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# Exploring the Moderation Mechanisms of the Association Between Acculturative Stress and Social Self-Efficacy Among Asian International Students

Jinzhao Zhao
*University of Denver*

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## Abstract

Asian international students account for 70% of international students in the U.S., which makes 4.3% of total population enrolled in American universities and colleges. They experience stress related to adapting to mainstream culture in the U.S. (i.e., acculturative stress), which negatively impacts their mental health and view of self. The negative impacts also include willingness and ability to perform social behaviors and to maintain interpersonal relationships (i.e., social self-efficacy). Previous acculturation studies proposed from a theoretical perspective that several factors may alleviate the negative impact of acculturative stress and enhance Asian international students' social self-efficacy. These factors include acculturation orientation (i.e., navigating between the culture in the host country and people's cultures of origin), collective coping strategies (i.e., emotional, cognitive, or behavioral coping approaches that are consistent with collectivistic characteristics), cultural intelligence (i.e., the ability to function effectively in culturally diverse settings), and collective self-esteem (i.e., people's positive evaluation of their group identity). This study explored the moderation effects of the above four factors and the interaction effects in two separate moderation models. The first model is a three-way interaction including acculturative stress, acculturation orientation, and collective coping strategies in predicting Asian international students' social self-efficacy. The second model focuses on the three-way interaction among acculturative stress, cultural intelligence, and collective self-esteem in their ability to predict Asian international students' social self-efficacy. Students (n = 216) participated in this study by filling out an online questionnaire. By using hierarchical multiple regression analyses, this study detected a significant moderation effect for cultural intelligence, a significant moderation effect for collective self-esteem, and a significant three-way interaction for acculturative stress, cultural intelligence, and collective self-esteem in predicting social self-efficacy. The findings of this study will help provide suggestions for outreach programs and psycho-educational workshops for Asian international students in the U.S.

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Ruth Chu-Lien Chao, Ph.D.

## Second Advisor

Kathy Green, Ph.D.

## Third Advisor

Julia Roncoroni, Ph.D.

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ABSTRACT

Asian international students account for 70% of international students in the U.S.,

which makes 4.3% of total population enrolled in American universities and colleges.

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acculturative stress), which negatively impacts their mental health and view of self. The

negative impacts also include willingness and ability to perform social behaviors and to

maintain interpersonal relationships (i.e., social self-efficacy). Previous acculturation

studies proposed from a theoretical perspective that several factors may alleviate the

negative impact of acculturative stress and enhance Asian international students' social

self-efficacy. These factors include acculturation orientation (i.e., navigating between the

culture in the host country and people's cultures of origin), collective coping strategies

(i.e., emotional, cognitive, or behavioral coping approaches that are consistent with

collectivistic characteristics), cultural intelligence (i.e., the ability to function effectively

in culturally diverse settings), and collective self-esteem (i.e., people's positive

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CHAPTER ONE: INTRODUCTION

This chapter introduces the present study on Asian international students' approaches to moderate the negative impact of acculturative stress on social self-efficacy. First, a grand picture of the Asian international student population will be provided as a fast-growing student body in the academic institutes in the United States. It aims to reveal the discrepancy between a need to competently work with this population and lack of attention on exploring effective services. Addressing the importance of exploring the concept of social self-efficacy in relation to multiple aspects of college students' life is another component of the first chapter. The literature review on social self-efficacy illustrates the scarcity of studies about approaches to increase college students' social self-efficacy, and only few of them specifically focus on Asian international students. After examining several critical issues in the existing empirical literature, this chapter presents a summary of the theoretical model of the present study with details of my hypotheses, predictor, outcome variable, and four moderators. This chapter concludes by providing definitions of critical terms in this study.

**Asian International Students in the United States**

According to the Institute of International Education (IIE), the total number of international students in the U.S. from worldwide has surpassed the one million mark to reach 1,094,792 (IIE, 2018). This historical change reflects continued strong growth in student numbers for two decades. They contributed 35.8 billion dollars to U.S. economies

just in the academic year of 2014-15 given two-thirds of international students are self-funded, and 7% are funded by foreign organizations (IIE, 2018). In several middle-sized or small regions of the U.S., international students have significantly changed the demographics and local economy. The source of funding also suggests that a good portion of international students come from a privileged socioeconomic background. Additionally, limited financial aid opportunities are available for international students, which also contribute to this phenomenon.

The top ten places of origin for international students are: China (363,341) accounts for 33.1% of total international students in the U.S.; India (196,271) accounts for 17.9%; South Korea (54,555) accounts for 4.9%; Saudi Arabia (44,432) accounts for 4.1%; Canada (25,909) accounts for 2.4%; Vietnam (24,325) accounts for 2.2%, Taiwan (22,454) accounts for 2.1%; Japan (18,753) accounts for 1.7%; and Mexico (15,468) accounts for 1.4 %, Brazil (14,620) accounts for 1.3% (IIE, 2018). Taken together, 66% of international students are from East Asia (e.g., China, Mongolia), Southeast Asia (e.g., Cambodia, Thailand), and South and Central Asia (e.g., India, Bhutan; IIE, 2018). Regarding only Asian countries and regions, there is a near 150% growth from 280,149 to 689,525 in the past two decades and a nearly 10% growth from the previous academic year (IIE, 2018).

Although Middle East countries such as Saudi Arabia and Iran are geographically defined as part of Asia, there are many fundamental differences when it comes to traditions, customs, cultural norms, and dominant languages. These differences explained why IIE, universities, and many other organizations usually do not include Middle East

countries when they talk about Asia. The Europeans and Americans have historically referred to the region as the Middle East, and habitually exclude countries in this area when discussing Asian cultures. Additionally, studying all international students from Asian countries underestimates the heterogeneity among this diverse group, which further ignores external validity issues and accounts minimum individual differences within similar groups (Wang, Heppner, Fu, Zhao, Li, Chuang, 2012). Therefore, this study excluded Middle East international students.

The states that have the most international students are: California (149,328), New York (114,316), Texas (82,184), Massachusetts (59,436), Illinois (50,327), Pennsylvania (48,453), Florida (43,462), Ohio (37,752), Michigan (33,848), and Indiana (29,219). The statistics in all of these states inform us that more than half of the international students are from Asian countries such as China and South Korea, with Chinese international students accounting for more than 30% in most of the ten states. With regard to institutions that host the most international students, most of the universities and colleges are located in California, New York, and Texas. In several universities such as New York University (NYU), University of Southern California (USC), and Arizona State University (ASU) at Tempe, the number of international students at each school is more than the numbers of total students in a medium-sized college. Thus, this population is of great importance in considering academic resources, faculty and staff competency, mental health services, and diversity services.

Among international students pursuing degrees in the U.S., about 40% people are enrolled in undergraduate degrees, nearly 40% in a master's or doctoral degree, and the

rest focus on other kinds of academic programs such as non-degree English as a Second Language program (ESL; IIE, 2018). This ratio fluctuates across institutes based on their organization and structure, which in turn changes the average age of the international students in each school (IIE, 2018). Although no empirical research has revealed that age is a significant predictor of social self-efficacy, it impacts international students' adjustment in the U.S. via affecting their levels of flexibility, the amount of family responsibility, etc (Constantine, Okazaki, & Utsey, 2004). For fields of study, a good portion of international students major in engineering (216,932), business and management (200,312), and math and computer science (141,651; IIE, 2018). Women are underrepresented in the fields of Science, Technology, Engineering, and Mathematics (STEM) due to stereotype threat, implicit bias, and differences in salary and benefits. Together with other cultural issues with gender inequality in many countries across the world, the gender ratio (men: women) among international students in the U.S. is about 5:4 (IIE, 2018). This ratio is in contrast to the clientele in most university counseling centers where female clients are more likely to seek mental health services (e.g., Sheu, H. B. & Sedlacek, W. H., 2004).

The number of Asian international students will likely continue to grow at least in the next few years (IIE, 2018). As a result of the growth, academic institutes should pay sufficient attention to this population, which also includes mental health professionals in university counseling centers. Many studies have discussed the low intentions of Asian students to seek mental health services when they experience challenges and even crises (e.g., Yakunina & Weigold, 2011). Hence, it is critical to find approaches to understand

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how Asian international students process and cope with adjustment issues. It is also helpful for mental health professionals to recognize Asian international students' strengths to facilitate better communication. Research should also provide suggestions for outreach programs and psycho-educational workshops provided for Asian international students. Additionally, assisting them in adapting to the new environment and thriving academically and reducing Asian international students' barriers to counseling services is critical for higher education in the U.S.

## The Importance of Exploring Social Self-Efficacy

*Social self-efficacy* is a concept developed by Sherer and Adams (1983) and has been widely studied in the field of psychology. It refers to an individual's belief about the ability to perform appropriate social behaviors (Smith & Betz, 2000; Akin & Akin, 2015). This definition consists of three dimensions: (a) the individual has knowledge and confidence about favorable social behaviors in specific social contexts; (b) the person trusts their own ability to perform such social behaviors; (c) he/she is also able to utilize the social skills to initiate and maintain social relationships (Akin & Akin, 2015). From a theoretical stance, Bandura (1977) and Betz (1992) proposed that the primary factors that profoundly influence social self-efficacy are performance accomplishments in the past, vicarious learning, emotional arousal, and verbal persuasion. Bandura (1977) also asserted a tendency to maintain and improve self-efficacy for all human beings as in his Social Learning Theory.

**The Function of Social Self-efficacy**

Social self-efficacy has been widely studied to understand human social behaviors. A brief literature review suggests that it directly or indirectly impacts academic/vocational performance, mental health concerns, addictions, positive emotional experiences, and psychological adjustment.

To start with positive emotional experiences impacted by social self-efficacy, higher level of social self-efficacy has been found to relate to higher levels of joy and love, more life satisfaction, and higher levels of global self-esteem (Shim, Wang, & Cassady, 2013; Akin & Akin, 2015; Hermann & Betz, 2006). Empirical studies have also revealed that social self-efficacy positively associates with social confidence (e.g., Smith & Betz, 2000), problem-solving skills (e.g., Bilgin & Akkapulu, 2007), and communication skills (Erozkan, 2013; Li, Shi, & Dang, 2014), which on one hand can help explain how social self-efficacy leads to various positive emotional effects, on the other hand collectively contribute to individuals' initiatives of establishing and maintaining relationships (Dinç, 2011). Several studies explore the impact of social self-efficacy on specific social behaviors. For example, Smith and Betz (2000) identified that social self-efficacy has a predictive power to initiating social contacts, participating in-group activities, and positively adjusting to social rejections. These skills are of particular importance when people change their social contexts because they are helpful for international students to develop a social network and receive more social support (Smith & Betz, 2000).

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Social self-efficacy also leads to better social interactions via adaptive conflict resolution style. Field, Tobin, and Reese-Weber (2014) stated that social self-efficacy is one of the most critical factors to determine conflict resolution styles in any given social relationships. Conflict resolution skills have also been found beneficial for social interactions and social relationships. Specifically, people with higher levels of social self-efficacy are more likely to adopt positive conflict resolution strategies such as compromise and negotiation; whereas lower levels of social self-efficacy predict negative conflict resolution strategies such as power assertion and attacking (Field et al., 2014). Syna Desivilya and Eizen (2005) identified social self-efficacy as the only predictor of the ability to integrate the engagement style and the constructive styles for conflict resolution, which are both beneficial approaches to manage conflicts, especially in small group contexts. The engagement conflict resolution style describes behaviors include criticizing oneself to comfort and validate another person, appropriate self-disclosure, providing suggestions to help solve problems (Syna Desivilya & Eizen, 2005). The constructive conflict resolution style refers to cooperative and pro-social behaviors that aim at preserving current relationships (Syna Desivilya & Eizen, 2005). This study provides strong evidence of the impact of social self-efficacy in social relationships.

About adverse effects and mental health concerns, a lot of studies centered on a belief that contextual factors play a critical role in psychological well-being. With indicators range from lack of self-confidence, loneliness, negative social expectations and maladaptive social behaviors, to depression, social anxiety, and feelings of helplessness, higher levels of social self-efficacy has been found to alleviate emotional concerns

(Anderson & Betz, 2001; Hermann & Betz, 2004; Wei, Russell, & Zakalik, 2005; Smith & Betz, 2002). These results help conceptualize how people react to adverse events differently, which further enrich mental health professionals' understanding of depression, anxiety, and adjustment disorders.

Aligning with the discussion around psychological adjustment, Erozkan (2013) posited that communication skills, interpersonal problem-solving skills, and self-confidence are positively related to social self-efficacy. Echoing the four factors that are theoretically predictive to social self-efficacy (i.e., performance accomplishments in the past, vicarious learning, emotional arousal, and verbal persuasion), self-confidence reflects positive feelings, problem-solving skills enacts mastery experiences, while communication skills are essential for verbal persuasion. All the elements are beneficial and useful for handling chaotic situations. Taken together, Erozkan (2013) summarized that higher levels of social self-efficacy positively predict the ability to overcome stressful situations including adapting to a new culture. On the flipside, several studies supported the assumption that lower levels of social self-efficacy predict lower levels of feelings of helplessness and loneliness, depression, and maladaptive social behaviors (Wei et al., 2005). Another study specifically focused on transitional experiences and psychosocial adjustments is Meng, Huang, Hou, and Fan (2015). They conducted a longitudinal study to explore Chinese college students' freshmen year (four time points within ten months) transition (Meng et al., 2015). Meng et al. (2015) supported and empathized the continuous and long-term benefits of social self-efficacy by providing

evidence about its positive correlations with academic and social adjustment, and a negative association with depression at several time points.

International students come to the U.S. to pursue good quality education; therefore, learning and being validated for their efforts is an essential aspect of their life. Research shows that social self-efficacy positively predicts academic performance and beliefs of academic potential (Akin & Akin, 2015; Raskauskas & Rubiano, 2015). It is plausible that increased academic self-efficacy predicts higher academic achievement. However, social self-efficacy is also critical to the grand picture in explaining academic achievement. Raskauskas and Rubiano (2015) analyzed the rationale and listed the following explanations about why social self-efficacy is crucial to academic performance. First of all, the majority of schools in the Western countries such as the U.S. and the Netherlands (Raskauskas & Rubiano's study was conducted in the Netherlands) encourages students to complete group projects and collaborate with peers (Raskauskas & Rubiano, 2015).

Being able to and trusting one's ability to have social interactions becomes one of the core competencies to gain good grades. Second, according to Social Cognitive Theory (Bandura, 1977), social self-efficacy is a critical factor in the relationship between contacts with peers and cognitive performance (Raskauskas & Rubiano, 2015). Specifically, students' positive peer interaction experiences increase their social self-efficacy, which further positively impacts their performance on cognitive tasks. Social self-efficacy and peer interactions collectively account for more variance in cognitive performance. While if they encounter interpersonal conflicts such as peer victimizations,

social self-efficacy buffers their negative experiences because students with high levels of social self-efficacy know that they can elicit social support and academic assistance. This study provides support for both moderation and mediation effects but is unclear when social self-efficacy serves as a mediator or a moderator. Additionally, several studies conducted in the U.S., China, and Turkey reached a cross-national conclusion that social self-efficacy helps decrease students' addictive behaviors related to smartphone, internet, and mobile social network services (Chiu, 2014; Yang, Wang, & Lu, 2016; Iskender & Akin, 2010).

Hence, social self-efficacy has a multidimensional positive influence on international students' experiences in a foreign country. Exploring approaches to enhance their social self-efficacy will be beneficial to increase their academic performance, boost their life satisfaction and subjective well-being, decrease their mental health concerns and reduce the likelihood of using maladaptive coping strategies (e.g., cell phone addiction) to cope with adjustment difficulties.

**Critical Issues in the Existing Literature**

Research has rarely focused on exploring factors that may contribute to higher levels of social self-efficacy or elements that will buffer the negative impact of adverse social experiences on social self-efficacy. Only a few studies have expanded our knowledge of contributors for social self-efficacy on top of the theoretical model established by Bandura (1977) and Betz (1992). This scarcity limits our ability to improve Asian international students' psychological well-being, life satisfaction, or overall adaptation to life in the U.S.

Most studies suggest changing one or several of the four factors that predict social self-efficacy (e.g., Anderson and Betz, 2001). For example, Meng et al. (2015) recommended Chinese counseling psychologists using assertive training as an approach to increase mastery experience and social persuasion and further to improve social self-efficacy. Assertiveness, as stated in Meng et al. (2015), has been widely discussed in the Western society as positive interpersonal skills, yet it is not very popular in East Asian countries such as China. Other skills that aim to increase performance accomplishments, emotional arousal, and verbal persuasion include educating effective social problem-solving skills (Erozkan, 2014), teaching communication skills (Erozkan, 2013), and managing emotions (Anderson & Betz, 2001). Many of the interventions or training programs targeted at adolescents and children with or without a specific concern (e.g., chronic disease). Due to their age range and the associated developmental stage, as well as the nature of their concerns in relations to their physical/mental concerns, it is difficult to generalize these approaches to international students.

Another critical issue in the existing literature is the lack of attention to international students. Only one study mainly addressed international students' experiences (Lin & Betz, 2009), which identified that increasing English language proficiency and extending the length of residence led to a higher level of social self-efficacy among Chinese international students. Unfortunately, these approaches are beyond the counselors' scope of practice. Other studies failed to account for the unique characteristic of international students.

There is a need to explore factors that are critical to a higher level of social self-efficacy. The above studies did not address concerns related to the adjustment issues experienced by Asian international students (i.e., acculturative stress). Research seldom provides analysis to discuss the negative impact of acculturative stress on social self-efficacy. Therefore, the present study is expected to fill in the blanks in current literature by exploring several potential moderation mechanisms of the association between acculturative stress and social self-efficacy. As the target population is Asian international students, the chosen moderators are all relevant to Asian cultures.

### Summary, Theoretical Models, and Hypotheses

Despite the importance of social self-efficacy, there have been only a few studies focused on the moderation mechanism of social self-efficacy. The absence of literature creates challenges for counselors, educators, and college staff to work with international students in relations to their adjustment issues.

The two models are depicted in Figure 1 and Figure 2 depict the theoretical model. Study hypotheses are stated below. This study focuses on exploring mechanisms that may attenuate the association between acculturative stress and social self-efficacy (*Line 1*). This exploration is grounded on the assumption that Asian international students adopt various mechanisms to cope with acculturative stress to improve or maintain their social self-efficacy. Hypothesis 1 is that acculturative stress will negatively correlate to social self-efficacy. Specifically, Asian international students with higher acculturative stress will report lower social self-efficacy; those with lower levels of acculturative stress will report higher social self-efficacy.

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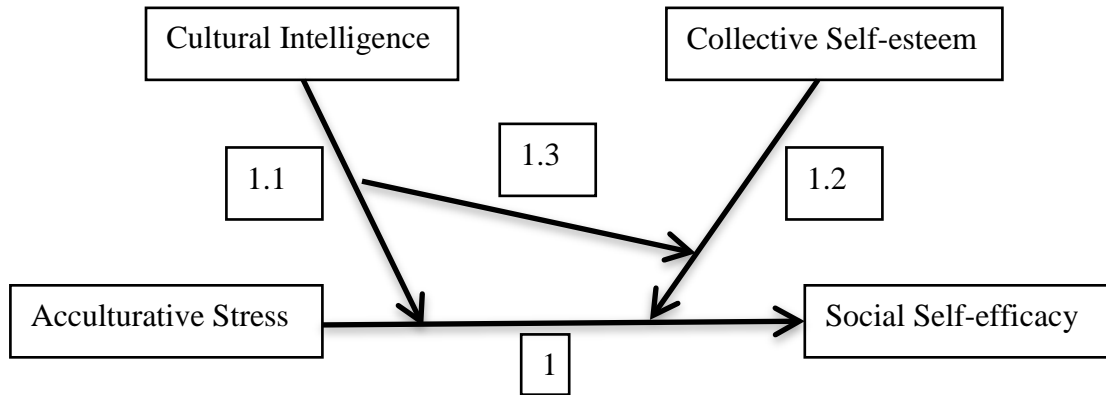
*Figure 1.* Proposed model for moderation mechanisms of acculturation orientation and collective coping strategies on the association between acculturative stress and social self-efficacy.
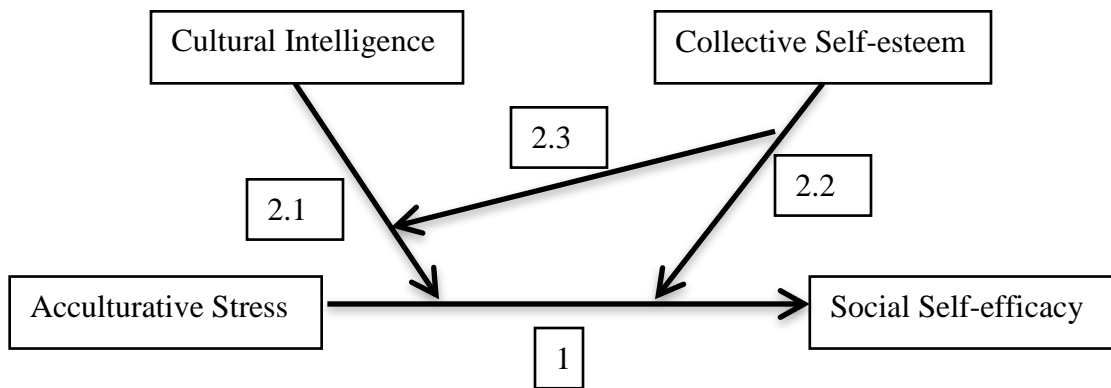


*Figure 2.* Proposed model for moderation mechanisms of cultural intelligence and collective self-esteem on the association between acculturative stress and social self-efficacy.

The rest of the study mainly focuses on several moderation mechanisms for the above correlation. Understanding moderators for the association will help counselors and educators develop interventions to alleviate the negative impact of acculturative stress on Asian international students' social self-efficacy. It will also be beneficial to improve

Asian international students' overall adaptation to the life in the U.S. Two three-way interactions share the same predictor, i.e., acculturative stress, and the same outcome variable, i.e., social self-efficacy.

Following the suggestions in Wei, Liao, Heppner, Chao, and Ku (2012), the first part of this study provides empirical evidence for Berry's (1997) theoretical framework for acculturation orientation and the CNCC model's emphasis on culturally specific coping strategies (Figure 1). Specifically, this study examined whether the acculturative orientation or modes chosen by Asian international students moderate the impact of acculturative stress on social self-efficacy (*Line 1.1*). Accordingly, hypothesis 1.1 is that the negative relationship between acculturative stress and social self-efficacy is weaker for Asian international students who identify strongly with their heritage culture than for their counterparts who identify weakly with their heritage culture.

Collective coping strategy is the second moderator. This study explored whether collective coping strategies moderate the association between acculturative stress and social self-efficacy (*Line 1.2*). Hence, this study hypothesized that for Asian international students who use more collective coping strategies, their acculturative stress has a weak association or a close to zero association with social self-efficacy. Conversely, for Asian international students who use less collective coping strategies, their acculturative stress has a medium or strong association with social self-efficacy (*hypothesis 1.2*).

Additionally, this model includes an interactive relationship between individuals' acculturation orientation impacts their collective coping strategies (*Line 1.3*). Because collective coping strategy is culturally congruent with acculturation orientation to their

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heritage culture, different collective coping strategies may be effective depending on degrees of Asian international students' identification with their heritage culture. Hence, this study examined a three-way interaction among acculturation orientation, collective coping strategies, and acculturative stress in predicting social self-efficacy. Hypothesis 1.3 is that: Asian international students who have strong (vs. weak) identification with their home culture and those who use more (vs. less) collective coping strategies, their acculturative stress has a weak or a close to zero association with social self-efficacy; for those who identify strongly (vs. weakly) with their heritage culture yet use less (vs. more) collective coping strategies, their acculturative stress has a medium association with social self-efficacy; for Asian international students who identify weakly (vs. strongly) with their home culture yet use more (vs. less) collective coping strategies, their acculturative stress has a medium association with social self-efficacy; for those who have a weaker (vs. stronger) identification with their home culture and use less (vs. more) collective coping strategies, their acculturative stress has a strong association with social self-efficacy.

The second part of the study followed the suggestion in several studies about cultural intelligence (CQ; Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar, 2007; Chiu, Lonner, Matsumoto, & Ward, 2013; Wang, Wang, Heppner, & Chuang, 2016). And Figure 2 also depicts three hypotheses. Specifically, this study first explored whether CQ moderates people's social self-efficacy under the influence of acculturative stress (*Line 2.1*). Hypothesis 2.1 is that for Asian international students' with higher levels of CQ, their acculturative stress has a weak association or a close to zero

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association with social self-efficacy. Conversely, for those report lower CQ, acculturative stress has a medium or strong association with social self-efficacy.

I choose to include the two models in this study because all of the four moderators are from two theoretical foundations, i.e., Berry's (1997) acculturation model and Heppner et al.'s (2012) Cross-National Culture Competency Model. Empirical studies have only suggested the possible three-way interactions involving some moderators, which will be further elaborated on in Chapter 2. Hence, there is not sufficient evidence that suggests for a moderation model with all the four factors. However, future studies may introduce a model with the four moderators with more theoretical exploration.

Then this study examined whether collective self-esteem moderates the association between acculturative stress and social self-efficacy (*Line 2.2*). Specifically, hypothesis 2.2 is that for Asian international students identify higher levels of collective self-esteem, their acculturative stress tends to have a weak association or a close to zero association with social self-efficacy; whereas for those with lower levels of collective self-esteem, acculturative stress has a medium or strong association with social self-efficacy.

CQ and collective self-esteem are also two theoretically related concepts. This study examined whether there is a three-way interaction among acculturative stress, CQ, and collective self-esteem in predicting social self-efficacy (*Line 2.3*). Specifically, hypothesis 2.3 is that: for Asian international students with high (vs. low) levels of CQ and high (vs. low) levels of collective self-esteem, the association between their acculturative stress and social self-efficacy is weak or close to zero; for those with high

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(vs. low) levels of CQ yet low (vs. high) levels of collective self-esteem, the association

between their acculturative stress and social self-efficacy is medium; for those with low

(vs. high) levels of CQ and high (vs. low) levels of collective self-esteem, the association

between their acculturative stress and social self-efficacy is medium; and for those with

low (vs. high) levels of CQ and low (vs. high) levels of collective self-esteem, the

association between their acculturative stress and social self-efficacy is the strongest

compared with the other three groups. In summary, high CQ and high collective self-

esteem (two moderators) attenuates the association between acculturative stress and

social self-efficacy. The effect sizes in both models were decided as a result of literature

review for relevant studies, which is further unfolded in Chapter 2 and Chapter 3 (e.g.,

Wei et al., 2012).

Three variables were controlled before moderation analyses, i.e., the length of

stay in the United States, English proficiency, and gender. Chapter 2 includes the

rationale of controlling these factors.

## Glossary

**International Student**

International students in the U.S. refer to students with a foreign nationality study

at any American academic institutions on a foreign student visa. There are several types

of visa as specified by U.S. Citizenship and Immigration Services (USCIS): F-1 visa

holders refer to international students who attend university or college, high school,

private elementary school, seminary, conservatory, or language-training programs. In the

present study, to focus on the college student population (both undergraduate and

graduate students), this study will only include international students in higher education. J-1 visa holders are nonimmigrant individuals of foreign nationalities who are approved to attend exchange visitor programs in the U.S. This study will only include those who are currently enrolled at foreign universities and attending an American university or college to complete a study abroad program. Because other exchange visitors, such as a teacher or a government visitor, might not self-identify as a student compared to other essential identities. Lastly, M-1 visa holders are defined as international students who are enrolled in a vocational or other recognized nonacademic institution, which excludes language-training programs. Many students on U.S. campuses participate in the ESL programs to improve their English proficiency to prepare them for an ideal academic program better. These students will be included in this study if there is any. Although some H-1 visa holders also self-identify as international students because they attend part-time at a U.S. college or university while working for a U.S. employer. These individuals will not be included due to their multiple identities and priorities in their life.

**Asian International Student**

An Asian international student is a foreign national student at an American academic institution and holds F-1, J-1, or M-1 visa, and who comes from one of the following geographic regions: 1) East Asia (e.g., China, Mongolia), 2) Southeast Asia (e.g., Cambodia, Thailand), and 3) South and Central Asia (e.g., India, Bhutan; IIE, 2018). Because Middle East countries such as Saudi Arabia are fundamentally different from the above regions regarding traditions, customs, cultural norms, and dominant languages, the present study will exclude Middle East international students. According

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to the latest number posted by IIE, Asian international students have reached 758,076, which accounts for 75% of the entire international student body.

**Acculturation**

Acculturation is a construct with multiple aspects and two dimensions (Suzuki, Lee, & Short, 2011). It generally is defined as cultural changes regarding language, customs, norms, and traditions when encountering one or several new cultures (Berry, 1997). Berry (1997; 2006) identified three facets of cultural change, which are psychological adaptations, sociocultural adaptations, and economic adaptations. Psychological adaptations refer to psychological well-being such as feeling happy and psychological distressed such as depression. Sociocultural adaptations refer to social skills that help an individual to manage daily life in a new environment. Economic adjustment relates to factors such as prior immigration economic and political status, which calls for more studies to explore the relevance of other aspects of adaptations. Theories about acculturation shifted from uni-dimensional assimilation to bi-dimensional approaches that specified into assimilation, integration, separation, and marginalization. The most famous uni-dimensional theory of acculturation is the adjustment curve introduced by Oberg (1960). He depicted four stages of cultural shock - honeymoon, crisis, recovery, and adjustment - to help understand how sojourners (such as international students), refugees, and immigrants negotiate with the new culture in the host country. Later studies about international students also asserted a reverse culture shock to describe their experiences after returning to their home country. Berry (1997) on the other hand, led the studies on bi-dimensional approach. Using a two by two table, he

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presented how individual decide to maintain relationships and identify with the home or the host culture. Berry (1997) also emphasized that societal factors associated with the host culture such as immigration policy or the home culture (such as culture distance) also plays a critical role in this decision-making process. Many empirical studies have confirmed the significant influence of individual and societal factors.

**Acculturative Stress**

Berry's theory of acculturation (1970) firstly introduced the concept of acculturative stress, which proposed a different conceptualization from *culture shock* (Oberg, 1960). Acculturative stress refers to a stress response people experience as they adapt to a new culture while negotiating their relationship with their home culture (Berry, 1997; 2006). Generally, acculturative stress is categorized according to the three aspects of adaptation in acculturation, i.e., psychological, sociocultural, and economic stress. Sandhu and Asrabadi (1994) systematically reviewed studies about acculturative stress and summarized that people might experience difficulties in the following domains: perceived discrimination, homesickness, perceived hate, fear, stress due to change/culture shock, and guilt. For those who adapt well to cultural change through gaining social support, changing behaviors, and using stress coping skills, they are likely to experience healthy behavioral shift such as changing their daily customs. If the stress is overwhelming, people might present psychological concerns such as depression.

**Psychological Distress**

Psychological distress is widely used in psychology literature. It includes negative mental health states with indicators of anxiety, depression, and loss of behavioral and

emotional control (Veit & Ware, 1983). Precisely, the anxiety dimension consists of feelings, thoughts or behaviors of nervousness, concerns as a result of nervousness, worries, difficulties with calming down, fidgetiness, restlessness, shaking-hands. The depression dimension consists of moodiness, feeling depressed, low energy, and downheartedness. Loss of behavioral/emotional control includes lack of confident control over feelings, thoughts, and behaviors, emotional instability, hopelessness, tearfulness, powerlessness, and thoughts about suicide (Veit & Ware, 1983). Thousands of the following literature have cited this construct and definition in developing measures for psychological distress.

**Psychological Wellbeing**

Psychological wellbeing is a popular concept to explore mental health states in the general population. Positive mental health states refer to indicators for general positive affect and emotional ties (Veit & Ware, 1983). Specifically, general positive affect includes reports of being happy, satisfied, pleased, calm, relaxed, rested after waking up and hopeful and finding life to be exciting and joyful; emotional ties consist of reports about feeling loved and wanted and have complete love relations (Veit & Ware, 1983). Many other mental health measure development articles cited this two-factor construct.

**Individualism**

Collectivism and individualism are well-studied cultural constructs to understand cross-cultural differences. They are deeply rooted in the values and norms systems of a cultural group (Fjneman et al., 1996). This individualism-collectivism cultural orientation has a cognitive, behavioral, emotional, and motivational impact on characteristics of an

individual or a group (Kuo, 2013). Individualism refers to people mostly from individualist societies such as European, Australia, and the U.S. They are relatively autonomous and independent from their cultural groups, which suggests that they behave according to personal attitudes instead of group norms (Fjneman et al., 1996). There are several characteristics identified for individualists: 1) people foster social relationships based on calculation of profit and loss; 2) they prioritize their own needs, interests, and goals; 2) they are emotionally detached from their group and consider themselves as well as close loved ones much more than others in their cultural group (Fjneman et al., 1996; Triandis, 2001).

**Collectivism**

The definition of collectivism is somewhat complicated due to different research approach and theoretical stance. Generally, people self-identified as collectivists are from Asia, South America, and Africa. Collectivists think regarding "we" instead of "I" for individualists. It means that they highly value order (such as respecting the elders) and harmony in relationships (Zhang et al., 2013 as cited in Kuo, 2013). Specifically, they (a) emphasize social norms and duties rather than pleasure, (b) consider more about needs, goals, and beliefs of the cultural group than personal values, (c) are willing to share resources with in-group members and even sacrifice personal benefits to fulfill family or group obligations, and (d) have a strong in-group and out-group distinction (Fjneman et al., 1996). Hence, collectivists emphasize interdependence while individualists value independence (Zhang et al., 2013 as cited in Kuo, 2013).

**Social Self-efficacy**

Social self-efficacy is firstly introduced in Bandura's (1977) Social Learning Theory and was further developed by Sherer and Adams (1983). It has been widely studied to understand human social behaviors. It refers to an individual's belief about their ability to perform appropriate social behaviors to initiate and maintain relationships based their understanding of the social context (Smith & Betz, 2000; Akin & Akin, 2015). Bandura (1977) and Betz (1992) identified that performance accomplishments in the past, vicarious learning, emotional arousal, and verbal persuasion are the four predictive factors to social self-efficacy. About social self-efficacy among international students, aside from the general definition, it also emphasized the willingness to initiate and maintain interpersonal relationships with people both from heritage culture and host culture, and the ability to perform behaviors in social situations. Lin and Betz (2009) found that Chinese international students report higher social self-efficacy in native language settings and relatively lower social self-efficacy in English settings. Since the general social self-efficacy across settings is of interest in the present study, this study defines social self-efficacy as based on Asian international students' general report with their perception of all social contexts in the U.S.

**Acculturation Orientation**

Acculturation orientation describes relocating individuals' relationships with the new culture in the host country and their culture of origin. This conceptualization is rooted in Berry's (1997) bi-dimensional view of acculturation. There are four types of acculturation orientation (i.e., integration, assimilation, separation, and marginalization

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approach), based on the answer to whether one is willing to maintain the bond with their

culture of origin and whether one values forming and maintaining the relationship with

the mainstream society of the host country. Integration orientation refers to when people

adhere to both home and host cultures. Assimilation describes an approach that people

maintain relationships with the host culture and become detached with their home

culture. Separation indicates that people maintain contact with their home culture and

have limited contact with the host culture. Marginalization suggests that individuals reject

both home culture and the host culture. Acculturation orientation has a multi-level

influence on people's acculturation process, and previous studies have suggested

inconsistent advantages and disadvantages for each orientation.

**Home Culture**

Culture is defined as a dynamic phenomenon that is shared by a large group of

people with similar intergenerational transmission of traditions, values, norms, beliefs,

ways of living, and coping behaviors (Whaley & Davis, 2007). In this study, home

culture is also called heritage culture, which refers to the culture the international students

grew up with. The home culture is most often the dominant culture in their home

countries.

**Host Culture**

Host culture refers to the culture the international students are exposed to upon

their arrival in the U.S. Although the U.S. is a generally regarded as a multicultural

society nowadays, this study considers the Western cultures with a European history as

the host culture due to its dominance in literature, music, sports, and many other aspects

of society. But the mainstream culture is also greatly influenced by African, Asian, Latino, and Native American cultures throughout history.

**Coping Strategy**

Lazarus and Folkman (1984) firstly separated coping from a psychodynamic root. It is defined as cognitive and behavioral efforts to manage external or internal stress (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) viewed coping as a response to the search for significance. This perspective indicates several assumptions: 1) people have tendencies to seek significance and to experience events based on their significance to people; 2) people have a general orientation of coping (e.g., avoidant coping), and they are inclined to adopt strategies that are consistent with this orientation; 3) the purpose of coping is to achieve excellent and satisfying outcomes according to each's perspective; 4) coping is deeply rooted in culture yet also depends on personality (Pargament, 1997; Lazarus & Folkman, 1984). Because coping can be influenced by culture, people may change their coping strategies in a different context and may change their coping orientation.

**Collective Coping Strategy**

Collective coping strategies are construed as emotional, cognitive, or behavioral coping approaches that are consistent with collectivistic characteristics (Zhang & Long, 2006). People are encouraged to share responsibilities to use togetherness as strength (Zhang & Long, 2006). In stressful situations, collectivists tend to maintain harmony and prosperity of the group or locate the importance of the family, the organization, or the whole society, even at the cost of personal wellbeing or benefits (Zhang & Long, 2006;

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Moore & Constantine, 2005). Scholars have taken a different approach to exploring the constructs of collective coping strategies (e.g., Moore & Constantine, 2005; Heppner, Heppner, Lee, Wang, Park, & Wang, 2006). The present study will use the definition and constructs developed by Moore and Constantine (2005) and Heppner et al. (2006).

Collective coping strategies refer to behaviors that are used to cope with problems with emphasis on consideration of other people and relationships with others in the community. Two components (i.e., seeking social support and forbearance) are the most prominent features across several collective coping strategies measures (e.g., Heppner et al., 2006; Moore & Constantine, 2005). Seeking social support refers to behaviors that engaging other people in solving a problem or gaining emotional strength (Moore & Constantine, 2005). Forbearance describes a tendency to avoid burdening others by minimizing or concealing personal concerns (Moore & Constantine, 2005).

**Social Support**

Social support refers to "the perception or experience that one is loved and cared for by others, esteemed and valued, and part of a social network of mutual assistance and obligations" (Taylor, 2011; p.190). Researchers in the field of psychology, social work, medicine, sociology, nursing, and public health, have reached a consensus that there are four types of social support. Precisely, emotional support refers to providing warmth and nurturance to make one feel she/he is valued and loved. Instrumental or tangible support means providing financial assistance, services, or materials to someone. Informational support includes giving advice, guidance, or information to help one deal with a tough situation, which also includes offering suggestions about coping strategies. Lastly,

companionship support focuses on improving one's perception of having access to social activities or resources. Social support reduces psychological distress, contributes to physical health, fights against illness, and reduces the likelihood to be negatively impacted by diseases (Taylor, 2011). Gender and culture are two factors that have been found to moderate how people perceive or receive social support. For gender, researches have evidenced that women not only provide more social support to others but also have a stronger tendency to draw on social support in stressful situations and benefit from it as a result (Taylor, 2011). For culture, the results are not highly consistent with previous studies, and more research is needed to compare the different experiences of people come from various cultural backgrounds. In general, people from Asian backgrounds report to experience more implicit social support or companion support, which refers to the perceived comfort of knowing social support is available, whereas European Americans are inclined to regard explicit social support as helpful and beneficial, which refers to informational support, emotional support, and instrumental support.

**Cultural intelligence**

Cultural intelligence is defined as the ability to function effectively in culturally diverse settings (CQ; Ang, Van Dyne, & Ebrary, 2008). There are four dimensions to this construct: Metacognitive CQ, Cognitive CQ, Motivational CQ, and behavioral CQ (Ang et al., 2008). Metacognitive CQ describes the awareness to question, reflect, and adjust cross-cultural contacts. Cognitive CQ is the knowledge about the economic systems, educational systems, systems of communication, and systems of supernatural beliefs regarding the culture one has contacts with. In other words for the present study, it

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assesses whether people have adequate information to function appropriately in the host culture. Motivational CQ describes whether or to what extent one desires to learn about the new culture and to adjusts one's thoughts, feelings, and behaviors accordingly. Lastly, behavioral CQ focuses on the verbal and nonverbal actions individuals perform based on their cultural awareness, knowledge, and motivation. Previous studies have suggested that personality traits (e.g., Chen, Wu, & Bian, 2014), culture distance (Ward, Wilson, & Fischer, 2011; Wang et al., 2016), social connectedness, and language proficiency (Harrison, 2012) have predictive power to CQ. Additionally, CQ positively and significantly associates with cross-cultural adjustment experience (Shu, McAbee, & Ayman, 2017), sociocultural adaptation and psychological symptoms (Ward et al., 2011), life satisfaction (Wang et al., 2016), etc.

**Collective Self-esteem**

Collective self-esteem is defined as people's positive evaluation of their group identity (Kim & Omizo, 2005). It is a four-dimensional construct. Membership esteem refers to how worthy or significant one is to their social group. Private collective self-esteem refers to how good people feel about their group membership. Public collective self-esteem describes one's perception of others' evaluation of the social group, i.e., perceived in-group status. Lastly, importance to identity is the significance of collective identity to one's holistic self-concept (Luhtanen & Crocker, 1992). Researchers have focused on one or multiple dimensions of the construct as a predictor, moderator, mediator, or outcome variable to illustrate its role in social contacts.

**Collective Identity**

Collective identity describes an individual's knowledge, values, and emotional significance that are related to large or small social groups such as ethnicity and academic institutions (Luhtanen & Crocker, 1992). In European literature, it is often termed as social identity, but American scholars prefer the term collective identity to distinguish from social identity, which refers to how people evaluate themselves in relations to others. This construct is developed in Tajfel and Turner's (1979) Social Identity Theory to emphasize that people make sense of themselves partially based on their group membership(s). Tajfel and Turner (1979) described a three-stage mental process of how people develop their collective identity. First, we categorize people to help understand the social environment (i.e., *categorization stage*), then we adopt the identity according to our categorization (i.e., *social identification stage*), and lastly we compare our social group with other groups to meet several needs such as superiority and belongingness (i.e., *social comparison stage*).

**Frame of Reference**

In the field of psychology, the frame of reference refers to the assumption and attitudes people utilize to adjust their perceptions and conceptualize new information or experiences (Tversky & Kahneman, 1982). Three factors are critical to this adjustment process, which are people's physiological condition (such as vision and sense of touch), previous experiences (such as stereotype against an ethnic group as a result of repeated exposure to distorted representation in the media), and needs (such as the ideological

need to maintain a sense of supremacy over other people predicts racial discrimination; Tversky & Kahneman, 1982).

**English Proficiency**

The American Council on the Teaching of Foreign Language (ACTFL) defined English proficiency as an individual's ability to speak or perform in English. Lin and Betz (2009) asserted that confidence rather than the actual ability to communicate in English has more influence on self-efficacy. Hence, in the present study, English proficiency refers to international students' self-reported ability to speak or perform in English. The measure of English proficiency will reflect this conceptualization (see details in Chapter 3).

CHAPTER TWO: LITERATURE REVIEW

**Theories of Acculturative Stress**

Acculturation is a process of cultural interaction, which was gradually

distinguished from cultural change or assimilation throughout the years of study in the

field of cross-cultural psychology (Berry, 2006). Berry (1997) developed a theoretical

framework to conceptualize the process of acculturation, acculturative stress, and

strategies used to handle the pressure. In his framework, the interplay between host

culture and home culture happen on both individual and group level with psychological,

sociocultural, and economic adaptation. Among literature that focuses on international

students, *acculturation* refers to how they adapt to the culture of their host country while

navigating the stress in this process. Berry (1970) firstly introduced acculturative stress,

and currently, it generally refers to a stress response when individuals process life events

that stem from intercultural contact (Berry, 1997; 2006).

Nowadays, acculturation focuses on three interactions: how indigenous people

experience neo-colonization; how voluntary and involuntary immigrants, sojourners, and

refugees adapt to cultural/economic/political changes; and how ethnocultural groups

interact with each other and live together in the culturally plural societies (e.g., Berry,

2006; Schwartz, Unger, Zamboanga, & Szapocznik, 2010; Doucerain, Deschenes, Gouin,

Amiot, & Ryder, 2006). International students who come to the U.S. on student visa to

pursue better education are a substantial population of the sojourners in the U.S.

There are three different views to describe how acculturation experiences impact individuals (Berry, 2006). Some theorists regard the stress as *behavioral shifts*, which emphasize that the consequences are non-problematic and people usually learn new behavioral norms and change their old habits to solve cross-cultural conflicts (Berry, 2006). When a higher level of conflict occurs, people start to question their way of living. This conflict is the narrow definition of acculturative stress (Berry, 2006). This level of adaptation is also called *sociocultural adjustment* (Berry, 1997). Then, if individuals have difficulties with controlling and solving the problems they encounter, they tend to present psychopathological issues, which will have a significant impact on their quality of life.

Berry's (2006) conceptualization about how acculturative stress impact individuals pointed out that many international students denied severe psychopathological issues even with a high level of stress. Instead, they reported sociocultural adjustment issues. These concerns include but not limited to lack of satisfaction with the program they enrolled (Yang, Orrego, & Phillips, 2015), absence of a sense of belonging (Slaten, Elison, Lee, Yough, & Scalise, 2016), and gradually decreased satisfaction toward life in general after their relocation (Suh, Rice, Choi, van Nuenen, Zhang, Morero, & Anderson, 2016). To assess program satisfaction, Yang et al. (2016) explored among 203 international students, their perception of the quality of academic instruction, atmosphere in the program, communication with peers and faculty members, availability of help from program assistants and faculty, career guidance, formal and informal, relations, as well as academic guidance. The study found that higher levels of acculturative stress predicted lower levels of satisfaction about their educational

program. Since school life composes a significant part of international students' life, feeling dissatisfied about the academic program may further lead to poor overall experiences. In a qualitative study, Slaten et al. (2016) helped further clarify what satisfaction about program means to international students. Specifically, peer interaction, social bonding, available university resources, and campus facilities are identified as critical components that contribute to a sense of belonging to the academic program (Slaten et al., 2016). In their description of the relocation experiences, international students indicated how feelings about their school life significantly impact their overall well-being. Although this mediation effect of program satisfaction has not been explored in a quantitative study, there has been confirming how acculturative stress predicted international students' life satisfaction (i.e., Suh et al., 2016). They found that increased general stress due to acculturation associated with lower self-evaluation of happiness and fulfillment.

Among the above studies, it seems that a sense of belonging, program satisfaction and life satisfaction all emphasizes the social interactions with other people (e.g., American peers, non-American peers, faculty members). They particularly pointed out how language barrier, change of communication norms, and lack of skills in cross-culture communication impeded international students' social interactions with English speakers. These sociocultural factors connect with the concept of social self-efficacy, which will be further discussed in the second section of Chapter 2.

In Berry's (1997) theoretical framework, both societal factors and individual factors contribute to the degree of acculturative stress. On the societal level, how open the

society of settlement matters. Specifically, if society values cultural diversity and accepts the idea of multiculturalism, individuals from another culture tend to experience less stress (Berry, 1997). If there are relatively low levels of ethnocentrism, racism, micro-aggression, and discrimination, individuals are less likely to feel alienated and rejected (Berry, 1997). When people from all cultural groups experience a sense of attachment to each other and with the society as a whole, they tend to have smoother identity development and low level of stress (Berry, 1997). Hence, cross-cultural psychologists have made tremendous efforts to advocate societal change in ideology and attitude toward people who come from other cultures, which also include international students. For example, some on-campus activities that focus on inclusive excellence encourage domestic students to actively interact with international students as a way to embrace diversity and challenge existing stereotype for other groups.

However, more factors are identified on the individual level. The first type of individual factors is demographic variables such as age or stage of life, gender, education, socio-economical status, and cultural distance between home culture and host culture. Previous studies report inconsistent findings regarding several demographic variables su as gender and age. Regarding age, some found that international students who came to the U.S. at a younger (vs. older) age experience less acculturative stress because of higher levels of flexibility (Sumer, Poyrazli, & Grahame, 2008). Some reported that older youth present more psychological and somatic problems particularly during adolescence possibly as a result of a lack of coping strategies and social support (Sam & Berry, 1995). Other demographic variables suggest a consistent impact on acculturative stress such as

cultural distance (the degree of the differences between the culture of one's country of origin and the new culture). It has been repeatedly confirmed in cross-cultural studies that international students coming from a home country in Asia, Africa, or Latin America reported higher levels of acculturative stress compared to students coming from European countries (e.g., Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004; Duru & Poyrazli, 2007; Akhtar & Kröner-Herwig, 2015).

English proficiency as another individual level factor, serves as both a direct predictor of acculturative stress and a buffer for acculturative stress on mental health symptoms. Language competency often relates to social relationships, academic communications, and performance (Akhtar & Kröner-Herwig, 2015). When lack of adequate language skills negatively impact academic performance, international students tend to experience more psychological issues because many of them had high academic achievement in their home countries (Pedersen, 1991). This impact may further challenge their academic and general self-efficacy and leads to doubt in their ability to succeed in the future. Additionally, lack of English competency prevents an international student from communicating with domestic students and other English-speaking individuals. Poyrazli et al. (2004) found that students who primarily socialize with Americans reported a lower level of acculturative stress, which may result from a sense of closeness with others or better understanding of social customs.

The financial resource is another influential factor. Due to various factors such as political impact (e.g., the one-child policy in China), many international students have no siblings. Therefore, they are under tremendous pressure to live up to high expectations

placed on them by parents, grandparents, and themselves. Also, their families spend large sums of money and efforts to support their children to pursue advanced education abroad, which consciously and unconscious impact their everyday contacts with their children. The funding from family also relates to their financial stress in that they are not qualified for federal financial aid and experience many constraints for employment.

Also on the individual level, many studies recently start to focus on how personality traits impact acculturative stress. For example, several studies about maladaptive perfectionism found that it predicted more severe depressive symptoms and greater acculturative stress (Wei, Heppner, Mallen, Ku, Liao, & Wu, 2007; Rice, Choi, Zhang, Morero, & Anderson, 2012; Hamamura & Laird, 2014). Neuroticism as a positive predictor to acculturative stress has also received some research attention (Duru & Poyrazli, 2007).

International students try to alleviate acculturative stress via different strategies. The first theoretical framework that has been widely explored among studies about international students is the Transactional Stress-Coping Model created by Lazarus and Folkman (1984) and complemented by Endler and Parker (1990). Collectively, they summarized that individuals tend to utilize problem-focused coping, emotion-focused coping, or avoidance-oriented coping. The problem-focused coping strategy is to manage situational challenges by making cognitive and behavioral efforts. It helps international students to effectively identify and solve acculturative stress that arises from acculturation demands. Emotion-focused coping strategies focus on changing individuals' emotional reactions to a stressful event, which are adopted when the stress level exceeds

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one's resources. Ra and Trusty (2015) found that international students with higher level of acculturative stress tend to utilize emotion-focused coping strategies. Endler and Parker (1990) identified a third type of coping strategy termed avoidance-oriented coping or suppressive coping. Wei, Ku, Russell, Liao, and Mallinckrodt (2008) explored the moderating effects of coping strategies and found that suppressive coping strengthened the association between perceived discrimination and depressive symptoms.

Berry (1997) proposed another framework to conceptualize acculturation coping strategies. This framework centers on answers for two critical issues, which are how important it is to maintain an individual's cultural identity and characteristics and how much one desires to contact and engage in other cultural groups. Based on the answer to the above questions, Berry (1997) categorized four types of acculturative strategies: integration, assimilation, separation, and marginalization. Integration indicates a willingness to maintain one's home culture and identity while accommodating to host culture. It is theorized as the most successful strategy because it incorporates many protective factors such as better social support systems and more flexibility in personality (Ying, 1995). Marginalization indicates isolation from both host and home culture, which seems to be the most stressful strategy. Assimilation suggests abandoning home culture to embrace host culture fully. Separation emphasizes maintaining one's home culture while showing little interests in engaging in the host culture. Assimilation and separation strategies are moderately successful depending on whether the environment is relatively pluralistic (Berry & Kim, 1988; Schmitz, 1992). It suggested that the preferences for one strategy over others are not always voluntary. Relating to the societal factors discussed

earlier, an international student's location, broader national context, attitude, as well as how long she/he has been in the U.S. may impact the choice of acculturation strategy (Berry, 1997).

In reviewing the literature on acculturation for international students, several themes were found across the 50+ qualitative, quantitative, or mixed method studies. First of all, many studies focused on exploring international students' acculturation strategies as a result of individual or societal factors (e.g., Cao, Zhu, & Meng, 2017). Individual factors include gender, language proficiency, prior adaptation or international experiences, adaptation motivation, and perfectionism. Societal factors include co-national ties, social connectedness with domestic peers, discrimination, social support from the host and home culture, and ethnic visibility. Among these studies, a few adopted longitudinal approach to track the trajectory of acculturation strategies (e.g., Li, Marbley, Bradley, Loretta, & Lan, 2016). The second group of studies is about interventions and effectiveness of the interventions that were designed to facilitate acculturation process (e.g., King, Pan, & Roberts, 2017). For example, Smith and Khawaja (2014) developed a four 2-hour session experiential and cognitive behavioral intervention group called Strengths, Transitions, Adjustments, and Resilience (STAR) program. They found it helpful to increase psychological adaptation and coping self-efficacy. Third, several studies examine the possible impact of acculturation. The studies greatly enriched the understanding of acculturation and indicated the importance to view the cross-cultural experience from an acculturation perspective. Among these studies, some were interested in linking to everyday behaviors such as food selections and physical health (Almohanna,

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Conforti, Eigel, & Barbeau, 2015). Some linked to psychological well-being, mental

health concerns, self-efficacy in career decision-making, and life satisfaction (e.g., Du

and Wei, 2015). Some focused on behaviors that maintain or improve physical or mental

health and health-seeking behaviors. Some were about academic performance and

relevant behaviors such as procrastination and academic self-efficacy (Lowinger, He,

Lin, & Chang, 2014). Some took a different approach to explore how American peers

perceive international students who adopt different acculturation strategies regarding

international students' attractiveness and communication preference (Imamura & Zhang,

2014).

      Although Berry's model has a fundamental and profound impact on the field of

cross-culture psychology, there are other influential theoretical frameworks. For example,

Heppner et al. (2012) proposed the Cross-National Culture Competency Model (CNCC).

The CNCC model included Bronfenbrenner's (2009) bio-ecological model, which

illustrates the importance of how societal factors impacts individuals through daily

experiences (Heppner et al., 2012). It depicts five critical components: foundational

personality attitudes and coping, characteristics and essential elements of immersion

experiences, continuous learning through experiencing-reflecting-dialogue, tripartite

cross-national cultural awareness-knowledge-skills (AKS), and the larger ecosystem. In

regards to personality and attitudes, the CNCC model listed characteristics such as

curiosity, cognitive skills of code-switching, and universal-diverse culture orientation.

Many of these elements have been addressed in Berry's model such as transactional

stress-coping styles and language proficiency. More factors were added to the CNCC

model based on recent empirical studies. On the individual level, this model emphasizes the central role of coping and specifies two types of coping strategies: dispositional coping and situation-specific coping. The former one corresponds to the transactional stress-coping style in Berry's model (1997), and the latter one stemmed from studies of several collectivistic cultures such as Asian cultures, and better reflects their worldview (Moore & Constantine, 2005).

For the second component, the CNCC model discussed 11 variables that could potentially impact individuals' cross-nation immersion experiences. Several variables are similar to Berry's (1997) model, such as language proficiency and whether the settling environment is supportive or hostile. It is worth noting that Heppner et al. (2012) pointed out the length of stay in the host culture and social support from both host and home cultures are critical characteristics to form a positive experience. The third component of the CNCC model proposed a metacognition process where individuals improve their cross-nation experience by actively processing daily scenarios helps integrate new cultural information into their existing life schema. Overall, the CNCC model emphasizes the importance of coping strategies and active engagement in the new culture.

Thus, this dissertation will adopt Berry's model with consideration of the CNCC model about cross-culture experience to explore how Asian international students utilize different mechanisms to cope with acculturative stress. Since social self-efficacy is an indicator of many aspects of acculturation, this study will examine how international students' acculturative stress impacts their social self-efficacy.

**The Impact of Acculturative Stress on Social Self-Efficacy**

Numerous empirical studies have uncovered that international students experience more psychological problems than their American counterparts (Yeh & Inose, 2003). Several studies that focused on specific sub-groups of international students population also confirmed this association between acculturative stress and mental health symptoms, such as Chinese international students (Wei et al., 2008), Korean international students (Lee, Koeske, & Sales, 2004), Japanese international students (Furukawa, 1997), and Asian Indian international students (Rice et al., 2012).

The impacts of acculturative stress are multidimensional. The majority of them focused on mental health symptoms with various indicators. The most common indicators are general psychological distress and adjustment issue. For example, Wei et al. (2012) assessed psychological distress with questions about general distress, somatic distress, and performance distress. And they found that acculturative stress significantly predicted psychological distress. A study focused on Korean international student further analyzed how acculturative stress predicted depression, anxiety, and even physical concerns such as headache (Lee et al., 2004). Both articles concluded that acculturative stress predicts mental health symptoms. Some studies also used various self-report measures to assess depressive symptoms such as feeling depressed, and they found a significantly positive association between acculturative stress and depression (Wei et al., 2007; Rice et al., 2012; Hamamura & Laird, 2014). Additionally, multiple societal and individual factors prevent international students from performing academically well while adjusting to an unfamiliar cultural context. All of the above studies proposed that maladaptive

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perfectionism functions as a mediator or moderator between acculturative stress and depression, which suggests the interaction effect between social factors and individual predispositions.

Rice et al. (2012) attributed the emotional consequences (i.e., depression) of acculturative stress to different cultural norms and values between individualistic and collectivistic cultures. They noted that part of the difference lays in the fact that Eastern Asian cultures sanction the adaptive values of self-critical perfectionism. Explicitly, they confirmed how self-critical perfectionism enhanced the negative impact of acculturative stress on international students' interpersonal well-being. Rice et al. (2012) confirmed their assumption that culture distance relates to depression by comparing depression scores for Asian Indian international students and Chinese international students. They explained the differences between the two student groups concerning depression scores as that Chinese international students have less Western sociopolitical influence. However, Hamamura and Laird (2014) had the opposite conclusion. In their study, although acculturative stress accounts for 16% of the variance in depression scores for international students, self-critical perfectionism is not culturally dependent. As East Asian international students did not report higher ratings of self-critical perfectionism, it seems to be more of a personality trait. Hamamura and Laird (2014) agreed on how self-critical/maladaptive perfectionism negatively impacts interpersonal relationships via loss of social connection and lower intention to form social bonds with Americans. Wei et al. (2007) also added that being unfamiliar with new customs and social norms in the U.S., as well as fear of *losing face* (i.e., a value that refers to when an individual deteriorates

their social and moral character in the Asian community; Yeh, 2002) and embarrassment may prevent international students from initiating conversation with peers.

Lack of ability or intention to socialize in a new environment seems to explain international student's decreased psychological well-being. Zhang and Goodson (2011) conducted a systematic review of the impact of acculturative stress and listed 64 peer-reviewed journals that explored how international students' adjustment predicts psychological symptoms (e.g., depressive symptoms, psychological well-being), physical symptoms, and decreased life satisfaction. Importantly, they included the correlation between acculturative stress and social self-efficacy. Specifically, acculturative stress may negatively relate to the belief in international students' abilities to be flexible and malleable, which further contributes to decreased efforts of developing and validating social ability. Secondly, relocating to a new environment results in a shift from viewing themselves about their internal repertoire of thoughts, feelings, and behaviors to refer to those of others.

Simply put, international students are in the process of exploring a new *frame of reference*. As one can hardly confidently know others' thoughts and feelings, international students may end up with poor self-evaluation on their social ability. Another possible explanation of the association between acculturative stress and social self-efficacy is perceived English communication ability, which has been confirmed by Lin and Bets (2009). Although objective English proficiency is critical to cultural adjustment, they pointed out that international students' self-perceived English proficiency if more predictive compared to their actual language ability (Lin & Bets,

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2009). They empathized that the confidence in functioning in the English language contribute is more important to communication rather than actual proficiency (Lin & Bets, 2009), which also connects to the concept of social self-efficacy.

Sherer and Adams (1983) developed the concept of *social self-efficacy* as a part of their self-efficacy inventory based on Bandura's (1977) theory about self-efficacy. In reviewing articles about social self-efficacy among international students, it is found that this concept consists of two critical aspects: the willingness to initiate and maintain interpersonal relationships, and the ability to perform behaviors in social situations (Tsai, Wang, & Wei, 2017; Constantine et al., 2004). As such, in this study, social self-efficacy is defined as international student's willingness and ability to perform social behaviors and to maintain interpersonal relationships.

There have been many studies exploring the association between adjustment issues and social self-efficacy in general population. Only a few focused on international students regarding their acculturative stress in the process of pursuing an education in a foreign country (Tsai et al., 2017). Constantine et al. (2004) found that acculturative stress and depression both negatively associated with social self-efficacy. They attributed the association to differences between social norms in the collectivistic cultures from which many international students grew up in and the individualistic cultures where students pursue the advancement of education (Constantine et al., 2004). Many empirical and theoretical studies have explored and summarized the cultural construct of collectivism and individualism. They particularly illustrated how the two types of cultures link to people's behavior, cognition, emotion, motivation and personality (Kuo,

2013). Zhang, Mandl, and Wang (2011) summarized the differences between individualistic and collectivistic cultures as people's emphasis on independence or interdependence. For instance, international students from Africa, Asia, and Latin America tended to emphasize more interdependence with family and friends. These students achieved the harmony in relationships by respecting the elders, fulfilling family obligations, and putting the group's needs in front of their own (Zhang et al., 2011). People from these cultures emphasize interpersonal relationships and connections and integrate their perceptions and feelings as a part of the self (Moore & Constantine, 2005).

On the contrary, North American culture emphasizes independence by valuing personal attitudes and individual preference over others' influence. Similarly, they appreciate the uniqueness and separate their understanding of the conception of themselves from others (Moore & Constantine, 2005; Heppner et al., 2006). International students upon their initial arrival are not aware of these differences. Hence, they experience foreignness and confusion about social responses from natives. In getting familiar with the individualistic culture, some may find it uncomfortable to assert their opinions and to promote self-reliance, which are signature aspects of individualism. The association between cultural differences and acculturative stress was confirmed by studies related to cultural distance. Yeh and Inose (2003) pointed out that international students from Europe (i.e., individualistic cultures) experienced less acculturative stress than their counterparts from Asia, Central/Latin America, and Africa (i.e., collectivistic cultures). As a result of changed perceptions about social relationships, international students tend to perceive relationships in the U.S. as superficial (Cross, 1995).

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Lin and Bets (2009) recruited 203 international students from China and Taiwan and used hierarchical multiple regression analyses to explore factors that contribute to decreased social self-efficacy in an unfamiliar cultural context. They also found a significant negative correlation between acculturative stress and social self-efficacy. To explain their finding, Lin and Bets (2009) pointed out that difficulties with adjusting to the host culture may deteriorate international students' confidence to 1) initiate social contacts in the host culture, 2) perform social behaviors with limited knowledge about the new environment, and 3) maintain persistence in the face of discouragement. Collectively, the three factors relate to a lower level of social self-efficacy.

Tsai et al. (2017) used a 3-point longitudinal study to confirm the reciprocal relationship between loneliness and social self-efficacy among Chinese international students. Loneliness as a common indicator of psychological distress closely relates to other signs of adjustment stress, such as social isolation and depression (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006; Bertram, Poulakis, Elsasser, & Kumar, 2014). Tsai et al. (2017) denoted that international students' self-rated social self-efficacy upon their arrival in the U.S. positively associates with the scores after the first and the second semester. In Tsai et al.'s (2017) study, social self-efficacy associated with loneliness at each time point, and the magnitude of their association increased with time. The team listed several critical factors that contributed to the reciprocal relationship between loneliness and social self-efficacy. In regards to informational social support, friendship with Americans helps international students reconstruct a new frame of reference around everyday social issues such as greeting. Through learning social norms in a new

environment, international students become more confident in their ability to initiate and maintain conversations. It further supports the function of English proficiency, which is a key avenue to learn social skills. The other mechanism to explain the impact of loneliness on social self-efficacy is emotional support. Having friendship and social connection with English-speaking individuals improve international students' sense of self and decrease their psychological distress. This finding validates Zhang and Goodson (2011)'s assumption that establishing a new frame of reference helps international students cope with acculturative stress, which further leads to a higher level of social self-efficacy.

However, there has been no study exploring potential moderation mechanisms for the association between acculturative stress and social self-efficacy, which will be the main focus of this study. There are several possible mechanisms mentioned in Berry's model and the CNCC model discussed above, such as acculturation orientations and coping strategies. This study will start discussing the first moderator, i.e., acculturation orientation/modes, which stems from Berry's (1997) theoretical framework for acculturation.

Hypothesis 1: Acculturative stress will negatively correlate with social self-efficacy. Specifically, Asian international students with higher acculturative stress will have lower levels of social self-efficacy; those with lower levels of acculturative stress will have higher social self-efficacy.

**The Moderation Effect of Acculturation Orientation**

Theorists have different views regarding how international students identify with the two cultures in the process of relocation. And their acculturation approaches may

have an impact on their level of acculturative stress and social self-efficacy. Berry

introduced four types of acculturation orientation in his (1997) theory of acculturation to

conceptualize how international students navigate the new culture in the host country and

their culture of origin. This conceptualization starts to understand acculturation from a bi-

dimensional view, which does not assume an inverse relationship between host and

heritage culture as in the uni-dimensional model (Shim, Freund, Stopsack, Kammerer, &

Barnow, 2014). Hence, the bi-dimensional model is based on two assumptions: 1)

culturally based values, attitudes, and behaviors may have different degrees of impact on

international students' self-identity; 2) international students can have multiple cultural

identities at the same time (Ryder, Alden, & Paulhus, 2000). Empirical studies have

supported the advantage of the bi-dimensional view. In a sample of 164 college students

who identified as having Chinese ancestry, Ryder et al. (2000) found that maintaining the

bond with one culture does not necessarily relates to distancing from another culture.

Research about acculturation initially focused on the change in individuals'

worldview resulting from social contact with people from other cultures, and then shifted

to exploring other domains (e.g., behavior, values, knowledge, cultural identity; Zhang &

Goodson, 2011). This change reflects different measures for acculturation orientation.

Earlier measures such as a 10-item *Acculturation Index* included items such as

"respondent has membership in a formal group" (Graves, 1967, p. 343 as cited in Zhang

& Goodson, 2011). In contrast, more recent measures such as *the Vancouver Index of*

*Acculturation* (VIA; Ryder et al., 2000) includes items that ask about whether individuals

are comfortable interacting with people from the host culture, to what degree one behaves

like people in the host culture, and how much people believe in the values of their heritage culture. The inclusiveness of multiple aspects about the relocation experience indicates researchers' increased understanding about acculturation.

Depending on whether international students are willing to maintain the bond with their culture of origin and whether they value forming and maintaining the relationship with the mainstream society of the host country, Berry (1997) identified the integration, assimilation, separation, and marginalization approach. *Integration* indicates that people adhere to both their home and host cultures. They maintain contact with both the people from original culture and with other cultural groups. They identify highly with the two cultures at the same time. Behaviorally, they may perform differently in various social contexts, which ranges from using different verbal or non-verbal languages to enjoying different social activities. For international students in the U.S. who are initially from Asian countries, their experiences are described as changing from a collectivistic cultural context to an individualistic one. They may shift from greatly associating social connections with how they perceive themselves to emphasizing both on individual uniqueness/distinctiveness and social relationships (Shim et al., 2014).

*Assimilation* emphasizes maintaining relationships with other cultural groups in the host country while abandoning one's cultural heritage. Their absorption of the host culture suggests high identification with a new culture, and their rejection of the home culture indicates weaker identification toward the home culture. Their social groups, social activities, and integrative behaviors are similar to people from the host culture. Slightly different from integration orientation, international students in the U.S. who

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come from Asian countries are likely to have a strong emphasis on individual uniqueness with a limited frame of reference involving relationships with others (Shim et al., 2014).

Integration has been found in several studies to predict best mental health outcomes compared to other orientations except for one study among international students in Germany which suggested that assimilation orientation predicts the least depressive symptoms (Zhang & Goodson, 2011; Shim et al., 2014). It might not be appropriate to generalize Shim et al.'s (2014) finding into the Asian international students in the U.S., given there are identifiable discrepancies between German culture and American culture. Another possible explanation is that people adopt an integration strategy presents an ability to negotiate conflicts between the two cultural systems, and they are familiar with values and cultural norms in both cultures. Shim et al. (2014) added that acculturating to mainstream culture in general (i.e., integration and assimilation) is beneficial because people are less likely to experience discrimination and prejudice in the host country.

In sharp contrast to assimilation, *separation* involves maintaining one's heritage culture with limited contacts with the mainstream culture in the host country. Individuals who adopt this strategy do not absorb the host culture. They place a high value on connection to their original culture, which may result in a willingness to form social relationships with people identify as the same heritage culture, and a tendency to evaluate their social ability according to cultural norms of the home culture. As for the host culture, they tend to ignore it or depreciate it. International students from Asian countries who adopt this approach establishes a new frame of reference primarily based on social

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contacts with others from their home culture and relate to relational dynamic in their community (Shim et al., 2014).

The last orientation is *marginalization*, which describes individuals who reject both their culture of origin and the mainstream culture in the new country. They devalue both cultures and have limited contact with both cultures. If the marginalization results from policy or dynamic of the host environment, it should be termed as *segregation* since in this context the marginalization is not voluntary (Berry, 1997). For example, a recent study investigated 221 international students in Australia who are initially from several countries such as China, Malaysia, and Canada (Tan & Liu, 2014). They found that if international students' ethnicity is visibly different from the majority group in the host country, they are more likely to preserve heritage culture and to distance from the host culture. The difference is partially caused by expected discrimination as well as the culture distance between the home and host countries (Tan & Liu, 2014).

There are only a few studies so far exploring the moderation effect of acculturation orientation, all of which are focused on international students. Wei et al. (2012) found a three-way interaction among forbearance coping, acculturation orientation, and acculturative stress in predicting psychological distress. Forbearance coping will be introduced in the following section as part of the collective coping strategies. Importantly, Wei et al. (2012) found that for Chinese international students with a weaker identification of their heritage culture (i.e., adopting assimilation or marginalization orientation), acculturative stress is more likely to predict psychological distress. Instead, for Chinese international students with a stronger (vs. weaker)

identification of their heritage culture (i.e., adopting integration or separation orientation), acculturative stress associates with less psychological distress. To interpret their results, Wei et al. (2012) emphasized the importance of cultural resources. Specifically, a stronger identification with heritage culture may indicate a decent number of friends and high quality of social support. International students can attend more joyful social activities to alleviate acculturative stress. Their friends are likely to be more sensitive to their concerns regardless of these students' tendency to conceal the problems (i.e., forbearance coping). Reversely, losing social contact with people from their home culture limits their opportunities to process personal concerns with others. Doucerain et al. (2016) found a different direction of how acculturation orientation impacts the association between acculturative stress and psychological distress. Doucerain et al. (2016) agreed with Wei et al.'s (2012) on the importance of social connection, but they noted that orientations toward mainstream culture in the host country predicted higher social participation, especially in the mainstream group. To further enrich Berry's (1997) theoretical framework for acculturation, Wei et al. (2012) suggested future studies to explore the moderation effect of acculturation orientation between acculturative stress and some positive outcomes. Hence, social self-efficacy as a commonly used positive attribute will be examined in this study.

A study conducted with 104 Chinese and Taiwanese international students from two public universities located in the Midwest U.S. supported Doucerain et al.'s (2016) conceptualization about the benefits of acculturation to the U.S. host culture (Wang & Mallinckrodt, 2006). Wang and Mallinckrodt (2006) focused on the students who

reported to adopt specific Western values, and have made cognitive and behavioral changes such as altering their pace of life, recreational activities, and worldview. Their identification with the host culture alleviates the negative impact of acculturative stress on psychological well-being. However, in their hierarchical multiple regression analyses after controlling covariates (i.e., English proficiency, length of stay in the U.S.), no moderation effect was found for acculturation orientation. They explained that a lack of sufficient power due to relatively small sample size might lead to the non-significant result (Wang & Mallinckrodt, 2006). Thus, Wang and Mallinckrodt (2006) suggested future studies to recruit a larger sample to increase the power of potential moderation effect. Additionally, since this study also conceptualizes international students' adjustment difficulties from an attachment style perspective, they recommended exploring the interaction effect of acculturation orientation with other possible moderators such as coping strategies.

Ying (1995) argued a third view on the benefits of acculturation orientations, which is more consistent with Berry's (1997) assumptions in discussing his theory of acculturation. Through face-to-face interviews with 143 Chinese Americans, she reported mixed findings for the strengths and challenges of cultural orientations in several domains. Individuals who self-identified as integrators, i.e., bicultural individuals, reported better psychological well-being and life satisfaction than other three orientations because (a) they enjoyed various activities in the metropolitan area, (b) they experienced a better person-environment fit and a better overall adjustment (Ying, 1995). When it comes to social orientation, on the contrary, separatists, i.e., individuals who identify with

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Chinese cultures, tended to report the lowest negative affect compared with other acculturation approaches because they were protected from possible cultural misunderstandings and self-doubt caused by cultural differences (Ying, 1995). But this short-term benefits prevented separatists from overcoming the initial discomfort, establishing cross-cultural friendships, and adjusting to various social contexts. Hence, bicultural individuals are overall most resilient, adaptive, and satisfying compared with the other three orientations. It is worth noting that Ying (1995) focused on Chinese Americans in San Francisco, which raises the question whether her findings could be generalized to Asian international students or sojourners living in a relatively small town.

Therefore, my study also includes an exploration of whether collective coping strategies impact individuals' modes of acculturation as suggested in Wei et al. (2012). In other words, this study will examine which specific culturally relevant coping strategies work for those holding one of four modes of acculturation.

Ryder et al. (2000) suggested future studies to focus on either the host culture or the home culture when exploring acculturation orientation. The overarching goal of this study is to expand the understanding about how Asian international students utilize their mental resources, which they developed in a collectivistic heritage culture to alleviate acculturative stress and maintain or improve their social self-efficacy. Therefore, this study will focus on acculturation orientation to their home culture. Identification with heritage culture distinguishes integration and separation orientations from assimilation and marginalization orientations. In other words, this study will explore whether

integration and separation orientations attenuate the negative impact of acculturative

stress on social self-efficacy.

Hypothesis 1.1: Acculturation orientation moderates the association between

acculturative stress and social self-efficacy among Asian international students. The

negative relationship between acculturative stress and social self-efficacy will be weaker

for Asian international students who identify strongly with their heritage culture than for

their counterparts who identify weakly with their heritage culture.

**The Moderation Effect of Collective Coping Strategies**

Researchers have conducted cross-sectional and longitudinal studies to confirm

the link between high levels of stress and psychopathology using indicators such as

symptoms of anxiety and depression among international students. In alleviating the

stress related to acculturation, i.e., acculturative stress, many international students adopt

various kinds of coping strategies. Coping is construed as changing one's cognitive and

behavioral efforts to manage internal or external demands when he/she has difficulties

with handling the demands (Lazarus & Folkman, 1984). Both Berry's (1997; 2006)

theory and the recent CCNC model (Heppner et al., 2012) asserted the critical role of

coping. Berry's (1997) acculturative model identified the coping process as a central

feature in his model, and in doing so, he drew heavily on Lazarus and Folkman's (1984)

coping model. CCNC model on another hand, introduced the concept of situational

coping style, i.e., collective coping strategies. The latter concept distinguishes from the

former one in its deep root in collectivism. As mentioned in the discussion of how

acculturative stress impacts social self-efficacy, individualistic cultures emphasize

independence whereas collectivistic cultures value interdependence more. Other than collectivism, Heppner et al. (2006) also identified several featured Asian values, which distinguish Asian international students from people from other collectivistic cultures. These values include respect for elders and ancestors, losing face or shame, and fatalism (Heppner et al., 2006). These critical differences on worldviews, values, and practices have a crucial impact on how people cope with their problems and stress.

From a theoretical point of view, three additional theories have reached a consensus that the stress-coping process is constructed within an individual's social and cultural contexts (Kuo, 2013). Hobfoll's (2001) conservation of resources theory emphasized the social and collective function of coping and pointed out that significant others' wellbeing and interpersonal harmony motivates stress coping responses. Aldwin's (2007) sociocultural model of coping theorized that one's culture predicts (a) the type of stress he/she might encounter, (b) to what extent the stress means to the individual, (c) how will he/she cope with the stress, and (d) how institutional and community resources support the individual. Importantly, instead of personal preference, people decide to adopt what coping strategies based on their perception of others' reaction bounded by collectivistic/individualistic values. It also depends on the available emotional or informational resources. Efforts have been spent on the association between cultural values and preferred coping styles. For example, Cross (1995) found that the East Asian students who presented a higher level of independence reported a tendency to adopt more direct actions to cope with cultural adjustment issues.

On the other hand, Chun, Moos, and Cronkite's (2006) cultural transactional theory of stress and coping described the differences between members of the individualistic and collectivistic cultures on five levels of the stress-coping mechanism. Specifically, collectivists favor external locus of control when evaluating stressors and selecting coping strategies. Compared to events that deteriorate one's self-development and independence, they feel more threatened by events that negatively impact relationships with others and a sense of security and consistency. Kuo and Gingrich (2004) supported this element in their finding that Asian international students in a Canadian university rated interpersonal conflicts as more stressful compared to their Caucasian counterparts. And Heppner et al. (2006) developed an inventory about collectivists' coping style based on the assumption that people from Eastern countries prefer to take control by accepting existing realities, aligning oneself with others, and managing the impact of adverse events on oneself. This indirect or secondary control is in sharp contrast to what is preferred or valued in Western countries, i.e., actively changing the existing realities. Therefore, they tend to focus on modifying their feelings or maintaining social harmony instead of spending most efforts on confronting external stressors.

Previous empirical researches have summarized some coping strategies preferred by Asians or Asian Americans. They include relying on the self or seeking help from others (Shek & Cheung, 1990 as cited in Kuo, 2013), familial coping, intra-cultural coping, relational universality, forbearance, fatalism, and indigenous healing (Yeh et al., 2006 as cited in Kuo, 2013), implicit social support which refers to seeking emotional

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comfort without disclosing details about one's problems (Kim & Sherman, 2007 in Kuo, 2013). Kuo (2013) summarized six different self-report scales that are used to explore culturally based coping strategies (e.g., Moore & Constantine, 2005; Heppner et al., 2006). Heppner et al.'s (2006) Collectivist Coping Styles measure is the most cited, used, and discussed in studies about Asian international students due to its advantages in positive phrasing and comprehensive summarization. For example, Moore and Constantine's (2005) Collective Coping Style Measure can only address one strategy at a time without integrating to a composite summary of the utilization of several collective coping approaches.

Collectivistic coping strategies are defined as behaviors that are used to cope with problems while considering significant others' wellbeing such as engaging meaningfully with others in the community (Heppner et al., 2006; Moore & Constantine, 2005). Based on this definition, people from collectivistic cultures consider solving problems and how their behaviors will affect others at the same time, which echoes the interdependence concept. Among the six studies that aimed to identify important and distinguished collectivistic coping strategies, two critical factors are standing out: social support and forbearance. Social support includes behaviors such as sharing problems and seeking support and advice from friends, family members, and other people in the community (Yeh, Inman, Kim, & Okubo, 2003; Heppner et al., 2006; Moore & Constantine, 2005). Unlike seeking help from a mental health professional or a faculty member, social support in a collectivistic context implies mutual reliance between the recipient and the provider because both parties have some needs met in close relationships (Moore &

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Constantine, 2005). The recipient obtains emotional support and practical suggestions while the provider strengthens an important relationship. Forbearance, on the other hand, describes a tendency to minimize or conceal personal concerns to avoid burdening others (Moore & Constantine, 2005; Yeh et al., 2006). It is also conceptualized as acceptance, reframing, striving, avoidance and detachment, or private emotional outlets in Heppner et al. (2006). There are several reasons prompt people from a collectivistic context to endure distress without sharing their issues with others. First of all, international students from some Asian cultures are implicitly impacted by Confucian, Buddhist, and Taoist ethics (Yue, 2001). These ethics all encourage people to forbear problems while maintaining inner peace to increase self-awareness, acquire knowledge and wisdom about life (i.e., self-cultivation), as well as to reach their full potential (Yue, 2001). Second, people have the social obligation to be sensitive to significant others' needs as well as their wellbeing (Kim, Sherman, & Taylor, 2008). Third, using forbearance has been found to promote self-sufficiency and independence among Asian international students (Zhang & Goodson, 2011).

It seems that the two approaches, i.e., seeking social support and forbearance, are contradictory to each other in whether to involve others to cope with difficulties. Seeking social support does not necessarily equal to sharing problems with others. A qualitative study focused on high school international students touched upon this subtle difference (Suldo, Shaunessy, Michalowski, & Shaffer, 2008). Suldo and colleagues (2008) counted the frequency of each coping strategies in a focused group of students cope with social and emotional stress. "Taking deliberate action steps to address problems" such as

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managing tasks was the strategy mentioned by all the 60 students in the group (Suldo et al., 2008, p.967).

Interestingly, the other three strategies brought up by half or more of the group were (a) "seeking social support from people within immediate environment" such as classmates and family members, (b) "avoiding demands" such as deferring the homework and fixating on uncompleted problems, and (c) "maintaining relationships with people outside of immediate environment" such as close friends. The majority of the conversations they have with their classmates, close friends, or family members are not problem- or emotion- related. All the coping strategies were reported to help alleviate their stress. Additionally, there is a difference between its buffering effect on alleviating individual level stress and societal stress. In an Asian Indian international students sample, Meghani and Harvey (2016) found that collective coping strategies do not help alleviate the stress associated with societal discrepancies, and hence have a limited effect on depression.

Various authors have cited social support as a critical factor to buffer adjustment stress in a new culture. Social support refers to communication about life events, relationships with others, as well as thoughts and feelings about oneself that functions to increase one's sense of control over life experience (Albrecht & Adelman, 1987). Recent studies also recognized the importance of the availability of community resources (Taylor, 2011). Ye (2006) found that satisfaction with interpersonal support networks predicts less perceived discrimination, perceived hatred, and negative feelings caused by

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change. This qualitative study also confirmed social support's buffering effect for psychological distress.

Another qualitative study explored the importance of both seeking social support and forbearance for international students. Constantine, Kindaichi, Okazaki, Gainor, and Baden (2005) interviewed 15 Asian international college women and found that they sought advice from friends and family members about adjusting to the U.S. culture. They also "minimized, denied, or kept their problems to themselves so as not to trouble or burden others" (Constantine et al., 2005, p.169). These approaches help them become more independent and self-sufficient. With investigation and reports about the students' cultural orientations, Constantine et al. (2005) concluded that the collectivistic cultural values are essential resources for alleviating acculturative stress, and are impactful for the coping strategies being selected.

It is worth noting that the elements of social support change with their relocation. Bertram et al. (2014) found that international students identify the family as the primary source of social support for extreme stress, significant life events, or financial matters. Students would turn to friends for less severe issues and academic stress (Bertram et al., 2014). After relocating to the U.S., many international students still maintain regular contact and positive relationships with family and friends as a critical source of emotional support. Additionally, they gradually establish a peer-based network of fellow international students from the same country of origin to gain emotional and informational support. Surprisingly, many international students identify local churches as a place to connect with others regardless of their religious views. They described

churches as "warm, supportive, and available" (Bertram et al., 2014, p.117). If the social

support is not available when international students experience difficulties to build the

peer-based network, they are more likely to experience adjustment difficulties that are

detrimental to their psychological well-being.

Another vital function of seeking social support is to validate their sense of self

(Yeh & Inose, 2003). Experiencing cross-cultural differences may alter one's self-

concept, and acculturative stress likely predicts low self-esteem (Cross, 1995; Yeh &

Inose, 2003). For international students from more collectivistic cultures, social contacts

serve as an essential frame of reference for their conception of self. Losing close contacts

with the references likely shakes one's self-concept (Yeh & Inose, 2003). And the shift

from collectivist culture to individualistic culture further perplexes the reference of self-

concept. They change from understanding one's values and ways of interacting with

others primarily via close relationships with friends and family to a more in-depth

exploration of their attitude and preference. Therefore, seeking social support from

friends and family from home country maintain a consistent reference while establishing

new connections enrich their understanding of self-identity and personal values (Yeh &

Inose, 2003). A possible mechanism that helps boost self-esteem is that it enhances

remarks in social contacts, which provides the recipients emotional-focused supports.

Seeking social support is not a simple and straightforward approach for many

international students. They might find it difficult to form a new support network (Mori,

2000). Several factors are contributing to the challenge. However, the advancement of

new technologies is enriching strategies to establish and maintain a social connection. In

a study conducted by Ye (2006), she found that international students utilize online social groups to communicate their common interests and daily concerns, which improved their life satisfaction and decreased acculturative stress. When they need to seek information, relaxation, and entertainment, as well as social utility, international students reach out to support groups through both native-language Internet and English-language Internet. The esteem-enhancing remarks or empathic messages from others help alleviate their stress and frustration. Another factor might lead to difficulties with establishing social connections is the lack of English proficiency. Hence, this research will regard English proficiency as a controlled variable.

About forbearance, Wei et al. (2012) utilized the forbearance subscale of Moore and Constantine's (2005) measure to explore how Chinese international students alleviate the impact of acculturative stress on psychological well-being. Consistent with other studies, they confirmed how forbearance coping serves as an effective moderator. Additionally and more importantly, their results revealed a significant interaction between acculturation orientation and forbearance coping. For people identified strongly with their heritage culture, forbearance coping does not predict a higher level of psychological distress; for those who weakly identified with their heritage culture, it positively associates with psychological distress. Their results addressed some arguments that avoidance coping strategies have been found to associate with adverse psychological outcomes; however, one's acculturation orientation influences the impact of forbearance on psychological well-being. Kim et al. (2008) found a similar result among Korean immigrants that forbearance coping does not significantly relate to depressive symptoms

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if people are connected well with community resources and supported by others. Also, some techniques have been found to represent adaptive coping strategies such as distracting oneself by engaging in recreational activities (Moore & Constantine, 2005).

About other identified collective coping strategies (e.g., religion and spirituality), practical approaches have been found to not only alleviate acculturative stress but also retain a social connection with others in the community (Wang, Heppner, Wang, & Zhu, 2015). The interaction between acculturation orientation and collective coping strategies in the aforementioned studies suggest to explore a three-way interaction among acculturative stress, acculturation orientation, and collective coping strategies in predicting Asian international students' social self-efficacy. For those who identify strongly with Asian cultures and frequently use collective coping strategies, their identification implies their efforts to connect with people from the same culture. This connection increases the number of friends who can understand their thoughts and attune to their feelings. Such connection also makes them more joyful when engaging in culturally specific social activities (e.g., cooking together, pot luck, Karaoke). For those who identify weakly with Asian cultures yet frequently use collective coping strategies, they may not have sufficient cultural resources (Wei et al., 2012). However, their tendency to actively seek social support prompts them to establish relationships with fellow international students or connect with online social groups (Bertram et al., 2014; Ye, 2006).

Additionally, other collective coping strategies such as religion/spirituality may also help them cope with acculturative stress and re-establish adaptive self-esteem. For

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those who identify strongly with Asian cultures yet seldom use collective coping strategies, they are likely to feel short about how to connect with their Asian values. This disconnection may result from a lack of cultural resources (e.g., high quality of social support; Wei et al., 2012) or lack of knowledge about effective coping approaches. They may feel at a loss about the conflict between a tendency to behave in heritage culture and insufficient tangible skills to do so. Lastly, if Asian international students isolate from heritage culture and do not adopt important collective coping strategies, they may suffer the most from acculturative stress and feel less adequate about their ability to socialize with others in the new environment.

Kuo (2013) also recommended that researches about coping strategies should utilize the culture related measures (such as measures that are used to assess acculturation orientation) to explore in diverse samples about the effectiveness and function of collectivistic coping strategies and how the selection of coping styles associates with cultural orientation. To further expand Berry's (1997) theoretical framework for acculturation, Wei et al. (2012) suggested future studies to examine which specific culturally relevant coping strategies work for those holding one of four modes of acculturation (i.e., assimilation, integration, separation, or marginalization). As coping strategies are culturally rooted (Heppner et al., 2006; Heppner et al., 2012), the present study also aims to explore a three-way interaction involving both acculturation orientation and collective coping strategies.

In sum, this study will explore whether collective coping strategies moderate the association between acculturative stress and social self-efficacy. This study also plan to

explore a three-way interaction among acculturative stress, acculturation orientation, and collective coping strategies.

Hypothesis 1.2: For Asian international students who use more collective coping strategies, their acculturative stress will have a weak association or a close to zero association with social self-efficacy. Conversely, for Asian international students who use less collective coping strategies, their acculturative stress will have a medium or strong association with social self-efficacy.

Hypothesis 1.3: Asian international students who have strong (vs. weak) identification with their home culture and those who use more (vs. less) collective coping strategies, their acculturative stress will have a weak or a close to zero association with social self-efficacy; for those who identify strongly (vs. weakly) with their heritage culture yet use less (vs. more) collective coping strategies, their acculturative stress will have a medium association with social self-efficacy; for Asian international students who identify weakly (vs. strongly) with their home culture yet use more (vs. less) collective coping strategies, their acculturative stress will have a medium association with social self-efficacy; for those who have a weaker (vs. stronger) identification with their home culture and use less (vs. more) collective coping strategies, their acculturative stress will have a strong association with social self-efficacy.

## The Moderation Effect of Cultural Intelligence

The CNCC model highlights a concept of cultural intelligence, which includes many personality traits and competencies mentioned in CNCC model's first, second, and third components (Heppner et al., 2012). Motivated by the globalization in the workplace,

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Earley and Ang (2003) developed the concept of *cultural intelligence* (CQ). CQ is defined as "an individual's capability to function and manage effectively in culturally diverse settings" (Ang et al., 2008, p.15).

Based on Sternberg and Detterman's (1986) framework of intelligence, CQ is theorized as a multi-dimensional construct with four foci (Ang et al., 2008). *Metacognitive CQ* describes the awareness to question, reflect, and adjust cross-cultural contacts. As a higher-level cognitive strategy that emphasizes the control of thinking process, it builds the foundation for developing new social norms and frame of references and drives people to challenge their culturally bounded thoughts and assumptions. *Cognitive CQ* focuses on lower-order cognitive process, which refers to the level of knowledge about practices, norms, and values in various cultural contexts. Although different cultures share some commonalities such as basic psychological needs, they are drastically different in specific practices such as patterns of social contacts. These practices generally include economic systems, educational systems, systems of communication, and systems of supernatural beliefs. *Motivational CQ* reflects an expectation to learn about cross-cultural tasks and a strong value about accomplishing cross-cultural effectiveness. It describes an intrinsic interest in expanding knowledge and improving social appropriateness in new environments. Compared to the abovementioned constructs that are mental capabilities, the last component *behavioral CQ* focuses on the verbal and nonverbal actions individuals perform based on their cultural awareness, knowledge, and motivation. It emphasizes the practical realm about how people display

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social expressions and immediately adjusts their behaviors. Metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ together make up the overall construct of CQ.

CNCC distinguished cross-cultural competence from multicultural competence, yet also adopts the ASK tripartite model which was initially developed by Sue and Sue (as cited in Heppner et al., 2012). Cultural awareness refers to awareness about their cultural values and how other worldviews are perceived, which overlaps with the metacognitive CQ. Similarly, cultural knowledge (i.e., comprehension of history, practices, and worldviews of different cultures) and cultural skills (i.e., an ability to effectively engage with others in different cultural contexts) share commonalities with cognitive CQ and behavioral CQ (Wang et al., 2016). Ang et al. (2007) recommended future research to explore whether and how CQ impacts individual difference characteristics such as self-efficacy, which could include intercultural effectiveness during the acculturation process.

CQ is different from several related concepts such as personality and other intelligence (Ang et al., 2007). By its definition, CQ refers to people's thoughts, feelings, and behaviors in culturally diverse settings, whereas personality traits are across times and situations. Openness to new experiences (i.e., an individual's tendency to be creative, imaginative and adventurous) positively and significantly associates with CQ (Ang et al., 2007). Ang et al.'s study (2007) revealed that motivational CQ and behavioral CQ positively associate with cultural adjustment and wellbeing. In other words, a strong desire to develop culture-related knowledge and an ability to perform communication skills according to cultural contexts is beneficial for coping with acculturative stress.

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About other forms of intelligence such as general mental ability and emotional intelligence, CQ is structurally similar because all of them describe people's capabilities. General mental capacity solely describes cognitive abilities and some studies about cognitive ability assessment tools reflect a cultural preference for specific ability (e.g., logic, reasoning; Ang, Koh, Ng, Templer, Tay, & Chandrasekar, 2015). Emotional intelligence (EQ) refers to the capability to process emotions across cultural context (Ang et al., 2007). Early and Ang (2003) pointed out that since each culture is somewhat unique about how emotions are encoded and decoded, EQ may not automatically transfer to other contexts when the cultural background changes. On the contrary, CQ is cultural free and describes a general ability to adapt to a new environment, which makes it suitable for exploring international students' cross-cultural experiences.

Although CQ is a relatively new concept, there have been several studies about it, and some established the link between CQ and cultural adjustment (Wang et al., 2016). Importantly, there have also been studies analyzing the role of CQ as a moderator in cross-national experiences. A study conducted among 189 international students in Australia found that CQ moderates the association between culture shock and international students' psychological and sociocultural adaptation (Presbitero, 2016). In this study, Presbitero (2016) defined cultural shock as initial adjustment issues due to relocating to an unfamiliar environment, which is an older concept of acculturative stress (Berry, 1997). He used a 10-item self-report measure to assess psychological adaptation. Sample questions are "I am satisfied with my life at present." and "I am able to do things well without much stress." (Presbitero, 2016, p.32). He used another 10-item self-report

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measure to assess sociocultural adaptation with questions such as " I adapt to local

etiquette easily" and " I'm comfortable interacting with others despite cultural

differences" (Presbitero, 2016, p.32). Both psychological and sociocultural adaptations

are part of acculturative stress, as theorized by Berry (1997).

Regarding social self-efficacy, a study conducted in a Philippines call center

suggest that language proficiency does not predict work performance when motivational

CQ is included in the analysis (Presbitero, 2017). In other words, one's interests and self-

efficacy to verbally communicate with others in a non-native language boost their actual

social performance. Presbitero (2017) attributes his finding of the role of motivational

CQ to its impact on the persistence to perform in a difficult job. This conclusion

corresponds to Lin and Bets' (2009) finding that it is perceived English communication

ability instead of actual English proficiency alleviates their acculturative stress because

international students' self-perception and self-evaluation impacts their confidence level.

Additionally, in the field of organizational psychology, three studies also revealed that

CQ helps improve one's communication skills in culturally diverse business settings. The

first study found that CQ strengthens the association between effective expression of

transformational leadership behaviors (i.e., behaviors that has idealized influence,

inspirational motivation, intellectual stimulation, and personalized consideration) and

organizational innovation (Elenkov & Manev, 2009). In another study, CQ moderates the

effect of perceived cultural diversity on voice instrumentality (Ng, Ang, & Van Dyne,

2012). Voice instrumentality refers to perceptions of how voicing behaviors leads to

desired organizational changes, which further predicts actual voice behaviors.

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Specifically, when CQ was low, cultural diversity negatively predicts voice instrumentality; when CQ was high, their association turned to positive.

Several studies have established a negative association between acculturative stress and social self-efficacy (e.g., Tsai et al., 2017; Constantine et al., 2004; Lin & Bets, 2009). As such, it is reasonable to assume that CQ alleviates the impact of acculturative stress on social self-efficacy.

With regards to mechanisms of how CQ moderates the association between acculturative stress and social self-efficacy, several recent studies enriched our understanding through their exploration of relevant concepts. The team of Ng, Ang, and Van Dyne (2009) published a study to reveal a mechanism of improving global leadership self-efficacy. They explained that CQ increases leaders' likelihood of engaging in the four stages of experiential learning (i.e., experience, reflect, conceptualize, and experiment). Through completing international work assignments, leaders not only had opportunities to understand the challenges and to apply working strategies but also received timely feedback on their behaviors to continuously increase the effectiveness based on others' reactions (Ng et al., 2009). This mechanism is likely to transfer to other types of self-efficacy, such as social self-efficacy. As several studies have stated (e.g., Wang & Mallinckrodt, 2006; Tsai et al., 2017), social contacts with domestic peers and inter-cultural friendship help improve international students' social skills in a new environment.

Analysis of a particular component of CQ provided some empirical evidence about how CQ helps alleviate the negative influence of acculturative stress on social self-

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efficacy. Regarding motivational CQ, i.e., a desire to experience cultural novelty, a study found that it relates to better emotional and social functioning among international students (Ward, Wilson, & Fischer, 2011). This intrinsic motivation stems from personal interests and enjoyment and effects of expectations on cross-cultural social success (Ward et al., 2011). Therefore, motivational CQ increases the likelihood of initiating social contacts in a new cultural context, and it further contributes to adaptive outcomes (Ward et al., 2011). Similarly, Wang et al. (2016) found a significant association between curiosity and CQ, which they explained as that curiosity prompts Asian international students to participate in social activities and contacts in a new environment. This explanation corresponds to an essential part of social self-efficacy, i.e., the willingness to initiate and maintain interpersonal relationships. Their curiosity also leads to engagement in constant reflection one's social behaviors, consultation with others, and the development of abilities to perform appropriately in social situations (Wang et al., 2016).

Although Klafehn, Li, and Chiu (2013) found no correlation between metacognitive CQ and international students' general self-efficacy, it is not reasonable to generalize their conclusion to the relationship between CQ and social self-efficacy due to several limitations. First of all, they only included 50 undergraduate international students who registered a psychology class, which (a) impacts the study's generalizability to a non-convenient sample, (b) lowers its statistical power and practical implication, and (c) attracts only the international students who were interested in psychology or more specifically might have higher levels of metacognition. Second, lacking correlation between metacognitive CQ and general self-efficacy does not necessarily suggest its

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relationship with social self-efficacy, especially when metacognitive CQ was studied as a moderator. Therefore, it would be meaningful to re-assess the relationship between metacognitive CQ and social self-efficacy because people who use their metacognitive skills (i.e., active control of time, greater persistence, and deliberate rejection of hypotheses) tend to believe in their ability to complete a task (Klafehn et al., 2013).

Cognitive CQ seems to reflect the practical idea that providing workshop or training for international students about social norms, values, and skills in the new environment helps them interact well with domestic peers, faculty members, and other people. By its definition, international students with higher scores on this subscale present better knowledge about behaving in a foreign setting, and which likely to boost their confidence of socializing with others. Lastly, behavioral CQ is the only CQ focuses on the behavioral aspect. As mentioned above, experiential learning or engagement in actual social contacts in a culturally diverse context in return helps further boost one's confidence in conducting social tasks.

Despite the studies about CQ with general self-efficacy and other types of self-efficacy (e.g., global leadership self-efficacy), there has been only one study links CQ with social self-efficacy. Wang et al. (2015) depicted the trajectory of CQ among 221 Chinese international students at four time points: July/August before students starting their first semester, mid-September, mid-October, and mid-November of the same year. Results indicated that CQ positively associated with social self-efficacy. Based on how their scores of CQ changed over the four or five months, Wang et al. (2015) categorized four different groups: students with consistently high CQ scores, students whose CQ

scores decreased over the four months, students with an increasing CQ scores, and students whose CQ scores had a sharp decrease over the first two months and then increased at the third month. Although Wang et al. (2015) pointed out international students' cross-cultural competencies as measured by CQ has an impact on social self-efficacy, they did not depict the change of social self-efficacy over the four months. Hence, it is not clear in their study whether the group with consistent high CQ present higher social self-efficacy at all times, or whether the change of social self-efficacy (if there is any change) followed the change of CQ. Additionally, CQ was regarded as an outcome variable instead of a moderator in the study. The present study will assess the moderation effect of CQ to the link between acculturative stress and social self-efficacy.

Hypothesis 2.1: For Asian international students' with higher levels of CQ, their acculturative stress will have a weak association or a close to zero association with social self-efficacy. Conversely, for those report lower CQ, acculturative stress will have a medium or strong association with social self-efficacy.

## The Moderation Effect of Collective Self-Esteem

Self-concept includes personal identity (i.e., a combination of multiple attributes and traits of a person such as interests and competence), social identity (i.e., an individual's view of self through interpersonal relationships such as one's attractiveness and reputation), and collective identity (i.e., one's knowledge, values, and emotional significance associated with one or several social groups such as nationality and ethnicity; Luhtanen & Crocker, 1992). The collective identity comprises "self-identification as an ethnic group member, a sense of belonging to the group, positive attitude about the group,

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and involvement in ethnic practices" (Kim & Lee, 2011, p. 1017). Studies about

collective identity stem from social identity theory, which asserts that people gradually

develop a sense of identity in relations to their membership of a social group through

three main stages: social categorization, social identification, and social comparison stage

(Tajfel & Turner, 1979). Measures that focus on personal self-esteem and social self-

esteem have been widely used in the field of cross-cultural psychology including among

Asian international students (see, e.g., Hamamura & Laird, 2014). Recently, more studies

start to explore the role of *collective self-esteem* in relations to acculturation. It is worth

noting that Luhtanen and Crocker (1992) posited that it might serve as a moderator of

group-level phenomena such as attribution of social frustration to collective identity.

      Collective self-esteem is conceptualized as a concept with four aspects (Luhtanen

& Crocker, 1992). *Membership esteem* is the worthiness of an individual to the social

group he/she belongs to or identifies with (Luhtanen & Crocker, 1992). This dimension

distinguishes collective self-esteem from a specific identity such as ethnic identity

because one may values the identity yet not believes he/she is an influential member of

the social group (Kim & Lee, 2011). Membership dimension was found to be an

impactful factor to how Asian Americans engage Asian and European American cultural

behaviors (Kim & Omizo, 2005). Kim and Omizo (2005) also revealed in the post hoc

analysis that the engagement in the European culture predicted higher levels of general

self-efficacy. In other words, endorsing to be a worthy member of their social groups

leads to feeling capable of accomplishing tasks through participating in behaviors of both

cultures. Kim and Omizo's (2005) study did not focus on international students, but their

finding suggests a possibility that CSE may positively associate with social self-efficacy. Because perceived importance in the heritage culture group may also predict a belief that one can live satisfyingly in a new cultural through increasing the likelihood of participating in social activities in the host country.

Similar as the concept of race salience introduced by Cross (1991) to the discussion of nigrescence identities, collective self-esteem also include two dimensions of identity salience, which are the degree of importance or significance about specific collective identity and whether this identity captures a more positive or negative valence (Luhtanen & Crocker, 1992). According to this understanding, *private collective self-esteem* focuses on whether and to what extent people feel good about their membership of the social group(s). *Importance to identity*, on the other hand, refers to the degree of importance one's collective identity to their holistic self-concept. Lastly, *public collective self-esteem* describes an individual's perception of how other people evaluate their social groups. Its main difference from personal self-esteem is that people' self-evaluation is the social group they identify with rather than themselves (Kim & Lee, 2011). Although there have been studies confirmed the association between these two concepts, for example, Kim, Park, and Lee (1999) found that there was a significant positive correlation between personal and public self-esteem.

Additionally, for Asian college students (including Asian Americans and Asian international students), it has been found that private collective self-esteem strongly predicts public collective self-esteem, which suggests congruence between public image and a self-evaluation, as well as a strong emphasis of interdependence in Asian cultures

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(Crocker, Luhtanen, Blaine, & Broadnax, 1994). In comparison to Asian college students, Caucasian American students' private collective self-esteem and public collective self-esteem have a weak correlation whereas African American students have learned to separate how others evaluate their social group and their feelings about the membership/identity (Crocker et al., 1994). This uniqueness of Asian culture may impact their self-evaluation on social ability because people develop their social self-efficacy from interpersonal contacts with others.

Many theorists have reached a consensus that people tend to maintain and enhance their self-esteem. And self-esteem serves a moderator to the association between actual self-status and idealistic self-image. For collective self-esteem, the self- and other-evaluations of one's social group(s) also contributes to a positive collective identity. It prompts individuals to "engage in the in-group enhancement and in-group serving attributions to cope with the threat to collective identity" such as perceived discrimination (Gupta, Rogers-Sirin, Okazaki, Ryce, & Sirin, 2014, p.337). The positive collective identity as a critical component of self-concept also contributes to high levels of psychological well-being as evidenced by better life satisfaction, lower depression, and lower hopelessness after controlling personal self-esteem (Crocker et al., 1994).

Collective self-esteem relates to other affective, cognitive, and behavioral outcomes. For example, Yeh (2002) studied Taiwanese adolescent and young adults and reported that those with high levels of collective self-esteem are less likely to seek help from mental health professionals. Instead, they tended to turn to family and friends for

informational advice and emotional support, which has been discussed in the collective coping strategy section.

Although Luhtanen and Crocker (1992) asserted the potential moderation effect of collective self-esteem, it seems to be overlooked in literature especially when compared to personal self-esteem. Liang and Fassinger (2008) initiated a study to explore whether collective self-esteem serves as a moderator in the relationship between racism-related stress and psychological adjustment including interpersonal problems. They argued that positive evaluations of their reference group might protect people from emotional harm as a result of discrimination against their collective identity whereas a lower sense of collective self-esteem could lead to internalizing negative social messages. Hence, the buffering effect of collective self-esteem is supported theoretically. Although data analysis in the study suggests a mediation role rather than a moderation role, Liang and Fassinger (2008) confirmed the assumption that low levels of collective self-esteem prompt Asian Americans to avoid participating in social situations where they feel less capable. For example, if they report a belief that Asians are less assertive, they tend to forego occupational opportunities that demand an assertive leadership style. However, the study recruited Asian American college students with only twenty percent of first-generation Asian immigrants. Growing up in the U.S. where Caucasian Americans are regarded as the ethnic majority group may have a significant impact on how Asian international students develop their collective identity and collective self-esteem. Specifically, acculturative stress includes perceived not only racism but also other stress related to the acculturation process such as homesickness and culture shock due to

relocation. Native language, as another difference between Asian international students and Asian American, may also impact their self-evaluation regarding social ability.

Another study, which also focused on Asian Americans, on the other hand, revealed a significant buffering effect of collective self-esteem of perceived ethnic discrimination and listed theoretical conceptualizations (Gupta et al., 2014). First of all, perceived ethnic discrimination by its definition closely relates to collective identity as an ethnic minority rather than the individual self, and collective self-esteem more accurately reflects appraisals of racism related events (Gupta et al., 2014). Therefore, people could attribute their stressful experiences to their collective identity instead of their weakness or limitations. Second, if the ethnic identity (or nationality for international students) becomes the most salient character, Asian Americans (or international students in another context) may also focus on positive aspects of their collective identity, which counterbalances the negative impact of discrimination (Gupta et al., 2014). Third, as stated above, the increased life satisfaction and decreased depression as a result of high levels of collective self-esteem also indirectly reduce the emotional harm of discrimination (Gupta et al., 2014). Similarly, collective self-esteem could also buffer the impact of acculturative stress among international students due to decreased self-blaming attribution, improved understanding of the strengths of the collective identity, and positive emotional outcomes. Therefore, this modification could further adjust their social self-efficacy.

There have been empirical studies exploring the relationship between CQ and collective self-esteem given both concepts are newly developed in the field of cross-

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cultural psychology. From a theoretical standpoint, CQ describes one's cross-cultural ability with emphasis on the individual's motivation to absorb new information and habitual self-retrospection. Collective self-esteem focuses on one's perception and evaluation of the social group(s) he/she identifies with. In the acculturation process, international students face two tasks: (a) exploring and adapting to the new environment (b) adjusting and improving their relationship with the identities as a non-U.S. citizen, non-English speaker, ethnic minority in the U.S., etc. The former task corresponds to the theory about CQ, and the latter one conforms to collective self-esteem. Success or failure in one task is likely to impact the performance on the other task because both CQ and collective self-esteem are significantly positively related to psychological well-being (Wang et al., 2016; Crocker et al., 1994). Additionally, observation and reflection of cross-cultural phenomena  (i.e., metacognitive CQ) inherently relate to public collective self-esteem because public collective self-esteem is established from daily social contacts with people from the same or different social groups. Thus, there are theoretical correlations of the two concepts and a possible association between subscales.

Hence it is meaningful to explore a three-way interaction among acculturative stress, CQ, and collective self-esteem in predicting social self-efficacy. There are four situations given how Asian international students report their CQ and collective self-esteem. For Asian international students with high levels of CQ and high levels of collective self-esteem, they acquire the ability to adapt to the new culture while holding a positive identity in relations to their social groups. Therefore, the association between their acculturative stress and social self-efficacy is expected to be weak close to zero. For

those with high levels of CQ yet low levels of collective self-esteem, their CQ is supposed to help them cope with situational stress in the process of relocation. Low evaluation and low significance of their collective identity may hinder Asian international students' activeness in engaging in social activities (Liang & Fassinger, 2008), and make them vulnerable to discrimination.

Nevertheless, higher levels of CQ are likely to negotiate these negative consequences. Additionally, students with lower collective self-esteem are more likely to seek mental health services compared with individuals with higher collective self-esteem (Yeh, 2002). As a result, the association between their acculturative stress and social self-efficacy may also be weak or close to zero. For those with low levels of CQ and higher levels of collective self-esteem, lack of skills, knowledge, and intention to improve cross-cultural social ability magnifies their acculturative stress. It will also be harder for them to navigate in the new environment. High collective self-esteem protects them from discrimination (Liang & Fassinger, 2008). Hence, the association between their acculturative stress and social self-efficacy will be medium or strong; for those with low levels of CQ and low levels of collective self-esteem, they will be most vulnerable for acculturative stress, which will be reflected on their lower levels of social self-efficacy.

Hence, this study will also examine whether collective self-esteem moderates the association between acculturative stress and social self-efficacy and whether collective self-esteem impacts international students' development of cultural intelligence.

Hypothesis 2.2: Collective self-esteem moderates the association between acculturative stress and social self-efficacy among Asian international students. For Asian international

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students identify with higher levels of collective self-esteem, their acculturative stress tends to have a weak association or a close to zero association with social self-efficacy; whereas for those with lower levels of collective self-esteem, acculturative stress will have a medium or strong association with social self-efficacy.

Hypothesis 2.3: There is a three-way interaction among acculturative stress, CQ, and collective self-esteem in predicting Asian international students' social self-efficacy. For Asian international students with high (vs. low) levels of CQ and high (vs. low) levels of collective self-esteem, the association between their acculturative stress and social self-efficacy will be weak or close to zero; for those with high (vs. low) levels of CQ yet low (vs. high) levels of collective self-esteem, the association between their acculturative stress and social self-efficacy will also be medium; for those with low (vs. high) levels of CQ and high (vs. low) levels of collective self-esteem, the association between their acculturative stress and social self-efficacy will be medium; and for those with low (vs. high) levels of CQ and low (vs. high) levels of collective self-esteem, the association between their acculturative stress and social self-efficacy will be the strongest compared with the other three groups.

## Controlled Variables

Regarding demographic factors, English language proficiency, gender, and length of time stay in the U.S. have been found in previous studies as impactful for social self-efficacy. Below is the evidence.

In exploring factors that have potential impacts on social self-efficacy among international students, Lin and Betz (2009) conducted Analyses of Variances (ANOVA)

and t-tests on marital status, educational status, major, and nationality. Results indicated that none of them significantly influenced Chinese international students' social self-efficacy. Their correlation analysis presented that length of residence in the U.S. significantly and positively associates with social self-efficacy in English setting but is not relevant to social self-efficacy in Native language settings. Additionally, in Lin's (2006) dissertation about Chinese international students' social self-efficacy, she identified that years of residency in the U.S. impacted their social self-efficacy. Therefore, to control the possible impact of length of stay on the outcome variable, it will be treated as a covariate in this study. Specifically, participants will be asked about how many years and months they have been in the U.S. to create a continuous variable.

Another factor might lead to difficulties with establishing social connections is lack of English proficiency. Speaking fluent English impacts multiple aspects of international students' experiences when studying and living in a foreign country, which includes social social-efficacy. Wang and Mallinckrodt (2006) found that international students who have higher self-rated English abilities reported less socio-cultural difficulties because they easily acquire and perform more culturally appropriate social skills and behavioral competence. Unlike psychological adjustment, socio-cultural adaption requires individuals to actively learn cultural knowledge and social skills via language ability to connect with people from the host culture (Wang & Mallinckrodt, 2006). Additionally, their language ability enables them to better communicate with domestic students and other contacts in the U.S. instead of narrowing their friend circle or network to people who are from the same country of origins. For international students

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who reside in a small-sized town without many people speaking their native language, they are likely to feel isolated and lonely. English proficiency impacts not only face-to-face contacts but also hinders online interactions. In Ye's (2006) study about East Asian international students' internet use, she found that students reported more English-language internet using for social utility especially when they are fluent in English. It is unclear whether and how online and offline social communications influence social self-efficacy, hence this variable will be controlled in this study to eliminate its potential impact on the outcome variable when exploring the moderation mechanisms.

As stated earlier establishing a friendship with American students and other English-speaking peers helps international students reconstruct their social frame of references, increase their social skills, and improve their sense of self, which collectively may influence their social self-efficacy. More directly, Lin and Betz (2009) revealed that Chinese international students' English proficiency positive and significantly related to their social self-efficacy in both English and Native language settings. Together with the length of residence in the U.S. and unconditional self-regard, the three factors account for 39% of English, social self-efficacy (Lin & Betz, 2009). Although the present study does not distinguish social self-efficacy in English-speaking settings and Native language-speaking settings, English language proficiency should be controlled to prevent its impact on the outcome variable.

Research revealed differences on the impact of gender on social self-efficacy. Majority of studies among adult populations suggest that gender is not a significant predictor of social self-efficacy, and these conclusions are made mostly from preliminary

analyses by conducting independent t-tests, Chi-square analyses, Multivariate Analysis of Variance (MANOVA), or correlation tests. For example, Wei et al. (2005) found no differences in social self-efficacy caused by gender. However, there have been a few studies found gender differences in exploring social self-efficacy. Graziano, Bonino, and Cattelino (2009) recruited 1118 Italian adolescents aged 14 to 18 to examine whether parental support contributes to social and academic self-efficacy. They argued that limited research has focused on gender or age when studying various types of self-efficacy. Graziano et al. (2009) supported their suspect on the possible impact of gender and reported $F$ (1, 1040)= 3.74, p<0.05. It seems from their discussion that girls reported lower social self-efficacy and higher depressive symptoms, yet they did not articulate in their study.

It is plausible that people identify with different gender may vary on their self-evaluation on social abilities due to gender roles and social expectations. Indirectly, social self-efficacy has been found to have an inverse correlation with social anxiety disorder (e.g., Leary & Atherton, 1986). Diagnostic and Statistical Manual of Mental Disorders 5th ed. (DSM–5; American Psychiatric Association, 2013) noted that females are 1.5 to 2.2 times likely to be diagnosed with Social Anxiety Disorder (Social Phobia) based on a systemic review of relevant literature and investigations. This gender difference is more pronounced among adolescents and young adults than adults. In a depth study about social self-efficacy, Hermann and Betz (2006) explained how and why gender differences lead to rate on social self-efficacy. They introduced the concept of *instrumentality*, which refers to a constellation of several personality characteristics

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associated with the masculine role, i.e., independence, mastery, self-reliance, and assertiveness (Hermann & Betz, 2006).

Furthermore, instrumentality is a strong predictor of social self-efficacy that accounts for 36% of the variance. In other words, impacted by traditional gender role, males tend to identify as being more independent, self-reliant, mastered, and assertive, which makes it more likely for them to self-define as socially competent. Anderson and Betz (2001) added that past performance and emotional arousal are also consistent predictors for both males and females. More importantly, women rated higher on past performance than men (Anderson & Betz, 2001) while males rated lower on emotional arousal in social situations than females. These differences collectively could lead to gender differences on social self-efficacy. Given possible differences in social self-efficacy as a function of gender and gender is of no interest in the current study, it will be regarded as a covariate in the primary analysis.

Lastly, many studies conducted among international students treated age as a controlled variable due to its potential influence including social self-efficacy. However, none of the studies have found participants' age as a significant predictor of social self-efficacy (e.g., Wei et al., 2005). Graziano et al. (2009) took it further to confirm that age does not interact with gender to impact. Therefore, despite the fact that theories on social development argued that people of different ages have different social tasks, goals, and evaluations, there have been no empirical studies support that age relates to the score on social self-efficacy.

Hence, in this study, above factors (i.e., English language proficiency, gender, and length of stay in the U.S.) will be controlled as covariates to reveal better how acculturation orientation, collective coping style, cultural intelligence, and collective self-esteem moderate the association between acculturative stress and social self-efficacy.

CHAPTER THREE: METHOD

This chapter focuses on the methodology used to conduct the present study on how acculturation orientation, collective coping strategies, cultural intelligence, and collective self-esteem moderate the association between acculturative stress and social self-efficacy among Asian international students. Specifically, this chapter discusses participants, research procedures, instruments, and analyses of data.

## Participants

There were 216 Asian international students who participated in this study. At the time they filled out the questionnaire, they were enrolled in an American college or university as a full-time student; they were originally from East Asian, Southeast Asian, or South and Central Asia; they were not a full-time employee of any company; they were 18 years and older; and they presented the language and cognitive ability to read the introduction of the study, consent form, and the measures. Data were deleted for people who filled out part or all the survey questions without meeting the above criteria.

In the final sample for main analysis, there were 117 students who identify as female (54.2%), 99 students who identified as male (45.8%), and no students who identified as transgender or as having other gender identities (e.g., non-binary gender identity). The majority of the participants (n= 201, 93.1%) identified as heterosexual or straight; some participants (1.9%) as gay (1.9%), lesbian (1.4%), and bisexual (3.7%). For SES, about half participants ($n = 114$, 52.8%) identified as middle-class; 55 students

(25.5%) identified as lower-middle class and 36 participants (16.7%) identified as upper-middle class; whereas only 8 participants (3.7%) identified as lower class and 3 students (1.4%) identified as upper class. For countries of origin, slightly over half students come from China ($n = 123$, 56.9%), other places include India ($n = 30$, 13.9%), South Korea ($n = 21$, 9.7%), Singapore ($n = 12$, 5.6%), Taiwan ($n = 10$, 4.6%), Thailand ($n = 7$, 3.2%), Japan ($n = 6$, 2.8%), Hong Kong ($n = 3$, 1.4%), Malaysia ($n = 3$, 1.4%), and Pakistan ($n = 1$, 0.5%). Chi-square tests were conducted to examine whether this sample represents the current Asian international students in the U.S. according to most recent statistics on IIE. Results showed that the sample of the current study is representative of the national population. Lastly for Educational Level, the sample includes approximately equal numbers of students who were enrolled as doctoral students ($n = 58$, 26.9%), master's students ($n = 72$, 33.3%), and undergraduates ($n = 82$, 38%). Only 4 students (1.9%) are enrolled as other institutes such as English as Second Language programs. IIE reports academic levels based on students' visa status, such as including the differences Optional Practical Training status and F-1 visa. This study did not require participants to report their visa status to respect their privacy and avoid potential legal concerns. Hence, this study did not compare this sample with IIE statistics on Visa status.

**Procedures**

This study used an associational design with one predictor (i.e., acculturative stress), one dependent variable (i.e., social self-efficacy), and four moderators (i.e., acculturation orientation, collective coping strategies, cultural intelligence, and collective self-esteem). The University of Denver's Institutional Review Board (IRB) approved this

study. Subsequently, participants were recruited from U.S. colleges and universities with Asian international students in the U.S.

Participants were recruited at several campus events at University of Denver where Asian international students are highly presented, such as the international luncheon held regularly by iHouse at the University of Denver. Multiple data points were collected through introducing this study to Asian international students presented in these events. I also collaborated with instructors for undergraduate courses at University of Denver, who encouraged students to participate in research for course credits. In this situation, alternatives were provided for students to receive extra credits if they were not eligible or not willing to participate in this study. Only a few students decided to participate in this study for extra credits.

Several email invitations were sent out to the listserv of American Psychology Association Division 17 Counseling Psychology and Division 52 International Psychology, as well as the listserv of the doctoral and master's counseling psychology program at the University of Denver. Several international students responded to participate in the survey.

Asian ethnic international students organizations were sent recruitment invitation emails. Examples of international students associations include Chinese Student and Scholars Association, Japanese Club, Indian Student Organization, and the Korean Student Organization. Involving these organizations increased the likelihood of recruiting participants of all Asian areas, which further improved the generalizability of this study.

Additionally, international student organizations on Facebook were invited to participate. More than 120 students responded with interest in participating in the study.

Incentives have also been found to increase the participation of social science studies (Gliner et al., 2017). Thus, participants were provided a raffle number through a separate online system called Rafflecopter. One in 5 participants received a $25 Amazon gift card. After completing the study, students were provided the link for the raffle. In total, 331 individuals started the survey, and 222 individuals completed it; therefore, the completion rate was 67.1%.

Email invitations to potential participants consisted of a brief description of the present study, eligibility of participants, contact information of the research team, and the link to the online survey. Data was collected from participants through a web-based inventory hosted by Survey Monkey.com. The survey included a consent form for participating in this study and statements that informed participants of a no penalty policy for terminating early. I also set up on the online survey to make it mandatory to answer questions that are relevant to the critical demographic information (i.e., questions about the three control variables), the independent variable, dependent variable, and the moderators. The survey did not include contact information to guarantee data anonymity. When participants read the brief description of the study, they were asked to consent to participate in this study, and to fill out demographic information and all of the six questionnaires.

<center>**Measures**</center>

The survey consists of a demographics questionnaire and a sequence of measures assessing the following constructs: demographic information, acculturative stress, social self-efficacy, acculturation orientation, collective coping strategies, cultural intelligence, and collective self-esteem. Detailed information about the measures and their psychometric properties are outlined below.

**Demographics Questionnaire**

Participants were asked to provide demographic information in a brief questionnaire. It prompted them to fill in age, gender, sexual orientation, ethnicity, nationality, field of study/major, and educational level (e.g., ESL student, undergraduate, master's student, doctoral student). Participants identified their length of time stay in the U.S. by answering the question "How long have you been in the United States?" They were prompted to respond with how many years and months they have stayed in the U.S. (e.g., 3 years and 4 months). The responses were transformed to create a year variable (e.g., 3.25 years).

**English Proficiency**

Participants reported their English language proficiency, which was measured via three questions on a Likert-type scale ranging from 1(*poor*) to 4 (*excellent*). The questions are: (1) "What is your current level of fluency in English?" (2) "How comfortable do you feel communicating in English?" and (3) "How often do you communicate in English?" Total scores range from 3 to 12 with higher scores indicating greater English language proficiency. This method has been used to assess English

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fluency in several studies among international students (e.g., Constantine et al., 2004; Yakunina, Weigold, & Weigold, 2013). Since English proficiency is one of the controlled variables, this approach makes it comparable and controllable in data analysis. Yeh and Inose (2003) reported a Cronbach's alpha of 0.78 among 372 international students (227 of them were from Asia) and Constantine et al. (2004) found a Cronbach's alpha of 0.84 in a sample of 320 international college students from 33 countries (136 were from Asian countries). Reliability for this scale in the current sample is 0.63, which is moderate and acceptable (Taber, 2018).

**Acculturative Stress**

The Acculturative Scale for International Students (ASSIS; Sandhu & Asrabadi, 1994) is used to measure participants' acculturative stress. This scale consists of 36 self-reported items and measures acculturative stress experienced by international students. Items are rated on a 5-point Likert scale (1= *strongly disagree* to 5 = *strongly agree*). Sandhu and Asrabadi (1994) suggested using the total score of the instrument, which ranges from 36 to 180 on this scale. Higher scores indicate greater acculturative stress. The ASSIS consists of seven subscales: Perceived Discrimination (8 items), Homesickness (4 items), Perceived Hate (5 items), Fear (4 items), Stress Due to Change/Culture Shock (3 items), Guilt (2 items), and Miscellaneous (10 items). These areas are summarized as critical sources of stress international students may experience in adapting to a new environment. A sample question for Perceived Discrimination subscale is, "I feel that I receive unequal treatment." A sample question for Homesickness subscale is, "Homesickness bothers me." A sample question for Perceived Hate subscale is, "Other

don's appreciate my cultural values." A sample question for Fear subscale is, "I feel intimidated to participate in social activities." A sample question for Stress Due to Change/Culture Shock subscale is, "I feel uncomfortable to adjust to new foods." A sample question for Guilt subscale is, "I feel guilty that I am living a different lifestyle here." For the Miscellaneous subscale, the 10 items address the international students' particular concerns, but they do not fall under one specific factor. Factor analysis also supports a six-factor construct for the 26 items excluding the Miscellaneous subscale (Ye, 2005).

The coefficient alpha of the scale ranged from 0.87 to 0.95 among Asian international students in previous studies, which suggests high internal consistency (e.g., Sandhu & Asrabadi, 1994; Yeh & Inose, 2003; Wei et al., 2007). For example, Rice et al., (2012) reported a 0.92 Cronbach's alpha for Chinese international students and 0.91 for Asian Indian international students. Guttman's split-half reliability ranged from 0.94 to 0.96 (Sandhu & Asrabadi, 1998; Poyrazli et al., 2004). Yang and Clum (1994) also reported a test-retest reliability of 0.82 among 74 Korean international students in the U.S. In the current sample of Asian international students, a coefficient alpha of 0.947 was found, which is described as excellent (Taber, 2018).

Construct validity of the scale scores was evidenced by a negative association with social connectedness, a negative association with social self-efficacy, and a positive association with depressive symptoms among international student sample with high percentage of Asian international students (Yeh & Inose, 2003; Yakunina et al., 2013; Constantine et al., 2004).

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**Social Self-efficacy**

The Social Self-Efficacy Scale (SSES; Sherer & Adams, 1983) is a 6-item, self-reported scale that measures individuals' willingness to initiate and persist social behaviors in social situations. SSES is initially a subscale from a 23-item measure that is used to assess general levels of beliefs in one's social competence. Items are rated on a 5-point Likert-type scale from 1= *strongly disagree* to 5 = *strongly agree*. Total scores are used for SSES, which range from 6 to 30 with higher scores suggesting greater levels of social self-efficacy. Sample items are "It is difficult for me to make new friends." and "When I'm trying to become friends with someone who seems uninterested at first, I don't give up easily."

Constantine et al. (2004) reported a Cronbach's coefficient alpha of 0.71 in a study among international students. Constantine and colleagues (2004) recruited a sample of 320 international college students from four public colleges and universities. This sample included nearly 60% of women and 40% of men; 72.5% of the participants were undergraduate while 27.5% were graduate students; and more importantly, 136 were from Asian countries such as China, India, and Korea. In the present sample of participants, a Cronbach's alpha of 0.35 was found. This number falls into the range between not satisfactory and sufficient for social silence studies (Taber, 2018). However, no significant increase of Cronbach's alpha was detected if delete any single item.

Convergent validity was obtained by using the Scale of Perceived Social Self-Efficacy (PSSE; Smith & Betz, 2000), which is another commonly used, reliable, and valid measure for social self-efficacy. Smith and Betz (2000) identified that the two

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scales are positively significantly correlated with $r = 0.60$ for males and $r = 0.62$ for females. The SSES has also been found significantly positively correlated with assertiveness, English proficiency, and self-esteem, whereas significantly negatively related to social anxiety, loneliness, and social dissatisfaction (Constantine et al., 2004; Chiu, 2014).

**Acculturation Orientation**

The Heritage subscale of the Vancouver Index of Acculturation (VIA; Ryder et al., 2000) is a 10-item scale used to measure participant's identification with their Asian heritage culture. VIA also contains a Mainstream Culture subscale, which will not be used in the present study because identification with Mainstream Culture is not of interests. The original VIA scale is consistent with Berry's (1997) bi-dimensional model. The items are rated on a 9-point Likert-type scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*). The average score will be calculated for analyses after reversing appropriate items. Higher scores suggest greater willingness to maintain one's heritage culture. Specifically, the items include questions about traditions, marriage, social activities, comfort, entertainment, behaviors, practice, values, humor, and friendship. Participants are asked to identify their heritage culture (e.g., Chinese, Korean) before answering the questions. Sample questions are "I believe in the values of my heritage culture." and "It is important for me to maintain or develop the practices of my heritage culture."

Internal consistency reliability has been reported as high ($\alpha = 0.79 – 0.92$) across several samples of international students (Shim et al., 2014). In the current sample of

Asian international students, a coefficient alpha of 0.85 was found, which is described as reliable (Taber, 2018).

About convergent validity, the Heritage subscale of VIA is significantly negatively correlated with the scores on the Suinn-Lew Asian Self-Identity Acculturation Scale (SL- ASIA; Suinn, Khoo, & Ahuna, 1995) among 361 Chinese international students (Ryder et al., 2000; Du & Wei, 2015). For discriminant validity, VIA is negatively associated with psychological distress and depression among international students (Wei et al., 2012; Zhang & Goodson, 2011). It is also negatively associated with the percentage of time lives in a Western and English-speaking country, Percentage of time educated in a Western and English-speaking country, Generational status, Anticipates remaining in West, and the status of English as a first language (Ryder et al., 2000).

Previous studies are inconsistent with the correlation between the Heritage subscale and the Mainstream subscale. Some reported a positive association (e.g., Zhang & Goodson, 2011) while some reported non-significant association (Ryder et al., 2000). It may indicate different acculturation orientation, i.e., a positive association between the two scales indicates the integration orientation and non-significant association indicates the separation orientation.

**Collective Coping Strategies**

The Collectivist Coping Styles inventory (CCS; Heppner et al., 2006) is a 30-item self-report measure designed to assess how people from collectivistic cultures cope with stress. Items are rated on a Likert-type scale with 0 = *never used this strategy/not*

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*applicable*, and from 1 (*used but of no help at all*) to 5 (*a tremendous amount of help*).

The total score of CCS is calculated as the average score for all 30 items. Since Heppner

et al. (2006) developed CCS to address specific situations encountered by Asian

international students, such academic concerns and social ostracism, they included both

coping categories from U.S. coping literature and coping strategies that are consistent

with Asian values (e.g., collectivism).

There are five subscales in CCS: Acceptance, Reframing, and Striving (11 items),

Family support (6 items), Religious/Spirituality (4 items), Avoidance and Detachment

(five items), and Private emotional outlet (4 items). Acceptance, Reframing, and Striving

subscale is a relatively diverse category that includes items about fatalism, forbearance,

and different approaches to gain a sense of control. Sample questions are "Not vented my

negative feelings to some people around me." and "As a starting point, tried to accept the

trauma for what it offered me." Family support refers to seeking social support within

family systems. A sample question is "Shared my feelings with my family."

Religious/Spirituality subscale describes approaches that are relevant to coping strategies,

which align individuals with religious beliefs and rituals. A sample question is "Found

comfort from my religion or spirituality." Avoidance and Detachment subscale talks

about a tendency to detach from the stressful events temporally to retain emotional

control and to protect their significant others from worrying about them. This subscale

includes a critical concept in Asian values, i.e., saving face vs. losing face. Kim,

Atkinson, and Umemoto (2001) explained that since Asians and Asian Americans tend to

tie their self-worth and self-identity strongly with their family achievements, and their

individual success reflects the reputation of their entire family (and sometimes extended family). This close association and emotional ties are regarded as *face* in Asian values. Hence, if an individual achieves success or prevents a negative impact from happening, he/she is saving face. A sample question is "Saved face by not telling anyone." Private emotional outlet subscale refers to strategies that are confidentially or anonymously seeking emotional or informational social support. A sample question is "Saved face by seeking advice from a professional I did not know personally."

Several studies among Asians and Asian international students in and outside of the U.S. have reported high internal consistency reliability for CCS. Heppner et al. (2006) conducted three studies and recruited hundreds to thousands of college students in Taiwan universities to explore the validity of the five-factor model as well as reliability. Heppner and his colleagues found an internal consistency of 0.87 for the whole scale among 344 college students a 0.85 among 2889 college students. They also reported that subscales' Cronbach's alpha ranged from 0.76 to 0.90. The test-retest reliability over a 2-week period among 38 Taiwanese was also high ($\alpha = 0.77$) in Heppner et al.'s (2006) study. In the current sample of participants, a coefficient alpha of 0.89 was found, which is described as reliable (Taber, 2018).

Regarding construct validity, Heppner et al. (2006) noted that CCS is associated with several well-established problem-solving measures such as the Problem-Solving Inventory (Heppner, 1988) in the expected directions. For construct validity, Heppner et al. (2006) reported that CCS negatively significantly related to psychological distress and posttraumatic symptoms as they theorized; Allen and Heppner (2011) found a positive

correlation between CCS and psychological well-being among Saint Polynesians in the U.S.

**Culture Intelligence**

The Culture Intelligence Scale (CQS; Ang et al., 2007) is a 20-item self-report measure designed to assess an individual's capacity to effectively function and interact with others in culturally diverse settings. The CQS consists of four dimensions: Metacognitive Intelligence includes 4 items that measure planning, awareness, and checking ability; Cognitive Intelligence includes 6 items that measure culture-general knowledge and context-specific knowledge; Motivational Intelligence consists of 5 items that measure intrinsic motivation, extrinsic motivation, and self-efficacy to adjust; and Behavioral Intelligence includes 5 items that measure speech acts, verbal behaviors, and non-verbal behaviors. A sample question for Metacognitive Intelligence is "I pay attention to how culture may influence what is happening in a situation." A sample question for Cognitive Intelligence is "I can describe differences in family systems and the varied role expectations for men and women across cultures." A sample question for Motivational Intelligence is "I thrive on experiencing cultural differences that are new to me." A sample question for Behavioral Intelligence is "I modify how close or far apart I stand when interacting with people from different cultures." CQS item is rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) with higher scores representing higher cultural intelligence. Ang et al. (2008) recommended using the average score for data analysis.

Ang et al. (2007) confirmed good reliability and validity of the English version through cross-validation across three samples in Singapore and the U.S. Internal consistency reliability for international students from various countries ranged from 0.75 to 0.96, with majority of studies among Asian international students are above 0.85 (e.g., Wang et al., 2015; Presbitero, 2016). In the current sample, a coefficient alpha of 0.92 was found, which is described as strong (Taber, 2018).

For concurrent validity, Ang et al. (2007) reported correlations for subscales of CQ. Specifically, Metacognitive CQ and Cognitive CQ positively related to cultural adaptation, cultural judgment, and decision-making; Motivational CQ and Behavioral CQ positively associated with overall well-being; and Metacognitive CQ and Behavioral CQ positively associated with task performance. For predictive validity, a longitudinal study of 104 international students in New Zealand found that Motivational CQ predicted less psychological symptoms (Ward, Wilson, & Fischer, 2011). For the whole scale, CQS is significantly correlated with cross-cultural adaptation, life satisfaction, several personality traits (e.g., curiosity), social connectedness within the ethnic community, perceived language proficiency; and negatively associated with depression and perceived language discrimination (Wang et al., 2016). Concerning discriminant validity, CQ is not significantly related to social desirability and several personality traits (Ang et al., 2007).

**Collective Self-esteem**

The 16-item Collective Self-Esteem Scale (CSES; Luhtanen & Crocker, 1992) is a self-report measure assessing global and stable collective self-esteem. It is a 7-point scale ranging from 1(*strongly disagree*) to 7 (*strongly agree*). The CSES contains the

following four subscales: Membership Self-Esteem (4 items), Private Collective Self-Esteem (4 items), Public Collective Self-Esteem (4 items), and Importance to Identity (4 items). A sample question for Membership Self-Esteem subscale is "I am a worthy member of the social groups I belong to." A sample question for Private Collective Self-Esteem subscale is "I feel good about the social groups I belong to." A sample question for Public Collective Self-Esteem subscale is "Most people consider my social groups, on the average, to be more ineffective than other social groups." A sample question for Importance to Identity subscale is "The social groups I belong to are unimportant to my sense of what kind of a person I am." A composite score is calculated by using the average score for all subscales (Luhtanen & Crocker, 1992).

Studies about collective self-esteem found the total score ranged from 0.85 to 0.88 (Kim & Lee, 2011). For the subscales, researchers have found that Cronbach's alpha is mostly in 0.70s and 0.80s (e.g., Luhtanen & Crocker, 1992; Kim & Omizo, 2005). However, most of the studies focused on Asian Americans or other ethnic minority groups. The test-retest reliability is 0.68 in a six-week period (Luhtanen & Crocker, 1992). In the present study, a coefficient alpha of 0.73 was found, which is described as relatively high (Taber, 2018). Although this number is slightly lower than previous studies, the number was still acceptable.

Concerning convergent and discriminant validity, Luhtanen and Crocker (1992) reported significant correlations in the expected directions between subscales of CSES with personal self-esteem; individualism and collectivism; racial discrimination; feelings of inadequacy; personal, social, and collective identity; and internal and environmental

orientation. Additionally, other studies found that Membership Self-Esteem positively

related to both acculturation, cultural identification, and age; Importance to Identity

positively related cultural identification, number of same-ethnicity peers, and perceived

campus climate; Private Collective Self-Esteem positively related to cultural

identification; Public Collective Self-Esteem positively associated with acculturation,

number of same-ethnicity peers, community ethnic composition (Kim & Omizo, 2005;

Kim & Lee, 2011).

CHAPTER FOUR: RESULTS

This chapter focuses on the data analysis results of the present study. SPSS 22.0 was used to analyze the data.

## Data Analysis

### Data Screening

Data screening included checking the accuracy of the data file and data entry and analyzing outliers (Tabachnick & Fidell, 2007). I excluded two cases because they did identify as an international (e.g., a participant identified as a U.S. citizen). As all the critical questions were mandatory to answer, there were no missing data. Additionally, univariate and multivariate outliers were excluded as extreme cases after screening the data. A univariate outlier is identified and deleted if its $z$ score is larger than 3.29 or smaller than -3.29 ($p$ <0.001). Two cases were identified as outliers because their Z-scores for VIA were larger than 3.29. One cases was identified as outlier because the Z-score for CQS was larger than 3.29. A Mahalanobis Distance and a follow-up Chi-square test was computed for each case, and cases with a $z$ score value exceeding 3.29, $p$ <0.001 were excluded as multivariate outliers. According to this criterion, 3 cases were identified as outliers because their probability was below .001. Therefore, the total number of participants went down from 222 to 216, and the sample size for this study was 216.

Table *1* presents the means, standard deviations, and inter-correlations among variables for all the continuous variables. For categorical variables including gender, socio-economic status (SES), and educational level are coded via discrete scores.

Gender is the only categorical variable that was hypothesized to correlate with social self-efficacy as iterated in Chapter 2. Chi-square goodness of fit tests were conducted to explore the relevance to discrete variables. Scores on social self-efficacy did not vary significantly as a function of gender. In other words, there were no significant differences between male and female students in this sample. Therefore, in the current sample, gender was no longer considered as a covariate. If other demographic variables had significant correlations with the outcome variable, they were also regarded as a covariate in the hierarchical multiple regression analysis. Inter-correlations were calculated to examine the relationships among the constructs of interest (see Table 1). It is shown in Table 1 that none of the demographic variables was significantly correlated with social self-efficacy. Therefore, no additional variable was included as covariates in the main analysis. Other than the basic descriptive analysis, regarding these variables, these demographic variables were not examined further in this study.

Table 1. *Means, Standard Deviations, and Inter-correlations among Variables*

| | Mean | Std. Deviation | Inter-correlations | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SSES | Age | Length Of Stay | EP | ASSIS | VIA | CCS | CQS | CSES |
| SSES | 19.11 | 3.48 | 1 | | | | | | | | |
| Age | 25.41 | 4.24 | -.031 | 1 | | | | | | | |
| Length Of Stay | 4.00 | 2.64 | .17* | .21** | 1 | | | | | | |
| EP | 9.88 | 1.56 | .17* | .12 | .21** | 1 | | | | | |
| ASSIS | 105.37 | 24.57 | -.27** | .05 | .023 | -.071 | 1 | | | | |
| VIA | 6.81 | 1.05 | .07 | -.13 | .13 | .18** | .063 | 1 | | | |
| CCS | 3.40 | .72 | -.007 | .023 | -.03 | -.10 | .35** | .20** | 1 | | |
| CQS | 5.09 | .85 | .27** | -.22** | .08 | .19** | .055 | .24** | .15* | 1 | |
| CSES | 4.85 | .82 | .27** | -.065 | .11 | .23** | -.33** | .38** | -.19** | .18** | 1 |

*Note.* Length Of Stay=Length of stay in the United State; EP=English Proficiency; ASSIS=Acculturative Stress; SSES=Social Self-efficacy; VIA=Acculturation Orientation; CCS=Collective Coping Strategies; CQS=Cultural Intelligence; CSES=Collective Self-esteem.

*p* < .05. **p* < .01. ****p* < .001.

**Preliminary Analysis**

Before proceeding with the main analysis, preliminary analyses including assumption checking and data transformations was conducted. Assumptions for hierarchical linear regression include normality, linearity, homoscedasticity, and absence of multicollinearity (Cohen et al., 2003). To explore the above assumptions, a hierarchical regression for the two three-way interaction effects was conducted (i.e., acculturative stress × acculturation orientation × collective coping strategies for model 1, and acculturative stress × cultural intelligence × collective self-esteem for model 2) on social self-efficacy.

**Normality.** For any values of the independent variables, the residuals around the regression line of the dependent variable (i.e., social self-efficacy) need to follow an approximately normal distribution. Skewness and kurtosis are two critical components to determine normality. Skewness describes how the data are unevenly distributed while kurtosis portrays how "peaked" or "flat" a distribution is. A goodness of fit test (i.e., Kolmogorov Smirnov test) was used to check normality with an expectation for a non-significant result. The histogram for the residual of the dependent variable was used to check skewness. The normal probability-probability chart was used to test kurtosis, and it is expected that the points are close to the line.

Additionally, the scatterplot of residuals by predicted values for the dependent variable should be random to check a potential center effect. If there is a slightly significant departure from normality, Cohen et al. (2003) recommended conducting non-linear transformations (e.g., square-root transformation, log-transformation) to correct this issue. Therefore, a square-root transformation for calculated for Length of Stay. After

checking the above criteria, the assumption of normality was met. Most of the points on the Q-Q plot lie along the diagonal line.

   **Linearity.** Linearity refers to an expected linear regression between the predictor and the outcome variable, i.e., a linear regression between acculturative stress and social self-efficacy. The scatterplot for the regression of the predictor and the outcome variable should be approximately linear to indicate linearity, which was assessed by visual inspection of regression plots. In the present study, acculturative stress and social self-efficacy showed a linear relationship. The author further examined the Scatterplot of Standardized Residuals versus Unstandardized Predicted Values; visually confirmed that there was a roughly random distribution about the Standardized residual value of zero (see Figure 4.1). That is, approximately the same number of data points appear above and below a horizontal line corresponding to a Standardized residual value of zero. Therefore, the assumption of linearity was upheld.
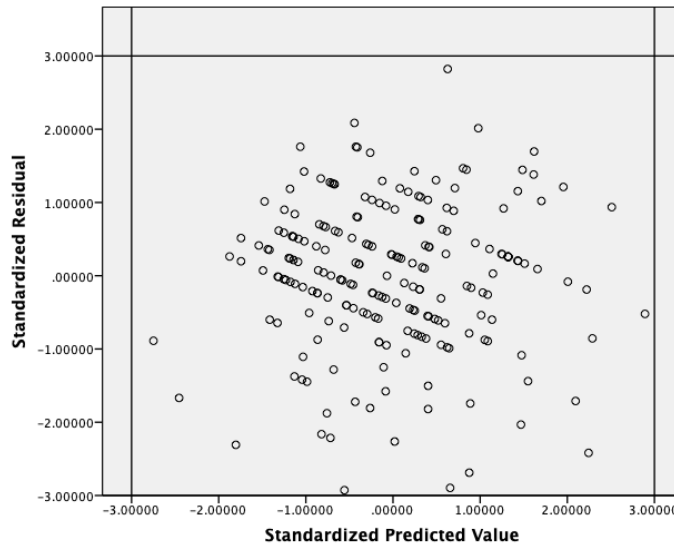


*Figure* 3. Scatterplot of Standardized Residuals vs. Unstandardized Predicted Values.
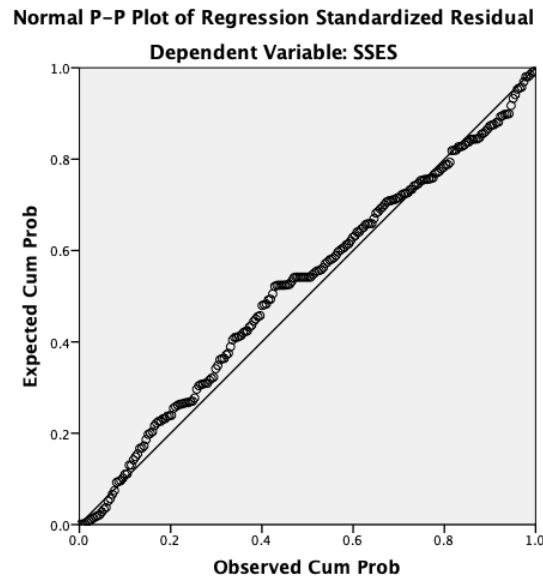
*Figure* 4. Normal Probability Plot of Standardized Residuals.

**Homoscedasticity.** It is used to describe whether the variability in predicted scores for the continuous dependent variable is approximately equally distributed. The Residuals Statistics table includes information about homoscedasticity (see Figure 4.1). Specifically, the minimum and maximum of the standard residual score should be within -3 to 3. According to this criterion, No case was detected as an outlier. In the standardized residual-standardized predicted value scatterplot, there was an approximately random distributed plot in a rectangular shape.

**Absence of multicollinearity.** Lastly, absence of multicollinearity indicates that independent variables (i.e., the predictor and four moderators in this study) are not highly correlated with each other. Multicollinearity is checked against four key criteria: Correlation matrix, Tolerance, Variance Inflation Factor (VIF), and Condition Index. In

the Correlation table, a correlation that is greater than 0.7 suggests a high correlation among independent variables (Cohen et al., 2003). Additionally, if the correlation between the predictor and the outcome variable, or the correlations between the moderators and the outcome variable is above 0.3, it indicates the great impact they have on the outcome variable. In the Collinearity Statistics table, the Tolerance value measures the influence of one independent variable on other independent variables, which should be above 0.2 because T < 0.2 indicates possible multicollinearity while T< 0.01 suggests multicollinearity (Cohen et al., 2003). The VIFs in the Collinearity Statistics table is expected to be less than 10 to indicate non-violation of the assumption for multicollinearity. An additional test for multicollinearity is calculating Condition Index by conducting factor analysis on the independent variables (i.e., the predictor and the four moderators). Values below 10 indicate non-multicollinearity whereas values above 30 suggest strong multicollinearity. When there is a slight violation of this assumption, Cohen et al. (2003) recommended centering the data or conducting a factor analysis before the regression analysis to rotate the factors. Therefore, EP, ASSIS, VIA, and CCS in model 1 are centered; EP, ASSIS, CQS, and CSES are centered in model 2. After these transformations, all the assumptions were met.

**Main Analysis**

To test hypotheses 1.1, 1.2, 1.3, 2.1, 2.2, and 2.3, hierarchical multiple regression analyses were performed which focused on the moderation effects and the two three-way interactions. As illustrated in previous chapters, English proficiency and square root of

Length of time in the U.S. were entered as control variables for both two three-way interactions for both of the two models.

For Model 1, the two covariates (i.e., English proficiency and length of stay in the U.S.) were entered in Step 1 as gender did not significantly associate with social self-efficacy. In Step 2, one predictor and two moderators were entered to test the main effects, i.e., acculturative stress, acculturation orientation, and collective coping strategies. In Step 3, all the two-way interactions were entered, which are acculturative stress × acculturation orientation, acculturation orientation × collective coping strategies, and acculturative stress × collective coping strategies are entered. In Step 4, the three-way interaction term, i.e., acculturative stress × acculturation orientation × collective coping strategies, was entered.

The hierarchical multiple regression results for model 1 are presented in Table 2. In Step 1, English Proficiency had a positive effect on social self-efficacy ($\beta = .33$, $t(214) = 2.19$, p = .03). Step 2 revealed the negative effect of acculturative stress on social self-efficacy ($\beta = -.044$, $t(211) = -4.53$, $p < 0.001$). It suggests that acculturative stress is significantly negatively associated with social self-efficacy. The inverse relationship between the predictor and the outcome variable indicated that with an increase in acculturative stress, there is a decrease in social self-efficacy. This finding is consistent with the existing literature (e.g., Wei et al., 2012).

Results indicated that the covariates significantly contributed to social self-efficacy and accounted for 4.2% of the variance in social self-efficacy ($\Delta F$ (2, 213) = 4.62, $p = .011$, $\Delta R^2 = .042$). Adding acculturation stress in Step 2 significantly added an

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additional 11% of predicted variance in social self-efficacy. Including the two-way

interactions in Step 3 did not account for additional variance in social self-efficacy at the

.05 significance level. Entering the three-way interaction in Step 4 did not account for

additional variance in the outcome variable either. Therefore, the final model accounted

for 13% of the variance in social self-efficacy ($\Delta F$ (3, 210) = 6.91, $p < .001$). Simply put,

controlling for all other variables, one unit increase in acculturative stress is associated

with a 4.53 unit decrease in social self-efficacy. The results revealed that none of

hypotheses 1.1, 1.2, and 1.3 were supported.

Table 2. *Moderation Effect of Acculturation Orientation and Collective Coping Strategies on the Association between Acculturative Stress and Social Self-Efficacy*

| Variables | $\beta$ | t | $sr^2$ | $\varDelta R^2$ |
|---|---|---|---|---|
| Step 1 | | | | .042* |
| English Proficiency | .33 | 2.19* | .15 | |
| Length of Stay | .59 | 1.72 | .34 | |
| Step 2 | | | | .086*** |
| English Proficiency | .29 | 1.94 | .15 | |
| Length of Stay | .68 | 2.06* | .33 | |
| Acculturative Stress | -.044 | -4.53*** | .010 | |
| Acculturation Orientation | .085 | .38 | .23 | |
| Collective Coping Strategies | .52 | 1.52 | .34 | |
| Step 3 | | | .67 | .014 |
| English Proficiency | .28 | 1.79 | .16 | |
| Length of Stay | .69 | 2.03* | .34 | |
| Acculturative Stress | -.046 | -4.60*** | .010 | |
| Acculturation Orientation | -.035 | -.15 | .23 | |
| Collective Coping Strategies | .59 | 1.69 | .35 | |
| Acculturative Stress × Acculturation Orientation | -.015 | -1.71 | .009 | |
| Acculturative Stress × Collective Coping Strategies | .010 | .82 | .012 | |
| Acculturation Orientation × Collective Coping Strategies | -.077 | -.24 | .32 | |
| Step 4 | | | | .007 |
| English Proficiency | .27 | 1.75 | .16 | |
| Length of Stay | .71 | 2.09* | .34 | |
| Acculturative Stress | -.051 | -4.80*** | .011 | |
| Acculturation Orientation | -.083 | -.35 | .24 | |
| Collective Coping Strategies | .50 | 1.42 | .35 | |
| Acculturative Stress × Acculturation Orientation | -.015 | -1.63 | .009 | |
| Acculturative Stress × Collective Coping Strategies | .010 | .81 | .012 | |
| Acculturation Orientation × Collective Coping Strategies | .16 | .44 | .37 | |
| Acculturative Stress × Acculturation Orientation × Collective Coping Strategies | .012 | 1.34 | .009 | |

*Note.* *p < .05. **p < .01. ***p < .001

For Model 2, similarly English proficiency and length of stay in the U.S. were entered in Step 1. In Step 2, the predictor and the moderators were entered, i.e., acculturative stress, cultural intelligence, and collective self-esteem. In Step 3, all the two-way interactions were entered, which included acculturative stress × cultural intelligence, cultural intelligence × collective self-esteem, and acculturative stress × collective self-esteem. In Step 4, the three-way interaction term was entered, i.e., acculturative stress × cultural intelligence × collective self-esteem.

The hierarchical multiple regression results for Model 2 are presented in Table 3. Results indicated that the covariates significantly contributed to prediction of social self-efficacy and accounted for 4.2% of the variance in social self-efficacy ($\Delta F$ (2, 213) = 4.62, $p$ = .011, $\Delta R^2$ = .042). Adding acculturative stress and the two moderators (i.e., cultural intelligence and collective self-esteem) in Step 2 accounted for 19.2% of the variance in social self-efficacy ($\Delta F$ (3, 210) = 13.065, $p < 0.001$, $\Delta R^2$ = .15). The adding of the two-way interactions in Step 3 explained an additional 2.1% of variance in social self-efficacy ($\Delta F$ (3, 207) = 3.83, $p$ = .011, $\Delta R^2$ = .021). Entering the three-way interaction term in Step 4 explained an additional 2.3% of variance in social self-efficacy ($\Delta F$ (1, 206) = 6.12, $p$ = .014, $\Delta R^2$ = .023). In total, the final model accounted for 25.7% of the variance in social self-efficacy.

Controlling for all other variables, an one unit increase in acculturative stress is associated with a .036 unit decrease in social self-efficacy ($\beta$ = -.036, t(214)= -3.79, p < 0.001) when this association was moderated by cultural intelligence. When moderated by

CQ and collective self-esteem, one unit increase in acculturative stress was associated

with a .042 unit decrease in social self-efficacy ($\beta = -.042$, $t(210) = -4.28$, $p < 0.001$).

Table 3. *Moderation Effect of Cultural Intelligence and Collective Self-esteem on the Association between Acculturative Stress and Social Self-Efficacy*

| Variables | β | t | sr² | ΔR² |
|---|---|---|---|---|
| Step 1 | | | | .042* |
| English Proficiency | .33 | 2.19* | .15 | |
| Length of Stay | .59 | 1.72 | .34 | |
| Step 2 | | | | .17*** |
| English Proficiency | .13 | .87 | .15 | |
| Length of Stay | .63 | 1.97* | .32 | |
| Acculturative Stress | -.036 | -3.79*** | .009 | |
| Cultural Intelligence | .99 | 3.74*** | .26 | |
| Collective Self-esteem | .51 | 1.76 | .29 | |
| Step 3 | | | | .21* |
| English Proficiency | .15 | 1.06 | .14 | |
| Length of Stay | .35 | 1.09 | .33 | |
| Acculturative Stress | -.039 | -4.016*** | .01 | |
| Cultural Intelligence | .86 | 3.20** | .27 | |
| Collective Self-esteem | .55 | 1.91 | .29 | |
| Acculturative Stress × Cultural Intelligence | .022 | 1.97* | .011 | |
| Acculturative Stress × Collective Self-esteem | -.030 | -2.68** | .011 | |
| Cultural Intelligence × Collective Self-esteem | .59 | 2.04* | .29 | |
| Step 4 | | | | .23* |
| English Proficiency | .16 | 1.091 | .14 | |
| Length of Stay | .37 | 1.17 | .32 | |
| Acculturative Stress | -.042 | -4.28*** | .01 | |
| Cultural Intelligence | 1.069 | 3.84*** | .28 | |
| Collective Self-esteem | .48 | 1.69 | .29 | |
| Acculturative Stress × Cultural Intelligence | .04 | 3.05** | .013 | |
| Acculturative Stress × Collective Self-esteem | -.032 | -2.87** | .011 | |
| Cultural Intelligence × Collective Self-esteem | .92 | 2.93** | .31 | |
| Acculturative Stress × Cultural Intelligence × Collective Self-esteem | .033 | 2.49* | .013 | |

*Note.* $*p < .05$, $**p < .01$, $***p < .001$

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A simple slope analysis was conducted to depict the nature of the interaction. Examining the moderators' effect at both the higher levels (i.e., one standard deviation above the mean score) and the lower levels (i.e., one standard deviation below the mean score) is a common strategy for clarifying the effect of the moderators (Aiken & West, 1991). Figures 4.3, 4.4, and 4.5 demonstrate the slopes for acculturative stress predicting social self-efficacy at each level of cultural intelligence and collective self-esteem. Specifically, Figure 5 plotted the simple regression slopes of the significant two-way interaction with predicted values of higher or lower levels of CQ on low levels of collective self-esteem. Figure 6 plotted the simple regression slopes of the significant two-way interaction with predicted values of higher or lower levels of CQ on high levels of collective self-esteem. Figure 7 indicated a significant three-way interaction among acculturative stress, CQ, and collective self-esteem.

For individuals with low levels of cultural intelligence and low levels of collective self-esteem, acculturative stress negatively significantly associates with social self-efficacy ($b = -.03$, $t(206) = -1.87$, $p = .06$). Every score for acculturative stress predicts a decrease of .03 score in social self-efficacy. It is found that for individuals with low levels of cultural intelligence and average levels of collective self-esteem, acculturative stress negatively significantly associates with social self-efficacy ($b = -.08$, $t(206) = -1.87$, $p = .06$). Every score for acculturative stress predicts a decrease of .08 score in social self-efficacy. For individuals with low levels of cultural intelligence and high level of collective self-esteem, acculturative stress negatively significantly associates with

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social self-efficacy ($b$ = -.13, $t(206)$ = -5.04, $p$ < .001). Every score for acculturative stress predicts a decrease of .13 score in social self-efficacy.

For individuals with average levels of cultural intelligence and low levels of collective self-esteem, there is no relationship between acculturative stress and social self-efficacy ($b$ = -.02, $t(206)$ = -.49, $t(206)$ = -1.32, $p$ = .19). For individuals with average levels of cultural intelligence and average levels of collective self-esteem, acculturative stress negatively significantly associates with social self-efficacy ($b$ = -.04, $t(206)$ = -4.28, $p$ < .001). Every score for acculturative stress predicts a decrease of .04 score in social self-efficacy. For individuals with average levels of cultural intelligence and high levels of collective self-esteem, acculturative stress negatively significantly associates with social self-efficacy ($b$ = -.07, $t(206)$ = -4.29, $p$ < .001). Every score for acculturative stress predicts a decrease of .07 score in social self-efficacy.

For individuals with high levels of cultural intelligence and low levels of collective self-esteem, there is no relationship between acculturative stress and social self-efficacy ($b$ = .00, $t(206)$ = -.25, $p$ = .80). For individuals with high levels of cultural intelligence and average levels of collective self-esteem, there is no relationship between acculturative stress and social self-efficacy ($b$ = -.01, $t(206)$ = -.51, $p$ = .61). For individuals with high levels of cultural intelligence and high levels of collective self-esteem, there is no relationship between acculturative stress and social self-efficacy ($b$ = -.01, $t(206)$ = -.49, $p$ = .63). Slopes of the average levels of the predictor and the two moderators not depicted Figures 4.3, 4.4, and 4.5.
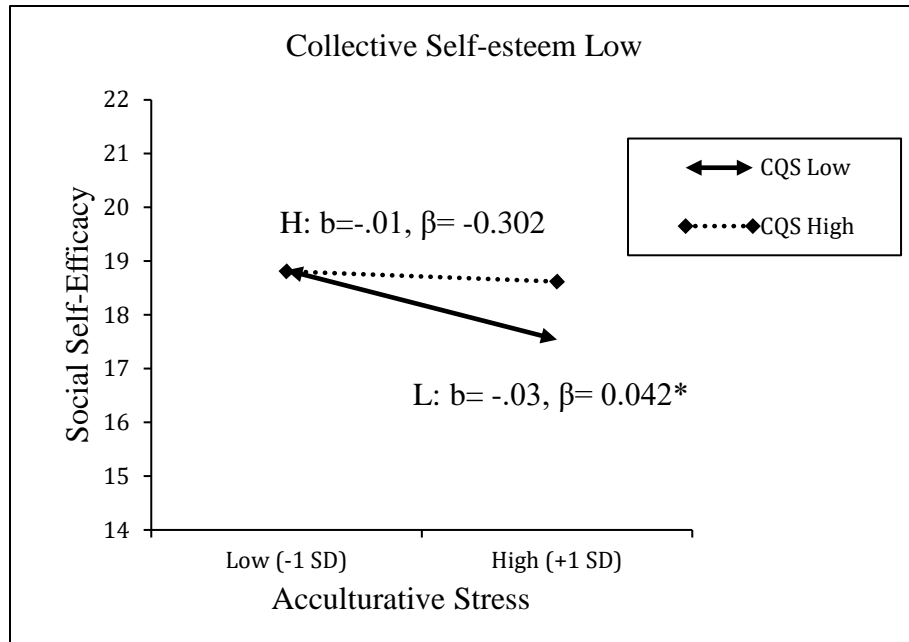
*Figure 5.* Moderation Effect of Cultural Intelligence and Collective Self-esteem on the Association between Acculturative Stress and Social Self-Efficacy.
*Note.*\*p < .05, \*\*p < .01, \*\*\*p < .001
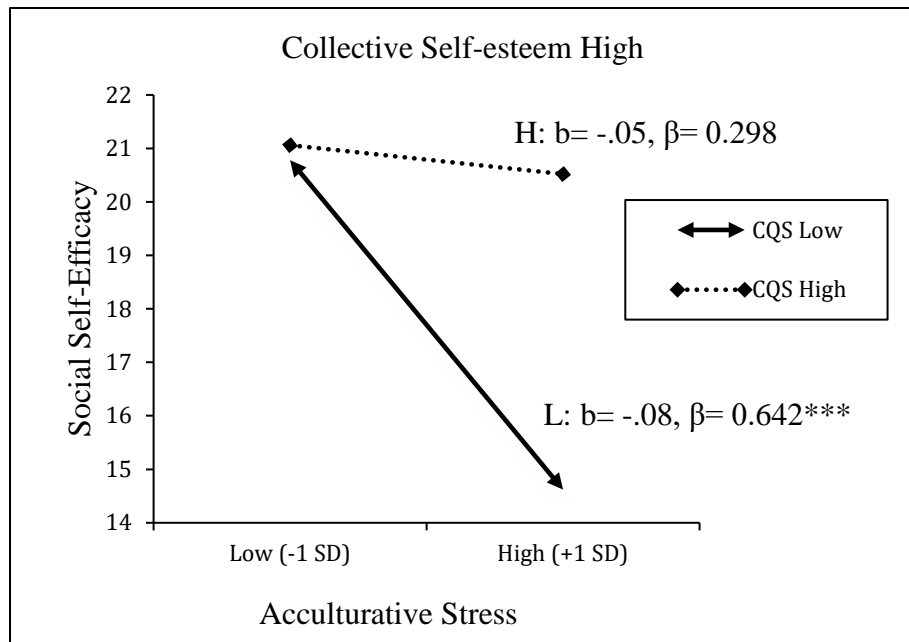


*Figure 6.* Moderation Effect of Cultural Intelligence and Collective Self-esteem on the Association between Acculturative Stress and Social Self-Efficacy.
*Note.*\*p < .05, \*\*p < .01, \*\*\*p < .001
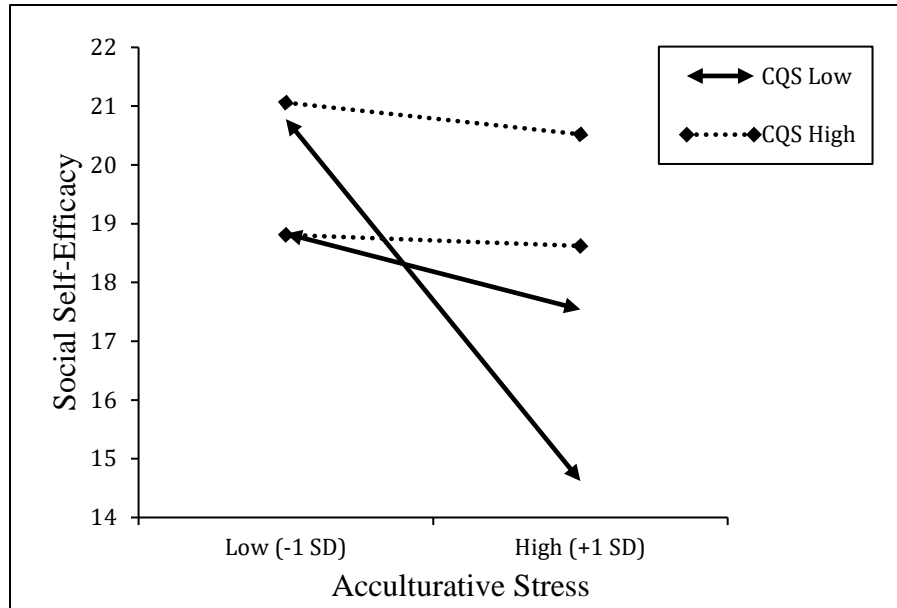
*Figure 7.* Moderation Effect of Cultural Intelligence and Collective Self-esteem on the Association between Acculturative Stress and Social Self-Efficacy.
*Note.* $*p < .05$, $**p < .01$, $***p < .001$

The results revealed that hypotheses 2.1 was supported, 2.2 was supported, and hypothesis 2.3 was also supported. In addition to the above analyses, I also tested the hypotheses including the 6 outliers which were excluded from the sample. I found the same results in terms of supported and non-supported hypotheses.

CHAPTER FIVE: DISCUSSION

Despite a growing literature focusing on Asian international students' social self-efficacy and their cross-cultural experiences, only a few articles are approaching the relationship between them and relevant moderation mechanisms. In this chapter, I discuss the findings of the present study in regard to their contribution to the social self-efficacy and acculturation literature among Asian international students by comparing them with previous research. Limitations for this study are also included which suggest recommendations for future research. This study aimed to obtain knowledge of factors that could impact the improvement of social self-efficacy among Asian international students, which indicate intervention models when working with this population. Therefore, I address pragmatic approaches as the implications for clinical practices.

## Summary of Hypotheses and Research Findings

Prior research has identified a number of cognitive and cultural factors that impact Asian international students' social self-efficacy. The present study chose five factors (i.e., acculturative stress, acculturation orientation, collective coping strategies, cultural intelligence, and collective self-esteem) including one predictor and four moderators to test to the model of three-way interactions. Two models and six hypotheses were derived based on the review of existing literature, and the main findings of this study were as follows (see *Table 1*). These findings all focus on factors that moderate the negative

association between Asian international students' acculturative stress and their social self-efficacy.

Table 4. *List of Study Hypotheses:*
<u>Hypothesis 1 (supported)</u>: Acculturative stress negatively associates with social self-efficacy.
<u>Hypothesis 1.1 (unsupported):</u> Acculturation orientation moderates the association between acculturative stress and social self-efficacy among Asian international students.
<u>Hypothesis 1.2 (unsupported):</u> Collective coping strategies moderate the association between acculturative stress and social self-efficacy among Asian international students.
<u>Hypothesis 1.3 (unsupported):</u> There is a three-way interaction among acculturative stress, acculturation orientation, and collective coping strategies in explaining Asian international students' social self-efficacy.
<u>Hypothesis 2.1 (supported):</u> Cultural intelligence moderates the association between acculturative stress and social self-efficacy among Asian international students.
<u>Hypothesis 2.2 (supported):</u> Collective self-esteem moderates the association between acculturative stress and social self-efficacy among Asian international students.
<u>Hypothesis 2.3 (supported):</u> There is a three-way interaction among acculturative stress, cultural intelligence, and collective self-esteem in explaining Asian international students' social self-efficacy.

The analyses used in the present study did not provide support for Hypothesis 1.1. Specifically, whether Asian international students identify strongly or weakly with their heritage culture, the negative impact of the acculturative stress they experience on their social self-efficacy does not differ.

Hypothesis 1.2 was unsupported, such that for Asian international students who use more or less collective coping strategies, their acculturative stress has the same association with social self-efficacy.

The three-way interaction in model 1, i.e., Hypothesis 1.3 was not supported. It means that the current sample does not suggest significant interacting effects among acculturative stress, acculturation orientation, and collective coping strategies in predicting Asian international students' social self-efficacy.

In model 2, Hypothesis 2.1 was supported by the analysis used in the present study. For Asian international students' with higher levels of CQ, their acculturative stress has a weak association or a close to zero association with social self-efficacy. Conversely, for those report lower CQ, acculturative stress has a relatively strong association with social self-efficacy.

Hypothesis 2.2 was also supported. The study used a two-tailed analysis with an expectation to detect the significant moderation effect of collective self-esteem. Interestingly, I found a reverse impact of that expected. Namely, for Asian international students who identify with lower levels of collective self-esteem, their acculturative stress tends to have a weak association with social self-efficacy; whereas for those with higher levels of collective self-esteem, acculturative stress has a relatively strong association with social self-efficacy. This finding is in contrast to what previous studies proposed that low levels of collective self-esteem might lead to actively avoiding some social situations because they feel less capable and more frustration (e.g., Luhtanen & Crocker, 1992; Liang & Fassinger, 2008). However, as mentioned in Chapter 2, some previous studies were conducted among Asian Americans instead of Asian international students.

In exploring literature to explain this unexpected reverse impact of collective self-esteem, I found that a common theme emerged. In some international student support groups, venting feelings and thoughts about negative interactions with some Americans is seen. Asian international students may initiate an "*American-bashing discussion*" and personalize such encounters (Dipeolu et al., 2007, p. 70). For instance, Zhu and Bresnahan (2018) conducted a study among Chinese international students and found that

when receiving negative comments about another Chinese student, all other Chinese students tend to internalize the comments and feel strongly uncomfortable. They would misinterpret the comments as negative evaluation and unfair treatment toward their cultural group. This discomfort will further lead to a cultural misunderstanding between Asian international students and domestic instructors and students. The misunderstanding may further negatively impact their social self-efficacy.

The three-way interaction in model 2, i.e., Hypothesis 2.3 was supported. The results suggest that for Asian international students with low level of cultural intelligence, if they have a high level of collective self-esteem, their acculturative stress has a stronger negative impact on their social self-efficacy. However, if they have a low level of collective self-esteem, their acculturative stress tends to have a much smaller negative impact on their social self-efficacy. For Asian international students with a high level of cultural intelligence, regardless of their collective self-esteem, the acculturative stress these students experience does not have any negative impact on social self-efficacy.

## Contribution to Literature

Several of the current findings are consistent with existing research. First, acculturative stress was found to be negatively associated with Asian international students' social self-efficacy. This finding is consistent with the preliminary analyses in Constantine et al. (2004), Tsai et al. (2017), and Lin and Bets (2009). In other words, the psychological, social, and financial stress experienced by Asian international students when moving to the U.S. will lower their confidence in performing appropriate social behaviors and establishing new relationships. Further regression analysis for subscales of

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acculturative stress indicated that homesickness and guilt might be the primary reasons for explaining their low social self-efficacy. Specifically, Asian international students miss their home country and old friends, experience sadness for being in an unfamiliar environment, and struggle with the guilt related to living in a different lifestyle. These feelings contribute to lack of confidence about desirable social behaviors in the U.S. with a different group of people, to disbelief in their ability to perform desirable social behaviors in the new environment, or do not trust their capacity to establish and maintain social relationships. In other words, intentionally choosing a new way to behave socially may make the students feel that they betray their home country and abandon their old friends and relatives. However, other subscales of acculturative stress may also contribute to the low social self-efficacy as the present study used the total score to examine the hypothesized models. Future research may consider using acculturative stress subscales to explore their impact on social self-efficacy or other related concepts.

The present study found a significant two-way interaction among acculturative stress, cultural intelligence, and social self-efficacy. It means that although Asian international students experience stress and challenges when moving to the U.S., the ability to function effectively in culturally diverse settings will help buffer the negative impact of acculturative stress on their social self-efficacy. This result is consistent with Presbitero's (2017) finding that cultural intelligence enhances the association between English proficiency and social self-efficacy. It also echoes Wang et al.'s (2016) finding that cultural intelligence alleviates the negative impact of acculturative stress. Given that

the present study used the total score of CQ, future studies may explore the four subscales of CQ in their ability to buffer acculturative stress.

Another significant finding in this study indicates that there is a two-way interaction among acculturative stress, collective self-esteem, and social self-efficacy. However, the direction of the moderation opposes to what previous studies indicated. It suggests that Asian international students' positive evaluation of their identity related to the home country would intensify the stress stemmed from acculturation and decrease their social self-efficacy. This finding contradicts to Liang and Fassinger's (2008) study as they found that collective self-esteem moderates the association between racist and xenophobic stress and psychological adjustment among Asian American college students with a buffering effect. The finding also was contrary to Gupta et al.'s (2014) study regarding how collective self-esteem buffers the negative impact of perceived ethnic discrimination on life satisfaction, and how it alleviates the association between perceived ethnic discrimination and depression.

In exploring literature which may explain collective self-esteem's negative moderation effect, I found that a common theme emerged in such international student support group is venting feelings and thoughts about negative interactions with some Americans (Dipeolu et al., 2007). Asian international students may initiate an "*American-bashing discussion*" and personalize such encounters (Dipeolu et al., 2007, p. 70). For instance, Zhu and Bresnahan (2018) conducted a study among Chinese international students and found that when receiving negative comments about another Chinese student, all other Chinese students tend to internalize the comments and feel strongly

uncomfortable. They would misinterpret the comments as negative evaluation and unfair treatment toward their cultural group. This discomfort will further lead to a cultural misunderstanding between Asian international students and domestic instructors and students. This misunderstanding may lead to negative evaluation about their own ability to socialize with Americans.

Additionally, perceived discrimination and perceived hate is also a crucial element of acculturative stress, which may lead to lower levels of social self-efficacy. Racism-related stressful events against their cultural group (e.g., Indian international students, Chinese international students). As a result, Asian international students may feel that affiliating with their racial/ethnic groups relate to social tension or conflicts with Americans.

Similar to CQ, the present study used the total score of collective self-esteem instead of subscales. As such, future research may further explore which type of collective self-esteem contributes to the change in acculturative stress and social self-efficacy.

Aside from the worsening effect for collective self-esteem, there were several other unexpected findings. The present study did not find significant moderation effect for acculturation orientation in the association between acculturative stress and social self-efficacy. It differs from Wei et al.'s (2012) finding that for Chinese international students with a weaker identification of their heritage culture, acculturative stress is more likely to predict psychological distress.

Another finding that differs from previous studies is that a significant two-way interaction was found among acculturative stress and collective coping strategies in predicting Asian international students' social self-efficacy. It reveals that no evidence was found for the buffering effect of collective coping strategies. The non-significant result is inconsistent with several studies which have found that collective coping strategies help to alleviate acculturative stress, and help Asian international students become more independent and self-sufficient (Suldo et al., 2008; Constantine et al., 2005).

Regarding demographic variables, the variables examined included age, gender, sexual orientation, ethnicity, nationality, field of study/major, and educational level. None of the variables examined contributed to differences in levels of social self-efficacy. However, several demographic variables were analyzed to detect potential two-way interactions, aside from the primary analyses regarding the predictor, moderators, interactions, and several post hoc tests were conducted with the present sample. Although several significant findings were found as illustrated below, it is worth noting that the some of the following analyses violate a critical assumption for independent-samples t-test or ANOVA, i.e., all the groups should be approximately balanced (Keppel & Wickens, 2004). Specifically, the four groups for educational levels are unbalanced with only 4 participants reported to be in programs other than bachelor's, master's, and doctoral degrees. Thus, the following post hoc test results are presented as suggestions and directions for future studies.

First, English proficiency is a continuous variable ranging from 6 to 12. I manually split English proficiency into two groups with a cut-off score, i.e., scores of 9 and below are low EP group which includes 87 individuals and scores of 10 and above are high EP group which consists of 127 participants. Previous studies have revealed a significant association between gender and social self-efficacy, although the direction of the impact is not consistent (e.g., Graziano et al., 2009; Hermann & Betz, 2006). Lin and Betz (2009) also found a significant association between gender and English proficiency.

Thus, I tested for two-way interaction with English proficiency and gender in predicting social self-efficacy and found significant moderation effects with a two-way interaction. Overall, female and male Asian international students did not report significantly different social self-efficacy. Participants who reported low English proficiency did not report significantly different social self-efficacy than the ones who reported high English proficiency. However, for female Asian international students, the ones reported high English proficiency, their social self-efficacy were significantly higher than participants who reported low English proficiency; for male Asian international students, participants who reported low and high English proficiency shower similar levels of social self-efficacy. In other words, among Asian international students who reported low (vs. high) English proficiency, female students experienced greater negative impact than their male counterparts.

### Limitations of Current Study

Despite its contribution to literature, the current study suffered from a number of limitations. First, this study used self-reported intentions to collect information about

collective coping strategies. As such, the present findings may not necessarily generalize to actual collective coping strategies. This phenomenon is defined as social desirability bias, i.e., respondents of self-report measures tend to present themselves in the best possible light, and their answers are distorted by their perception of "correct" choices (Maccoby & Maccoby, 1954).

One of the limitations for the web-based survey is lacking control of the environment in which individuals take the survey. Data from SurveyMonkey (i.e., the platform for my online survey) suggested that the participants took at most 2 hours to complete the survey. Hence, I am not sure whether their surroundings significantly impact participants. Regarding the length of the survey, it includes 136 single items taking the demographic questions and the six measures for the predictor, the outcome, and the four moderators. It is worthy of note that ASSIS includes 36 items and CCS consists of 30 items. Although the average completion time is approximately 20 minutes, it is possible that 136 items will bore the participants. Lin (2006) also brought up concerns about the negative tone of the ASSIS items, which may offend some participants. Therefore, it may also be useful to add another qualitative question to ask about participants' thoughts for survey items to elicit feedbacks.

This study uses convenience sampling to recruit participants, such as by sending an email invitation to student organization leaders in U.S. universities with large international student populations, and by putting posters on campus.

Further, while 331 students began the online survey, only 67.1% participants completed it. This method may lead to several issues. Namely, Asian international

students in colleges and universities with small international student population are much less likely to be recruited; although it is impossible to estimate how many Asian international decided to disregard the invitation, students who chose to take the survey may be more interested in the research topic compared with students who did not.

As no students in this sample identify as transgender or non-binary gender identity, this study may not represent the experiences of non-binary gender identified Asian international students. Similarly, the majority of the students identify as heterosexual, this study may not represent the experiences of non-heterosexual Asian international students. This study included students from countries across Asia and presents no significant difference from the most recent statistics on IIE (2018) report. However, when applying the result to Asian international students from countries such as Philippines, Indonesia, Nepal, and Vietnam, one should be careful in that the sample includes no participants from these countries.

Additionally, this study includes a measure to assess the participant's English fluency with three Likert-scale questions and two validation items that were geared to detect random responding (Wei et al., 2007). However, it is not a formal assessment to detect potential language barrier that may lead to respondents' misunderstanding of the questionnaire items. As such, it would be helpful to include a few open-ended questions to gather information about qualitative responses.

Another limitation emerged in this study is the choice of the Berry's as a conceptual framework. There are a significant number of studies supporting this framework among Asian international student as cited in Chapter 2. However, a few

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articles published recently in cross-cultural psychology stated that cutting-edge theorists now tend to understand acculturation from a multi-dimensional view. How and to what degree people identify with their heritage culture and host culture impacts their daily decisions and preferences on languages and foods, understanding of interpersonal relationships and values, as well as self-identification (Schwartz et al., 2010). Instead of conceptualizing acculturation broadly, Schwartz et al. (2010) proposed a model that includes the discussion about acculturation orientation on three levels: practices (e.g., language, foods), values (e.g., collectivism vs. individualism, interdependence vs. independence), and identifications (e.g., identifying more as a member of country of origin vs. identifying more as a member of the host country). However, there has not been supporting empirical studies with scales grounded in this multi-dimensional theory. Future studies may consider designing quantitative measures to assess acculturation orientations on the abovementioned three dimensions. Researchers may also explore how different acculturation orientations on each dimension affect Asian international students' acculturative stress or affect their social self-efficacy.

Given that several hypotheses are not supported in the current sample and the study focuses on moderation mechanism for the association between acculturative stress and social self-efficacy, it would have been helpful to explore other potential moderators. For instance, the result showed that collective coping strategies do not alleviate the negative impact on social self-efficacy. Therefore the survey would have asked participants about their preferred coping strategies for stress related to relocation.

**Implications for Future Research**

Based on the findings and limitations discussed above, I have several recommendations for future research. As the sample does not support several hypotheses of the current study, future studies may recruit participants to re-examine these hypotheses. For instance, instead of exploring a three-way interaction, future research may detect whether collective coping strategies can serve as a significant moderator for the association between acculturative stress and social self-efficacy. Given that the length of the survey is a limitation in the present study correcting the methodology by using a shorter survey and adding qualitative questions may result in significant findings. First, future studies may explore the experiences of Asian international students who identified as transgender or other gender identities. Second, other researchers may focus on the acculturation experiences for Asian international students who do not identify heterosexual. Third, instead of a web-based survey, future studies may try to compare the results of the current study with a paper-and-pencil study and decreased the likelihood of participants being distracted by their surroundings. To gather qualitative information, future studies could add a few open-ended questions such as coping strategies.

**Implications for Clinical Practice**

The most significant findings of the current study are the two-way interactions to predict Asian international students' social self-efficacy. One significant two-way interaction includes acculturative stress and cultural intelligence, and the other one refers to acculturative stress and collective self-esteem. The findings are inspiring for college

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faculty and staff to help Asian international students improve their adjustment in a new environment.

**Cultural Intelligence**

As a concept with four aspects (i.e., motivational CQ, meta-cognitive CQ, cognitive CQ, and behavioral CQ), cultural intelligence emphasizes the importance of having interests and curiosity to explore a new culture while encouraging learning favorable behaviors in a different context. Notably, the aspect of cognitive CQ provides practical suggestions for outreach programming for international students. Wang et al. (2015) recommended the international centers or university counseling centers to design training workshops and social connection programs to enhance international students' CQ. They also suggested providing such workshops both upon arrival, during and after their first semester.

Regarding themes for the workshops, studies about CQ revealed the following themes that might be relative and helpful for international students: discussion about the decision-making style, communication approaches, and conflict management and negotiation strategies (Eisenberg, 2013). For decision-making style, vocational psychology explores multiple determining aspects such as values and needs, beliefs and goals, personalities and previous experiences, family expectations, and cultural stereotypes. Therefore, it might be informative to design a series of seminars about how people from different cultures make decisions based on different priorities.

Regarding communication approaches, materials about social anxiety and interpersonal effectiveness might be appropriate. To address social anxiety, many stress

management interventions and relaxation techniques are found to be effective in Asian cultural contexts, such as progressive muscle relaxation and mindfulness exercises. To be effective interpersonally, previous literature has discussed two types of settings. In an informal setting such as meeting new people on a party, for example, Linehan (2014) identified that familiarity and proximity often lead to liking, while sharing interests and attitudes tend to help us make new friends in American culture. Workshop facilitators may elicit attendances to list ways they could make casual yet regular contact with people, and how to find shared similarities with others. Basic counseling skills may also provide a guideline to teach communication skills. Namely, attending and listening with verbal and non-verbal behaviors, exploration of thoughts and feelings, asking questions with curiosity, and connecting with others with empathy. Other socially appropriate skills in the U.S. cultural context may include learning some conversation starters (e.g., "have you been here before?"), responding to questions with little more information than requested (e.g., offering some resources, opportunities or just enthusiasm), and expressing liking (i.e., finding things to compliment that are not too obvious). For more formal social situations such as networking and interviews, career centers may tailor their workshops for international students regarding interview techniques, networking skills, informational interview strategies (e.g., elevator pitch), and other relevant topics. Some Asian international students coming from a relatively reserved culture may feel uncomfortable to reach out to strangers and talk about their strengths. However, listing one's strengths and establishing professional networking is crucial for students to find internship or job opportunities. Therefore, teaching networking skills such as how to help

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others to remember your name (e.g., adding a tagline, making it memorable and interesting) and how to emphasize positive outcome of your work to highlight professional performance during interviews (Baber & Waymon, 2001; Farr & Gaither, 2009).

Aside from the above relatively practical classes, Eisenberg (2013) mentioned the importance of discussions that focused on increasing international students' motivation to experience cultural novelty. For example, talk about creating awareness of one's culture may help international students better understand the rationale behind favorable social behaviors; a luncheon with the theme of fostering an appreciation of diverse cultural backgrounds will likely increase their willingness to initiate and maintain interpersonal relationships with domestic students or international students from a different culture. These themes correspond to metacognitive CQ and motivational CQ.

Regarding social connection programs, the Global Connections program at the Pennsylvania State University provided a practical example to connect international students with domestic students and residents. This program includes an International Friendship program to increase cultural understanding by scheduling regular base group and one-on-one meetings between international students and domestic students. Through the experiential process, international students have the opportunities to practice new social behaviors and to experience cultural differences.

As the present study found that cultural intelligence alleviates the negative impact of acculturative stress, it is critical to increasing the accessibility and availability to the orientation programs. Presbitero (2016) advised taking a more proactive stance in

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reaching out to international students who present a higher level of acculturative stress. Instead of relying solely on the international centers or counseling centers to provide the outreach programs, some universities (e.g., the University of Texas at Austin) have established in-house staff at each college/school and initiated to tailor workshops based on different majors and educational levels. Other universities (e.g., the University of Florida) interpreted informative brochures into several languages to reduce the language barriers for international students to reach out. More creative approaches are strongly encouraged.

Through attending outreach programs as proposed above, the stress Asian international students experience in the relocation process will be buffered, and their social self-efficacy will less likely be negatively impacted. Increasing social supports will also alleviate psychological distress that is caused by acculturative stress.

**Collective Self-esteem**

Another finding of the current study is the moderation effect of collective self-esteem in worsening Asian international students' acculturative stress. Collective self-esteem is also a concept with four aspects: membership esteem, private collective self-esteem, public collective self-esteem, and importance to identity (Luhtanen & Crocker, 1992). It discusses the impact of the ethnic identity on one's functioning and wellbeing based on their sense of belonging to the group, their evaluation of the group identity, and the silence of this ethnic identity. There has not been much literature focusing on specific approaches to integrate the idea of collective self-esteem into outreach programming and clinical interventions. However, a few articles mentioned several recommendations that

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might be beneficial to apply for support groups for Asian international students (e.g., Liang & Fassinger, 2008).

Support group treatment plays a critical role in serving international students at university counseling centers. Dipeolu, Kang, and Cooper (2007) reviewed previous studies on international students summarized several distinct advantages. Support groups create a supportive context to normalize adjustment difficulties and the feelings of isolation and loneliness. Especially for students whose native language is not English; the support group provides a non-evaluative environment to practice English. It also enables international students to develop an accessible social support system, compared with the less accessible and available social support in their home countries. As navigating in a U.S. campus can be challenging, support groups would also encourage students to share academic and vocational information, which could help them solve problems and locate resources on campus and in the local community. Lastly, similarly as the benefits of group therapy in general, support groups may facilitate the practice of social connection and the development of interpersonal relationships while reducing the stigma toward mental health services.

It is suggested that prepared topics for discussion are helpful to facilitate the support groups, especially at the beginning stage. Previous studies covered important topics for international student support group such as cross-cultural communication, acculturation issues, and balancing time spent with Americans vs. people from home (Carr, Koyama, & Thiagarajan, 2003; Dipeolu et al., 2007). However, there has not been a proposed discussion around collective self-esteem.

In reviewing clinical implications in the literature about collective self-esteem, I found several relevant suggestions to broach this topic in a support group for Asian international students. First, clinicians may encourage students to explore the role of race/ethnicity and Asian culture in their life. Liang & Fassinger (2008, p. 26) suggested support group facilitators to ask attendees in the support groups: *"What are your feelings about being a member of your cultural group?"* or "How do you think Asian international students are perceived on your campus?" By explicitly discussing their thoughts and feelings as an Asian international student in an American university would increase group cohesiveness. When students listen to each other's perspective about the ethnic group including the development of a sense of pride and acceptance of the positive qualities of the group, they will be also likely to view themselves as a prototypical member (Kong, 2016). As perceived discrimination and perceived hate is a crucial element of acculturative stress and may predict lower social self-efficacy, the second type of topics is about processing the emotional reactions as well as how it changes their belief system in the support groups. Third, in situation where students vent feelings and thoughts about negative interactions with some Americans, facilitators need to address their feelings by encouraging self-compassion (Kong, 2016). Facilitation of a conversation about the necessity of conveying compassion, care, and warmth toward themselves especially about their cultural identity may reduce their paranoid thoughts. In a support group, Asian international students may learn from each other how other attendees validate their positive qualities to develop self-compassion.

**Integration of Factors**

   The significant interaction of acculturative stress and cultural intelligence and the interaction of acculturative stress and collective self-esteem suggested intervention approaches that integrate both factors. Therefore, based on the abovementioned workshops for improving cultural intelligence and collective self-esteem, together with existing interventions for acculturative stress, I present a holistic program to help Asian international students and hopefully also for international students from other geographic areas worldwide increase their social self-efficacy and psychological wellbeing in the U.S. (*Figure 8*).
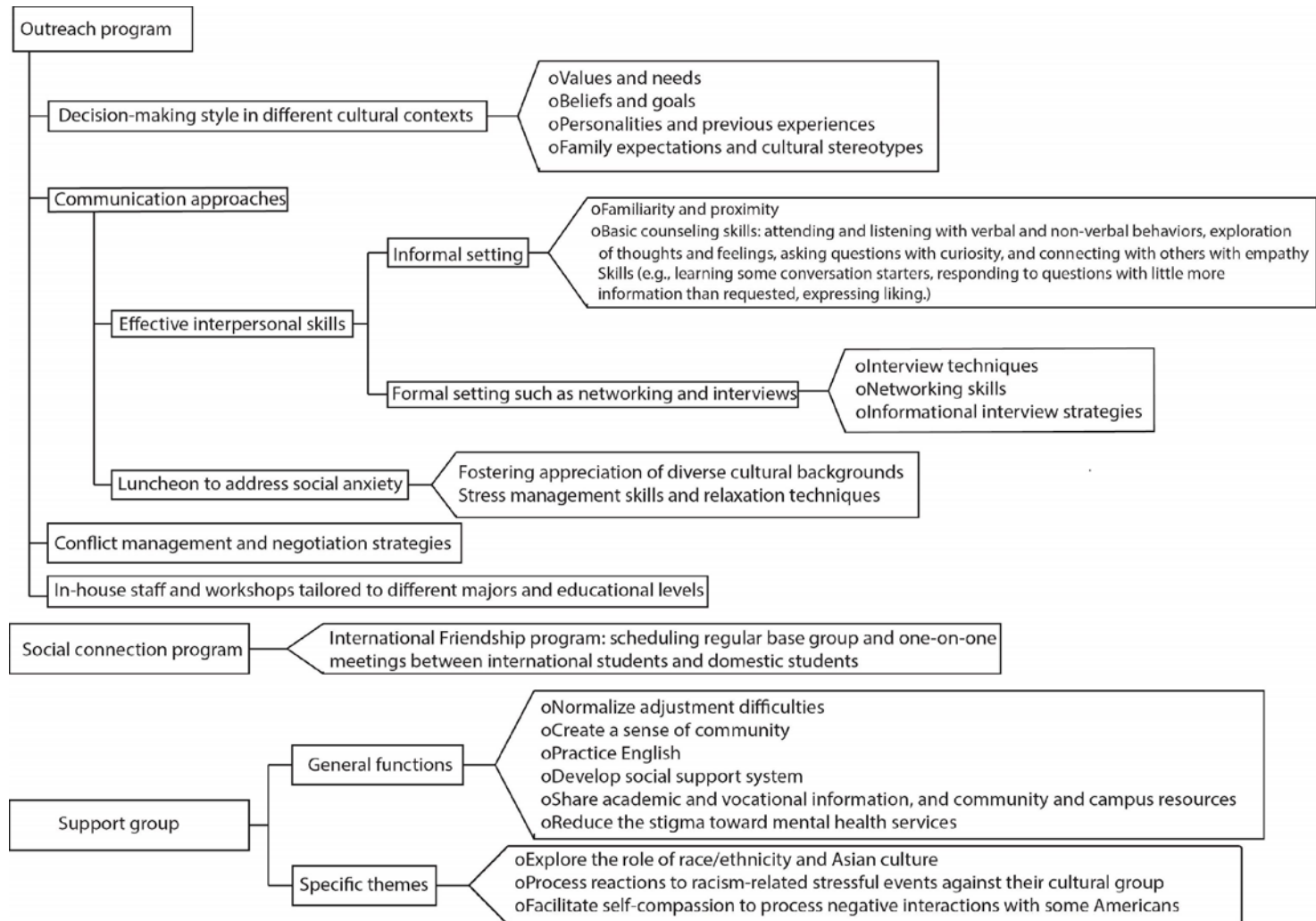
*Figure 8.* Proposed holistic program to help Asian international students increase social self-efficacy

## Summary

In conclusion, the present study presented exploration moderation mechanisms between acculturative stress and social self-efficacy to better understand the experience of Asian international students. The study provided an integration of the literature in acculturation and social self-efficacy with an emphasis on coping strategies and intervention approach. Cultural intelligence and collective self-esteem are found to be significant moderators. Given the findings, an holistic intervention approach that combines outreach program, social connection program, and support group for enhancing Asian international student' social self-efficacy is strongly recommend.

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# APPENDIX A: IRB APPROVAL

**UNIVERSITY of DENVER**
RESEARCH & SPONSORED PROGRAMS

DATE:               March 1, 2018

TO:                 Jinzhao Zhao

FROM:               University of Denver (DU) IRB

PROJECT TITLE:      [1151739-1] Exploring the Moderation Mechanisms of the
                    Association between Acculturative Stress and Social Self-
                    Efficacy among Asian International Students
SUBMISSION TYPE:    New Project

ACTION:             **EXEMPTION GRANTED**
DECISION DATE:      March 1, 2018

EXEMPTION VALID
THROUGH:            *February 28, 2021*
RISK LEVEL:         Minimal Risk

REVIEW CATEGORY:    Exemption category # 2
                    **Exemption Category 2: Anonymous Educational Tests,
                    Surveys, Interviews, or Observations-Research** involving the
                    use of educational test (cognitive, diagnostic, aptitude,
                    achievement), survey procedures, interview procedures, or
                    observations of public behavior, unless: (i) information obtained
                    is recorded in such a manner that human subjects can be
                    identified, directly or through identifiers linked to the; and (ii) any
                    disclosure of the human subjects' responses outside the
                    research could reasonably place the subjects at risk of criminal
                    or civil liability or be damaging to the subjects' financial standing,
                    employability, or reputation.

Thank you for your submission of Exemption Request materials for this project. The University of
Denver IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal
regulations. This exemption was granted based on appropriate criteria for granting an exemption
and a study design wherein the risks have been minimized.

Exempt status means that the study does not vary significantly from the description that has been
provided and further review in the form of filing an annual Continuing Review/Progress Report is
not required.

Please note that maintaining exempt status requires that (a) risks of the study remain minimal; (b)
that anonymity or confidentiality of participants, or protection of participants against any increased
risk due to the internal knowledge or disclosure of identity by the researcher, is maintained as
described in the application; (c) that no deception is introduced, such as reducing the accuracy or
specificity of information about the research protocol that is given to prospective participants; (d)
the research purpose, sponsor, and recruited study population remain as described; and (e) the
principal investigator (PI) continues and is not replaced.

If changes occur in any of the features of the study as described, this may affect one or more of the conditions of exemption and may warrant a reclassification of the research protocol from exempt and require additional IRB review. For the duration of your research study, any changes in the proposed study must be reviewed by the University of Denver IRB before implementation of those changes.

This exemption has been granted for a three-year time period. The DU Human Research Protection
Program (HRPP) will retain a copy of this correspondence within our records and will administratively close this project at the end of the five-year period unless otherwise instructed via correspondence with the Principal Investigator. Please contact the DU Human Research Protection Program (HRPP) if the study is completed before the five-year time period or if you are no longer affiliated with the University of
Denver.

If you have any questions, please contact the DU Human Research Protection Program at (303) 871-2121 or at IRBAdmin@du.edu. Please include your project title and IRBNet number in all correspondence with the IRB.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of
Denver (DU)'s records.

UNIVERSITY *of*
DENVER

Morgridge College of Education

**DU IRB Approval Date: 3/1/2018**

# Consent to Participate in Research

PROJECT TITLE: Exploring the Moderation Mechanisms of the Association between Acculturative Stress and Social Self-Efficacy among Asian International Students

RESEARCHER:

Clare Jinzhao Zhao, M.Ed.
Counseling Psychology Doctoral Candidate
University of Denver
clare.jinzhao.zhao@gmail.com

DESCRIPTION:

Clare Jinzhao Zhao, M.Ed., counseling psychology doctoral candidate at the University of Denver, is inviting you to participate in a research study entitled "Exploring the Moderation Mechanisms of the Association between Acculturative Stress and Social Self-Efficacy among Asian International Students." Clare Jinzhao Zhao is supervised by Ruth Chu-Lien Chao, Ph.D., who is an Associate Professor at the University of Denver (Email: Chu-Lien.Chao@du.edu).

This study is aimed at exploring factors that decrease the stress experienced by Asian international students when adapting to the life in the U.S. The study also aims to investigate how Asian international student improve their confidence and ability for social interactions in a new environment. The survey consists of 6 brief questionnaires, and no follow-up interviews or surveys will be conducted. You will be asked various questions relating to your experiences as an Asian international student studying in the U.S. There will be approximately 250 participants for this study.

You are asked to complete the online surveys, it is estimated the surveys will take **20-30 minutes**. The survey will not include contact information to guarantee data anonymity. Participation will not be traced back to you given that no identifiable information will be asked and your IP address will be masked on the online survey.

I invite you to participate in this research study, which consists of answering survey questions related to: acculturative stress, social self-efficacy, acculturation orientation,

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collective coping strategies, cultural intelligence, and collective self-esteem. We will also ask you to provide some basic demographic and background information about yourself (e.g., age, gender, length of time stay in the U.S., self-rated English proficiency, etc.).

To be included in this study, you must at least 18-years-old, and meet the following criteria:

(1) You are a student is currently enrolled in an American college or university as a full-time student;
(2) You are an international student who holds a student visa (i.e., F-1, M-1, or J-1 visa);
(3) You are originally from East Asian (e.g., China, South Korea), Southeast Asian (e.g., Singapore, Thailand), or South and Central Asia (e.g., India);
(4) You are not a full-time employee of any company.

EXCLUSION CRITERIA:
Participation in this study is restricted to those individuals who meet the listed inclusion criteria above.

RISKS:
The risks to you as a participant are minimal. At the conclusion of the survey, you will be given a separate link to enter your email address in order to participate in the raffle, which will be kept confidential. No other identifying information will be collected. If you experience any mental or psychological discomfort as a result of your participation in this research, please contact the National Suicide Prevention Hotline at 1-800-273-8255. You may also access the following link to find referrals to local mental health services: https://www.mentalhealth.gov/get-help/immediate-help/index.html.

BENEFITS:
For demographic information including age, Native Country, race/ethnicity, education level, area of study, state where you presently studying, you have the option of either selecting "prefer not to answer" or leaving blank any survey items which you are unwilling to answer. For other demographic information including gender, length of time stay in the U.S., English proficiency, and all the self-rated questions, you need to provide an answer. However, you can withdraw from the study anytime if you refuse to provide an answer in the mandatory questions. There is no penalty of early termination.

This research benefits the field as a whole and has the potential to better the understanding of Asian international students. **After you have completed and submitted your survey, you will be eligible to enter a participant raffle randomly**

**awarding $20 Amazon gift cards to every five participant.** It means the ratio of winning the award is 1:5. You can enter the raffle by going to a separate link and providing your email address. The link for the raffle is separate from your survey information so that we can assure confidentiality of your survey responses. Thus, a completed/submitted survey will not be associated with your name. If you want to be entered into the raffle without participating in the study, send an email to clare.jinzhao.zhao@gmail.com requesting to do so. The winner of the raffle drawing will be notified within four weeks after data collection is completed. After the gift cards are dispersed, the encrypted data file containing these addresses will be destroyed.

VOLUNTARY NATURE OF PARTICIPATION:
Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in penalty. However, you can only be included in the participant raffle after completing the survey. If you choose to stop participating in the study entirely at any time, for any reason, simply close the survey window. **By completing the questionnaire in this research, you give your permission to be included in this study as a participant.** You may keep this form for future reference.

CONFIDENTIALITY:
All of your responses are anonymous. Surveymonkey, the Internet platform for this survey, utilizes encryption software to protect the confidentiality of your responses. The information you provide to us will not be shared with anyone outside the research team with identifiable information attached. We will protect the confidentiality of your information by coding your responses with a number so that no one can connect your answers to your identity, limiting access to identifiable information, and telling the research staff the importance of confidentiality. These data will only be accessible to the two researchers named above. Data collected from this study will be presented as doctoral dissertation and may be published in scientific reports or presented at research meetings. Data will be presented in summary or aggregate form only; no reference will be made in oral or written reports that could link your responses to your identity.

POINTS OF CONTACT:
If you have any questions regarding this research study, or wish to receive further information before consenting to participate in this study, you may contact:

Principal Investigator:
Clare Jinzhao Zhao, M.Ed.
Counseling Psychology Doctoral Candidate

University of Denver
clare.jinzhao.zhao@gmail.com

Faculty Advisor:
Ruth Chu-Lien Chao, Ph.D.
Associate Professor
University of Denver
Chu-Lien.Chao@du.edu

If you have questions about your rights as a participant, you may also contact the IRB compliance officer at the University of Denver at IRBAdmin@du.edu or 303-871-2121.

The reference number for this study at the University of Denver is IRB # _____.

INFORMED CONSENT

I have read the above information. I have received (or had the opportunity to print) a copy of this form.

Indicating "Yes, I consent to participate in research" and clicking on the button ("Next") to continue taking the survey constitutes my voluntary consent to participate in this research study. Indicating "Yes, I consent to participate in research" and clicking on the button ("Next") constitutes my electronic signature affirming my desire to participate in this research study. This indicates that I fully understand the above research study, what is being asked of me as a participant in this research study, and that I have been given the contact information of the researchers involved in the study so that I may ask any questions I may have before consenting to participate.

If you do not consent to participate in this research study, simply close this window.

Do you consent to participate in this study?

☐       Yes, I consent to participate in this research study
☐       No, I do not consent to participate in this research study

Hello! 大家好 नमस्ते 안녕하세요こんにちは Xin chào tất cả mọi người Kamusta ÊÇÑÊ´Õ

My name is Clare Jinzhao Zhao and I am a doctoral candidate from the Counseling Psychology department at the University of Denver. Clare Jinzhao Zhao is supervised by Ruth Chu-Lien Chao, Ph.D., who is an Associate Professor at the University of Denver (Email: Chu-Lien.Chao@du.edu). I am writing to invite you to participate in my research study about Asian international students' experiences in the U.S. I am conducting this study to explore factors that alleviate the negative impact of international students' stress when studying in the U.S. on the willingness, and how Asian international students develop the ability to perform social behaviors and to maintain interpersonal relationships. You will be asked various survey questions relating to your experiences as an Asian international student studying in the U.S. I will also ask you to provide some basic demographic and background information about yourself (e.g., age, gender, length of time stay in the U.S., self-rated English proficiency, etc.). **You are asked to complete the online surveys, it is estimated the surveys will take 20-30 minutes. After you have completed and submitted your survey, you will be eligible to enter a participant raffle randomly awarding $20 Amazon gift cards to every five participant.**

You are eligible to be in this study if you:
(1) You are 18 years and older;
(2) You are an international student currently enrolled in an American college or university as a full-time student;
(3) You are originally from East Asian (e.g., China, South Korea), Southeast Asian (e.g., Singapore, Thailand), or South and Central Asia (e.g., India);
(4) You are not a full-time employer of any company.

If you decide to participate in this study, you will be directed to a link as shown below: https://www.surveymonkey.com/r/J9D9LZR

Please note this is completely voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in penalty. If you would like to participate or have any questions about the study, please email or contact the researcher at clare.jinzhao.zhao@gmail.com. This research is approved by the IRB at the University of Denver (IRB#1151739-1). If you have questions about your rights as a participant, you may also contact the IRB compliance officer at the University of Denver at IRBAdmin@du.edu or 303-871-2121.

## APPENDIX D: DEMOGRAPHIC INFORMATION SHEET

Please fill out the below information either by filling out numbers and specific information, or by check whichever it may apply.

Age (e.g., 1 years and 4 months): _____ years and _____ months

Gender: _____Male, _____Female, _____Transgender, _____Other.

Sexual Orientation: _____ Heterosexual or straight; _____ Gay; _____ Lesbian;

_____ Bisexual; _____ Other.

Socio-economic Status: _____ Upper class; _____ Upper middle class; _____

Middle class; _____ Lower middle class; _____ Lower class.

Country of origin: _____

Race/ethnicity (e.g., Asian): _____

Education Level: _____ Doctoral student, _____ Master's student,

_____Undergraduate student, _____ Other (e.g., ESL)

_____(Please specify)

Please enter your major area of study in the United States: _____

State where presently studying (e.g., CO): _____

How long have you been in the United States? _____ Years and _____

Months

**English proficiency:**

Please identify your English proficiency by circling 1(*poor*) to 4 (*excellent*) for the

following questions:

(a) What is your current level of fluency in English?

<div align="right">

1     2     3     4

</div>

(b) How comfortable do you feel communicating in English?

<div align="right">

1     2     3     4

</div>

(c) How often do you communicate in English?

<div align="right">

1     2     3     4

</div>

APPENDIX E: ACCULTURATIVE STRESS SCALE FOR INTERNATIONAL STUDENTS

**Directions:**
As foreign students have to make a number of personal, social, and environmental changes upon arrival in a strange land, this **cultural-shock** experience might cause them acculturative stress. This scale is designed to assess such acculturative stress you personally might have experienced. There are no right or wrong answers. However, for the data to be meaningful, you must answer each statement given below as honestly as possible. For each of the following statements, please circle the number that BEST describes your response.

*1= Strongly disagree*
*2= Disagree*
*3= Not Sure*
*4 = Agree*
*5 = Strongly Agree*

Because of my different cultural background as an **Asian international student**, I feel that:

1.  Homesickness for my country bothers me.

                                                                1  2  3  4  5

2.  I feel uncomfortable to adjust to new foods and/or to new eating habits.

                                                                1  2  3  4  5

3.  I am treated differently in social situations.

                                                                1  2  3  4  5

4.  I feel rejected when people are sarcastic toward my cultural values.

                                                                1  2  3  4  5

5.  I feel nervous to communicate in English.

                                                                1  2  3  4  5

6.  I feel sad living in unfamiliar surroundings here.

                                                                1  2  3  4  5

7. I fear for my personal safety because of my different cultural background.

                                                 1  2  3  4  5

8. I feel intimidated to participate in social activities.

                                                 1  2  3  4  5

9. Others are biased toward me.

                                                 1  2  3  4  5

10. I feel guilty to leave my family and friends behind.

                                                 1  2  3  4  5

11. Many opportunities are denied to me.

                                                 1  2  3  4  5

12. I feel angry that my people are considered inferior here.

                                                 1  2  3  4  5

13. I feel overwhelmed that multiple pressures are placed upon me after my migration to this society.

                                                 1  2  3  4  5

14. I feel that I receive unequal treatment.

                                                 1  2  3  4  5

15. People from some ethnic groups show hatred toward me nonverbally.

                                                 1  2  3  4  5

16. It hurts when people don't understand my cultural values.

                                                 1  2  3  4  5

17. I am denied what I deserve.

                                                 1  2  3  4  5

18. I have to frequently relocate for fear of others.

           1  2  3  4  5

19. I feel low because of my cultural background.

           1  2  3  4  5

20. I feel rejected when others don't appreciate my cultural values.

           1  2  3  4  5

21. I miss the country and people of my national origin.

           1  2  3  4  5

22. I feel uncomfortable to adjust to new cultural values.

           1  2  3  4  5

23. I feel that my people are discriminated against.

           1  2  3  4  5

24. People from some other ethnic groups show hatred toward me through their actions.

           1  2  3  4  5

25. I feel that my status in this society is low due to my cultural background.

           1  2  3  4  5

26. I am treated differently because of my race.

           1  2  3  4  5

27. I feel insecure here.

           1  2  3  4  5

28. I don't feel a sense of belonging (community) here.

           1  2  3  4  5

29.  I am treated differently because of my color.

                                                1  2  3  4  5

30.  I feel sad to consider my people's problems.

                                                1  2  3  4  5

31.  I generally keep a low profile due to fear from other ethnic groups.

                                                1  2  3  4  5

32.  I feel some people don't associate with me because of my ethnicity.

                                                1  2  3  4  5

33.  People from some other ethnic groups show hatred toward me verbally.

                                                1  2  3  4  5

34.  I feel guilty that I am living a different lifestyle here.

                                                1  2  3  4  5

35.  I feel sad leaving my relatives behind.

                                                1  2  3  4  5

36.  I worry about my future for not being able to decide whether to stay here or to go back.

                                                1  2  3  4  5

**Instructions:**
This questionnaire is a series of statements about your social attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please circle the number that best describes your attitude or feeling about each statement below. Please be very truthful and describe yourself as you really are, not as you would like to be.

*1 = Disagree Strongly*
*2= Disagree Moderately*
*3= Neither Agree nor Disagree*
*4= Agree Moderately*
*5= Agree Strongly*

1.  It is difficult for me to make new friends.

    1   2   3   4   5

2.  If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.

    1   2   3   4   5

3.  If I meet some one interesting who is hard to make friends with, I'll soon stop trying to makes friends with that person.

    1   2   3   4   5

4.  When I'm trying to become friends with someone who seems uninterested at first, I don't give up easily.

    1   2   3   4   5

5.  I do not handle myself well in social gatherings.

    1   2   3   4   5

6.  I have acquired my friends through my personal abilities at making friends.

    1   2   3   4   5

APPENDIX G: VANCOUVER INDEX OF ACCULTURATION

**Directions:**
Please answer each question as carefully as possible by circling *one* of the numbers to the right of each question to indicate your degree of agreement or disagreement. The questions will refer to your *heritage culture*, meaning the culture that has influenced you most (other than North American culture). It may be the culture of your birth, the culture in which you have been raised, or another culture that forms part of your background. If there are several such cultures, puck the one that has influenced you *most* (e.g., Chinese, Malaysian). If you do not feel that you have been influenced by any other culture, please try to identify a culture that may have had an impact on previous generations of your family.

**Please write your *heritage culture* in the space provided: _____**

| *Strongly Disagree* | | *Disagree* | | *Neutral/ Depends* | | *Agree* | | *Strongly Agree* |
|---|---|---|---|---|---|---|---|---|
| *1* | *2* | *3* | *4* | *5* | *6* | *7* | *8* | *9* |

1. I often participate in my *heritage culture* traditions.

<div align="right">1  2  3  4  5  6  7  8  9</div>

2. I would be willing to marry a person from my *heritage culture*.

<div align="right">1  2  3  4  5  6  7  8  9</div>

3. I enjoy social activities with people from the same *heritage culture* as myself.

<div align="right">1  2  3  4  5  6  7  8  9</div>

4. I am comfortable working with people of the same *heritage culture* as myself.

<div align="right">1  2  3  4  5  6  7  8  9</div>

5. I enjoy entertainment (e.g., movies, music) from my *heritage culture*.

<div align="right">1  2  3  4  5  6  7  8  9</div>

6. I often behave in ways that are typical of my *heritage culture*.

<div align="right">1  2  3  4  5  6  7  8  9</div>

7. It is important for me to maintain or develop the practices of my *heritage culture*.

<div align="right">1  2  3  4  5  6  7  8  9</div>

8. I believe in the values of my *heritage culture*.

<div align="right">1  2  3  4  5  6  7  8  9</div>

9. I enjoy the jokes and humor of my *heritage culture*.

<div align="right">1  2  3  4  5  6  7  8  9</div>

10. I am interested in having friends from my heritage culture.

<div align="right">1  2  3  4  5  6  7  8  9</div>

---

APPENDIX H: COLLECTIVE COPING STYLES

**Directions:**
This inventory contains statements about people's ways of coping with traumatic events in their lives. Most people have suffered some types of traumatic events in their lives. Such traumatic events could evoke some but not all of the emotions and reactions such as crying a lot, feeling sad, feeling helpless or overwhelmed, feeling depressed, flashbacks, preoccupations with the event. The following questions are NOT asking how frequently you engage in the various coping activities. Rather, please indicate how much each item helped you toward resolving previous trauma.

*0 = Never used this strategy/Not applicable*
-----------------------------------------------------
*1 = Used but of no help at all*
*2 = A little help*
*3 = A moderate amount of help*
*4 = A great deal of help*
*5 = A tremendous amount of help*

1. Through prayer or other religious rituals.

0   1   2   3   4   5

2. Found guidance from my religion.

0   1   2   3   4   5

3. Followed the guidance of my elders (e.g., parents, older relatives).

0   1   2   3   4   5

4. Believed that I would grow from surviving the traumatic event.

0   1   2   3   4   5

5. Waited for time to run its course.

0   1   2   3   4   5

6. Followed the norms and expectations of my family about handling traumatic events.

0   1   2   3   4   5

7. Found comfort from my religion or spirituality.

0   1   2   3   4   5

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8. Saved face by not telling anyone.

0  1  2  3  4  5

9. Placed trust in my elders' traditional wisdom to cope with the trauma.

0  1  2  3  4  5

10. Pretended to be OK.

0  1  2  3  4  5

11. Analyzing my feelings provided me with ideas about how to proceed.

0  1  2  3  4  5

12. Not vented my negative feelings to some people around me.

0  1  2  3  4  5

13. Avoided thinking about the trauma for a short time for the peace of mind.

0  1  2  3  4  5

14. Told myself that I could think of effective ideas.

0  1  2  3  4  5

15. Knew that I could ask assistance from my family increased my confidence.

0  1  2  3  4  5

16. Saved face by seeking advice from a professional (e.g., counselor, social worker,

    psychiatrist) I did not know personally.

0  1  2  3  4  5

17. Shared my feelings with my family.

0  1  2  3  4  5

18. Chatted with people about the trauma on the Internet in order to gain support.

0  1  2  3  4  5

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19. To save face, only thought about the problem by myself.

0   1   2   3   4   5

20. Kept my feelings within myself in order not to worry my parents.

0   1   2   3   4   5

21. Accepted the trauma as fate.

0   1   2   3   4   5

22. Maintained good relationships with people around me.

0   1   2   3   4   5

23. Actively sought advice from professionals (e.g., counselors, social workers,

psychiatrists).

0   1   2   3   4   5

24. Realized that often good comes after overcoming bad situations.

0   1   2   3   4   5

25. Ate in excess (or not eating).

0   1   2   3   4   5

26. Realized that the trauma served as an important purpose in my life.

0   1   2   3   4   5

27. Thought about the meaning of the trauma from the perspectives of my religious

beliefs.

0   1   2   3   4   5

28. Told myself that I could make my plans and ideas work.

0   1   2   3   4   5

29. As a starting point, tried to accept the trauma for what it offered me.

$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5$$

30. Through family assistance and support.

$$0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5$$

APPENDIX I: CULTURAL INTELLIGENCE SCALE

**Instructions:**
Read each statement and select the response that best describes your capabilities relative to those of your peers. Select the answer that **BEST** describes you **AS YOU REALLY ARE**.

*1=Strongly disagree; 7=Strongly agree.*

1. I am conscious of the cultural knowledge I use when interacting with people with

   different cultural backgrounds.

            1  2  3  4  5  6  7

2. I adjust my cultural knowledge as I interact with people from a culture that is

   unfamiliar to me.

            1  2  3  4  5  6  7

3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.

            1  2  3  4  5  6  7

4. I check the accuracy of my cultural knowledge as I interact with people from different

   cultures.

            1  2  3  4  5  6  7

5. I know the legal and economic systems of other cultures.

            1  2  3  4  5  6  7

6. I know the rules (e.g., vocabulary, grammar) of other languages.

            1  2  3  4  5  6  7

7. I know the cultural values and religious beliefs of other cultures.

            1  2  3  4  5  6  7

8. I know the marriage systems of other cultures.

            1  2  3  4  5  6  7

9. I know the arts and crafts of other cultures.

1  2  3  4  5  6  7

10. I know the rules for expressing non-verbal behaviors in other cultures.

1  2  3  4  5  6  7

11. I enjoy interacting with people from different cultures.

1  2  3  4  5  6  7

12. I am confident that I can socialize with locals in a culture that is unfamiliar to me.

1  2  3  4  5  6  7

13. I am sure I can deal with the stresses of adjusting to a culture that is new to me.

1  2  3  4  5  6  7

14. I enjoy living in cultures that are unfamiliar to me.

1  2  3  4  5  6  7

15. I am confident that I can get accustomed to the shopping conditions in a different

culture.

1  2  3  4  5  6  7

16. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction

requires it.

1  2  3  4  5  6  7

17. I use pause and silence differently to suit different cross-cultural situations.

1  2  3  4  5  6  7

18. I vary the rate of my speaking when a cross-cultural situation requires it.

1  2  3  4  5  6  7

19. I change my non-verbal behavior when a cross-cultural situation requires it.

1  2  3  4  5  6  7

20. I alter my facial expressions when a cross-cultural interaction requires it.

                                                    1  2  3  4  5  6  7

---

APPENDIX J: COLLECTIVE SELF-ESTEEM

**INSTRUCTIONS:**
We are all members of different social groups or social categories. Some of such social groups or categories pertain to gender, race, religion, nationality, ethnicity, and socioeconomic class. We would like you to consider your memberships in **the group of Asian international students**, and respond to the following statements on the basis of how you feel about this group and your memberships as an Asian international student. There are no right or wrong answers; we are interested in your honest reactions and opinions.
Please read each statement carefully and respond by using the following scale from 1 to 7:
*1=Strongly Disagree*
*2=Disagree*
*3=Disagree Somewhat*
*4= Neutral*
*5=Agree Somewhat*
*6=Agree*
*7=Strongly Agree*

1. I am a worthy member of the social groups I belong to.

                                                                              1  2  3  4  5  6  7

2. I often regret that I belong to some of the social groups I do.

                                                                              1  2  3  4  5  6  7

3. Overall, my social groups are considered good by others.

                                                                              1  2  3  4  5  6  7

4. Overall, my group memberships have very little to do with how I feel about myself.

                                                                              1  2  3  4  5  6  7

5. I feel I don't have much to offer to the social groups I belong to.

                                                                              1  2  3  4  5  6  7

6. In general, I'm glad to be a member of the social groups I belong to.

                                                                              1  2  3  4  5  6  7

7. Most people consider my social groups, on the average, to be more ineffective than

    other social groups.

                                                                              1  2  3  4  5  6  7

8.  The social groups I belong to are an important reflection of who I am.

    1  2  3  4  5  6  7

9.  I am a cooperative participant in the social groups I belong to.

    1  2  3  4  5  6  7

10. Overall, I often feel that the social groups of which I am a member are not

    worthwhile.

    1  2  3  4  5  6  7

11. In general, others respect the social groups that I am a member of.

    1  2  3  4  5  6  7

12. The social groups I belong to are unimportant to my sense of what kind of a person I

    am.

    1  2  3  4  5  6  7

13. I often feel I'm a useless member of my social groups.

    1  2  3  4  5  6  7

14. I feel good about the social groups I belong to.

    1  2  3  4  5  6  7

15. In general, others think that the social groups I am a member of are unworthy.

    1  2  3  4  5  6  7

16. In general, belonging to social groups is an important part of my self-image.

    1  2  3  4  5  6  7