of *Gaokao*. Therefore, most Chinese international undergraduate students who are recent high school graduates lack experience of independence and self-regulation (Zhang & Hagedorn, 2011). They need more time to get adjusted to the American campus than Chinese graduate students. Compared to Chinese undergraduate students, Chinese graduate students are more selective through the tough test of *Gaokao* in China and know how to study well through the 4-year college experience. Also, they went through the world-wide competition of seeking scholarships and assistantships.

Thus, Chinese graduate students are more competitive and competent in adjusting to the American campus quickly.

Most Chinese international undergraduates study abroad more because their parents want them to and less because their personal choice (Zhang & Hagedorn, 2011). Many of them applied to American colleges with the assistance of third-party education agencies (Zhang & Hagedorn, 2011). According to Zhang and Hagedorn (2011), many of them did not seek out any college information beyond agents' recommendations. While Chinese graduate students need to have specific academic interests and communicate with their future academic advisors themselves before they apply, Chinese undergraduate students do not. These graduate students are more aware of the new environment and their academic goals than Chinese undergraduate students in the U.S.

Although the American university tuition costs are increasing, the number of Chinese undergraduate students studying in the U.S. is not decreasing. This generally means they have the ability to pay the tuition. Indeed, most of undergraduate students from China who study in the U.S. pay for schooling themselves (Yin, 2013). In other words, their parents or families sponsor their college costs. On the other hand, most Chinese graduate students are sponsored by their government or American universities (Wu, 2013). Compared to Chinese graduate students, Chinese undergraduate students come from higher socio-economic status families (Wu, 2013).

As mentioned, American immigration policies focus on high skilled workers, such as international graduate students. Compared to Chinese graduate students, it is more difficult for Chinese undergraduate students to apply for an H1B visa and stay in the U.S. (Yin, 2013). When international students graduate, they can apply for an H1B visa, which allows them to stay in the U.S. for up to six years. However, in order to do so, they must find a position with a U.S.

employer willing to sponsor them for such an employment-based visa by showing that they are more qualified than U.S. residents. Compared to Chinese graduate students, Chinese undergraduate students are often not competitive enough to attain sponsorship for an H-1B visa because they are relatively young, have little work experience, and have little opportunity to gain work experience on campus. They are less advantaged compared to Chinese graduate students and it is difficult for employers to spend extra money to sponsor them. Further, it is difficult to prove that they are more qualified than U.S. residents to fill the positions. Related to this study, it is important to conduct research about Chinese international undergraduate students to understand them.

Chinese International Undergraduate Students in pathway programs in the United States

Pathway programs started in Australia and the United Kingdom and just began developing in the U.S. recently (Redden, 2010; Redden, 2014). American universities and colleges have increased their cooperation with for-profit companies to establish pathway programs for help in recruiting international students (Redden, 2014). During the Association of International Educators (NAFSA) conference in 2016, a survey related to the pathway international students' market by Bridge Education group was released, indicating that 37% of American institutions recruited international students through recruitment agents. For instance, Navitas worked with Western Kentucky University; INTO cooperated with Oregon State University and the University of South Florida; Shorelight Education had a partnership with the University of Kansas, Auburn University, and Florida International University. According to Redden (2010), pathway programs are popular in the U.S. because they provide an opportunity to increase recruitment of international students to help American university campuses be more diverse and bring money to American colleges.

Pathway programs provide English language and academic skills courses to support and teach international students in their first year (Redden, 2010). The international students in the pathway programs normally lack the English language ability needed for direct admission to the American universities and colleges (Redden, 2010). In other words, pathway programs are programs for international students whose English level is not necessary sufficient to qualify for regular admission. Pathway programs create a sheltered environment where international students can learn English language and adjust to a new culture, academic and otherwise (Redden, 2010). They help international students prepare for English proficiency, academic life, and help them transition to American colleges (Redden, 2010).

According to Redden (2014), more than 80% of international students in pathway programs are from China. It is important to do research on Chinese undergraduate students in pathway programs because of their large number. Chinese undergraduate students in a pathway program pay more, compared to traditionally-admitted undergraduate students because they spend more time completing their degree. That is also one of the important reasons for American universities to establish these programs. Chinese international undergraduate students in the pathway programs may come from more affluent families than Chinese international undergraduate students who are admitted directly to American institutions. Pathway programs offer more opportunities to help undergraduates get involved on campus, since one main goal of these programs is to help Chinese international undergraduate students get adjusted to the American campuses. As previously indicated, Chinese undergraduate students need time to get adjusted to a new culture and campus. Through a pathway program, Chinese undergraduate students may be more prepared for American academic life and future workforce than regularly admitted Chinese undergraduate students. Until now, there is not much study of pathway

programs in the U.S. More significantly, there is no scholarship related to stay inclination for Chinese international undergraduate students in pathway programs. The present study can provide insights on Chinese undergraduate students in pathway programs.

Conceptual Framework

Despite the focus of many researchers and scholars on international students who adjust to a new education system in the American colleges, limited literature focuses on their migration inclination, especially focusing on Chinese international undergraduate students. No scholars have conducted research on Chinese international undergraduate students in pathway programs' stay inclinations after their studies. In this section, I review the key concepts and theories related to Chinese international undergraduate students' decision to stay in the U.S. when they graduate, which support the theoretical background of this study.

Brain Drain, Brain Gain, and Brain Circulation

Many studies have examined the trends of international students studying abroad and where they choose to study (Baruch et al., 2007; Lee & Kim, 2010), while not much research exists that is focused on where they choose to stay when their degree is completed (Lee & Kim, 2010). The concepts of "brain drain," "brain gain" and "brain circulation" can explain Chinese undergraduate students' mobility decisions after earning a bachelor's degree. "Brain drain" means the loss of highly skilled people leaving a country, while "brain gain" means the gain of highly skilled people entering a country (Baruch et al., 2007; Lee & Kim, 2010; Stark, Helmenstein & Prskawetz, 1997). According to Baruch et al. (2007), most of the "brain drain" occurs when immigrants move from developing countries to developed countries. Meanwhile, the considerable competitive advantage in the labor market of some countries, such as the U.S. and some western countries, means they are the winners of "brain gain" (Baruch, 2007). Related

to this case, if Chinese undergraduate students want to stay in the U.S. when they graduate, it means China encounters "brain drain" with the loss of human capital, while the U.S. encounters "brain gain" with the gain of human capital. Thus, "brain drain" explains the Chinese undergraduate students' stay inclinations from China's perspective, while "brain gain" explains it from an America's perspective.

"Brain circulation" is a somewhat extended definition of "brain gain," with an emphasis on human capital circulation across countries all over the world, benefiting both the sending and host countries (Lee & Kim, 2010). According to Gribble (2008), "brain circulation" is used to analyze the increasing circular nature of international migration. Although sending countries encounter negative influence from the impact of high-skilled migration, the sending countries can also benefit from educating their citizens abroad (Gribble, 2008). "Brain circulation" can explain through two elements: international students return to their home countries after their study or work in the host country; the international returners would keep connections with their former host country (Gribble, 2008). "Brain circulation" means Chinese students return to China when they graduate from an American university and the Chinese government benefits from this kind of "brain circulation."

China suffers the worst "brain drain" in the world (Cheung & Xu, 2015), since China became the top worldwide contributor of emigrants in 2007 (Lam, 2010). According to the *2015 Chinese Global Migration Report*, 71,798 Chinese people immigrated or became permanent residents in the U.S., 34,000 in Canada and 27,334 in Australia in 2013. The U.S. is the top one country for Chinese immigration. According to the *2015 Chinese Global Migration Report*, 903,000 Chinese persons received permanent resident status in the U.S. from 2000 to 2013, particularly Chinese high-skilled workers. Since 1980, Chinese doctorate recipients have been

increasingly staying in the U.S. immediately following their graduation (NSF, 2015). Ten countries account for 70% of the doctoral degrees awarded to temporary visa holders from 2004 to 2014 (NSF, 2015); China is the highest, accounting for almost 45% of doctoral temporary visa holders (NSF, 2015). Compared to the stay rate (74.1%) in the 1980s (Kim et al., 2010), Chinese doctorate recipients in the 2010s had a significantly higher stay rate in the U.S. (93.2%) (Roh, 2013). It seems Chinese doctorate recipients are more likely to stay in the U.S. Based on Baruch, et, al.'s (2007) research, "brain drain" increases the human capital of developed countries, such as the U.S. at the expense of China.

In order to counter this "brain drain" phenomenon, the policy-makers in China established strategies to attract Chinese skilled workers to return. These return migrations relate to the "brain circulation". For example, President Xi, Jinping said, "*Beijing fully respects talents, enthusiastically support [their work] and give them free reign in their pursuits*" in 2010, which promised that the government could establish a good environment for skilled returning workers (Lam, 2010). Through the *Thousand Talents Program* started in 2008, many Chinese international scholars and researchers returned to China (Lam, 2010). According to the *2015 Chinese Global Migration Report*, Chinese people with permanent resident statuses in other countries started decreasing in 2012. Significantly, compared to 2012, the percentage of Chinese people securing permanent resident statuses in other countries decreased 12.2% in 2013. In addition, 2,999 individuals gave up the permanent resident statuses and green card opportunities and returned to China in 2013. According to Lam (2010), it is significant that in its policies regarding retaining talents as well as attracting returned talents, the Chinese government appears to have given top priority to tangible benefits such as salaries, promotion prospects and seed money for starting new ventures. In order to change the loss of human capital, the rising

economy led the Chinese government to change the policies to attract skilled returnees and foreign professionals (Yu, 2016) such as *Thousand Talents Program* in 2008. Further, in order to counter the "brain drain," the Chinese government operated "*The Mid-to Long-term National Plan for the Development of Talents*," which spans the years 2010 to 2020 (Lam, 2010).

However, the Chinese government pays more attention to the Chinese international graduate students and highly skilled workers, rather than Chinese international undergraduate students. Chinese international undergraduate students represent a large population; they are also contributing to the Chinese and American job markets and influencing society development. It is important for policy makers to be concerned with this population group.

Brain gain in the U.S. Although the current Chinese government has policies to attract high skilled workers to return, the U.S. puts much stress on the managing of human resources and on "retaining outstanding personnel, particularly the free flow of talents and the abolition of restrictions and discriminations" (Lam, 2010). Highly-skilled workers such as foreign doctorate recipients who major in STEM will increase research competency and economic development in the U.S. (Roh, 2013). With "brain gain," the U.S. benefits from international students who stay when they graduate (Gribble, 2008) because they contribute productivity in the U.S. (Roh, 2013). Related to this case, American immigration policy works likes a filter to select the most competitive international undergraduate students who can stay. The number of Chinese international undergraduate students who want to stay and apply for the OPT may affect the future number of Chinese international undergraduate student immigration.

While the present study focuses at the individual level, it has implications at the national level. I will examine the attitudes and perceptions of Chinese international undergraduate students who study in American institutions and their stay inclination decision making when they

graduate. One aim of this study is to provide insights into the current "brain drain, brain gain and brain circulation phenomenon".

Theory of Push and Pull

In order to better understand Chinese international undergraduate students' stay inclinations in the U.S. after their studies, I review push-pull theory as the main theory to explain individuals' decision making process. Push-pull theory was first suggested by Lee (1966) to explain immigration. The push-pull model was developed to clearly relate to cross-border movement by Altbach (1989) and in particular for students' global movement (Altbach, 2004). The push-pull model describes the factors that motivate individuals to move from one country to another (Altbach, 1989). Specifically, international students who decide to move from one country to another are "pushed" from sending countries by many factors while "pulled" from host countries by a variety of reasons through push-pull theory (Altbach, 2004; Mazzarol & Soutar, 2002). For instance, international students are "pushed" from their home countries because of limited space and competitive entry requirement in their local universities, while they are also "pulled" to study in the U.S. for the world's best academic system (Altbach, 2004). Another study indicates the international individuals who choose to study abroad are "pulled" and "pushed" by six factors including overall level of knowledge and awareness of the host country in the student's home country, the level of personal recommendations, cost issues, study environment in the host countries, geographic proximity and social links (Mazzarol & Soutar, 2002). Similar to Altbach (2004) and Mazzarol and Soutar (2002)'s research, this study provides the implications for government and institutions seeking to recruit international students. Particularly, students from less developed countries are more likely to choose to study in more developed countries (Kruanak & Ruangkanjanases, 2014). That is also the reason behind the

significant growth of Chinese international students at American colleges and universities since the 1980s (Mazzarol & Soutar, 2002).

Additional research of the push-pull model examines the factors influencing international students' selection of a stay destination decision after their studies (Lee & Kim, 2010; Mazzarol & Soutar, 2002; Soon, 2012). Related to this study, for stay inclination, international students' decisions to stay are believed to be motivated by various "pull" factors such as favorable conditions in the U.S., and in part by "push" factors such as unfavorable conditions that originate in the home country (Cho, 2013; Cheung & Xu, 2015; Gungor & Tansel, 2006; Kruanak & Ruangkanjanases, 2014; Lu, Li, & Bernard, 2009; Soon, 2012). In other words, according to Baruch, et, al. (2007) and Gungor and Tansel (2006), the Chinese undergraduate students' stay inclinations are motivated by a number of "pull" factors from the U.S. and in part by "push" factors that originate in China. Soon (2012) through a survey of international students in New Zealand, describes the educational variables such as discipline, especially in health and science, as considerations for international students that "pull" them, or make them more likely to stay, while social and cultural variables, such as less family support in the U.S., as a "push", making them more likely to return. Hazen and Albert (2006) indicate the perceived post-graduation variables, such as the prospect of better career opportunities in the U.S., "pull" international students to stay in the US, while cultural and social factors, including family and friends and other connections from home, "push" them to return. Cho (2013) and Lu et al. (2009) identified demographic variables, such as gender and family economic background as significant variables related to international students' migration inclination. This study broadly seeks to address the different factors Chinese international undergraduate students consider when making their migration decisions, as well as to provide a deeper understanding of the decision-making

processes. My target population includes Chinese international undergraduate students who completed pathway programs and those who were traditionally admitted, providing a unique assessment.

Human Capital, Cultural and Social Factors

Human capital. Previous research on international immigration of highly skilled workers uses human capital theory to explain migration (Kim et al., 2010; Mattoo, Neagu & Ozden, 2008; Psacharopoulos, 2006; Zweig, Chen & Rosen, 2004). As mentioned in the introduction, human capital theory is defined as the knowledge and skills that affect individuals' productivity (Woodhall, 1987). Human capital theory was first used to explain migration by Sjaastad (1962): "Migration as an investment increasing the productivity of human resources" (pp. 83). In addition, human capital encompasses the knowledge, skills, and the educational experiences that increase individuals' productivity, which further increase their life earnings (Psacharopoulos, 2006). The decision to invest in human capital is an economically rational choice. In this case, Chinese international undergraduate students have a considerable amount of newly acquired human capital, which could influence the U.S. and China. According to Kim et al (2010), human capital for Chinese international undergraduate students with a bachelor's degree not only indicates their education such as advanced training and skills but also educational experiences.

Based on Altbach's (2004) research, Chinese undergraduate students who choose to study abroad believe their future financial rewards will outweigh the cost they invest in their education. As Kim et al. (2010), human capital consists of private and social benefits in terms of future rewards. Private benefits relate to the money such as salaries (Kim at al., 2010). According to Woodhall (1987), undergraduate study abroad is an educational investment for Chinese undergraduate students where their returns will exceed costs. Thus, Chinese international

undergraduate students' stay inclinations are influenced by the comparison of economic condition between China and the U.S., especially the different wage expectations between two countries (Cheung & Xu, 2015). Also, private benefits are related to job opportunities for Chinese international undergraduate students from both China and the U.S. According to Kim et al. (2010), social benefits refer to the human capital acquisition from a country level. In this case, both the Chinese and American governments should consider the benefits of receiving Chinese international undergraduate students be based on their stay or return inclination. This stay inclination will influence governments' policy of attracting human capital through individuals with bachelor degrees from American institutions. In this case, Chinese international undergraduate students' immigration decision would base on their considerations of returns of investment of human capital. If they believe they will get more rewards when they stay, they are more likely to stay in the U.S. when they graduate. Meanwhile, if they believe they will get more returns when they seek employment at home, they may be more likely to return to China after their studies.

Cultural and social factors. When Chinese international undergraduate students consider their desired location, they not only view study abroad as an investment opportunity, but also consider elements of the cultural and social environment. Not much literature links immigration inclination to cultural and social factors. In this study, cultural factor are defined as Chinese undergraduate students' cultural knowledge such as cultural adjustment level. In this context, having a bachelor's degree from an American university not only includes increasing human capital that is acquired through American education but also cultural knowledge, which indicates increasing global competency such as cultural adjustment to "the American way" (Lee & Kim, 2010). The cultural adjustment process is significantly related to the international

students' academic performance when they study abroad (Zhang & Goodsonb, 2011). Understanding the impact of culture shock is important for international students' decision making (Zhang & Goodsonb, 2011). According to Baruch et al. (2007) and Kruanak & Ruangkanjanases (2014), the process of international students adjusting to the host country and the university environment are likely to play an important role in their stay inclinations. International students who benefit from a high level of cultural adjustment to the new country may be happy to stay in the environment where they feel welcome (Baruch et al., 2007). According to Mattoo et al. (2008), Chinese international undergraduate students who have greater abilities to adjust to the American language and American culture are more likely to be absorbed into the American labor market. A high level of cultural adjustment would generate a positive attitude towards the host country and its people, an essential factor in an emigration decision (Baruch et al., 2007). Therefore, if Chinese undergraduate students have the higher level of cultural adjustment, they might have a higher likelihood of staying in the U.S.

In this study, social factors emphasize an individual's relationship with others. Many studies have explored how social network influences the academic achievement of college students such as the research of Martin (2009). Research examining educational outcomes indicates that social network plays an important role in the job search process (Martin, 2009). Further, social networks are important for an international students' migration decision making process (Baruch et al., 2007; Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014; Soon, 2012; Zweig and Changgui, 1995). In this case, Chinese international undergraduate students' network refers to their family and friends in China as well as their relationship with friends and faculty in the U.S. Specifically, Chinese international undergraduate students who study in American institutions are also encouraged to engage in more communications with faculty and

friends in the U.S.

In sum, several international migration theories can be applied to explain Chinese international undergraduate students' inclinations to stay or not stay in the U.S. after their studies. This study utilizes a push-pull framework to explore the factors associated with their stay inclinations in the U.S. through demographic characteristics, educational experiences, cultural and social factors, and post-graduation factors. Explaining the push-pull model, this study incorporates the economic perspective to analyze the effect of individuals' human capital, cultural and social factors.

A Conceptual Framework for the Study

This section shows the conceptual framework used for examining what demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors influence Chinese international undergraduate students' inclination to stay or not stay when they graduate from American universities or colleges based on an understanding of the theories and background I have discussed.

It is important to view the information in this framework, because it helps to understand why individuals make the decisions they make what the norms they hold as important, and how these norms influence their immigration inclinations.

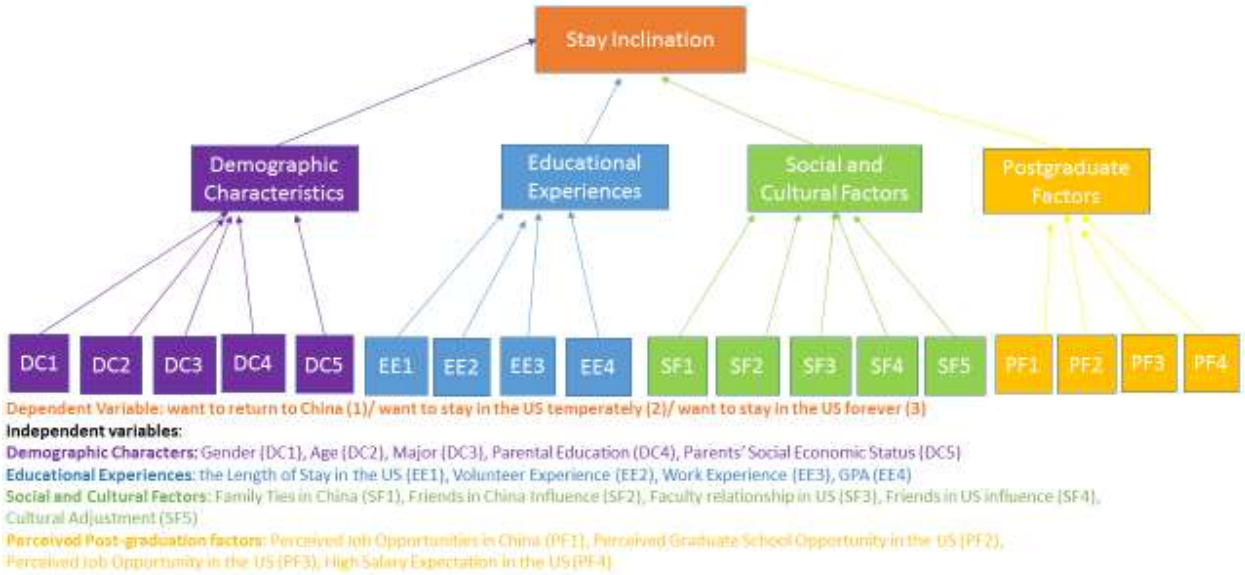

Figure 1: Conceptual Framework

Factors Affecting Chinese International Undergraduate Students' Stay Inclinations in the United States

In this section, I review previous literature on factors influencing Chinese international students' inclination to stay or not stay in the host countries when they graduate. This study expands on previous studies by looking at specific Chinese international undergraduate students who were enrolled in pathway programs and comparing them to Chinese international undergraduate students who were enrolled as traditional undergraduates at the same institution. I categorize previous research on factors influencing immigration inclination with this study of demographic characteristics, educational experience, cultural and social factors, and perceived post-graduation factors.

Demographic Characteristics

Demographic characteristics include gender, age, major, parental education, and parental socio-economic status.

Gender. Gender is an important factor that influence international students' migration inclination (Cho, 2012; Lu et al., 2009). One study found there is a significant difference between Chinese undergraduate male and female migration inclination (Lu et al., 2009). It seems female East Asian international students are more likely to stay temporarily in the U.S. than male East Asian international students (Cho, 2012). According to Cho (2012), in the East Asian cultures, society has different expectations for males and females. The primary reason for males to stay is to advance their career while females to return mainly because they desire to be closer to their family (Cho, 2012). Gender is thus an important variable to include in this analysis.

Age. According to Waldorf (1995), international students' immigration intentions are also affected by their age. The odds of staying for international doctorate recipients reduced with age in the 1990s but the age did not significantly predict the stay decision making in the 2000s (Kim et al., 2011). However, this study focuses on Chinese international undergraduate students; it is hard to say whether age will be a significant predictor of immigration inclination. Research shows that age is an important predictor in cultural adjustment (Ward, Bochner & Furnham, 2001). It may be easier for older students to adjust to American culture than younger ones. Also, older students are more likely to have study and work experiences prior to studying abroad and thus, they are more likely to stay (Soon, 2012). Therefore, Chinese international undergraduate students' stay inclinations may relate to their age.

Major. According to Cheung and Xu (2015), international student stay rates vary by degree fields. One of the important goals for American science and technology policy is to educate and attract STEM employees (Zeithammer & Kellogg, 2013), which also meets the objective of "*reaffirming America's role as the world's engine of scientific discovery and technological innovation*" (Obama, 2010). Due to this policy, compared to other majors, Chinese

undergraduate students who study STEM fields are much easier to retain in the US. Further, international students with degrees in STEM and health fields are more likely to stay (Cheung & Xu, 2015; Soon, 2012). In a word, field of study may predict the Chinese undergraduate students' inclination to stay or not to stay in the U.S. after their studies.

Parents' education level. The parental effect on Chinese undergraduate students' stay inclinations could be their education level, as they are in a position to provide support such as encouragement and the provision of information when they study abroad (Lu et al., 2009). According to Lu et al. (2009), parents' educational level predicts international students' immigration inclination. In particular, the higher the educational level arrived by Chinese parents have, the more likely it is Chinese undergraduate students stay (Lu et al., 2009). This research may predict Chinese undergraduate students' decision making process in the U.S.

Parental economic status. Baruch et al. (2007) emphasizes that the majority of Chinese international students come from the middle and upper limits of socio-economic status. According to Lu et al. (2009), parents' socio-economic status plays an important role in Chinese undergraduate students' stay inclinations when they graduate from a Canadian institution. Specifically, male Chinese students from wealthy families are likely to stay and establish their career in Canada when they complete their degree while females from middle income families are relatively hesitant to stay in Canada. Although Lu et al. (2009)'s study happened in Canada, parental economic status may also influence Chinese undergraduate students' stay inclinations in the U.S. According to Wu (2013), different family incomes may present different parental economic status.

Educational Experiences

The variable of educational experiences includes the length of study in the U.S.,

extracurricular experiences, work experience, and grade point average (GPA).

The length of study in the U.S. Zhang and Goodsonb (2011) predict the longer international students stay in the U.S., the better they adjust to American culture. The length time Chinese international students spend in the U.S. may be indicative of comfort level living in American society. The length of stay increases the familiarity with the host country while the psychological distance with the social and cultural climate of home country also increase (Gungor & Tansel, 2006). Thus, the length of stay in the US is considered as a positive pull factor for international students' stay inclinations (Gungor & Tansel, 2006; Lu et al., 2009; Soon, 2012; Waldorf, 1995). It may have significant implications to predict Chinese undergraduate students' inclination to stay or not stay after their studies in an American institution. In other words, an increase in the length of stay in the US increases the probability of stay in the US (Gungor & Tansel, 2006).

Extracurricular experience. Extracurricular experience is related to international students' migration inclination (Lu et al., 2009). Specifically, more extracurricular experiences such as events that Chinese international students participate in, may make them feel more emotionally connected and more adapted to the host country (Lu et al., 2009). Thus, Chinese international undergraduate students' stay inclinations in the U.S. when they graduate may be positively associated to their extracurricular experiences.

Work experience. According to Lu et al. (2009) and Cho (2013), work experience in the host country is significantly related to Chinese international students' migration inclination in Canada. Chinese international students have an advantage when applying for immigrant status in Canada if they have work experience (Lu et al., 2009). American immigration policy has responded to the reality that one of the important factors, even the most important factor, in

determining whether a Chinese student will be a successful skilled worker is work experience. International undergraduates who have work experience in the U.S. have more competition in U.S. employment market because they understand the U.S. working culture (Cho, 2013). Work experience may also play an important role in Chinese international undergraduate students' immigration inclination in the U.S. because they are more competitive when applying for immigrant status here when they complete their degree.

GPA. According to Lu et al. (2009), Chinese international students' academic performance predicts their stay inclinations. Specifically, Chinese international students whose academic performance is labeled as excellent, have either strong or moderate intentions to stay in Canada when they graduate (Lu et al., 2009). Academic performance such as GPA may be an important predictor in influencing Chinese international students' stay or not stay decision in the U.S. after their studies.

Cultural and Social Factors

Cultural and social factors include the strength of family ties, friends support in China, cultural adjustment in the U.S., and faculty and friends support in the U.S.

The strength of family ties in China. Family considerations, such as family attitudes and support are related to international students' migration decision (Gungor & Tansel, 2006). As previously indicated, Chinese international undergraduate students in the U.S. are mainly sponsored by their parents. Thus, Chinese international undergraduate students' parents may have more authority than other countries' parents to influence their immigration decision making process. Chinese undergraduate students' parents want them to be back for possible support due to the *One Child Policy* in China (Baruch et al., 2007; Kim et al., 2011). The strength of family ties in China is a push factor as a social variable for international students' return inclination

(Baruch et al., 2007; Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014; Soon, 2012; Zweig & Chen, 1995). In other words, if Chinese undergraduate students have strong ties with family members in China, they may be more likely to return after their studies.

Friends influence in China. Previous research emphasizes that social factors such as friends back home are the most significant push factors for international students' inclination to return (Cho, 2013; Gungor & Tansel, 2006; Hazen & Alberts, 2006). Compared to their parents, students are more likely to trust their peers (Boyd, 2014). Thus peers effect on students' decision making process may have more weight than parental influence. Language barriers can impede international students' attempts to make friends and interact with locals especially at the beginning of Chinese international students' course of study at an American university (Zhang & Goodsonb, 2011). According to Boyd (2014), the development of social media increases the communication between peers. Social media may help Chinese international undergraduate students easily communicate with their friends in China. Therefore, it is easy for Chinese international undergraduate students to keep the relationship with their friends in China. Further, if Chinese international undergraduate students are more intimate with their friends in China, the higher the likelihood they would return to China when they graduate.

Faculty influence in the U.S. Following the adjustment in the U.S., the level of support from faculty and friends is one pull factor that may influence international students' stay inclinations in the host country (Kruanak & Ruangkanjanases, 2014). Especially in traditional Chinese culture, faculty play an important role in students' academic life and career path. Regarding cultural adjustment, faculty could modify their teaching styles and provide feedback to help international students culturally adjust and thus improve international students' academic achievement (Smith & Kahwaja, 2011). Faculty who offer a supportive and hospitable campus

atmosphere for international students might influence Chinese undergraduate students' stay inclinations after their studies.

Friends influence in the U.S. As previously indicated, today's college students trust their peers thus peers influence their immigration decision making process (Boyd, 2014). Chinese international undergraduate students are not only influenced by their friends in China, but also potentially by their friends in the U.S. According to Zhang and Goodsonb (2011), much of the existing research indicates that international students who make friends with locals are able to survive the adjustment period of studying abroad better than those who do not. Those who make friends with domestic students can understand American culture and customs well, and may live more comfortably and succeed academically. If Chinese international undergraduate students have high levels of adjustment to American culture and society, they may be more likely to stay in the US after their studies. Friends support in the U.S. may be a pull factor influencing Chinese undergraduate students' immigration inclinations.

Cultural adjustment level in the U.S. Kruanak and Ruangkanjanases (2014) and Baruch et al. (2007) emphasize that the cultural adjustment level of international students in the host countries as a pull factor influence international students' immigration inclination decision making process. Chinese international students face many challenges when they study in the U.S. (Zhang & Goodsonb, 2011). These challenges such as language barriers may also influence their academic performance (Zhang & Goodsonb, 2011). Understanding the impact of culture is critical for international management of international students. Chinese international students who are more comfortable with American culture may have higher academic achievement (Hazen & Alberts, 2006; Zhang & Goodsonb, 2011). The more time they stay in the U.S., the more adjusted to American culture and society they become. In other words, Chinese

undergraduate students who benefit from a smooth adjustment to the U.S. where they feel welcome may be happy to stay after their studies (Baruch et al., 2007). On the other hand, Chinese undergraduate students who have hard time adjusting to the American culture might be more likely to return (Cheung and Xu, 2015).

Perceived Post-graduation Factors

According to Baruch et al. (2007), Chinese international undergraduate students' stay inclinations are influenced by their career choice. Perceived post-graduation factors include perceived job opportunities in China, perceived career opportunities in the U.S., high salaries expectation in the U.S., and perceived postgraduate school opportunities in the U.S. Previous literature indicates that perceived post-graduation factors can be both push and pull factors for Chinese international undergraduate students to stay in the U.S. (Gungor & Tansel, 2006; Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014; Zweig & Chen, 1995). Thus, perceived post-graduation factors may both "push" and "pull" Chinese international undergraduate students' return inclination to China or stay in the U.S. when they graduate.

Perceived job opportunities in China. Previous research indicates that job opportunities in China are an important factor to "push" Chinese international undergraduate students to return (Baruch et al., 2007; Cheung & Xu, 2013; Cho, 2013; Zweig & Chen, 1995). Specifically, through a study of 273 Chinese students, scholars, and former residents living in the U.S., Zweig and Chen (1995) found that one of the top three reasons for Chinese international students to return was "better career opportunities in China". Thus, if Chinese international undergraduate students perceive there are more job opportunities in China, they may be more likely to return.

Perceived job opportunities in the U.S. Hazen and Alberts (2006), Baruch et al. (2007), and Gungor and Tansel (2006) suggest that career related factors such as the prospect of better

career opportunities are the most important incentives as pull factors to pull Chinese international students to stay after graduating from American universities. In addition, an international student without a job offer cannot stay in the U.S. In other words, receiving a job offer is a qualification for Chinese international undergraduate students to stay after they graduate. Therefore, perceived job opportunities may be one important pull variable promoting Chinese international undergraduate students to stay in the U.S.

Graduate school opportunities in the U.S. Applying for a graduate school has been a common career path for Chinese international undergraduate students (IIE, 2015). Many international undergraduate students choose to attend graduate school immediately after graduation. The number of international graduate students has increased year by year (IIE, 2015). Receiving admission to graduate school is another manner in which Chinese international undergraduate students can stay. Therefore, the perceived graduate school opportunities are considered as a pull factor that may influence Chinese undergraduate students' stay inclinations.

High salary expectation in the U.S. Gungor and Tansel (2006) found that one reason Turkish students were more likely to stay in the host country was the high salaries offered in the host country. Kruanak and Ruangkanjanases (2014) indicate that salary is an important reason for international students' stay inclinations in Thailand after their graduations. Cheung and Xu (2015) state that salary after graduation is one important factor influencing the choice Chinese students who study in elite institutions whether to stay or leave. These three studies could implicate Chinese international undergraduate students' stay inclinations according to different wages in two different labor markets. Thus, high salary expectation may be a pull factor that encourages Chinese undergraduate students to stay in the United States when they graduate.

This chapter has provided a literature review examining Chinese undergraduate students'

stay inclinations in the United States when they graduate. I presented a conceptual framework related to the Chinese undergraduate students' stay inclinations involving demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors. Based on this conceptual framework, the next chapter will discuss the designed survey, variables, and statistical methods for this study.

CHAPTER THREE: METHODOLOGY

In this chapter, I present the research methodology used to examine the factors predicting Chinese undergraduate students' inclination to stay or not stay in the U.S. when they graduate. First, I introduce the institution, access, and permission granted to distribute the survey. Then, I discuss the instrumentation including questionnaire, distribution, participants and research variables. The research variables include the dependent variables and independent variables that were used to explore the research questions and also go through the focus group. Next, I present the analytic methods used in this study, including structural equation modeling and logistic regression. Finally, I discuss the limitations of this study.

Institution

In this section, I look at one public Midwestern research university and the pathway program at this university. Specifically, I compare Chinese undergraduate students who were enrolled in the pathway program present at this institution and those students who were not enrolled in the pathway program. This comparison is important to address the different characteristics of Chinese undergraduate students in these two groups and their stay inclinations in the U.S.

This study takes place at a public Midwestern research university. This institution's mission statement is to be "a major comprehensive research and teaching university and a center for learning, scholarship, and creative endeavor" (Organizational Mission, 2016). The student enrollment at this institution is approximately 28,000 (Organizational Overview, 2016) including approximately 10% of international graduate and undergraduate students from more than 100 countries (ISS, 2016) on five campuses. Concerning this institution's revenue, its state appropriations, as one of revenue sources, decreased from 24.4% of the total revenue in 2004 to

19.1% in 2016 (OIRP, 2016). The impact of budget cuts puts pressures on this institution's decision making process including admission policies. One strategy to increase funds is through the recruitment of more international students. Based on Slaughter and Rhoades's (2004) research, this approach may contribute to this institution's ability to obtain external resources. For instance, this public Midwestern research university has a partnership with a private education company to expand the international program and attract more international students. The increased international enrollments could bring more international tuition and further increase the revenues for this intuition. The number of International students at this university increased rapidly year by year (ISS, 2016). Compared to Fall 2008, the number of international students increased by 32% from 1,740 to 2,299 in the Fall 2016 (ISS, 2016). The ratio comparison to the overall enrollment increased from 9% in Fall 2008 to 14% in Fall 2016. There were 968 Chinese students studying at this university in Fall 2016 semester compared to the 492 Chinese students in Fall 2008 (ISS, 2016). In Fall 2016, 684 of Chinese students at this university were enrolled as undergraduates. Of those, 370 of them were enrolled in the pathway program at this institution.

For international undergraduate students, this public Midwestern research university has some requirements for their enrollment such as English proficiency. Specifically, this university requires a score of 57 or higher for each section and 4.5 or higher on the Test of Written English for Test of English as a Foreign Language (TOEFL) (paper-based test) or 23 or higher on the Reading, Writing and Listening sections for TOEFL (internet-based test) or 6.0 or higher for listening, reading, and writing modules, and a total score of 6.5 for International English Language Testing System (IELTS). Although this institution has an English proficiency requirement for international students, in order to recruit more international students, it provides

a conditional admission offer for students whose English proficiency is lower than the stated requirements. If international students do not have the score required, they still can enroll in the pathway program to study English and cultural courses. This pathway program is defined as "an intensive first-year experience program for international students combining English language instruction with the institution core courses while providing co-curricular, extra-curricular, and acculturation support*"* (Pathway, 2016). One big difference between Chinese international students who were enrolled in this pathway program and those who were not enrolled in the pathway program at this university is their English proficiency level when they first arrived in the U.S.

Chinese international undergraduate students who were enrolled in the pathway programs, as mentioned in the literature review, may be more prepared for their academic experiences at U.S. institutions since the purpose of pathway programs is to help international students be prepared for English proficiency, academic life, and help them transition to the American colleges (Redden, 2010). In this case, the public Midwestern research university worked with an education company and enrolled the first international students starting in Fall 2014. This pathway program seeks to combine the strengths of the private education company with this institution's academic and student service programs (Young, 2014). This pathway program aims to support first-year international students in achieving their academic, personal, and professional goals (Pathway, 2016). This program is billed as a good option for international students who are ready for the challenge of U.S. higher education but also need time to meet the English proficiency requirement and adjust to local communities (Yong, 2014). The mission of this program is to help first-year international students engage in the campus and local community, develop English proficiency and support them to successfully complete their degree

in this public Midwestern research university (Pathway, 2016).

There were 57 international undergraduate students enrolled in the pathway program in Fall 2014, accounting for 5% of the total number of international undergraduate students. This program is a 12-month, three-semester undergraduate program including 30 credit-hours of freshman-level academic courses and English courses. In order to expand the program and attract more international undergraduate students, this pathway program started to add a 9-month, two-semester undergraduate program consisting of 24 credit-hour courses in Fall 2016. The enrollment of international students is continuously expanding at this program. The population of international students who studied in this program increased from 57 in Fall 2014 to 435 in Fall 2016. Of those, 370 were Chinese of the Fall 2016 total.

According to this pathway program's website, the cost including tuition, fees, housing, meals, and health insurance to complete the three-semester pathway program is $48,800. This cost is similar to the estimated international undergraduate tuition and fees for those not enrolled in the pathway program at this institution. Therefore, the tuition and fees are similar for Chinese undergraduate students who were enrolled in the pathway program and those who were regularly admitted. But compared to students who were regularly admitted, Chinese undergraduate students who were admitted in the pathway program need to spend more time enrolled at the institution in order to complete their degree. It means they needed to pay more for their extra pathway program study.

Access and Permission

Approval to conduct the study was requested from the Human Subjects Committee at this public Midwestern research university. The Human Subjects Form along with a cover letter, Informed Consent Form, and survey items was submitted for review. The approval from the

Human Subjects Committee is in the appendix. Approval for sending the survey to Chinese undergraduates was granted by the Director of International Student Services (ISS) and the Student Services Director of the pathway program at this university. The survey was conducted through Qualtrics (an online survey tool) and open to all Chinese undergraduate students at this institution.

Instrumentation

Questionnaire

The format of this questionnaire is an online Likert 6-point disagree/agree scale questionnaire via Qualtrics – 1= strongly disagree, 2= disagree, 3= somewhat disagree, 4= somewhat agree, 5= agree, and 6= strongly agree – with 36 descriptions of cultural and social factors and perceived post-graduation factors in the finalized survey. Participants chose from the 6-point disagree/agree scale to rate their agreements with each statement. In addition to responding to the Likert items, participants also provided their demographic information, education experience, and their stay inclinations in the U.S. in this survey. In order to let the Chinese undergraduate students understand the survey well, the survey was administrated in both English and Chinese.

Distribution

The modified survey based on the focus groups was distributed to all Chinese undergraduates at this public Midwestern research university from January 31 to February 27. An information statement was presented to the participants before they took the online questionnaire via Qualtrics with the purpose of introducing the survey and obtaining participants' approvals. An email cover letter explained the purpose of the study and contained a link to the web address of the survey page. The Chinese undergraduate students knew their rights regarding participating

in the study and were aware that their rights were protected. Students were given the option to withdraw from the study at any time.

The survey was distributed to all Chinese undergraduate students using several available outlets. An online questionnaire with the items generated was distributed to voluntary and anonymous Chinese undergraduate student participants via email from the ISS. At the same time, I used my networks as international orientation leader, President for International Family Connection Organization, and graduate assistant for the pathway program at the institution to connect to Chinese undergraduates at this university. In addition, I encouraged students to complete the survey through the UNIV (orientation seminar) classes that were part of this pathway program, international events and activities sponsored by the ISS, and the events from the University Career Center (UCC). Furthermore, I spent two weeks at a reserved table in the University library and student union at this institution to invite Chinese undergraduate students to take the survey in print form. Additionally, I contacted the President of the Chinese Students and Scholars organization and the Associate Dean of School of Engineering, as that school had a big population of Chinese undergraduate students, to seek approval to distribute the survey to all Chinese undergraduate students part of these two organizations via email. I emphasized that Chinese undergraduate students should ignore the survey if they already completed it to avoid having students take the survey more than once.

Participants

The target population was all Chinese international undergraduate students at this public Midwestern research university. As mentioned, there were 968 Chinese students studying in this university in Fall 2016 semester and 684 of them were undergraduate students (ISS, 2016). Among all Chinese undergraduate students, 370 of them were in the pathway or completed the

pathway program.

Group design

This study examined two groups including the group of Chinese undergraduate students who were enrolled in a pathway program and the group who were enrolled outside the pathway program at the public Midwestern research university. It explored the descriptive differences between these two groups. This study sought to determine if there was a statistically significant difference between these two groups' stay inclinations in the U.S. when they graduate.

Research Variables

This study adopted both established and widely used items in the survey. For example, some categories of independent variables were adopted from existing research from Baruch et al. (2007) and Zhang & Hagedorn (2011). Also, this study developed some new items based on the advice from the focus group. The following is a description of the variables in this study. For the reliability of test items, some established items showed along with their current Cronbach's Alpha reliability scores and some designed items come along with their omega correlation coefficients.

Dependent variables

The respondents' stay inclinations were measured on three questions. The first one was "When I graduate, I want to go to a graduate school;" "When I graduate, I want to get a job;" or "other." The second one was "1= When I graduate, I want to return to China temporarily;" "2= When I graduate, I want to return to China long-term;" "3= When I graduate, I want to stay in the U.S. temporarily;" "4= When I graduate, I want to stay in the U.S. long-term;" or "Other." The third question was a 6-point scale from "strongly disagree" to "strongly agree" answering to "I feel confident that I will achieve my goals about where I will live when I graduate." These

three questions answered what (graduate school or work), where (U.S. or China), how long (temporary or forever), and how confident (very disagree to very agree) these students felt regarding their stay inclination after their studies.

Focus Group

A group of five Chinese international Ph.D. students, who could review both languages of the survey, was established as a peer group to gather feedback about the survey items through a two-hour discussion. They offered some advice in order to help Chinese undergraduate students to clearly understand the items. The survey was modified based on peer review. For instance, they felt it was more clear to describe "I have many close friends in China" than "I have strong friendships in China".

A group of three American graduate students was established as a peer group to gather feedback about their experiences of the survey. The group reviewed all the items and then talked about how they considered each question. Also, the focus group helped examine the logic of the survey and the effectiveness of the survey items. The survey items were revised according to their feedback. For instance, "My professors help me in the class" was revised to "In the class, my professors help me to learn the course content". In addition, an American graduate student who also knows Chinese provided his feedback for both versions of the survey items.

Independent variables

Four sets of independent variables were collected from the online survey. The first set focused on Chinese undergraduate students' demographic characteristics, e.g., gender, age, major, parental education, and parents' socio-economic status. The detailed criteria and guidelines were listed as below:

- *Gender* (DC1): This variable was measured with "0= male, 1= female"

- *Age* (DC2): This variable was measured by numbers.
- *Major* (DC2): The choices of this variable were categorized by the list of school names at the university, which would be measured with "1=STEM and Health fields, 0=Non-STEM or Health fields." STEM and Health fields include Engineering, Health Professions, Health, Sport, and Exercise Sciences, Medicine, Natural Science & Math, Nursing, Pharmacy, and Social & Behavioral Sciences.
- *Parental education* (DC4) (either father, mother): This variable was measured by "1=Less than high school completed; 2=High school diploma or equivalent; 3=Some college, vocational, or trade school (including 2-year degrees); 4=Bachelor's degree (e.g., BS, BA, AB); 5=Higher than master degree."
- *Parents' Socio-economic Status* (DC5): Chinese undergraduate students are financed by their family and that income is on average, somewhere between ¥300,000 ($44,100) and ¥500,000 ($73,500) a high income for Chinese families and equivalent to an American middle-class income (Zhang & Hagedorn, 2011). Parents' family income can be measured by "1= Family Income < ¥100,000 ($14,700); 2= Family Income between ¥100,001 ($14,701)- ¥300,000 ($44,100); 3= Family Income between ¥300,001($44,101)- ¥500,000 ($73,500); 4= Family Income between ¥500,001 ($73,501)- ¥700,000 ($102,900); 5= Family Income between ¥700,001($102,900)- ¥1,000,000 ($147,100); 6= Family Income >¥1,000,000 ($147,100)."

The second set of independent variables were questions about students' educational experience backgrounds. The items were listed below as well as detailed criteria and guidelines:

- *The length of stay in the US* (EE1): This variable was measured by the time of

stay in the U.S.: "1st year, 2nd year, 3rd year, 4th year, and 5+ year."

- *Extracurricular experience* (EE2): The item for this variable was "Since the beginning of this academic year, how often have you participated in the campus events?" The answer was measured by "1= Never, 2= once, 3= Monthly, 4= Weekly, 5= Several times per week, 6= Daily."
- *Work experience* (EE3): The item for this variable was "Have you had any work experience, such as intern or part time job in the United States?" This variable was measured by "1 =Yes, 0 =No."
- *GPA* (EE4): This variable was measured by student current GPA.

The third set of independent variables were cultural and social factors such as family ties in China, influence of friends in China, faculty relationship in the US, influence of friends in the U.S., and cultural adjustment in the U.S. All of these items were measured by a six-answer option scale ranging from "1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Somewhat agree, 5= Agree, 6= Strongly Agree." Some items were written as negatives so that they were reverse coded. Other detailed criteria and guidelines are listed as below:

- *Family ties in China (SF1)*: A four-item scale of family contact was adopted to examine the strong ties with family members in China (Baruch et al., 2007). According to Baruch et al. (2007), sample items were "My family and I are very close," "Living with my family is important to me," "I miss my family when I stay in the U.S.," and "Family ties are very important to me." The alpha-reliability scores of the four-item scales was .77 (Baruch et al., 2007). The author also added one item of "My family ties in China can help me to get a job" to increase the reliability of this factor. These items were reverse scored so that high scores

indicated high return inclination.

- *Friends in China influence (SF2)*: This factor measured the influence of friends in China with a four-item scale. According to the literature review, this category was examined through how close the Chinese undergraduate students were to their friends in China. Within the feedback from two focus groups, sample items were designed as "I have close friends in China," "I miss my friends in China," "I stay in contact with my friends in China through social media when I study in the US," and "I discuss my career plan with my friends in China." These items were reverse coded so that high scores indicated high return inclination.
- *Faculty relationship in the U.S. (SF3)*: This variable was measured by the support the Chinese international undergraduate students received from their professors at this institution. Five sample items were measured through the relationship with faculty including curricular, co-curricular and extra-curricular aspects. Within the comments from focus group, these items were "In the class, my professors help me to learn the course content," "My professors are available to me outside the class," "I discuss my career plan with my professors," "My professors care about me," and "My interactions with professors positively influenced my future goals."
- *Friends in the U.S. influence (SF4)*: This factor was measured by the support the Chinese international undergraduate students received from the relationships they developed with friends in the U.S. According to the literature, Chinese undergraduate students' friends in the US help them to get adjusted to American culture and society (Baruch et al., 2007). The five items were "I have made friends with U.S. classmates," "My fellow students at the university are friendly,"

"My friends in the U.S. help me know more about American society," "My friends in the U.S. help me solve problems," and "I discuss my career plans with my fellow students."

- *Cultural adjustment in the U.S. (SF5):* A four-item scale by Baruch et al. (2007) was adopted to examine Chinese undergraduate students' cultural adjustment level. Sample items were "I feel I have strong English language skills," "The extracurricular activities at my university such as sporting or cultural events make me feel welcome," "I have received considerable support in my adjustment to American society," "My university provides an environment that supports my needs." The author also added three items of "I experienced cultural shock when I arrived at my university," "I feel culturally adjusted," and "I feel like I belong at my university" to increase the reliability of this factor. The item of "I experienced cultural shock when I arrived at my university" was reverse coded so that high scores indicated high stay inclination.

The fourth set of independent variables addressed perceived post-graduation factors including perceived job opportunities in China, perceived graduate school opportunities in the U.S., perceived job opportunities in the U.S., and high salary expectation in the U.S. All of these items were measured by a six point Likert-type format from 1= "Strongly Disagree" to 6= "Strongly Agree". The detailed criteria and guidelines were listed as below:

- *Perceived job opportunities in China (PP1)*: This variable was measured by examining the "perception of labor market in the home country" (Baruch et al., 2007). The alpha reliability for this scale was .70 (Baruch et al., 2007). With the feedback from the focus groups, three sample items were revised to "There are

many job opportunities in China for those who want to get ahead," "I have many opportunities to get a good job in China," and "My opportunities for advancement are limited in the U.S." (Baruch et al., 2007). These items were reverse coded so that high scores indicated high return inclination.

- *Perceived graduate school opportunity in the U.S. (PP2)*: According to my literature review, graduate school opportunities and admissions are important considerations for Chinese undergraduate students' stay inclinations because of US immigration policies. This variable was measured by three items: "It is possible for me to be accepted to a graduate school in the U.S.," "There are many opportunities to apply for graduate schools in the U.S.," and "It is valuable to get a higher-level degree in the US."
- *Perceived job opportunity in the US (PP3)*: This variable was measured by examining the "perception of labor market in the host country" (Baruch et al., 2007). The alpha reliability for this scale was .73 (Baruch et al., 2007). Within the feedback from the focus groups, three sample items were revised to "There are many job opportunities in the U.S. for those who want to get ahead," "I have many opportunities to get a good job in the U.S.," and "My opportunities for advancement in China are limited."
- *High salary expectation in the U.S. (PP4):* Chinese undergraduate students may have both China and the U.S. have good job and advancement opportunities, but may also consider different wage expectations in these two countries, which may influence their stay inclinations. An item of "The salary in the U.S. could be much higher than I would receive in my home country" measured this variable.

Method of Analysis

This section first describes using chi-square test and t-test to examine the differences between Chinese undergraduate students who were enrolled in the pathway program and those who were not. Then, it reports establishing the model of latent variables through confirmatory factor analysis (CFA). Next, it presents calculating the factor scores of the latent variables by the factor analysis. Lastly, it indicates building a logistic regression model to examine the Chinese undergraduate students' stay inclinations in this study

Chi-Square Test and T-Test

The chi-square test and t-test were two most utilized statistical analyses for answering questions about the association or difference between categorical variables and how well a sample fits the distribution of a known population. In this study, chi-square test and t-test were used to examine the difference of stay inclinations, career path plans, and confidence about their location destination between Chinese undergraduate students who were enrolled in the pathway program and those who were not. Specifically, t-test assesses whether the means of two groups are statistically different from each other. If $p < 0.05$, it means the association between these two group was significantly different. If $p > 0.05$, it means there was no significant difference between these two groups.

Structural Equation Modeling (SEM)

One advantage of the SEM was its strength in estimating and testing the relationship among constructs (Kline, 2002), such as the relationship between cultural and social factors from China and cultural and social factors from the U.S. SEM was also helpful for its ability to combine the statistical methods of confirmatory factor analysis (CFA) and regression in one model. CFA was a statistical step in SEM that allowed for the examination of observed and latent

variables across multiple groups or within a single group (Kline, 2002).

Within the structural model, or the regression portion of the SEM, this study aims to clarify if demographic characters, educational experiences, cultural and social factors, and perceived post-graduation factors predicted Chinese undergraduate students' stay inclinations in the U.S. when they graduate. According to Kline (2005), SEM assessed the degree of imperfection in the measurement of underlying constructs. The basic SEM steps were summarized as three stage process: (1) create a theoretical model; (2) evaluate the model fit; and (3) assess the model parameters of interest (Kline, 2005). A statistical examination of variances, correlations, and regression relationship within the constructs were analyzed, and the research questions were answered through the model as follows:

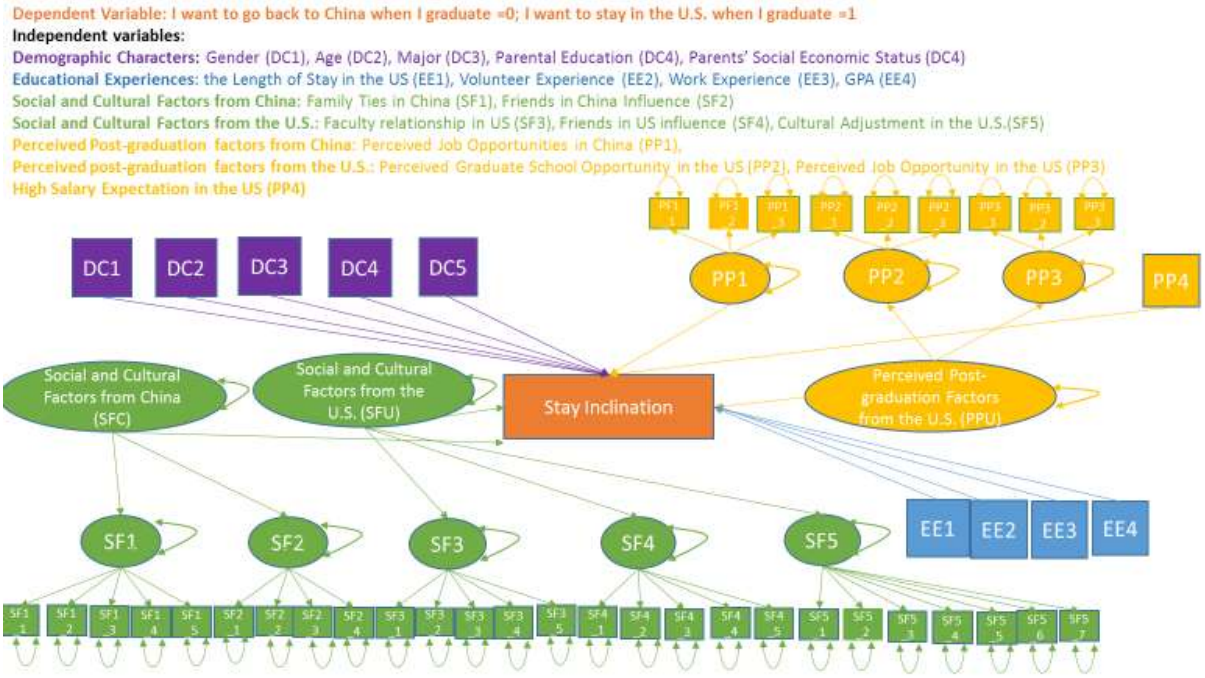

Figure 2: Model of Chinese Undergraduate Students' Stay Inclination

Factor Score

The biggest challenge for this study was how to best calculate latent variables through

combining multiple items into a valid and reliable score to be used. The most common method was to compute a mean of items, but a more valid approach was to use latent score estimation for this study (Curran, Cole, Bauer, Hussong, & Gottfredson, 2016). Specifically, the scores on the latent variables were predicted by using factor analysis (Devlieger, Mayer, & Rosseel, 2015). These predicted scores were referred to factor scores. Thus, factor scores were consistent with the factor analysis performed, which means they were all equally viable (Devlieger, at. el, 2015). Then, the factor scores were used in a logistic regression in this study to predict the probability of Chinese undergraduate students' stay inclinations. The factor score can be examined through the model fit of logistic regression to create an unbiased regression coefficient.

Logistic Regression

Data analysis was conducted in two steps. The first step was to use R software (core team, 2017) to establish the factor score through CFA. The second step was to construct a logistic regression model to examine if factors predict Chinese undergraduate students' inclination to stay in the U.S. when they graduate.

The recoded dependent variable was binary ("I want to go back to China when I graduate" =0 and "I want to stay in the U.S. when I graduate" =1). This logistic regression model explored how each predictor (observed variables and factor scores from latent variables) affects the probability of the Chinese undergraduate students' stay inclination in the U.S. (Hosmer & Lemeshow, 2000). According to Figure 2, the latent constructs are represented by circles, the observed variables are represented by squares, and the lines represent the estimation of all latent covariance in the measurement model. The arrows pointing out to the indicators represent the measurement error.

A Chinese undergraduate student's decision to stay or not stay in the U.S. might result

from their demographic characteristics (gender, age, major, parental education level, and parental economic status), educational experience (the length of stay in the U.S., extracurricular activities, work experience, and GPA), cultural and social factors from China, cultural and social factors from the U.S., perceived post-graduation factors from China, perceived post-graduation factors from the U.S., and high salary expectation in the U.S.

The primary goal of this study was to examine what demographic characteristics, educational experience, cultural and social factors from China, cultural and social factors from the U.S., perceived post-graduation factors from China, and perceived post-graduation factors from the U.S. influenced the probability of a Chinese undergraduate student's decision to stay in the U.S. The basic structure of final model was formally specified as using log link,

$Log(\frac{p(Y=1)}{1-P(Y=0)})$ =

α +β*demographic characteristics +γ*education experience +δ*cultural and social factors from China +ε*cultural and social factors from the U.S. +ζ*perceived post-graduation factors from China + η*perceived post-graduation factors from the U.S. +θ*high salary expectation from the U.S.

The α was an intercept indicated the average probability of Chinese undergraduate students' staying inclinations. The equation represented the log odds that Y=1 as a function of the values of the predictors. Specifically, the vector β*demographic characteristics represented the demographic characteristics associated with Chinese undergraduate students' decisions to stay in the U.S. including gender, age, major, parental education level, and parental economic status. The vector γ*education experience represented the educational experience predictors associated with Chinese undergraduate students' decision to stay in the U.S. such as the length of stay in the U.S., extracurricular activities, work experience, and GPA. The vector ε*cultural and social

factors from the U.S. was a vector of home country predictors such as family ties from China and friends influence from China. The vector of ε*cultural and social factors from the U.S. was a vector of host country predictors including faculty relationship from the U.S., friends influence from the U.S., and cultural adjustment in the U.S. The vector ζ*perceived post-graduation factors from China was a vector of home country predictors of perceived job opportunities from China. The vector η*perceived post-graduation factors from the U.S. was a vector of host country predictors of perceived graduate school and job opportunities from the U.S. The vector θ*high salary expectation in the U.S. was a vector of host country predictor.

Validity and Reliability

Validity

Validity is defined by how well the scores accurately define the construct or how well the researcher can make an inference on the scores from the latent variable (Kline, 2002). For this study, the first validity was related to generalizing. Recall that validity referred to the approximate truth of propositions, inferences, or conclusions (Kline, 2002). So, this validity referred to the approximate truth of stay inclination conclusions that involved generalizations, particularly how well the individual variables (demographic characters, educational experiences, cultural and social factors, and perceived post-graduation factors) test Chinese undergraduate students' stay inclinations. Moreover, this validity was the degree of stay inclinations for Chinese undergraduate students to which the conclusions in this study would hold for other international students. In order to estimate the degree to which any two measures are related to each other, the patterns of interrelations (correlation coefficients) were explored.

This measurement was constructed following the SEM. Primarily, the validity of any stay inclination result rest on the theory of the push and pull model that was driving the analysis. The

push-pull model was consistent with the research of Altbach (2004). It helped the author to develop the validity of conclusions about relationships among variables. Specifically, if the definitions of the factors were not carefully specified, or if any variables were irrelevant to the factors, the result would contain factor information with little validity.

Specifically, both Confirmatory Fit Indices (CFI) and Standard Root Mean Square Residual (SRMR) were used to assess model fit of the results. CFI was in index of goodness of fit, where higher values indicated better model fit while SRMR was an index of badness of fit, where lower values indicated better model fit (Kline, 2002). An acceptable model should have a CFI more than 0.90 and SRMR less than 0.08 (Kline, 2002).

Reliability

The reliability was the degree that scores are free from measurement error and is a statistical measurement of internal consistency reliability (DeVellis, 2003). The reliability for this study was examined through the feedback from the peer group and focus group's comments. The reliability was also examined through the Cronbach's Alpha reliability analysis (Kline, 2002). However, Cronbach's Alpha is not an accurate decision tool in the CFA context (Raykov & Marcoulides, 2011). In SEM, the reliability of an indicator was defined as the correlation between true score and observed score, specifically, how strongly were observed scores relates to the true score (Raykov, & Marcoulides, 2011). It was commonly represented by the correlation coefficient, which ranges from 0 to 1 with a standard of .50 (Raykov, & Marcoulides, 2011). Specifically, the reliability index is equal to the ratio of the true score to observed score standard deviations (Raykov, & Marcoulides, 2011). The omega is a strategy to test reliability. The function for omega is: (sum of factor loadings)^2 / ((sum of factor loadings)^2+sum of error variances + 2*sum of error covariance). The value for omega can range from 0 (not reliability) to

1 (perfect reliability) (Brunner, Nagy, & Wilhelm, 2012). Under one factor, when factor loadings are equal across items, omega is equal to alpha. When the loadings are not equal, alpha is not appropriate since it assume equal loadings. Thus, factor loadings can be used to assess item specific as well as scale specific reliability.

Limitations

This study only surveyed Chinese undergraduate students at one public Midwestern research university, meaning the sample size is small. It would be beneficial to survey more Chinese undergraduate students at other research universities to compare the stay inclinations. For instance, according to Cheung and Xu (2015), Chinese undergraduate students at elite universities are more likely to stay because of more resources available to them, such as alumni networks.

This study does not include variables that touch upon the political factors influencing Chinese undergraduate students' stay or not stay inclinations. For example, it is unclear if there are any different inclinations before and after the election of Donald Trump as president in the U.S.. However, Trump's immigration policy, such as a declared desire to build a wall to keep immigrants from Mexico out and a travel ban affecting those from six Muslim countries trying to enter the U.S. might scare Chinese undergraduates and influence their immigration decisions. Compared to the "*find a better way to welcome the striving, hopeful immigrants who still see America as a land of opportunity*" immigration policy in the Obama era, it seems immigration policy and the immigration environment is less open in the Trump era (Obama, 2013). Meanwhile, Chinese undergraduates might be frustrated by the voice of anger by voters at foreign competitors who, they said were stealing their jobs. It seems the employment environment is more competitive than before Trump's election. Potential further study might

address these questions.

CHAPTER FOUR: RESULTS

This chapter provides the research results to answer the research questions posed in this study. First, I report on the descriptive statistics of the study sample to explore the characteristics of Chinese undergraduate students at a public Midwestern research university. Then, I indicate the differences of stay inclinations between Chinese undergraduate students who were enrolled in the pathway program and those who were not enrolled in the pathway program. Then, I establish composite variables from the latent variables through factor analysis. Next, I present the correlation between each variable in this study. Lastly, I present the results from a logistic regression that predicts the factors that influence the inclination to stay in the U.S. for Chinese undergraduate students.

Descriptive Results

The overall response rate for the survey of Chinese undergraduates at the public Midwestern research university was 36%. The total number of completed surveys in this study was 318. Seventy-one were excluded because the participants failed to complete the instrument. After removing these incomplete surveys, the total number of responses analyzed for this study was 247. For these responses, 62% (152/247) of Chinese undergraduate students were enrolled in the pathway program and 38% (95/247) were not enrolled in the pathway program.

Table 1 presents the descriptive statistics of the demographic characteristics and education experiences of the study sample: Male undergraduates comprised 57% of the sample, while female undergraduates equaled 43%. The average age of survey responders was 20, and 39% of them were from STEM and health fields. Among the study sample, 62% of the Chinese undergraduate students had a parent who held a bachelor's degree or beyond, which means many of them came from highly educated families. Many of them came from middle or high income

families; that is, approximately 70% of the sample's yearly family income was higher than ¥300,000 (about $43,600) although 6% did not answer this question. The reason for this might be they did not know their parents' income. Examining the length of stay of the sample, 70% were freshmen and sophomores. During this academic year, 45% of them participated in either one or no campus events and 63% did not have any internships or part-time jobs. For their academic performance, more than 50% of Chinese undergraduate students indicate their GPAs were higher than B+.

Table 1:

Descriptive Statistics of the Study Sample (N=247)

Category	Variable		Percentage (%)	Frequency (N)
Demographic Characteristics	Gender (DC1)	Female	42.9%	106
		Male	56.7%	140
		Missing	0.4%	1
	Age (DC2)	18	2.1%	20
		19	18.2%	45
		20	28.3%	70
		21	22.7%	56
		22	8.1%	20
		23+	13.4%	33
		Missing	1.62%	4
	Major (DC3)	STEM and health fields	38.9%	96
		Non-STEM and health fields	53.0%	131
		Other	7.7%	19
		Missing	0.4%	1
	Parental education level (DC4)	Less than high school completed	9.3%	23
		High school diploma or equivalent	18.6%	46
		Some college, vocational, or trade school (including 2-year degrees)	8.5%	21
		Bachelor's degree (e.g., BS, BA, AB)	45.3%	112
		Higher than master degree	16.6%	41
		Missing	1.62%	4

Category	Variable		Percentage (%)	Frequency (N)
	Parental SES (Family Income) (DC5)	<¥100,000 ($14,700)	4.9%	12
		¥100,000 ($14,700)-¥300,000 ($44,100)	18.6%	46
		¥300,001 ($44,101)-¥500,000 ($73,500)	26.7%	66
		¥500,001 ($73,501)-¥700,000 ($102,900)	19.4%	48
		¥700,001 ($102,900)-¥1,000,000 ($147,100)	7.7%	19
		>¥1,000,000 ($147,100)	16.2%	40
		Missing	6.48%	16
Educational Experience (EE)	the length of stay (EE1)	1st year	29.1%	72
		2nd year	41.3%	102
		3rd year	14.6%	36
		4th year	11.3%	28
		5th year or more	3.6%	9
	Extracurricular activities (EE2)	Never	28.3%	70
		Once	16.6%	41
		Monthly	30.4%	75
		Weekly	14.6%	36
		Several times a week	7.3%	18
		Daily	2.8%	7
	Work experience (EE3)	Yes	36.0%	89
		No	62.8%	155
		Missing	1.21%	3
	GPA (EE4)	C- or below	3.20%	8
		C	1.60%	4
		C+	5.30%	13
		B-	14.20%	35
		B	23.50%	58
		B+	24.30%	60
		A-	20.20%	50
		A	6.10%	15
		Missing	1.62%	4

As shown in Table 2, there are some demographic differences between Chinese students who were enrolled in the pathway program and those who were not. For the status of family income, 48% of Chinese undergraduate students who were enrolled in the pathway program

reported their family income was higher than ¥500,000 ($73,500) while only 38% of those who were not enrolled in the pathway program reported family incomes at this level. That means that compared to Chinese undergraduate students who were not enrolled in the pathway program, Chinese undergraduate students who were enrolled in the pathway program came from more wealthy families. Fifty-eight percent of Chinese undergraduate students who were not enrolled in the pathway reported their GPA was higher than B+, while only 46% of those who were enrolled in the pathway program indicated a GPA at this level. Compared to Chinese undergraduate students who were enrolled in the pathway program, Chinese undergraduate students who were not enrolled in the pathway program had higher academic performance. Table 2 also shows that there are significantly more Chinese undergraduate students who were not enrolled in the pathway program (45%) than those who were enrolled in the pathway program (30%) who held an internship or a part-time job ($p < 0.05$)

Table 2:

Demographics group comparison between Chinese undergraduate students who enrolled in the pathway program (n=152) and who were not (n=95)

Variable		Enrolled Percentage (%)	Not enrolled Percentage (%)	Enrolled Frequency (N)	Not enrolled Frequency (N)
Gender (DC1)	Female	40.1%	47.4%	61	45
	Male	59.2%	52.6%	90	50
	Missing	0.7%	0.0%	1	0
Age (DC2)	18	11.8%	2.1%	18	2
	19	23.0%	10.5%	35	10
	20	35.5%	16.8%	54	16
	21	19.1%	28.4%	29	27
	22	4.6%	13.7%	7	13
	23+	3.9%	28.4%	6	27
	Missing	2%	0%	3	0

Variable		Enrolled Percentage (%)	Not enrolled Percentage (%)	Enrolled Frequency (N)	Not enrolled Frequency (N)
Major(DC3)	STEM and Health Professions	38.8%	38.9%	59	37
	Non-STEM and Health Professions	49.3%	58.9%	75	56
	Other	9.8%	2.1%	15	2
	Missing	2.0%	0.0%	3	0
Parental Education (DC4)	Less than high school completed	9.2%	9.5%	14	9
	High school diploma or equivalent	19.1%	17.9%	29	17
	Some college, vocational, or trade school (including 2-year degrees)	9.9%	6.3%	15	6
	Bachelor's degree (e.g., BS, BA, AB)	42.8%	49.5%	65	47
	Higher than master degree	17.1%	15.8%	26	15
	Missing	1.9%	1.0%	2	1
Family Income (DC5)	<¥100,000($14,700)	4.6%	5.3%	7	5
	¥100,000 ($14,700)-¥300,000 ($44,100)	17.8%	20.0%	27	19
	¥300,001 ($44,101)-¥500,000 ($73,500)	24.3%	30.5%	37	29
	¥500,001 ($73,501)-¥700,000 ($102,900)	21.1%	16.8%	32	16
	¥700,001 ($102,900)-¥1,000,000($147,100)	8.6%	6.3%	13	6
	>¥1,000,000 ($147,100)	17.8%	13.7%	27	13
	Missing	5.9%	7.4%	9	7
the length of stay (EE1)	1st year	32.2%	24.2%	49	23
	2nd year	58.6%	13.7%	89	13
	3rd year	6.6%	27.4%	10	26
	4th year	2.6%	25.3%	4	24
	5th year or more	0.0%	9.5%	0	9
	Missing	0.0%	0.0%	0	0

Variable		Enrolled Percentage (%)	Not enrolled Percentage (%)	Enrolled Frequency (N)	Not enrolled Frequency (N)
Extracurricular activities (EE2)	Never	26.3%	31.6%	40	30
	Once	17.1%	15.8%	26	15
	Monthly	33.6%	25.3%	51	24
	Weekly	15.8%	12.6%	24	12
	Several times a week	5.9%	9.5%	9	9
	Daily	1.3%	5.3%	2	5
	Missing	0.0%	0.0%	0	0
Intern (EE3)*	Yes	30.3%	45.3%	46	43
	No	69.1%	52.6%	105	50
	Missing	0.7%	2.1%	1	2
GPA (EE4)	C- or below=1	3.9%	2.1%	6	2
	C	0.7%	3.2%	1	3
	C+	5.3%	5.3%	8	5
	B-	18.4%	7.4%	28	7
	B	23.0%	24.2%	35	23
	B+	23.0%	26.3%	35	25
	A-	17.1%	25.3%	26	24
	A	5.9%	6.3%	9	6
	Missing	2.6%	0.0%	4	0

*$p<0.05$

The descriptive statistics for the dependent variables in this study are presented in Table 3. The majority of the Chinese undergraduate students (63%) planned to go to graduate school while 35% of Chinese undergraduate students planned to get a job after their studies. About 2% were undecided on their future plans. About 59% of them planned to stay in the U.S. after they graduated, and 82% thought that they would stay in the US only temporarily. Approximately 75% of Chinese undergraduate students believed (e.g., somewhat agree, agree, and strongly agree) that they would achieve their goal regarding where they would live after they graduate. Meanwhile, the mean score of Chinese undergraduate students' thoughts about whether they would achieve their goals about where they would live after their studies was 4.19 on an agreement scale from 1-6. Most Chinese undergraduate students in the sample believed they

would achieve their goals about their future locations.

Table 3:

Descriptive Statistics of the Dependent Variables (N=247)

Category	Variable		Percentage (%)	Frequency (N)	Mean (N)
Stay Inclination	When I graduate, I want to (DV1)	Go to graduate school	62.75%	155	
		Get a job	34.82%	86	
		Other	2.43%	6	
	When I graduate, I want to (DV2)	Return to China temporarily	17.40%	43	
		Return to China long-term	21.50%	53	
		Stay in the U.S. temporarily	48.18%	119	
		Stay in the U.S. long-term	10.50%	26	
		other	2.43%	6	
	I feel confident that I will achieve my goals about where I will live when I graduate. (DV3)	Strongly disagree	3.20%	8	4.19
		Disagree	5.70%	14	
		Somewhat disagree	16.20%	40	
		Somewhat agree	30.00%	74	
		Agree	33.20%	82	
		Strongly agree	11.70%	29	

Mean Differences between Pathway and Non-Pathway Students

Table 4 presents the results of Chi-Square test between DV1 (When I graduate, I want to go to graduate school or get a job) and Group (Chinese undergraduates who were enrolled in the pathway program or who were not enrolled in the pathway program). Since the *p*-value is less than the significance level ($\alpha = 0.05$), I conclude there is a significant association between Group and DV1. Specifically, compared to Chinese undergraduate students who were not enrolled in the pathway program (52%), Chinese undergraduate students who were enrolled in the pathway program (70%) were more likely to plan to go to graduate school after their studies (Table 5). For DV2 (When I graduate, I want to return to China temporarily or return to China long-term or stay in the U.S. temporarily or stay in the U.S. long-term), Table 6 indicates the results of Chi-Square

test according to the two groups (Chinese undergraduates who were enrolled in the pathway program or who were not enrolled in the pathway program). Since the p-value is greater than significance level ($\alpha = 0.05$), I conclude that there is not a significant relationship between being in pathway (or not) and wanting to stay in the US (or not). The results of Chi-Square test show the association between DV3 (I feel confident that I will achieve my goals about where I will live when I graduate) and Group (Chinese undergraduates who were enrolled in the pathway program or who were not enrolled in the pathway program) (Table 8). It indicates that there is a significant association between Group and DV3 ($p < 0.05$). Particularly, compared to Chinese undergraduate who were enrolled in the pathway program (41%), about 52% Chinese undergraduate students who were not enrolled in the pathway program were confident (including agree and strongly agree) that they would achieve their goals about where they would live after their studies (Table 9).

Table 4:

Chi-Square Test between Graduate School/ Job Inclination and Group (N=247)

N	DF	$\chi 2$	P-Value
247	2	8.247a	0.016

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.31.

Table 5:

*Crosstab (Graduate School/ Job Inclination * Group)*

Variable			Enrolled in the pathway program	Not enrolled in the pathway program	
When I graduate, I want to (DV1)	go to graduate school	Count	106 (69.74%)	49(51.58%)	155
	get a job	Count	43(28.29%)	43(45.26%)	86
	Other	Count	3(1.97%)	3(3.16%)	6
Total		Count	152	95	247

Table 6:

Chi-Square Test between Stay Inclination and Group (N=247)

N	DF	$\chi 2$	P-Value
247	4	3.889a	0.421

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 2.31.

Table 7:

*Crosstab (Stay Inclination * Group)*

Variable			Enrolled in the pathway program	Not enrolled in the pathway program	
When I graduate, I want to (DV2)	return to China temporarily	Count	31 (20.39%)	12(12.63%)	43
	I want to return to China long-term	Count	33(21.71%)	20(21.05%)	53
	I want to stay in the U.S. temporarily	Count	72(43.37%)	47(49.47%)	119
	I want to stay in the U.S. long-term	Count	13(8.55%)	13(13.68%)	26
	Other	Count	3(1.97%)	3(3.16%)	6
Total		Count	152	95	247

Table 8:

Chi-Square Test between Confident about Location Choice and Group (N=247)

N	DF	$\chi 2$	P-Value
247	5	13.383a	0.02

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.08.

Table 9:

*Crosstab (Confident about Location Choice * Group)*

Variable			Enrolled in the pathway program	Not enrolled in the pathway program	
I feel confident that I will achieve my goals about where I will live when I graduate. (DV3)	Strongly disagree	Count	5(3.3%)	3 (3.2%)	8
	Disagree	Count	9(5.9%)	5(5.3%)	14
	Somewhat disagree	Count	21(13.8%)	19(20.0%)	40
	Somewhat agree	Count	55 (36.2%)	19(20%)	74
	Agree	Count	51(33.6%)	31(32.6%)	82
	Strongly agree	Count	11(7.2%)	18(18.9%)	29
Total		Count	152	95	247

Variables

Observed Variables

In order to construct the logistic regression, I recoded my dependent variable (When I graduate, I want to go back to China temporarily/go back to China long-term/stay in the U.S. temporarily/stay in the U.S. long-term) into a dichotomous variable. The new dependent variable (DV1_2) means "I want to go back to China when I graduate" =0 and "I want to stay in the U.S. when I graduate" =1. The independent variables consisted of 9 exogenous variables and four latent variables. The exogenous variables include gender, age, major, parental education level, parental SES (Family Income), the length of stay in the U.S., extracurricular activities, work experience, GPA, and higher salary expectation in the U.S.

Latent Variables

Modeling nonlinear and interaction relationships between latent variables required the use of covariances instead of correlations. Thus, four composite variables were constructed through four models. The latent variable of **cultural and social factors from China (SFC)** is a composite that measures family ties in China (SF1) and friends in China influence (SF2) (See Appendix C). Another composite variable measures faculty relationship in the U.S. (SF3), friends in the U.S. influence (SF4), and cultural adjustment in the U.S. (SF5). These become a latent variable that is being labelled as **cultural and social factors from the U.S. (SFU)** (See Appendix D). The latent variable of **perceived post-graduation factors from China (PP1)** is constructed by three item responses from the survey (See Appendix E). I created a composite variable that combined perceived graduate school opportunities from the U.S. (PP2) and perceived job opportunities from the U.S. (PP3) into a variable called **post-graduation factors from U.S. (PPU)** (See Appendix F).

Model fit

Each of the latent variables demonstrated a good fit with the model. As shown in Table 10, the model of cultural and social factor from China (SFC) provides a good fit to the data for the total sample, CFI = 0.985, SRMR = 0.035. Omega was 0.81 for the factor of SFC that indicated the good reliability for this items scale. The model of cultural and social factors from the U.S. (SFU) also presents a good fit, CFI = 0.941, SRMR = 0.052 (Table 11). Omega for the factor of cultural and social factors from the U.S. (SFU) was 0.89, which indicated good reliability for this item scale. The model of perceived post-graduation factors from China (PP1) provides a good fit to the data for the total sample, CFI = 1, SRMR = 0 (Table 12). Omega for the factor of perceived post-graduation factors from China (PP1) was 0.68 that indicated the good reliability for this scale. The model of perceived post-graduation factors from the U.S. (PPU) also presents a good fit to the data for the total sample, CFI = 0.99, SRMR = 0.032 (Table 13). Omega was 0.81 for the factor of PPU that indicated the good reliability for this items scale.

Table 10:

Model Fit of Cultural and Social Factor from China (SFC)

χ^2	Df	pvalue	**CFI**	Rmsea	rmsea.pvalue	**SRMR**	Tli	Aic	Bic
41.445	23	0.011	**0.983**	0.057	0.313	**0.062**	0.973	6557.709	6666.500

Table 11:

Model Fit of Cultural and Social Factor from the U.S. (SFU)

χ^2	Df	pvalue	**CFI**	Rmsea	rmsea.pvalue	**SRMR**	Tli	Aic	Bic
215.493	102	0	**0.941**	0.067	0.013	**0.052**	0.921	12342.286	12580.925

Table 12:

Model Fit of Perceived Post-graduation Factor from China (PP1)

χ^2	Df	pvalue	**CFI**	Rmsea	rmsea.pvalue	**SRMR**	Tli	Aic	Bic
0	0	NA	**1**	0	1	**0**	1	2297.863	2329.447

Table 13:

Model Fit of Perceived Post-graduation Factor from the U.S. (PPU)

χ^2	Df	pvalue	**CFI**	Rmsea	rmsea.pvalue	**SRMR**	Tli	Aic	Bic
9.78	6	0.134	**0.99**	0.050	0.428	**0.032**	0.975	4558.005	4631.753

Correlations

The correlation coefficient from Table 14 measures the strength and direction of a linear relationship between each of two variables in this study. Table 14 shows each independent variable's association to the Chinese undergraduate students' stay inclination, although different independent variables represent different correlation coefficients. Different correlation coefficients explain different degree and direction of a linear relationship between each factor and Chinese undergraduate students' stay inclination. The value of correlation coefficient is always between +1 and -1. According to the Table 14, major, family income, extracurricular activities, GPA, and perceived post-graduation factors from the U.S. are significantly related to the Chinese undergraduate students' stay inclinations ($p < 0.05$). This means Chinese undergraduate students who major in STEM field are more likely to want to stay in the U.S. ($r = 0.16$). The higher family income Chinese undergraduate students have, the less likely they are to stay in the U.S. ($r = -0.21$). If Chinese undergraduate students participate in more extracurricular activities, they are more likely to want to stay in the U.S. when they graduate ($r = 0.16$). The higher GPA Chinese undergraduate students have, the higher likelihood they want to stay in the U.S. ($r = 0.22$). Chinese undergraduate students have higher stay inclination if they perceive they have more job opportunities and graduate school opportunities in the U.S. ($r = 0.15$).

The linear association between observed variables and latent variables are as follows. Compared to males, female Chinese undergraduate students have significantly more family ties and friends influence in China (cultural and social factor in China) ($r = 0.13$, $p < 0.05$) (the variable cultural and social factors in China is reversed values). The parental education level is significantly associated to their perceived graduate school and job opportunities in the U.S. (perceived post-graduation factor in the U.S.) ($r = 0.21$, $p < 0.01$). Chinese undergraduate

students' extracurricular activities experience is positively correlated with their faculty, friends, and cultural support in the U.S. (cultural and social factor in the U.S.) ($r = 0.17$, $p < 0.01$), perceived graduate school and job opportunities in the U.S. (perceived post-graduation factor in the U.S.) ($r = 0.14$, $p < 0.05$). Chinese undergraduate students' GPA is significantly positively associated to family ties and friends influence in China (cultural and social factor in China) ($r = 0.14$, $p < 0.05$) (the variable cultural and social factors in China is reversed values), faculty, friends, cultural support in the U.S. (cultural and social factor in the U.S.) ($r = 0.18$, $p < 0.01$), perceived job opportunities in China (perceived post-graduation factor in the U.S.) ($r = 0.15$, $p < 0.05$) (the variable perceived post-graduation factor in the U.S. is reversed values), and perceived graduate school and job opportunities in the U.S. (perceived post-graduation factor in the U.S.) ($r = 0.24$, $p < 0.01$).

The linear correlation between all latent variables present as follows. The latent variable of cultural and social factors in China and perceived post-graduation factors in China that is reported present the strong degree of positively association between these two composite variables ($r = 0.80$, $p < 0.01$) (both cultural and social factors in China and perceived post-graduation factors in China are reversed values). It means the stronger family ties and friends support in China, the more perceived job opportunities Chinese undergraduate students have in China. The correlation between composite variables of cultural and social factors in China and perceived post-graduation factors in the U.S. that is reported to present the moderate degree of positively association between these two composite variables ($r = 0.65$, $p < 0.01$) (the variable cultural and social factors in China is reversed values). This means that if Chinese undergraduate students have stronger cultural and social supports in China, they perceive they have more job opportunities in the U.S. The cultural and social factors in the U.S. is significantly positively

correlated with the perceived post-graduation factors in the U.S. ($r = 0.83$, $p < 0.01$). In other words, the stronger cultural and social supports in the U.S. Chinese undergraduate students have, the more job opportunities and graduate school opportunities in the U.S. they perceive. The correlation between composite variables of cultural and social factors in the U.S. and perceived post-graduation factors in China that is reported present the strong degree of positive association between these two composite variables ($r = 0.79$, $p < 0.01$) (the perceived post-graduation factors in China is reversed values). It means if Chinese undergraduate students have stronger cultural and social supports in the U.S., they perceive they have more job opportunities in China. In a word, both cultural and social factors in China and cultural and social factors in the U.S. are positively associated to perceived post-graduation factors in the U.S. and perceived post-graduation factors in China. High salary expectation in the U.S. is significantly positively correlated with the cultural and social factors in China ($r = 0.24$, $p < 0.01$) (the variable cultural and social factors from China is reversed values), cultural and social factor in the U.S. ($r = 0.30$, $p<0.01$) (the perceived post-graduation factors in China is reversed values), perceived post-graduation factor in China ($r = 0.17$, $p < 0.01$), and perceived post-graduation factor in the U.S. ($r = 0.36$, $p < 0.01$).

Table 14:

Correlations

	DV2_2	DC1	DC2	DC3	DC4	DC5	EE1	EE2	EE3	EE4	SFC	SFU	PP1	PPU	PP4
Stay inclination (DV2_2)	1.00														
Gender (DC1)	0.07	1.00													
Age (DC2)	0.04	-0.02	1.00												
Major (DC3)	0.16*	-0.14*	-0.10	1.00											
Parental education level (DC4)	0.10	-0.04	-0.13*	0.26**	1.00										
Parental SES (Family Income) (DC5)	-0.21**	-0.05	-0.10	-0.07	-0.16*	1.00									
the length of stay (EE1)	0.05	0.02	0.68**	0.05	-0.07	-0.03	1.00								
Extracurricular activities (EE2)	0.16*	-0.04	0.00	0.07	0.18**	-0.10	-0.01	1.00							
Work experience (EE3)	0.11	0.03	0.24**	0.04	0.08	-0.07	0.30**	0.25**	1.00						
GPA (EE4)	0.22**	0.08	-0.06	-0.02	0.10	-0.07	-0.13*	0.13*	0.12	1.00					
Cultural and social factor in China (SFC) [1]	0.09	-0.13*	0.02	-0.03	-0.09	-0.01	0.00	-0.01	-0.07	-0.14*	1.00				
Cultural and social factor in the U.S. (SFU)	0.03	0.04	-0.06	0.07	0.10	0.03	-0.03	0.17**	0.09	0.18**	-0.76**	1.00			
Perceived post-graduation factor in China (PP1) [1]	0.12	-0.09	-0.06	-0.01	-0.07	-0.10	-0.01	-0.07	-0.07	-0.15*	0.80**	-0.79**	1.00		
Perceived post-graduation factor in the U.S. (PPU)	0.15*	0.07	-0.04	0.12	0.21**	-0.05	-0.03	0.14*	0.09	0.24**	-0.65**	0.83**	-0.63**	1.00	
Higher salary expectation in the U.S. (PP4)	0.08	-0.02	0.06	0.03	0.05	-0.10	0.06	0.15*	0.20**	0.08	-0.24**	0.29**	-0.17**	.36**	1.00

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

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

[1] variables are reversed values, positive means higher return inclinations.

Factors Predicting Chinese Undergraduates' Stay Inclination in the United States

This section presents the results of SEM to predict what factors influence Chinese undergraduate students' inclinations to stay in the U.S. This section begins with model fit of the analysis. Next, it reports the results of demographic characteristics that predict students' stay inclination in the U.S. after they studies. Then I present the results of educational experiences, cultural and social factors, and perceived post-graduation factors that predicted their stay inclination, respectively.

Model Fit

Model fit is established by looking at the homogeneity of variances and covariances in the model. This model is based on the conceptual framework. Table 15 presents the results of the logistic regression analysis on demographic characteristics, educational experiences, cultural and social factors, and perceived post-graduation factors that predict the Chinese undergraduate students' inclination to stay in the U.S. Specifically, major (DC3), GPA (EE4), perceived job opportunities in China (PP1), and perceived graduate school and job opportunities in the U.S. (PPU) significantly influence Chinese undergraduate students' stay inclinations. And there is no significantly difference between pathway program and non-pathway Chinese undergraduate students (group) in predicting their stay inclination ($p > 0.05$). Both CFI and SRMR are types of indices that are used to measure model fit (Kline, 2005). According to Kline (2005), an acceptable model should have a CFI more than 0.90 and SRMR less than 0.08 (Kline, 2005). Table 15 presents measurement models for the model of stay inclination logistic regression has a good fit, $\chi 2$ (0.505, N = 237) = 939, CFI = 0.90, SRMR = 0.07. With the good model-fit established, the results show that the structure of demographic characteristics, education experiences, cultural and social factors, and perceived post-graduation factors can significantly

predict Chinese undergraduate students' stay inclinations in the U.S. after their studies. Thus, four latent variables can be calculated as the factor scores in the logistic regression that are defined as estimated values of the factors in factor analysis (Kline, 2005).

Demographic Characteristics

Major is the only demographic variable that is a borderline significant predictor of Chinese undergraduate students' stay inclinations ($p = 0.05$). Specifically, the log odds ratio for major predicts that Chinese undergraduate students who major in the STEM field and health professions increases the log odds of stay inclination (odds ratio = 0.76). In other words, Chinese undergraduate students who major in the STEM filed are more likely to stay in the U.S. According to Model 1, neither gender, nor age, nor parental education level, nor family income were significantly predicators of the probability of stay inclination in the U.S. for Chinese undergraduate students ($p > 0.05$).

Educational Experiences

The result of the model fit indicates that education experiences in the U.S. also influence Chinese undergraduate students' desire to stay in the U.S. after they graduate. Specifically, academic performance as measured through GPA is a significant predictor of the Chinese undergraduate students staying in the U.S. It is positively associated with the probability of staying in the U.S. (odds ratio = 0.33, $p < 0.05$) (Table 16). When GPA of Chinese undergraduate students increased one unit, the odds of staying in the U.S. increased by 33%. Meanwhile, the length of stay in the U.S. is not a significant predictor of Chinese undergraduate students' inclination to stay in the U. S. ($p > 0.05$) (Table 16). Further, the variable measures extracurricular activities and work experience are not significant predictors for Chinese undergraduate students' stay inclination ($p > 0.05$) (Table 16).

Cultural and Social Factors

The composite variable of cultural and social factors in China (SFC) is not a significant predictor for Chinese undergraduate students' stay inclination ($p > 0.05$) (Table 16). Likewise, the composite variable of cultural and social factors in the U.S. (SFU) does not significantly predict Chinese undergraduate students' stay inclination ($p > 0.05$) (Table 16).

Perceived Post-graduation Factors

Table 16 presents that perceived post-graduation factor in China (PP1) is a significant predictor for Chinese undergraduate students' stay inclination (odd ratios = 1.33, $p < 0.05$). Specifically, Chinese undergraduate students who believe they have great job opportunities in China have about 33% higher odds of return inclinations to China (variables are reversed values, positive means higher return inclinations). In other words, Chinese undergraduate students who believe they have many job opportunities in China are less likely to plan to stay in the U.S. after their studies. Since the p-value is smaller than significance level ($\alpha = 0.05$), Table 16 presents that perceived post-graduation factors in the U.S. (PPU) significantly predicts Chinese undergraduate students' stay inclination (odds ratio = 1.37, $p < 0.05$). Specifically, Chinese undergraduate students who believe they had good job opportunities and graduate school opportunities in the U.S. have 37% higher odds of stay inclination in the U.S. related to Chinese undergraduate students who do not believe they have good job opportunities and graduate school opportunities. Particularly, Chinese undergraduate students who believe they have more job opportunities and graduate school opportunities in the U.S. are significantly more likely to stay in the U.S. when they complete their degree. High salary expectation (PP4) is not a significant predictor for Chinese undergraduate students' stay inclination ($p > 0.05$) (Table 16).

Table 15:

Model Fit of Logistic Regression

$\chi 2$	Df	Pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
939.00	515.00	0.00	0.90	0.06	0.02	0.07	0.89	25360.34	25886.7

Table 16:

Estimating the Odds of Chinese Undergraduates' Staying Inclination in the U.S.: Results of Logistic Regression Analysis (Model1)

Variable	Estimate	Std. Error
(Intercept)	-1.15	1.43
Group	0.16	0.43
Gender (DC1)	0.24	0.36
Age (DC2)	0.12	0.18
Major (DC3)	0.76$^{'}$	0.39
Parental education level (DC4)	-0.14	0.16
Parental SES (Family Income) (DC5)	-0.21	0.13
the length of stay (EE1)	0.02	0.24
Extracurricular activities (EE2)	0.14	0.14
Work experience (EE3)	0.06	0.41
GPA (EE4)	0.33**	0.12
Cultural and social factor from U.S. (SFU)	0.43	0.71
Cultural and social factor from China (SFC)[1]	0.22	0.43
Perceived post-graduation factor from China (PP1)[1]	1.33**	0.46
Perceived post-graduation factor from U.S. (PPU)	1.37*	0.54
Higher salary expectation in the U.S. (PP4)	-0.02	0.15

Log odds: ln(odds) = ln(p/(1-p)) = a*DC1 + b*DC2 + … + z*PP4

* p <.05, ** p <.01, $^{'}$ p=.05 [1] variables are reversed values, positive means higher return inclinations.

Summary of Results

In sum, this chapter discussed the results of the data analysis. The descriptive analyses revealed that the majority of Chinese undergraduate students at the public Midwestern research university came from highly educated and middle or high income families. Particularly, the family income for Chinese undergraduate students who were enrolled in the pathway program was higher than those who were not enrolled in this program. This study found most Chinese undergraduate students did not get involved in the campus according to their low participation of

extracurricular events. Many Chinese undergraduate students in this study sample had a good GPA. Of those students, the academic performance of Chinese undergraduate students who were not enrolled in the pathway program was higher than that of those who were enrolled in this program. The majority of respondents in this study sample wanted to apply to a graduate school and stay in the United States temporarily after their degree were completed. Most of them believed they would achieve their goals regarding where they would live after graduation.

Analyzing the mean difference of two groups of Chinese undergraduate students, this study found there was no significant differences in stay inclination between Chinese undergraduate students who were enrolled in the pathway program and those who were not. However, compared to Chinese undergraduate students who were not enrolled in the pathway program, Chinese undergraduate students who were enrolled in the pathway program were significantly more likely to plan to go to graduate school after their studies. Also, Chinese undergraduate students who were enrolled in the pathway program were significantly less confident of achieving their future location goals than those who were not enrolled.

Analyzing the factors predicting Chinese undergraduate students' stay inclination in the U.S., this study found that major, GPA, perceived job opportunities in China, and perceived graduate school and job opportunities in the U.S. significantly predicted whether Chinese undergraduate students decide to stay in the U.S. In the next chapter, I provide a discussion of these findings and their implications for policy and future research.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

In this chapter, I discuss the results of the research conducted and the implications for policy and future research. First, I interpret the findings from the data analysis that were relevant to the research questions and my contribution to the literature. Next, I provide some implications for U.S. and Chinese immigration policies as well as for institutions of higher education. In addition, I discuss areas for the future research. Lastly, I make a conclusion for this study.

Different Inclinations for Pathway and Non-Pathway Students

As mentioned, approximately 59% of the study sample wanted to stay in the U.S. after they completed their degree. The majority (82%) only planned on staying the U.S. temporarily. About 63% of Chinese undergraduate students who were enrolled in the pathway program wanted to stay in the U.S. after their studies. These findings not only demonstrate that majority of Chinese undergraduate students desired to stay in the U.S. when they graduate, but also add a new contribution to the previous literature that emphasizing they wanted to stay temporarily.

Although there is no significant stay inclination difference between pathway and non-pathway Chinese undergraduate students, the majority of the Chinese undergraduate students (63%) in the public Midwestern research university planned to go to a graduate school after graduation. However, there was a significant difference in decision making (i.e., go to graduate school/ get a job) between Chinese undergraduate students who were enrolled in the pathway program and those who were not enrolled in the pathway program. About 70% of Chinese undergraduate students who were enrolled in the pathway program planned to go to graduate school after their studies. In contrast, 52% of those who were not enrolled in the pathway program planned to do so. About 75% of Chinese undergraduate students at this institution reported that they were confident about their stay or not stay decisions. However, Chinese

undergraduate students who were enrolled in the pathway program were significantly less confident about their country location decisions. These findings support my hypothesis of different stay inclinations between the two groups. In sum, these findings will contribute to future research in pathway programs. Further, these findings fill in the blank of the research about pathway program Chinese undergraduate students' immigration decisions after they earned their degrees.

Stay Inclination Model

The fact that the logistic regression demonstrated good model fit supports the validity of conceptual framework in this study. Thus, this stay inclination model might also be useful in examining Chinese undergraduate students' stay inclinations at other research universities in the U.S. Further, this stay inclination model may be useful in predicting the future behavior of Chinese graduate students when they graduate from a U.S. university although they may have unique characteristics. In addition, this stay inclination model may be useful for other international undergraduate students' stay or not stay decisions when they complete their degrees.

Factors Predicting Chinese Undergraduate Students' Stay Inclinations

Significant predictors. Four main factors significantly predicted Chinese undergraduate students' stay inclinations in the U.S. These included one push factors (perceived post-graduation factors in China) and three pull factors (major, GPA, and perceived post-graduation factors in the U.S.). This supports the previous research of using push-pull theory to examine international students' mobility (Altbach, 2004; Cho, 2013; Gungor & Tansel, 2006; Kruanak & Ruangkanjanases, 2014; Mazzarol & Soutar, 2002).

This study found that major significantly "pulled" Chinese undergraduate students to stay

in the U.S. after their studies. Specifically, Chinese undergraduate students with major in STEM and health fields were more likely to plan to stay in the U.S. after graduation. This finding confirmed the previous literature such as Cheung and Xu (2015) and Soon (2012) that major significantly predicted international students' decision to stay in the U.S.

This study concluded that GPA significantly "pulled" Chinese undergraduate students to stay in the U.S. when they graduate. Chinese undergraduate students who had a high GPA may think they are more competitive in the U.S. labor market and graduate school application. This study confirmed the previous literature of Lu et al. (2009) that GPA was a significant predictor for Chinese undergraduate students' desire to stay in the U.S. after they earn their undergraduate degree.

Perceived post-graduation factors were both "push" and "pull" factor in predicting Chinese undergraduate students' decision to stay or not stay. This finding confirmed the previous literature of Gungor and Tansel (2006), Hazen and Alberts (2006); Kruanak and Ruangkanjanases (2014), and Zweig and Chen (1995). If Chinese undergraduate students believed that they lacked job opportunities in China, they were more likely to want to stay in the U.S. On the other hand, Chinese undergraduate students who believed they had more job opportunities and graduate school opportunities in the U.S. were more likely to plan to stay in the U.S. when they graduated. It is easy for Chinese undergraduate students to change their decisions to stay or return because of perception of better jobs or graduate school opportunities in China or the U.S. Nowadays, it is easy to travel between the two countries and social media provides easy communication, which support Chinese students in maintaining relationships with their home country. Chinese undergraduate students' immigration decisions greatly depended on perception of the good job opportunities from either China or the U.S.

Other factors. Although the other four variables of demographic characteristics including gender, age, parental educational level, and parental socio-economic status did not significantly predict Chinese undergraduate students' decision to stay or return, the descriptive results provided some explanations on why these variables were not significant predictors. This study found that 62% of Chinese undergraduate students at this institution had a parent who had a bachelor's degree or beyond. The advanced level of educational attainment of Chinese undergraduate students' parents suggests that they come from families with upper levels of cultural and social capital from China. Actually, this number is extremely high, considering the average higher education achievement level in China. Specifically, in 2010 China reported that the percentage of the population that had attained at least a Bachelor's or equivalent degree for people aged 25 or older was 3.58% (World Bank, 2011). The majority of this study's sample (70%) reported a yearly family income higher than ¥300,000 ($44,100). This number was much higher than the average family income level in China. According to Zhang & Hagedorn (2011), an income between ¥300,000 ($44,100) and ¥500,000 (($73,500) is a high income for Chinese families and equivalent to an American middle-class income. These families may have resources to support Chinese undergraduate students for their career in either Chinese or the U.S. job market.

Although the other three variables of educational experiences such as length of stay in the U.S., extracurricular activities, and work experience did not significantly predict Chinese undergraduate students' decision to stay or return, the descriptive results provided some explanations on why these variables were not significant predictors. Approximately 70% of the study sample was freshmen and sophomore students. Students' early status in their academic career presented challenges for some prediction variables, such as the length of stay and their

work experience status. Although the factor of extracurricular activities was significantly associated with Chinese undergraduate students' decision to stay in the U.S. based on the bivariate correlation, 45% of the study sample only participated in zero or one campus events. Thus it was not easy to demonstrate the influence of extracurricular experiences when adding the other effects in the stay inclination model. However, with such a low report rate of participation in campus events, it would be a recommendation that the institution re-evaluate the opportunities for first- and second-year international undergraduate student campus engagement.

Unlike the previous literature (Baruch et al., 2007; Gungor & Tansel, 2006; Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014; Soon, 2012; Zhang & Goodsonb, 2011; Zweig & Chen, 1995), cultural and social factors were not significant factors to predict the Chinese undergraduate students' desire to stay in this study. There were so many sub variables for cultural and social factors from China (including family ties in China and friends influence in China) and from the U.S. (faculty relationship in the U.S., friends influence in the U.S., and cultural adjustment in the U.S.) that may reduce the power of this result. Although these two factors were complex and therefore difficult to interpret, it was still important to analyze the results. The lack of significance for these variables were accounted by: cultural and social factors from China as push factors for Chinese undergraduate students to return to China and cultural and social factors from the U.S. as pull factors for Chinese undergraduate students to stay in the U.S. The results may have canceled each other out. Also, cultural and social factors from China and cultural and social factors from the U.S. were significantly associated with the perceived post-graduation factors from China and perceived post-graduation factor from the U.S. based on the bivariate correlation. This significant bivariable association may reduce the significance of these two factors.

High salary expectation in the U.S. was not a significant predictor for Chinese undergraduate students' stay inclinations. This conflicts with the previous literature of Cheung and Xu (2015), Gungor and Tansel (2006), and Kruanak and Ruangkanjanases (2014). The factor of high salary expectation not significantly predicted Chinese undergraduate students' stay inclination in the U.S. may because both China and the U.S. created high-paying jobs to attract them to work after their studies.

In sum, the results of this study confirms and expands upon the findings of previous studies on using push and pull theory to examine Chinese undergraduate students' mobility decisions when they graduate. This study adds new contributions to the literature by exploring the different stay inclinations for Chinese undergraduate students who were enrolled in the pathway program and those who were normally enrolled. It suggests a more comprehensive model to predict Chinese undergraduate students' migration decisions compared to previous research (Cheung & Xu, 2013; Cho, 2013; Güngör & Tansel, 2006; Hazen & Alberts, 2006; Kruanak & Ruangkanjanases, 2014; Soon, 2012). Particularly, this study adds new contributions by exploring demographic characteristics, education experiences, cultural and social factors, and perceived post-graduation factors on Chinese undergraduate students' decision to stay or not stay in the U.S.

Implications for Policies

The findings of this study suggest several important implications for immigration policymakers in both the U.S. and China. However, the implications for policies might be different between the U.S. and China. First, I will discuss the implications for the U.S. including the U.S. federal government and U.S. institutions. Then, I will discuss the implications for sending countries.

The findings of this study point out that if Chinese undergraduate students perceived that they had more job opportunities in the U.S. labor market, they were more likely to desire to stay in the U.S. In order to achieve "brain gain", this study suggests U.S. industry create policies to attract Chinese undergraduate talents. However, the U.S. Citizenship and Immigration Service (USCIS) only issues 85,000 temporary work visas (H-1B) each year to skilled migrants who are qualified to work in U.S. private industries. Specifically, in the year 2016, among the 233,000 H-1B visa petitions received in 2016, only 65,000 were granted visas under the general-category cap and 20,000 under the advanced degree cap (those with a Master's degree or higher) through the lottery system (USCIS, 2017). And finally, if one is lucky enough to be selected in the lottery, she or he has to wait for another six months for the work visa to take effect. This lengthy and uncertain process causes concerns for international students. With so much risk entailed to hire a foreigner, it's not difficult to imagine why most employers don't sponsor work visas.

Thus, the findings suggest that if the U.S. wants Chinese undergraduate students to stay in the U.S. after they graduate, then the U.S. needs new retention policies intended for retention of Chinese students. This includes reforming visa policies to maintain excellence in the U.S. The finding for this study demonstrated that if Chinese undergraduate students had higher GPA, they had higher likelihood of wanting to stay in the U.S. when they completed their degree. To retain those who came to the U.S., policies could specifically target the Chinese undergraduate students who have a high GPA and offer a more clear and viable path for this group to remain in the U.S. after their studies. Currently, a recent graduate with an OPT visa can stay and work 12-29 months in areas related to his or her studies in STEM fields according to STEM OPT extension implemented in March 2016. Chinese undergraduate students report that OPT extension in the STEM fields does little to alleviate their fears about staying in the U.S. long term regarding to

difficulty of asking for the H1B visa (Klimaviciute, 2017). Some Chinese undergraduate students expressed frustration that the U.S. government, unlike Canada, lacked specific visa programs that would assist excellent international students with smoothly transferring to the U.S. labor market (Zhang, Zhang, Dong, & Liu, 2016). In addition, excellent academically high performing Chinese undergraduate students who majored in the non-STEM fields encountered more challenges and difficulties without OPT extension. Decreasing the uncertainty of visa status by providing job opportunities or offering attractive H1B visa policies before international undergraduate students completed their degree would help encourage excellent Chinese undergraduate students to stay. That was also the reason that a lot of Chinese students were planning to stay temporarily to get their advanced degree and leave. It is possible that they might like to stay in the U.S. but because of visa policies they only perceived their time in the U.S. as temporary and academically oriented. If the U.S. had better immigration policies, they might change their decisions.

The findings of this study suggest that if Chinese undergraduate students who studied in this U.S. institution believed they had more graduate school opportunities, they were more likely to stay in the U.S. This study suggests U.S. graduate schools should consider recruitment strategies towards Chinese students such as providing more assistantships. Also, the Office of Graduate Studies should consider providing more guidance about how to prepare, select, and apply for a graduate school. The findings reveal that 25% Chinese undergraduate students were not confident about whether they would achieve their stay or not stay inclinations. This implies that U.S. institutions should provide more career guidance and supports for Chinese undergraduate students. For example, the career center in the U.S. institutions could organize lectures focusing on the topic of how to better understand U.S. immigration policies for Chinese

undergraduate students.

For Chinese undergraduate students who were enrolled in the pathway program, this study points out that their GPAs were lower than those who were normally enrolled. This suggests that administrators in the pathway program should pay more attention to students' academic performance such as providing more tutors and establishing more study groups to assist international students' studies. This study also indicates that Chinese undergraduate students who were enrolled in the pathway program had less work experience than those who were normally enrolled. This implies that the pathway program should provide more internship opportunities such as building partnership with some companies. This study demonstrates that Chinese undergraduate students in the pathway program were significantly more likely to plan to apply for graduate school and less confident about their immigration decisions compared to those who were normally enrolled. Administrators in the pathway program should notice and understand international students' characteristics such as students' strong desire to apply to graduate school and their uncertainty about immigration decisions and then provide some strategies toward these issues.

For China, this study also suggests some policy implications. The findings of this study point out the majority of Chinese undergraduate students who study in the U.S. institutions desire to stay in the U.S. after their studies. In order to attract more excellent undergraduate students to return to China and decrease the "brain drain," this study suggests that the Chinese government should create more attractive policies for Chinese students who study in the U.S. to return. The results of this study indicate that Chinese undergraduate students who perceived they had more job opportunities in China were more likely to return. This study encourages Chinese companies to create specific resources such as establishing a friendly working environment and highlighting

employment options and benefits to attract Chinese undergraduate students who study in the U.S. to come back to work. The findings of this study state that Chinese undergraduate students who studied in the U.S. universities had high likelihood to pursue a graduate level degree. Thus, this study recommends Chinese graduate schools to establish strategies to recruit Chinese undergraduate students who have foreign country bachelor's degree.

The high stay inclination rate, 59% of this study sample, suggests that Chinese undergraduate students who studied in the U.S. may consider the bachelor degree is not competitive enough for the Chinese labor market or they think they do not have many job opportunities in China. According to Gribble (2008)'s "brain circulation theory," China can also benefit from the Chinese undergraduate students temporarily staying in the U.S. through exchanging human and cultural capital. Thus, it is critical for China to build and keep networks with Chinese undergraduate students who stay in the U.S. Further, if these Chinese undergraduate students change their decisions in the future, they can easily return because they have maintained links with their home country. Many Chinese undergraduate students in the U.S. colleges picture themselves working on jobs that allow them to stay connected with China and the U.S. because they recognize this combination of Chinese background and U.S. education as an important competitive advantage over their domestic competitors in the Chinese job market (Zhang et al., 2016).

Implications for the Future Study

The findings of this study suggest some implications for future researchers. First, the results of this study state Chinese undergraduate students that were enrolled in the pathway program were more likely to plan to attend graduate school than those who did not participate in the pathway program. Also, the findings of this study indicate Chinese undergraduate students

who were enrolled in the pathway program are less confident about their stay inclinations. Future research could explore why Chinese undergraduate students enrolled in the pathway program were significantly more likely to go to graduate school and less confident about their career paths. It may relate to their differences on their major, GPA, and work experience. This analysis provides more insights on understanding the characteristics of Chinese undergraduate students who were enrolled in the pathway program's decision to stay in the U.S. compared to the previous literature.

Second, this study explored a model for all Chinese undergraduate students stay or not stay inclination. Future research could explore the separate stay inclination models for Chinese undergraduate students who were enrolled in the pathway program and those who were not enrolled in the pathway program. In addition, future analysis of the separate stay inclination models can explore the differences of significant predictors. Future analyses could examine the different factors affecting Chinese undergraduate students from two groups' stay inclinations.

This study only surveyed Chinese undergraduate students at a public Midwestern research university, the sample size was small. It would be interesting to survey more Chinese undergraduate students from other universities to compare their stay inclinations. For instance, according to Cheung and Xu (2015), Chinese undergraduate students at elite universities are more likely to stay because of more resources such as alumni networks. Thus, Chinese undergraduate students' stay inclinations and the factors influencing their stay inclinations might be different between the public Midwestern research university and universities in other locations or with different levels of selectivity.

This study does not mention the political factors influencing Chinese undergraduate students' inclination to stay or not stay in the U.S. when they complete their studies, although

this study happened after President Trump was elected. Chinese and the U.S. government's different policies such as various U.S. immigration policies definitely influence Chinese undergraduate students' decision to stay or to return. The future research could consider and investigate the political reasons influencing Chinese undergraduate students' stay or not stay inclinations. For example, it is not clear if there are any different inclinations before and after President Trump was elected. Compared to "find a better way to welcome the striving, hopeful immigrants who still see America as a land of opportunity" immigration policy in the President Obama era, it seems that the immigration policy and environment is conservative in the President Trump era (Obama, 2013). Meanwhile, Chinese undergraduates might be frustrated by the voice of anger from the voters who were arguing that foreign employees were stealing their jobs. It seems that the employment environment is more competitive than before President Trump was elected. This conservative immigration environment may "push" Chinese undergraduate students to return to China when they graduate. On the other hand, the liberal immigration environment may "pull" Chinese undergraduate students to stay in the U.S. Thus, it is interesting to consider political factor in predicting Chinese undergraduate students' immigration decisions in the future research.

For future researchers, it is also good to establish a longitudinal study of these Chinese undergraduate students at the public Midwestern research university. While studying the stay or not stay inclinations is important in providing insight into individuals' decision-making processes, this study found most Chinese undergraduate students wanted to stay in the U.S. when they graduate. It would be useful to know whether or not Chinese undergraduate students actually do follow through on their inclinations. It would be interesting to see if the real decisions are different to the inclinations. The question of whether to stay in the U.S. or go back

to China after graduation depends on one's personal values, goals, and career plans. In other words, students of different family background, education experiences, values, and career plans are likely to make different decisions. The answer for Chinese undergraduate students is flexible and personal, because what mattered the most at this point may not be so important at another time as life always changes. That's why majority of Chinese undergraduate students in this study chose to have a temporary plan (I want to stay in the U.S. temporarily). Also, their official decisions might be different when they complete their degrees.

Conclusion

This study not only examined Chinese undergraduate students' decision to stay or not stay in the U.S. after their studies, but also investigated the factors that influenced Chinese undergraduate students' decision making process. Stay or not stay issues are critical for both China and the U.S. as Chinese undergraduate students' immigration decisions predict the "brain gain" and "brain drain" situation in China and the U.S.

The majority of Chinese undergraduate students planned to stay in the U.S. There were significant different choices between Chinese undergraduate students who were enrolled in the pathway program and those who were not. Particularly, the results of this study state the significant different choices of going to graduate school or getting a job between Chinese undergraduate students who were enrolled in the pathway program and those who were not. The results of this study indicate that compared to Chinese undergraduate students who were not enrolled in the pathway program, those who were enrolled in the pathway program were less confident about whether they would achieve their goal to stay or not stay in the U.S.

This study also established a comprehensive model and examined the demographic characteristics, education experiences, cultural and social factors, and perceived post-graduation

factors influencing Chinese undergraduate students' stay or not stay inclinations. Specifically, job opportunities from China was a push factor that significantly predicted their return inclinations. In contrast, major, GPA, graduate school, and job opportunities from the U.S. were pull factors significantly that predicted Chinese undergraduate students' stay inclinations. Thus, the results of this study contribute to the research gap of international students in pathway programs. This study provides a comprehensive method to examine the conceptual framework of Chinese undergraduate students' stay or return inclinations. The findings from this study expand the push and pull theory of international students' mobility.

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Appendices

Appendix A: Finalized Instrument- Survey for Chinese undergraduate Students' Stay Inclination

Information Statement

The Department of Educational Leadership and Policy Studies at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

We are conducting this study to better understand Chinese undergraduate students' experience in the United States. This will entail your completion of a survey. Your participation is expected to take about 5 minutes to complete. The content of the survey should cause no more discomfort than you would experience in your everyday life.

Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of Chinese undergraduates' experience in the United States. Your participation is solicited, although strictly voluntary. Your name will not be mentioned in this survey and any way with the research findings. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

Completion of the survey indicates your willingness to take part in this study and that you are at least 18 years old. If you would like additional information concerning this study before or after it is completed, please feel free to contact me by e-mail.

申明

堪萨斯大学教育领导和政策研究系支持此项问卷调查参与者信息的保护。即使你同意参与此项调查，你也可以在任何时间放弃而不会因此受到任何处罚。

我们建立此项研究是为了更好的了解中国本科留学生在美国的经历。为了得知这个问题，需要你完成此次问卷的全部内容。你大概需要 5 分钟完成这份问卷。问卷的内容不会对你以后的生活造成任何不利影响。

尽管参与此次问卷不会直接让你受益，但我们相信通过你的回答能帮助我们更好的理解中国本科留学生在美国的经历。我们请求你的参与，尽管这个参与是基于自愿原则。问卷中，你不需要提到你的名字。你的问卷信息也不会被共享除非（a）法律和学校政策要求，或者（b）你的书面允许。有可能因为这是一份网络问卷调查，有人会无意看到你的回答。

完成这份问卷表明你愿意参与此项研究同时你已经年满 18 岁。如果你在完成此项调查问卷前后需要其他相关信息，请发邮件联系我。

Sincerely,

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If you are agree, please click "I agree to answer questions". 如果您同意，请点击“我同意回答问题”

- ❍ I agree to answer questions. 我同意回答问题。
- ❍ I do not agree to answer questions. 我不同意回答问题。

Q1a. Have you enrolled, completed, or never enrolled in the Academic Accelerator Program (AAP) ?1a. 请问你被录取或完成了 AAP？还是没有进入 AAP？

- Enrolled but never completed AAP 录取进入了 AAP 还在读
- Enrolled and completed AAP 录取进入了 AAP 并且已经从 AAP 毕业
- Never enrolled in AAP 没有进入 AAP

Q1b. Are you currently taking AEC courses? 你现在在上语言中心（AEC）的课吗？

- Yes 是的
- No 不是

Q1c. How many semesters did you spend in the Applied English Center (AEC)?你在语言中心（AEC）读了几个学期？

- 0
- 1
- 2
- 3
- 4+

Q2a. When I graduate, I want to 当你从堪萨斯大学毕业，你想要

- go to a graduate school 读研究生
- get a job 找工作
- other, please specify 其他，请具体指出 _____

Q2b. When I graduate, I want to 当你从堪萨斯大学毕业，你想要

- Return to China temporarily 暂时回到中国
- Return to China long-term 回到并长期留在中国
- Stay in the US temporarily 暂时留在美国
- Stay in the US long-term 长期留在美国
- other, please specify 其他，请具体指出 _____

Q2c. I feel confident that I will achieve my goals about where I will live when I graduate.我确定我毕业之后我会实现我关于留在美国还是回中国的打算。

- ❍ Strongly disagree 非常不同意
- ❍ Disagree 不同意
- ❍ Somewhat disagree 有点不同意
- ❍ Somewhat agree 有点同意
- ❍ Agree 同意
- ❍ Strongly agree 非常同意

Q3a. What is your current year of study？今年是你在堪萨斯大学就读的第几年？

- ❍ 1st year 第一年
- ❍ 2nd year 第二年
- ❍ 3rd year 第三年
- ❍ 4th year 第四年
- ❍ 5th + year 五年或五年以上

Q3b. Counting the present semester, How many semesters have you lived on campus? 你在校内(包括这个学期）住了几个学期？

- ❍ 0
- ❍ 1 semester 1 学期
- ❍ 2 semesters 2 学期
- ❍ 3 semesters 3 学期
- ❍ 4 semesters 4 学期
- ❍ 5 semesters 5 学期
- ❍ 6 semesters 6 学期
- ❍ 7 semesters 7 学期
- ❍ 8 semesters or more 8 学期或多于 8 学期

Q3c. What is your current GPA? 你现在的平均积点分是多少？

- A (4.00)
- A- (3.70-3.99)
- B+ (3.33-3.69)
- B (3.00-3.32)
- B- (2.70-2.99)
- C+ (2.30-2.69)
- C (2.00-2.29)
- C- or below (

Q3d-1. Since the beginning of this academic year, how often have you participated in social and cultural extra curricular activities on campus? Examples: sporting or cultural events, or joining a student club. 从这个学年起，你参与校园课外社会文化活动怎么样？例如运动，文化，或者参与学生社团。

- Never 没有
- Once 一次
- Monthly 一个月一次
- Weekly 一星期一次
- Several times per week 一星期几次
- Daily 每天

Q3d-2. Since the beginning of this academic year, how often have you volunteered on the campus?从这个学年起，你参与校园志愿者活动的次数怎么样？

- Never 没有
- Once 一次
- Monthly 一个月一次
- Weekly 一星期一次
- Several times per week 一星期几次
- Daily 每天

Q3d-3. Since the beginning of this academic year, how often have you volunteered in the Lawrence community?从这学年起，你参与校外劳伦斯社区志愿者活动的次数怎么样？

❍ Never 没有

❍ Once 一次

❍ Monthly 一个月一次

❍ Weekly 一星期一次

❍ Several times per week 一星期几次

❍ Daily 每天

Q3e. Have you had any work experience such as intern or hold a part time job since coming to the university? 自从你到大学后，你有任何类似于实习或者兼职的工作经历吗？

❍ Yes 是

❍ No 不是

Q4. Please indicate the extent to which you agree or disagree with each of the following statement by clicking a corresponding number (1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Somewhat agree, 5=Agree, 6= Strongly agree). 请通过点击相应数字指出你同意或不同意下列陈述的程度 （1=非常不同意，2=不同意，3=有点不同意，4=有点同意，5=同意，6=非常同意）。

	1	2	3	4	5	6
1. I came to study in the US because my parents wanted me to. (我来美国留学是因为我父母的希望。）	❍	❍	❍	❍	❍	❍
2. I came to study in the US because I think the US college degree is more valuable than the degree in China. （我来美国留学是因为我认为美国大学文凭比中国大学文凭更有用。）	❍	❍	❍	❍	❍	❍
3. I came to study in the US because I did not get admitted by the desired college in China. （我来美国留学是因为我没有被理想的中国大学录取。）	❍	❍	❍	❍	❍	❍
4. I came to study in the US because I wanted to learn English. （我来美国留学是因为我想学习英语语言。）	❍	❍	❍	❍	❍	❍
5. I came to study in the US because I wanted to improve myself. （我来美国留学是因为我想成为更好的我。）	❍	❍	❍	❍	❍	❍

Q5. Please indicate the extent to which you agree or disagree with each of the following statement by clicking a corresponding number (1= Strongly disagree, 2= Disagree, 3= Somewhat disagree, 4= Somewhat agree, 5=Agree, 6= Strongly agree). 请通过点击相应数字指出你同意或不同意下列陈述的程度 （1=非常不同意，2=不同意，3=有点不同意，4=有点同意，5=同意，6=非常同意）。

	1	2	3	4	5	6
1. My family and I are very close. 我和我的家人很亲近。	❍	❍	❍	❍	❍	❍
2. I have close friends in China. 我在国内有很要好的朋友。	❍	❍	❍	❍	❍	❍
3. In classes, my professors help me to learn the course content. 在课堂里，我的老师帮助我学习课堂知识。	❍	❍	❍	❍	❍	❍
4. I have many opportunities to get a good job in the US. 在美国，我有很多机会得到一份好工作。	❍	❍	❍	❍	❍	❍
5. I have made friends with US classmates. 我和我的美国同学交上了朋友。	❍	❍	❍	❍	❍	❍
6. Living with my family is important to me. 和家人住在一起对我来说很重要。	❍	❍	❍	❍	❍	❍
7. I miss my friends in China. 我想念在国内的朋友。	❍	❍	❍	❍	❍	❍
8. My professors care about me. 我的老师关心我。	❍	❍	❍	❍	❍	❍
9. There are many available job opportunities in China for those who want to return. 国内有很多工作机会提供给想要回国的留学生。	❍	❍	❍	❍	❍	❍
10. I miss my family when I stay in the US. 当我在美国，我想念我的家人。	❍	❍	❍	❍	❍	❍
11. My professors are available to me outside classes. 在课外，我能联系到我的老师。	❍	❍	❍	❍	❍	❍
12. My friends in the US help me know more about American society. 我在美国的朋友帮助我更多地了解了美国社会。	❍	❍	❍	❍	❍	❍
13. I stay in contact with my friends in China through social media. 我通过社交媒体和我在国内的朋友保持联系。	❍	❍	❍	❍	❍	❍
14. The salary in the US could be much higher than I would receive in my home country. 在美国工作的工资要比我在国内工作的工资要高。	❍	❍	❍	❍	❍	❍

15. My family ties in China can help me to get a job. 我在国内的家人可以为我找工作提供帮助。	❍	❍	❍	❍	❍	❍
16. My fellow students at the university are friendly. 我在大学的同学对我都挺友好的。	❍	❍	❍	❍	❍	❍
17. I discuss my career plan with my professors. 我和我的老师讨论过我的职业规划。	❍	❍	❍	❍	❍	❍
18. My friends in the US help me solve problems. 我在美国的朋友帮助我解决了问题。	❍	❍	❍	❍	❍	❍
19. I have received considerable support in my adjustment to American society. 在我适应美国社会的过程中，我收到了很多帮助。	❍	❍	❍	❍	❍	❍
20. I feel I have strong English language skills. 我认为我的英语语言能力强。	❍	❍	❍	❍	❍	❍
21. There are many opportunities to apply for graduate schools in the US. 我在美国有很多机会去申请大学读研。	❍	❍	❍	❍	❍	❍
22. I discuss my career plan with my fellow students. 我和我在堪萨斯大学的同学讨论了我的职业规划。	❍	❍	❍	❍	❍	❍
23. The university provides an environment that supports my needs. 大学提供了一个支持我所需的环境。	❍	❍	❍	❍	❍	❍
24. I experienced cultural shock when I arrived at the university. 我刚来大学的时候我经历了文化的冲击。	❍	❍	❍	❍	❍	❍
25. My opportunities for advancement are limited in China. 我在中国工作，得到晋升的机会有限。	❍	❍	❍	❍	❍	❍
26. I feel like I belong at the University. 我感觉我属于大学。	❍	❍	❍	❍	❍	❍
27. I discuss my career plan with my friends in China. 我和我在国内的朋友讨论过我的职业规划。	❍	❍	❍	❍	❍	❍
28. I have many opportunities to get a good job in China. 在国内，我有很多机会找得一份好工作。	❍	❍	❍	❍	❍	❍
29. My opportunities for advancement are limited in the US. 我在美国工作，得到晋升的机会有限。	❍	❍	❍	❍	❍	❍

30. It is possible for me to be accepted to a graduate school in the US. 很有可能我会被大学录取在美国读研。	❍	❍	❍	❍	❍	❍
31. The extracurricular activities at the university such as sporting or cultural events make me feel welcome. 在大学的课外活动比如运动和文化活动让我感觉愉悦。	❍	❍	❍	❍	❍	❍
32. It is valuable to get a higher level degree in the US. 在美国获得研究生学位是很有价值的。	❍	❍	❍	❍	❍	❍
33. There are many job opportunities in the US for those who want to stay. 如果想要留在美国，我有很多工作机会。	❍	❍	❍	❍	❍	❍
34. Family ties are very important to me. 和家人的关系对我来说很重要。	❍	❍	❍	❍	❍	❍
35. I feel culturally adjusted. 我感觉我适应了美国的文化。	❍	❍	❍	❍	❍	❍
36. My interactions with professors positively influence my future goals. 我和老师的联系积极地影响了我的未来目标。	❍	❍	❍	❍	❍	❍

Q6a. What is your gender? 你的性别是？

❍ Male 男性

❍ Female 女性

Q6b. What is your age? 你的年龄是？ _____

Q6c. What's your major? 你的专业是？

❍ Arts 艺术

❍ Business 商科

❍ Education 教育

❍ Engineering 建筑

❍ Health Professions 健康专业

❍ Health, Sport, and Exercise Sciences 健康，运动，和运动科学

❍ Humanities & International Studies 人文和国际研究

❍ Journalism & Mass Communications 新闻和大众传媒

❍ Law (Pre-Law) 法学 （法学预科）

- ❍ Medicine (Pre-Med) 医学（医学预科）
- ❍ Music 音乐
- ❍ Natural Science & Math 自然科学和数学
- ❍ Nursing 护理
- ❍ Pharmacy (Pre-Pharm) 药学 （药学预科）
- ❍ Public Affairs & Administration 公共事务和管理
- ❍ Social & Behavioral Sciences 社会行为科学
- ❍ Social Welfare 社会福利学
- ❍ Undecided 未决定
- ❍ other (please specify) 其他 （请具体列出） _____

Q6d. What is the highest level of education completed by either of your parents (of those who raised you)? 你父亲或者母亲或者监护人的最高学历是什么？

- ❍ Less than high school completed 高中都没毕业
- ❍ High school diploma or equivalent 高中学历或者相当于高中学历
- ❍ Some college, vocational, or trade school (including 2-year degrees) 大专或者职业技术学院
- ❍ Bachelor’s degree (e.g., BS, BA, AB) 本科学历
- ❍ Higher than master degree 研究生学历及以上

Q6e. What is your family yearly income (include your father and mother's income)? (CNY: ¥) 你家庭包括父母的年收入是多少？（以人民币结算）

- ❍ < 100, 000 ¥
- ❍ 100, 001-300,000 ¥
- ❍ 300, 001-500, 000 ¥
- ❍ 500, 001-700, 000 ¥
- ❍ 700, 001-1, 000, 000 ¥
- ❍ >1, 000, 000 ¥

Appendix B: Human Subject Approval

KU THE UNIVERSITY OF KANSAS
Research

APPROVAL OF PROTOCOL

January 27, 2017

Lu Wang
luwang@ku.edu

Dear Lu Wang:

On 1/27/2017, the IRB reviewed the following submission:

Type of Review:	Initial Study
Title of Study:	Do They Want to Stay or do They Want to Return? The Stay Inclinations for Chinese Undergraduate Students in a Public Mid-West Research University
Investigator:	Lu Wang
IRB ID:	STUDY00140388
Funding:	None
Grant ID:	None
Documents Reviewed:	• Information Statement-1230.docx, • HSCL-NewSubmission-1230.pdf, • stay inclination survey-Lu Wang.docx

The IRB approved the study on 1/27/2017.

1. Notify HSCL about any new investigators not named in original application. Note that new investigators must take the online tutorial at https://rgs.drupal.ku.edu/human_subjects_compliance_training.
2. Any injury to a subject because of the research procedure must be reported immediately.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity.

Continuing review is not required for this project, however you are required to report any significant changes to the protocol prior to altering the project.

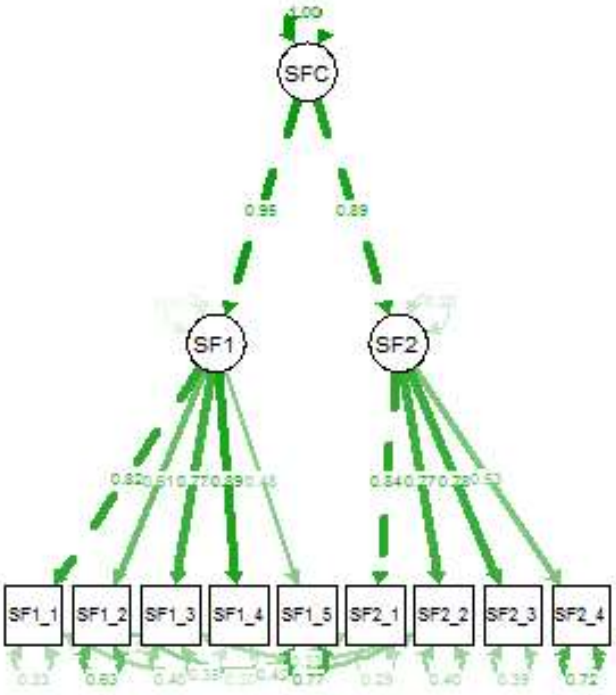
Please note university data security and handling requirements for your project:
https://documents.ku.edu/policies/IT/DataClassificationandHandlingProceduresGuide.htm

You must use the final, watermarked version of the consent form, available under the "Documents" tab in eCompliance.

Sincerely,

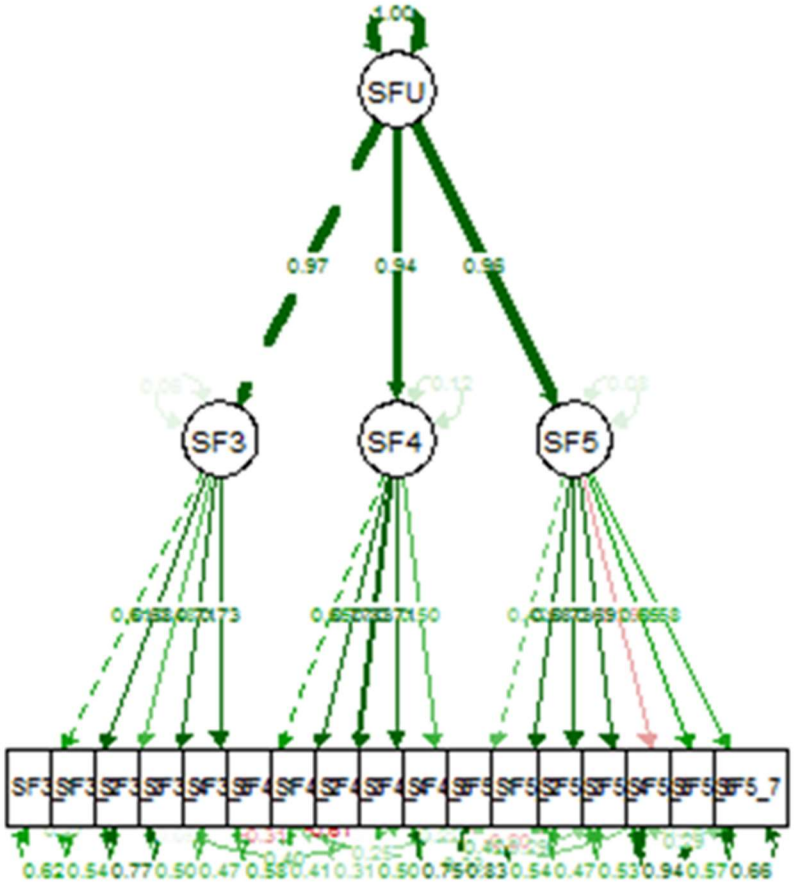
Stephanie Dyson Elms, MPA
IRB Administrator, KU Lawrence Campus

Appendix C: the model for the cultural and social factors from China (SFC)



The second level model of cultural and social factors from China is established by family ties from China (SF1) and friends influence from China (SF2). The first level model presents the models of family ties from China (SF1) and friends influence from China (SF2) are established through items responses from the survey. The latent constructs are represented by circles, the observed variables are represented by squares, and the one arrow lines represent the correlation between latent variable and indicator. The solidness lines indicate the strong correlations and the dashed lines indicate the weak correlations. The two arrows curve lines pointing out to the indicators represents the measurement error and covariances among survey items.

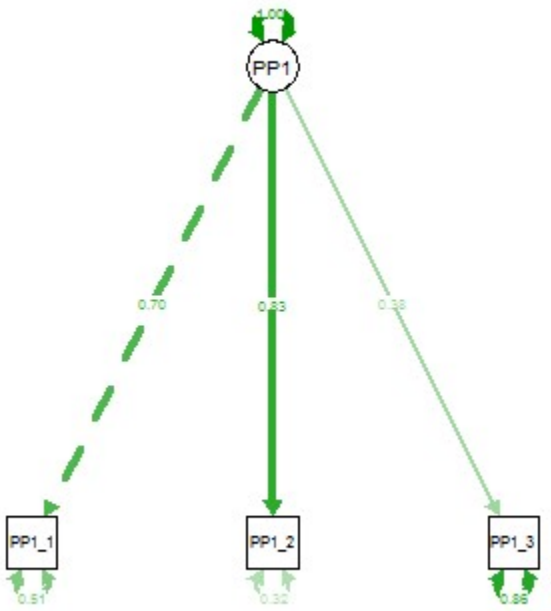
Appendix D: The model for cultural and social factors from the U.S. (SFU).



The second level of model presents the relationship between the cultural and social factors from the U.S. (SFU) and faculty relationship from the U.S. (SF3), friends influence from the U.S. (SF4), and cultural adjustment in the U.S. (SF5). The first level of model represents the models of faculty relationship from the U.S. (SF3), friends influence from the U.S. (SF4), and cultural adjustment in the U.S. (SF5) are constructed through items responses from the survey. The latent constructs are represented by circles, the observed variables are represented by squares, and the one arrow lines represent the correlation between latent variable and indicator. The solidness lines indicate the strong correlations and the dashed lines indicate the weak correlations. The two

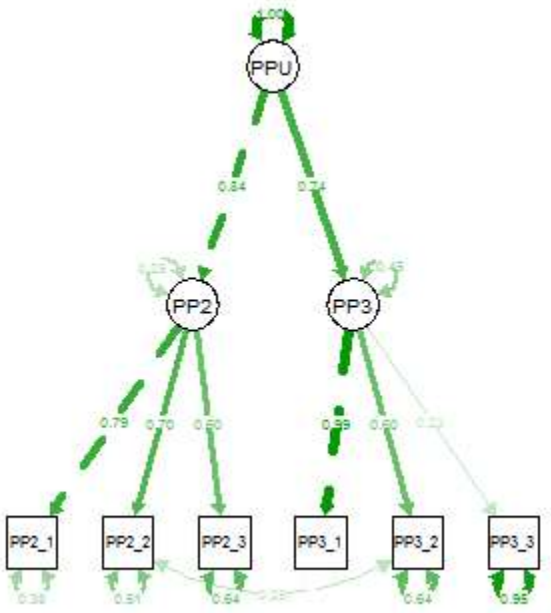
arrows curve lines pointing out to the indicators represents the measurement error and covariances among survey items.

Appendix E: the model for perceived post-graduation factor from China (PP1)



The model is established through items responses from the survey. The latent constructs are represented by circles, the observed variables are represented by squares, and the one arrow lines represent the correlation between latent variable and indicator. The solidness lines indicate the strong correlations and the dashed lines indicate the weak correlations. The two arrows curve lines pointing out to the indicators represents the measurement error and covariances among survey items.

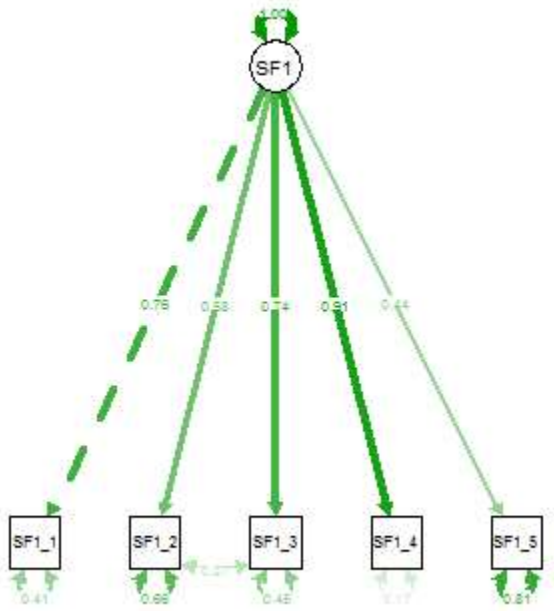
Appendix F: the model for perceived post-graduation factor from the U.S. (PPU)



The second level model presents the relationship between perceived post-graduation factors from the U.S. (PPU) and graduate school opportunities from the U.S. (PP2) and job opportunities from the U.S. (PP3). The first level model presents the model of graduate school opportunities from the U.S. (PP2), job opportunities are constructed from the U.S. (PP3) through items responses from the survey. The latent constructs are represented by circles, the observed variables are represented by squares, and the one arrow lines represent the correlation between latent variable and indicator. The solidness lines indicate the strong correlations and the dashed lines indicate the weak correlations. The two arrows curve lines pointing out to the indicators represents the measurement error and covariances among survey items.

Appendix G

CFA model for Family ties in China (SF1)

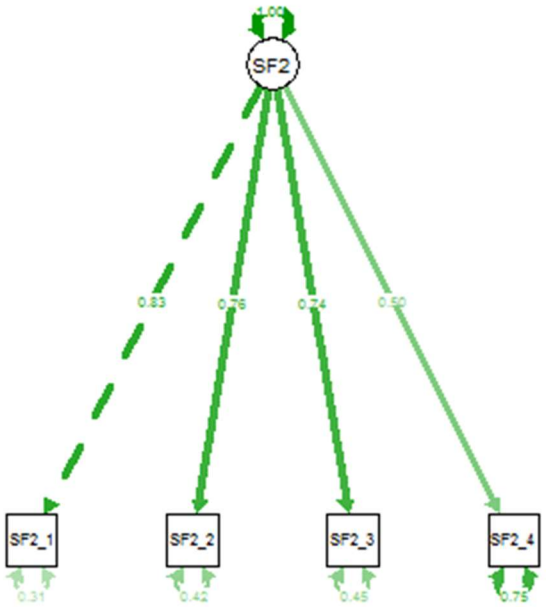


Model Fit of SF1

χ^2	Df	pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
2.025	4	0.731	1	0	0.887	0.013	1.01	3751.543	3807.693

Appendix H

CFA of friend in China influence (SF2)

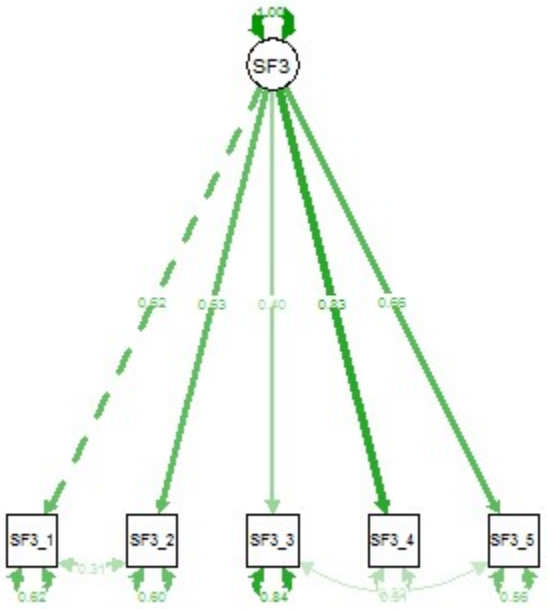


Model Fit of SF2

χ2	Df	Pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
2.546	2	0.28	0.998	0.033	0.476	0.014	0.995	3050.184	3092.297

Appendix I

CFA model for faculty relationship in the U.S. (SF3)

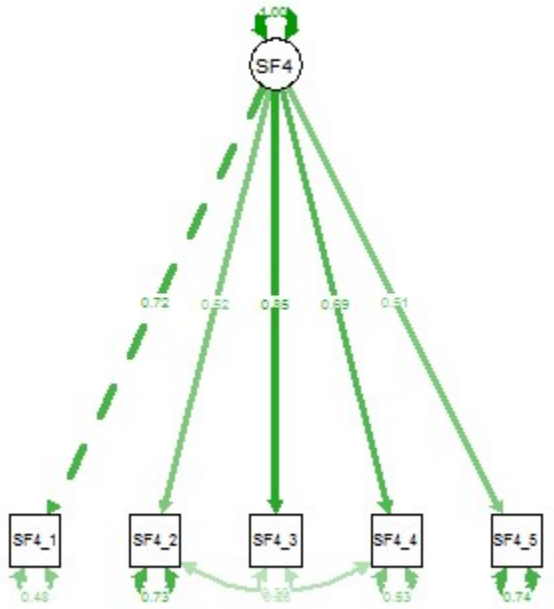


Model Fit of SF3

χ2	Df	pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
7.036	3	0.071	0.989	0.074	0.226	0.021	0.962	3755.471	3815.131

Appendix J

The CFA model for friend in the U.S. influence (SF4)

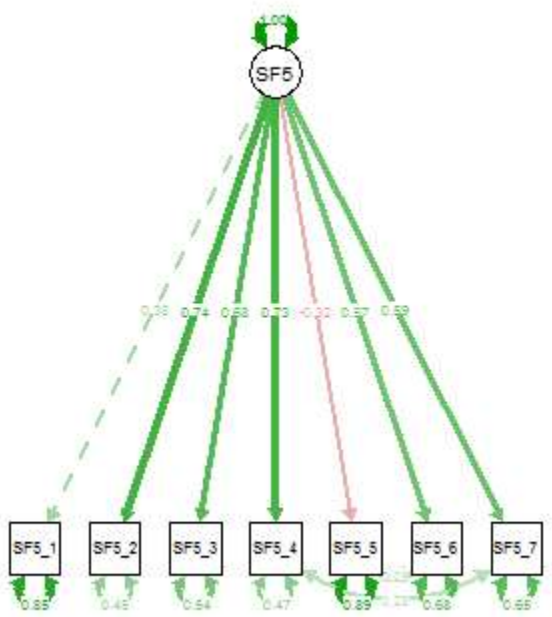


Model Fit of SF4

χ2	Df	pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
3.968	4	0.41	1	0	0.678	0.016	1	3835.383	3891.534

Appendix K

The CFA model for cultural adjustment in the U.S. (SF5)

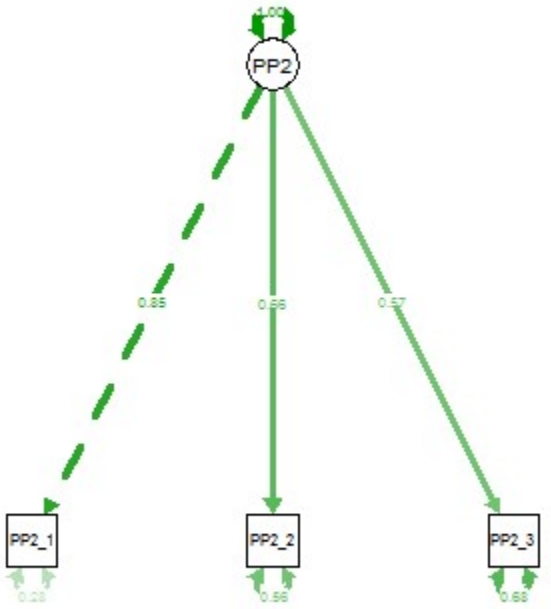


Model Fit of SF5

χ2	Df	Pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
27.086	12	0.008	0.965	0.071	0.146	0.04	0.939	5387.902	5468.618

Appendix L

The CFA model for perceived graduate school opportunity in the U.S. (PP2)

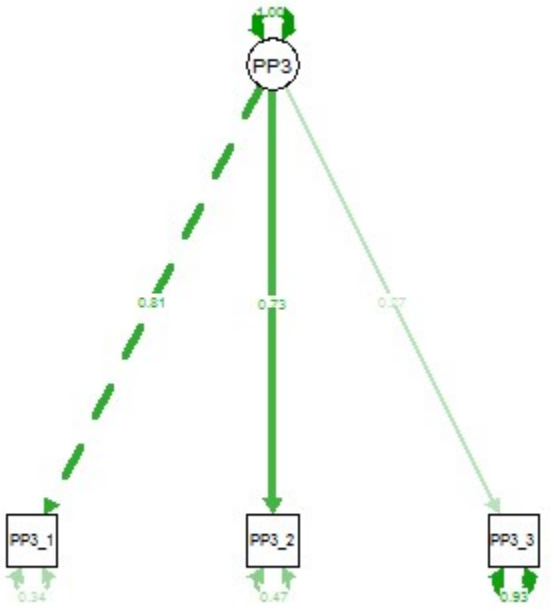


Model Fit of PP2

χ2	Df	pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
0	0	NA	1	0	1	0	1	2297.863	2329.447

Appendix M

The CFA model for perceived job opportunity in the U.S. (PP3)



Model Fit of PP3

$\chi 2$	Df	Pvalue	CFI	Rmsea	rmsea.pvalue	SRMR	Tli	Aic	bic
0	0	NA	1	0	1	0	1	2349.289	2380.873