

ACCULTURATIVE STRESS, CHINESE PROACTIVE COPING, TIME PERSPECTIVE,
AND SUBJECTIVE WELL-BEING
AMONG CHINESE INTERNATIONAL STUDENTS: A MODERATION MODEL

A Dissertation

by

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ABSTRACT

Acculturative stress is a type of stress related to adapting to a new culture that is often experienced by Chinese international students on U.S. college campuses. However, there is a lack of study about how they use culturally relevant coping strategies to cope with acculturative stress and enhance well-being. Based on Berry's (2003) theoretical framework for acculturation and Heppner et al.'s (2014) Cultural and Contextual Model of Coping, this study explored the a three-way interaction including acculturative stress, Chinese proactive coping, and future time perspective in predicting Chinese international students' subjective well-being. A total of 198 students participated in this study by completing an online survey. Hierarchical multiple regression was used to investigate the moderation model. Results indicated acculturative stress and subjective well-being were negatively correlated associated. Further, despite no significant moderation effects were found in current study, findings do indicate that Chinese proactive coping, future time perspective, and perceived English proficiency were significantly associated with subjective well-being. Limitations, future research directions, and implications for clinical practice are discussed.

DEDICATION

I dedicate my dissertation work to my family and many friends for supporting me throughout my lifetime.

A special feeling of gratitude to my loving and caring parents who have raised me to be the strong person I am today.

I would like to give special thanks to my significant other for her love and sacrifices.

I dedicate this dissertation to my beloved grandparents, who passed away before I could finish my doctoral degree. I will always appreciate all they have done.

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All the work conducted for the dissertation was completed by the student independently.

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CHAPTER I. INTRODUCTION

Background

Numerous international students from around the world enter the United States to get higher education. According to the Open Doors annual report from the Institute of International Education (IIE), there were 1,095,299 international students enrolled at colleges and universities in the U.S. during the 2018-2019 academic year, representing 5.5% of total U.S. college student enrollment (IIE, 2019). International students bring a variety of benefits to the U.S.

Economically, international students contributed \$41 billion to the U.S. economy and supported more than 458,290 jobs during the 2018-2019 academic year (National Association of Foreign Student Advisers [NAFSA], 2019). Academically, the presence of international students enhances the academic prestige of American colleges and universities because they often are highly ranked in their home countries (Wu, Garza, & Guzman, 2015). Culturally, international students enrich the cultural diversity of U.S. campuses. With their diverse cultural heritage and perspectives, they stimulate American faculty, students, and U.S. society to experience different cultures, and, in turn, promote their own cultural and international understanding (Sandhu & Asrabadi, 1994; Smith & Khawaja, 2011; Wu, Garza, & Guzman, 2015).

As the Chinese economy is dramatically booming, China has become the largest and fastest-growing contributor of international students to the U.S. in recent years. In the 2000-2001 academic year, approximately 59,939 students from mainland China attended colleges and universities in the U.S. (IIE, 2001). During the 2018-2019 academic year, that number had jumped to 369,548, accounting for 33.7% of all international students in the U.S. (IIE, 2019).

Like other students, whether domestic or international, many Chinese international students encounter mental health challenges. In addition to the usual varieties of psychological

issues, they have to adjust to the host culture and undergo separation from their home country. As the largest international student group on U.S. college campuses, Chinese international students are especially deserving of a more in-depth examination of their psychological and sociocultural experiences in the host country (Cao, Zhu, & Meng, 2017). Moreover, Liu (2009) states that we should address psychological problems encountered by Chinese international students independently from other international student communities given the uniqueness of their cultural heritage. Additionally, the mental health and well-being of Chinese international students are of considerable importance to mental health professionals, faculty, and academic staff who work with this population.

Acculturation, Subjective Well-being, Proactive Coping, and Time Perspective

Along with the excitement about new opportunities, moving to a new country to study can also bring many potential challenges to international students, including language barriers, cultural differences, financial problems, and social exclusion (Sherry, Thomas, & Chui, 2010). One experience facing almost all international students is adapting to a new culture while living in the United States, which is referred to as *acculturation*. Acculturation is defined as the process of cultural, psychological, and social adaptation to the majority, host culture (Berry, 2003). Yeh and Inose (2003) suggest that Chinese international students appear to experience a high level of difficulties acculturating to the United States due to the significant differences in cultural and social norms between the U.S. and China. More specifically, Chinese international students, compared to students from other countries, experience considerable more adjustment challenges both academically and socially because of language barriers, the Confucius cultural heritage (e.g., filial piety), and the collectivist social context (Leong, 2015; Liu, 2009; Zhang, 2016). These adjustment issues associated with the process of acculturation can lead to perceptions of

acculturative stress, which is a special kind of response to the challenges of intercultural living (Berry, 1970).

Although there has been an increasing interest in studying acculturative stress among international students, much of the previous literature primarily focused on the negative outcomes of acculturative stress, such as anxiety, depression, social isolation, and suicidal ideation (Hamamura & Laird, 2014; Huang & Mussap, 2018; Lau, 2007; Rice, Choi, Zhang, Morero, & Anderson, 2012; Wang & Mallinckrodt, 2006). Research from this perspective is likely to overemphasize the weaknesses of international students, creating a stereotype of this population being problematic or deficient (Yoon & Portman, 2004). Berry (2006) argues that people have the potential to deal effectively with stressors in their lives and to achieve a variety of positive outcomes. However, positive outcome variables have been less widely studied in acculturation research (Yoon, Lee, & Goh, 2008). As such, there is a need for acculturation studies that extend understanding beyond pathological outcomes to positive variables. Subjective well-being and adaptive coping are such areas for investigation.

Subjective well-being (SWB) is used to describe how people evaluate the quality of their lives, including cognitive judgments about life satisfaction and affective reactions such as joy and sadness to life events (Diener, 2006). Individuals with higher SWB experience low levels of negative affect, high levels of positive affect, and high life satisfaction (Diener et al., 2009). Life changes affect subjective well-being in both the short and long term (Hansson, Forsell, Hochwalder, & Hilleras, 2008; Suh, Diener, & Fujita, 1996). The meta-analytic study conducted by Yoon et al. (2013) suggested that acculturation was associated with life satisfaction and positive affect. Moreover, according to Yoon et al. (2008), acculturation among Korean immigrants explained approximately 49% of the variance in SWB. Nevertheless, there is a

paucity of research on the relationship between acculturative stress and SWB among Chinese international students.

Scholars studying acculturation have consistently identified coping as having an influence on the acculturation process of international students (Berry, 1997, 2006; Ward et al., 2001). Empirical studies (Ra & Trusty, 2015; Wei, Liao, Heppner, Chao, & Ku, 2012) also have shown that coping plays an important role in managing acculturative stress among Asian international students. The cultural and contextual model of coping proposed by Heppner, Wei, Neville, and Kanagui-Munoz (2014) highlights the social and cultural contexts as factors influencing the way in which racial and ethnic minorities in the United States cope with stressful life events. The model includes five domains: (a) Domain A, individual factors; (b) Domain B, three levels of environmental factors; (c) Domain C, stressors; (d) Domain D, coping; and (e) Domain E, health outcomes. Based on their model, these investigators proposed that coping is a moderator of the relationship between stressors and outcomes. Similarly, in his theoretical framework on acculturation, Berry (1997, 2006) proposes that coping strategies can serve as a moderating factor between acculturative stress and psychological adaptations. Chapter 2 provides a more comprehensive review of these two frameworks.

Much of previous coping research has focused on the reactive coping strategies, which means that coping occurs after the stressful event. Tian and Heppner (2018) indicate that such a focus offers a limited understanding of various coping strategies people use. Proactive coping, which “consists of efforts undertaken in advance of a potentially stressful event to prevent it or to modify its form before it occurs” (Aspinwall & Taylor, 1997), has been largely neglected in the research. Proactive coping is believed to have several advantages, including minimizing the stress experienced during a stressful event, accumulating coping resources to prepare for

potential stressors, expanding more options in advance, and lowering the burden of chronic stress (Aspinwall & Taylor, 1997). Although there have been repeated calls for more research on culturally-sensitive coping strategies, to the best of the author's knowledge, only one published study (Wei et al., 2012) and one dissertation (Yi, 2017) have investigated the coping strategies congruent with the Chinese culture and used by Chinese international students. Recently, Tian and Heppner (2018) developed a Chinese Proactive Coping (CPC) Inventory to assess proactive coping activities among Chinese college students. Clearly, the role of CPC in managing acculturation among Chinese international students deserves further study.

Tian and Heppner (2018) suggest that future research might investigate the relationship between CPC and personality variables, such as time perspective. Time perspective (TP) refers to “the often unconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or time frames, that help to give order, coherence, and meaning to those events” (Zimbardo & Boyd, 2015, p. 1271). According to Zimbardo and Boyd (2015), a future time perspective (FTP) is characterized by efforts to plan for achieving future objectives. Several studies have found that FTP can help individuals develop preventive health behaviors and build life satisfaction (Chen et al., 2017; Dwivedi & Rastogi, 2017). Therefore, it is of interest to study the moderation of FTP between acculturative stress and SWB.

The current study seeks to fill the gaps in the existing literature by exploring the impact of coping (i.e., CPC) and individual factors (i.e., future time perspective) on the relationship between acculturative stress and SWB among Chinese international students. Understanding moderation mechanisms in this association could help mental health professionals develop

culturally adaptive interventions to facilitate therapeutic change. Additionally, it could help Chinese international students promote their adaptation to life in the U.S.

The Present Study

The purpose of this study is to investigate the moderation of proactive coping and a future time perspective on subjective well-being and acculturative stress among Chinese international students. In this study, acculturative stress is the predictor; Chinese proactive coping and future time perspective are the two moderators; subjective well-being is the dependent variable. Based on the previous study on acculturative stress and proactive coping, and drawing on Berry's (1997) acculturation model and Heppner et al.'s (2014) Cultural and Contextual Model of Coping, the present study will investigate whether the use of Chinese Proactive Coping (Tian & Heppner, 2018) and other personality factors (i.e., future time perspective) can alter the strength from acculturative stress to subjective well-being among Chinese international students. Specific research questions are as follows (hypotheses appear as bullet points):

Research Question 1: How does acculturative stress influence subjective well-being?

- Hypothesis 1a: low acculturative stress will predict positive subjective well-being.
- Hypothesis 1b: high acculturative stress will predict negative subjective well-being.

Research Question 2: To what extent does Chinese Proactive Coping moderate the relationship between acculturative stress and subjective well-being?

- Hypothesis 2a: the negative association between acculturative stress and subjective well-being will be weaker for those with higher than for those with lower Chinese proactive coping.

- Hypothesis 2b: the negative association between acculturative stress and subjective well-being will be stronger for those with lower than for those with higher Chinese proactive coping.

Research Question 3: To what extent does the future time perspective moderate the relationship between acculturative stress and subjective well-being?

- Hypothesis 3a: the negative association between acculturative stress and subjective well-being will be weaker for those with higher than for those with lower future time perspective.
- Hypothesis 3b: the negative association between acculturative stress and subjective well-being will be stronger for those with lower than for those with a higher future time perspective.

Research Question 4: Is there a three-way interaction among acculturative stress, future time perspective, and Chinese Proactive Coping in predicting subjective well-being?

- Hypothesis 4a: For Chinese international students who have high (vs. low) level future time perspective and those who use more (vs. less) Chinese Proactive Coping strategies, the acculturative stress will have a weak association with subjective well-being
- Hypothesis 4b: For Chinese international students who have high (vs. low) level future time perspective yet use less (vs. more) Chinese Proactive Coping strategies, their acculturative stress will have a medium association with subjective well-being
- Hypothesis 4c: For Chinese international students who have low (vs. high) level future time perspective yet use more (vs. less) Chinese Proactive Coping

strategies, their acculturative stress will have a medium association with subjective well-being

- Hypothesis 4d: For Chinese international students who have low (vs. high) level future time perspective and use less (vs. more) Chinese Proactive Coping strategies, their acculturative stress will have a strong association with subjective well-being

CHAPTER II. LITERATURE REVIEW

The Theoretical Framework of Acculturation

In a classical definition of *acculturation* proposed by a group of anthropologists (Redfield, Linton, and Herskovits, 1936, p. 149), this concept is defined as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups.” This definition is limited because it focuses on the group-level phenomenon that occurs following the contacts between different cultures, but it overlooks the changes occurring at the individual level. Berry (1997, 2006) extended this original definition by arguing that acculturation is a complex phenomenon with multiple components and dimensions. According to this research, acculturation refers to all forms of change that arise following contact between groups or individuals from different cultural backgrounds. First, this definition indicates that acculturation encompasses multiple domains of change, such as cultural, physical, psychological, etc. (Berry, 1980). Second, it distinguishes group-level changes from those taking place at the individual level.

In addition to the construct, theories regarding acculturation also have shifted from a unidimensional conceptualization to a bidimensional one. In earlier research, unidimensional models (e.g., Parks & Miller, 2013) described acculturation as a process of “shedding off of old cultures and the taking on of new cultures” (Flannery, Reise, & Yu, 2001). Flannery, Reise, and Yu (2001) also note that this type of models are also called “unilinear” because they only encompass one outcome of acculturation—assimilation. Throughout the past two decades, bidimensional or bidirectional models of acculturation have emerged as alternative ways of conceptualizing acculturation. As opposed to unidimensional conceptualizations, the

bidimensional approaches depict two cultural orientations: one's relation to a home culture and one's relation to a host culture (Flannery, Reise, & Yu, 2001). For example, these kinds of models claim that it is possible that individuals may adopt some aspects of the host culture while still selectively retaining some features of their own culture. One of the most influential and widely used bidimensional models is Berry's (2003), which will be further discussed below.

Berry's (2003) framework shows that acculturation is a process that takes place at both the group and individual levels. At the group or cultural level, we need to consider key features of the two (or more) original cultural groups (A, B, and so on) prior to their contact (e.g., compatibility or incompatibility in cultural values, norms, and attitudes among cultural groups), the nature of their contact relationships (e.g., colonization or migration), and the resulting cultural changes in the groups as they emerge as ethnocultural groups during the process of acculturation (e.g., becoming colonized and enslaved) (Berry, 2003).

At the individual level, we need to understand the psychological acculturation that individuals in all groups undergo and their eventual adaptation to their new situations (Berry, 2003). Two different types of individual acculturative changes are identified, each suggesting a different level of difficulty for the individual (Berry, 1997). The first level of change is considered to be rather easy to accomplish, which is referred to as *behavioral changes*. The behavioral changes are usually surface changes in individuals, as people learn new behavioral norms that are compatible with the new cultural context, such as changing their way of speaking, dressing, eating, and other daily activities (Berry, 2003). When individuals face challenges or conflicts resulting from acculturation that exceed their ability to deal with them easily and quickly, then they might suffer from *acculturative stress*. The concept of acculturative stress was first introduced by Berry (1970) to serve as an alternative to the concept of *culture shock* (Oberg,

1960). Acculturative stress is generally defined as the stress reaction in response to life events that stem from intercultural contact (Berry, 2006).

Finally, the long-term outcomes of dealing with acculturation changes are referred to as *adaptation* (Berry, 2003). In Berry's framework, adaptation is categorized at two levels—psychological and sociocultural. Psychological adaptation can be understood in terms of internal or psychological outcomes, including a sense of well-being or self-esteem (Berry, 2006). Sociocultural adaptation manifests in the individual's competence in managing daily intercultural living, such as acquiring a new language (Berry, 2006).

This acculturation framework serves as a comprehensive theoretical foundation to guide the current study, which will focus on acculturative stress and its relationship to psychological adaptation, specifically subjective well-being. Operationally, Diener et al. (2003) indicated that subjective well-being consists of a set of components, including positive affect, absence of negative affect, and life satisfaction. Diener et al. (1999, p. 277) also suggested that each of the components of subjective well-being “need to be understood in their own right”. In the present study, subjective well-being was conceptualized in terms of the above three components and measured in separate domains rather than as a combined construct because each domain provides different and unique information about the subjective quality of one's life. By dividing subjective well-being into three main categories, the goal was to examine whether variables of interest were differentially related to these three aspects and to get independent explanations of the findings.

Acculturative Stress among Chinese International Students

International students may encounter a wide range of challenges regarding adaptation to another cultural setting, including language barriers, academic and financial difficulties, cultural

differences, loneliness, discrimination, and interpersonal problems (Gui, Safdar, & Berry, 2015; Mori, 2000; Pan, Yue, & Chan, 2010; Wei et al., 2007). Chavajay and Skowronek (2008) showed that 11.6% of the international students studying at an American university experienced sufficient acculturative stress to be of concern. Acculturative stress can manifest in one's physical, social, and psychological problems (Berry, 2006). Other studies (e.g., Khawaja & Dempsey, 2008; Mori, 2000; Sandhu and Asrabadi, 1994) have consistently indicated that international students tend to experience more psychological problems than their domestic counterparts. In an early systematic review, Church (1982) also suggested that approximately 15 to 25 percent of all international students are at risk of experiencing mental health issues.

Among all international students studying in the U.S., Chinese international students may have more challenging acculturative stress than those from other backgrounds (e.g. European) due to a variety of reasons. Language barriers are probably the most significant and challenging issue (Mori, 2000), particularly with Chinese international students who are not native English speakers. Lack of English language fluency could have a negative impact on international students' academic performance, which makes their cross-cultural adaptation more difficult (Lin & Yi, 1997). For example, in Yeh and Inose's study (2003), higher levels of English proficiency predicted lower levels of acculturative stress among international students. Hayes and Lin (1994) also suggest that language barriers could restrict international students' interactions with people in new cultural settings, which may heighten their feelings of isolation and/or social exclusion.

In addition to language barriers, the wide cultural distance between Chinese and U.S. cultures may also contribute to considerable acculturative stress for Chinese international students. Chen, Liu, Zhao, and Yueng (2015) point out that the experiences and values of Chinese international students might conflict with those of their American peers and professors.

For example, Chinese international students from a collectivistic culture with a strong emphasis on interdependence and close connections may feel perplexed when interacting with American students who tend to emphasize aspects of individualism, such as independence, assertiveness, and self-reliance (Cross, 1995). Researchers (e.g., Rice, Choi, Zhang, Morero, & Anderson, 2012) have also suggested that acculturative stress is greater among Chinese students than other Asian Indian students attending U.S. universities. In their study, Rice and his colleagues argue that the differences between these two international student groups could be attributed to the greater familiarity with Western society experienced by Asian Indian students. In another study, Yeh and Inose (2002) indicated that Chinese international students are significantly more likely to have communication difficulties than their Japanese and Korean counterparts, which could be the result of Chinese students' having less familiarity with values and norms in the U.S. as well as lower fluency in English.

Another common factor that may cause acculturative stress for Chinese international students is the discrepancy in academic norms between the U.S. and China. Chinese education is characterized by teacher-centered, information-based, and test-driven instructional practices (Wang & Kreysa, 2006). Also, in China, students are usually taught to be obedient to teachers, remain quiet in class, and to avoid expressing their personal opinions or asking questions until invited to do so by their teachers (Wang & Mallinckrodt, 2006). In addition, teachers are usually perceived as authority figures who should be respected by students (Wan, 1999). In contrast, American education is viewed as more interactive, collaborative, creative, and flexible than (Wan, 1999; Wang & Kreysa, 2006). For example, in a typical U.S. classroom, students are encouraged to take the initiative to ask questions or offer different opinions from those of held by their teachers. As a result of these differences, many Chinese international students may feel

uncomfortable with various components of the American educational system, such as independent library search, group discussions, and frequent presentations, essays, or quizzes (Mori, 2000). This implies that Chinese international students might need to work harder to adapt to their new learning environment.

The likelihood of encountering discrimination and racism may also create acculturative stress for Chinese international students. Zhang and Jung (2017) indicate that Asian international students commonly experience perceived discrimination based on race and ethnicity and majority group stereotypes. For example, Yeh & Inose (2003) found that European international students were significantly less likely to experience acculturative stress than international students from Asia, Africa, and Latin/Central America because these students experience less racism and discrimination than their Asian, African and Latin/Central American counterparts. In a recent literature review, Zhang-Wu (2018) also pointed out that international students of color tend to have more acculturative stress and a higher chance of experiencing discrimination than white international students (or international students from Europe).

While more research is needed to understand the factors contributing to the acculturative stress experienced by Chinese international students, there is a dearth of research that has examined the coping process of Chinese international students dealing with acculturative stress. Therefore, the goal of this study is to investigate how coping affects the association between acculturative stress and psychological adaptation.

Coping with Acculturative Stress

In the classic stress-coping model developed by Lazarus and Folkman (1984), *coping* is defined as “the constantly changing cognitive and behavioral efforts to manage specific external

and/or internal demands that are appraised as taxing or exceeding the resources of the person” (p. 141). Two types of coping strategies are included in the model: *problem-focused coping*, which involves activities that focus on changing or solving the problem; and *emotion-focused coping*, which involves activities that focus on regulating the emotional response to the problem. More recently, a third coping strategy was identified by Endler and Parker (1990): *avoidance-oriented coping*, which occurs when individuals disengage from a stressful life event.

Lazarus and Folkman’s (1984) model has focused on how people engage in various coping strategies to deal with stressors, leading eventually to some form of adaptation. Beyond Lazarus and Folkman’s (1984) model, Berry (1997, 2006) proposed a framework to specifically understand and study acculturative stress and coping. This framework emphasizes the critical role of coping as well as the emotional aspects of acculturation, such as psychological well-being and life satisfaction (Sam & Berry, 2010). In his framework, Berry (1997, 2006) makes reference to five main phenomena in the process of psychological acculturation: acculturation experience, appraisal of experiences, strategies used, immediate effects, and long-term outcomes. In addition, he identifies several moderating factors that could impact any associations (e.g., strategies used and immediate effects) in the process of acculturation, such as factors prior to acculturation (e.g., age, gender, personality, or language proficiency) and factors during acculturation (e.g., acculturation strategies, coping strategies, or social support). Within this acculturative stress perspective, people are seen as potentially able to deal effectively with acculturative stress and to achieve a variety of adaptations ranging from very negative to very positive ones (Berry, 2006).

Based on the aforementioned models, a coping response may arise from the acculturative stress international students encounter in the process of acculturation. A number of studies (e.g., Chen, Sullivan, Lu, & Shibusawa, 2003; Furukawa, 1997; Hahn, 2010; J. Kim et al., 2012; Lee

& Padilla, 2014; Ra & Trusty, 2015;) have studied the effects of coping on acculturative stress among international students. For example, Ra and Trusty (2015) found that emotion-oriented coping is associated with the reduction of acculturative stress among Asian international students in the U.S. However, only a few researchers (e.g., Wei et al., 2012) have investigated the role of culturally relevant coping strategies in dealing with acculturative stress among Chinese international students. Therefore, the current study will examine a recently-developed culturally congruent coping strategy (i.e., Proactive Chinese Coping), drawing upon Heppner et al. (2014) Cultural and Contextual Model of Coping.

Cultural and Contextual Model of Coping

Coping is an important topic in psychology that has been widely studied over the past three decades (Somerfield & McCrae, 2000). A substantial body of research indicates that how individuals cope with stressful life events is associated with psychological well-being (e.g., Folkman & Moskowitz, 2004; Heppner, Heppner, Wang, & Lee, 2003; Heppner & Lee, 2002; Neville & Heppner, 1999). For example, Heppner, Witty, and Dixon (2004) suggest that coping often moderates the relation between stress and psychological well-being. However, much of the research on coping has ignored the role of cultural context (Heppner et al., 2006), even though early research (e.g., Markus & Kitayama, 1991) has shown that cultural contexts are broadly associated with a variety of cognitive, emotional, and behavioral strategies. For example, Heppner et. al (2006) found that strategies of coping with stressful and traumatic life events in collectivistic groups are different from those in individualistic groups. Thus, it is important to identify culturally-congruent coping strategies across different cultural groups.

In response to the call for more culturally-inclusive research to expand coping models, Heppner, Wei, Neville, and Kanagui-Munoz (2014) propose the contextual and cultural model of coping (CCMC) to identify the significant role of cultural context in coping. The CCMC is an Individual × Environmental ecological model for U.S. racial and ethnic minorities that emphasizes the cultural context within which coping occurs (Heppner et al., 2014). The model encompasses five primary domains: (a) Domain A, individual factors (e.g., personality traits); (b) Domain B, three levels of environmental factors (immediate relationships, working and living environment, and macro social-cultural context); (c) Domain C, stressors (e.g., acculturative stress); (d) Domain D, coping (e.g., coping strategies); and (e) Domain E, health outcomes (e.g., well-being). In the CMCC model, coping is thus characterized as a complex process that includes the perceptions of stressors, problem appraisal and coping goals, coping strategies, and the function of coping. Many of these elements are also part of Berry's (1997, 2006) model; for example, problem appraisal, coping strategies and resources, and adaptations. Besides emphasizing the central role of coping, the CMCC model also elaborates on four aspects of coping that merit additional consideration specifically in the case of racial and ethnic minorities, such as *culturally congruent coping* (Heppner et al., 2014). Heppner and his colleagues define culturally congruent coping as “culturally appropriate coping in dealing with particular stressful situations within a particular cultural context” (p. 92). For instance, forbearance coping is culturally congruent with the collectivistic cultural context, which usually encourages self-sacrifice, distress endurance, and social harmony (Wei et al., 2012).

Given the bidirectional relations among the domains in the CCMC model, Heppner et al. (2014) provide a number of possible theoretical hypotheses among the five domains. One of the hypotheses suggests that coping (Domain D: e.g., culturally-congruent coping) may moderate the

association between stress factors (Domain C: e.g., acculturative stress) and outcomes (Domain E: e.g., subjective well-being). Empirical studies have shown the moderating effect of culturally congruent coping (e.g., Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Wei, Heppner, Ku, & Liao, 2010). For example, Wei et al. (2010) found the association between racial discrimination stress (Domain C) and depressive symptoms (Domain E) was moderated by collectivistic coping (Domain D) among Asian Americans. However, most of the research on culturally-congruent coping has focused on reactive coping, which indicates that coping occurs after stressful events. Tian and Heppner (2018) suggest that a focus on reactive coping provides only a partial understanding of how people cope with stressful events. Moreover, Kim, Li, and Ng (2005) believe that reactive coping is not congruent with Asian values, such as emotional self-control. In another study, Wei et al. (2008) found that the high use of reactive coping to deal with racial discrimination stress increased vulnerability for depressive symptoms among Asian international students. Therefore, culturally-congruent proactive coping, which is significantly different from reactive coping, is an area wide open to investigation.

Chinese Proactive Coping

The strategy of proactive coping has not been well studied over the past twenty years (Tian & Heppner, 2018). The concept of proactive coping was proposed by Aspinwall and Taylor (1997, p. 417), and refers to “the efforts undertaken in advance of a potentially stressful event to prevent it or to modify its form before it occurs.” Based on this definition, proactive coping is significantly different from traditional forms of coping (i.e., reactive coping) in many ways, including the context in which it occurs, its intentionality, and the actual activities (Tian & Heppner, 2018). First, proactive coping is a future-oriented action that occurs before a stressful

event. Second, it aims at preventing or lessening potential stressors. Third, it may involve actions such as accumulating resources and acquiring skills that are designed to prepare for potential stressors in general (Aspinwall & Taylor, 1997), learning from previous mistakes to minimize possible future stressful consequences, and setting future goals and planning to achieve them (Schwarzer & Knoll, 2003). Onyedibe (2019) suggest that people who use proactive coping actively strive for improvement in their life instead of passively reacting to extant obstacles. Moreover, Hambrick and McCord (2010) also point out that people who engage in proactive coping perceive potential stressors as challenges rather than threats. For example, previous research has found that this type of coping is associated with promotion of health and well-being, and lower levels of depression, functional disability, self-blame, and burn-out (Greenglass & Fiksenbaum, 2009; Greenglass, Marques, deRidder, & Behl, 2005; Greenglass, Schwarzer, Jakubiec, Fiksenbaum, & Taubert, 1999; Schwarzer & Knoll, 2003; Schwarzer & Taubert, 2002).

Even though proactive coping has been shown to have numerous important potential benefits, there is still a need for more research on behaviors connected to this type of coping. For example, Tian and Heppner (2018) state that only one proactive coping scale (Greenglass, Schwarzer, Jakubiec, Fiksenbaum, & Taubert, 1999) has been developed, and it exhibits several significant psychometric problems. To address this gap, along the same line of research on culturally-congruent coping, Tian and Heppner (2018) have developed the Chinese proactive coping inventory. This inventory is congruent with Chinese culture because the values of proactive coping reflect the traditional philosophies of several major Chinese philosophical systems. For example, Taoism suggests that happiness and misfortune are not static and will alternate over time. Thus, “Ju An Si Wei” and “Fang Huan Wei Ran”, which mean “Think of

danger in time of peace” and “make provisions before troubles occur” respectively, are encouraged among Chinese people to take precautionary and preventive actions. In addition, Confucianism also values financial frugality, which implies being thrifty and saving money for future potential emergencies or adversities. The connection of this value with Chinese people is shown in Richburg’s (2012) study, which found a relatively high rate of financial saving (an average household-savings rate of 38%) in Chinese populations than in their American counterparts (3.9%). Thus, given that Chinese international students are heavily influenced by these traditional Chinese philosophies, the utilization of a culturally congruent coping strategy (i.e., Chinese proactive coping) may enhance the effectiveness of coping with various potential stressors (e.g., acculturative stress) and promote positive outcomes (e.g., subjective well-being).

Given that the Chinese proactive coping inventory was newly developed in 2018, no research has explored the protective effect of Chinese proactive coping on acculturative stress and subjective well-being among Chinese international students. Thus, this study will examine whether Chinese proactive coping may moderate the association between acculturative stress and subjective well-being.

Future Time Perspective

Through their CMCC model, Heppner and his colleagues (2014) suggest that individual factors (e.g., cognitive and affective processes) are important to consider when coping with stress. Another important dimension could be *time perspective* (TP), which could be characterized as a cognitive process that demarcates our view of time. Zimbardo and Boyd (2015, p. 1271) offer the following definition of TP as “the often unconscious process whereby the continual flows of personal and social experiences are assigned to temporal categories, or

time frames, that help to give order, coherence, and meaning to those events.” According to these investigators, TP can be used in encoding, storing, and recalling experienced events, as well as in forming expectations, goals, contingencies, and imaginative scenarios. Empirical studies have found that TP is a strong psychosocial predictor of individuals’ psychological and behavioral outcomes, such as anxiety, depression, physical health, subjective well-being, and happiness (Anagnostopoulos & Griva, 2012; Drake et al., 2008; Guthrie, Butler, & Ward, 2009; Sailer et al., 2014).

Zimbardo and Boyd (2015) propose five distinct TPs: past-negative (characterized by a pessimistic, negative view of the past and marked by regrets and rumination about past harms), past-positive (a positive evaluation of the past, perceived as bearing the values and experiences that are associated with happiness), present-hedonistic (an orientation toward present enjoyment, pleasure without sacrifices today for rewards tomorrow), present-fatalistic (characterized as helpless, hopeless attitude towards the future and life in general) and future (characterized by efforts to plan for achieving future objectives). Among these TPs, the future time perspective (FTP) has been identified as a good predictor for many future-oriented behaviors, such as pro-environmental attitudes or behaviors and preventive health behaviors (Chen et al., 2017). In addition, FTP has been found to be positively associated with future-oriented coping (i.e., proactive coping) in several empirical studies (Anagnostopoulos & Griva, 2012; Dwivedi & Rastogi, 2017; Zambianchi & Bitti, 2014). For example, in a study of 232 young adults, Zambianchi and Bitti (2014) found that FTP was positively related to proactive coping.

Theoretically, Heppner et al.’s (2014) CCMC model suggests that individual factors (Domain A: e.g., FTP) or coping (Domain D: e.g., Chinese proactive coping), as well as a combination of these variables, can moderate the association between stressors (Domain C: e.g.,

acculturative stress) and outcomes (Domain E: e.g., subjective well-being). In a recent study, Dwivedi and Rastogi (2017) showed that life satisfaction was positively correlated with proactive coping and FTP. However, to the best of the author's knowledge, no research has explored FTP and culturally-congruent proactive coping as moderators between acculturative stress and subjective well-being in an ethnic minority group. Thus, this dissertation will adopt the CMCC model to explore Chinese proactive coping and FTP as potential moderating mechanisms in the relation between acculturative stress and subjective well-being among Chinese international students.

CHAPTER III. METHODS

Participants

For this study, eligible participants met the following inclusion criteria: (a) 18 years of age or older; (b) full-time students currently enrolled in a college or university in the United States (U.S.) (including on CPT or OPT); (c) self-identified as international students who were originally from Mainland China, Hong Kong, Macau, or Taiwan. Participants who did not meet all of these criteria were excluded from consideration. Additionally, six students inaccurately responded to a validity item (i.e., “Read carefully and please select ‘completely like me’ for this item). Six participants were removed from the data analyses because they clicked a response other than “completely like me.” Thus, the complete data for 198 participants were used in the analyses, which is 74% of the initial pool of 266 participants.

The final sample consisted of 62 males (31.3%), 131 females (66.2%), 1 student who identified as Non-Binary/Genderqueer/Gender Non-Conforming (0.5%), and 4 students who did not indicate their sex (2%). The mean age was 26.3 years (SD= 4.2; range= 19–42 years). The majority of the participants (n= 167, 84.3%) identified as heterosexual or straight; four students identified as gay (2%); six students identified as lesbian (3%); twelve students identified as bisexual (6%); one student (0.5%) identified as other (i.e., queer); and eight students did not indicate their sexuality (4%). Ninety-eight participants were single (49.5%); 93 participants were either in a dating relationship or married (48%); 7 participants did not indicate their relationship status (3.5%). Participants were originally from Mainland China (n= 182; 92%) and Taiwan (n= 16; 8%). For the educational level, the sample includes 43 undergraduate students (21.7%), 56 master’s students (28.3%), 93 doctoral students (47%), and 6 students (3%) enrolled as others (i.e., on OPT). For regions of universities or colleges, nearly half of the students come from

universities or colleges in Texas (n = 82, 41.4%), other places include Illinois (n = 16, 8.1%), Massachusetts (n= 11, 5.6%), New York (n = 10, 5.6%), Virginia (n = 10, 5.6%), Iowa (n= 9, 4.5%), California (n= 7, 3.5%), Minnesota (n= 7, 3.5%), Pennsylvania (n= 7, 3.5%), and other 19 states (n = 39, 19.7%). Participants reported an average length of time in the United States of 4.1 years (SD= 3) and an average length of time in English-speaking country(ries) (including the United States) of 4.6 years (SD=3.4). Participants' self-perceived English proficiency has a mean of 11.8 (SD =2; range=7–15), with higher scores indicating greater English language proficiency.

Procedures

The Texas A&M University Institutional Review Board (IRB) approved all study procedures prior to the beginning of participant recruitment. Participants were also recruited from U.S. colleges and universities with Chinese international students in the U.S. by means of direct invitation emails to complete the Qualtrics online survey. Snowball sampling method was used to recruit participants. Several email invitations were sent out to potential subjects (i.e., members of Chinese students organizations in different U.S. universities), and those subjects were asked to send the invitation email to potential eligible participants they know. Participants were also recruited through email invitations sent through Texas A&M university's bulk email system. The invitation email consisted of a brief explanation of the nature and goals of the study, contact information of the research team, incentive information, and the link to the online survey.

The initial page of the online survey provided an informed consent form requiring each participant to give consent before proceeding to complete the survey. Participants were informed that their participation was voluntary and confidential and they could withdraw from the study at any time. The anticipated risks for the study were minimal. After providing consent to

participate, participants responded to demographic/background questions (e.g., sex, age, sexual orientation, and areas of study) and then completed the survey instruments. The online survey was set as mandatory to answer every question. The survey included one validity check item to help filter random responses. Upon completion of the survey, participants had the option to be redirected to a new survey to enter the contact information (i.e., name and email address) for a \$5 Amazon gift card. The contact information for the incentive was stored separately from the survey data so as to protect participant's confidentiality.

Measures

The survey consists of a demographic questionnaire and a sequence of measures assessing the following constructs: demographic information, acculturative stress, Chinese proactive coping, time perspective, and subjective well-being. The survey was provided in both English and Simplified Mandarin Chinese. The Chinese version of the above measures were directly adopted from the scale developers and previously validated in the literature. Detailed information about the measures and their psychometric properties is outlined below.

Demographic Questionnaire

Participants were asked to provide demographic information in a brief questionnaire, including age, gender, sexual orientation, nationality, relationship status, field of study/major, and educational level (e.g., undergraduate, master's student, doctoral student, and others).

Participants identified their length of time stay in the U.S. by answering the question "How long have you been in the United States?" Participants were also asked "How long have you resided in an English-speaking country(ies) (excluding the U.S.)?"

Perceived English Proficiency

Participants reported their English language proficiency, which was measured via three questions on a 5-point Likert-type scale ranging from 1 = very poor to 5 = very good. 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 15 with higher scores indicating greater English language proficiency. Evidence of construct validity for the PEP has been established. Specifically, PEP was correlated positively with the length of time in the United States and was correlated negatively with acculturative stress and psychological distress among Chinese international students (Wei et al., 2012). Wei et al., 2012 also found the internal consistency for the scale was .89 for Chinese international students.

Acculturative Stress

The Acculturative Stress Scale for Chinese Students (ASSCS; Bai, 2016) was used to measure participants’ acculturative stress. The scale was designed to measure the acculturative stressors experienced by Chinese international students in their daily lives living in the U.S. The ASSCS consists of 32 self-report items, comprising five dimensions: (a) language insufficiency (10 items), (b) social isolation (8 items), (c) perceived discrimination (7 items), (d) academic pressure (4 items), and (e) guilt towards family (3 items). Sample items are “It is hard for me to follow the lectures and conversations in classes” and “My social circles shrank after I came to the U.S.” Items are rated on a 7-point Likert scale from 1 (never) to 7 (all the time). Higher scores on the scale indicate a greater level of acculturative stress. ASSCS has been shown to exhibit a high internal consistency, which was indicated by an overall Cronbach’s alpha of 0.939 (Bai, 2016). Criterion-related validity was supported by a negative association with life

satisfaction and a positive association with depression among Chinese international students (Bai, 2016).

Subjective Well-being

Given the three factors of subjective well-being—positive affect, absence of negative affect, and life satisfaction (Diener et al., 2003)—subjective well-being was measured by the following two scales.

Positive affect and negative affect. The Positive and Negative Affect Scales (PANAS; Watson, Clark & Tellegen, 1988) are two 10-item scales used to measure the levels of states of positive affect (PA) and negative affect (NA). The items are rated on a five-point Likert scale, where 1 = (very slightly or not at all) and 5 = (extremely). The PA subscale measures subjective positive and pleasant mood states, with sample items like “excited and “interested;” and the NA subscale measures subjective distress and unpleasant mood states, with sample items like “afraid” and “distress.” Higher scores indicate stronger positive or negative affect. Du and Wei (2015) confirmed the reliability and validity of PANAS for Chinese international students with Cronbach’s alphas ranging from .86 to .89 for PA scores and .88 for NA scores. The convergent and discriminant validity was evidenced by a significant positive correlation between PA and life satisfaction and a significant negative correlation between NA and life satisfaction (Du & Wei, 2015).

Satisfaction with life. The self-evaluation of global life satisfaction was measured by the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The SWLS consists of 5 items and measures global life satisfaction based on one’s cognitive self-evaluation. Sample items are “In most ways, my life is close to my ideal” and “The conditions of my life are excellent.” Participants rated their satisfaction level over their previous week on a 7-point Likert scale,

ranging from 1 = (strongly disagree) to 7= (strongly agree). Higher scores indicate higher levels of satisfaction with life. For example, studies that have focused on Chinese international students have found Cronbach's alphas that ranged from .85 to .93 (Du & Wei, 2015; Wang, Wei, & Chen, 2015; Yi, 2017; Zhang, Mandl, & Wang, 2010). Validity of the SWLS has been shown among mainland Chinese (Shao, 1993).

Chinese Proactive Coping

The Chinese Proactive Coping (CPC; Tian & Heppner, 2018) was used to measure proactive coping within a Chinese cultural context. The items in the test were developed based on four inquiry sources: (a) the proactive coping literature and related concepts; (b) Chinese documents (e.g., old sayings) related to proactive coping; (c) interviews with Chinese college students; and (d) a research team of four people with considerable expertise on coping (Tian & Heppner, 2018). The CPC inventory uses a 5-point Likert-type format ranging from 1 (completely unlike me) to 5 (completely like me), and it consists of 17 items within four underlying categories: Active Preparation for Potential Stressors (APPS: 5 items), Utilizing Knowledge of Potential Stressors (UKPS: 4 items), Contextual Consideration of Proactive Actions (CCPA: 4 items), and Approaching Proactive Actions (APA: 4 items). Sample items are "To prepare for potential future stressors, I make plans and follow them" and "I make use of other people's experiences to prepare for potential future stressors." Higher scores suggest a higher frequency of proactive coping activities.

The CPC inventory has been shown to exhibit good concurrent and construct validity. Specifically, Tian and Heppner (2018) reported that the CPC's concurrent validity CPC significantly correlated with two well-established coping inventories in expected directions (i.e., the Chinese Problem Solving Inventory and the Mooney Problem Check List). Construct validity

was shown through the statistically significant positive associations of the CPC and three factors (i.e., APPS, UKPS, and APA) with the SWLS, as well as through their significant negative associations with the General Procrastination Scale—students, Brief Symptom Inventory-18, and State-Trait Anxiety Inventory. Tian and Heppner (2018) also found an internal reliability of 0.81 for sample A (233 Chinese college students) and an internal reliability of 0.76 for sample B (226 Chinese college students). They also reported that the subscales' Cronbach's alpha ranged from 0.64 to 0.77.

Time Perspective

Participants' TP was measured with the Zimbardo Time Perspective Inventory (ZTPI) (Zimbardo & Boyd, 2015). In the present study, only one dimension of the inventory was used, future TP (13 items), which evaluates how much individuals are able to resist the temptation for an immediate reward and wait for a later big reward and to make plans in order to achieve relevant future objectives. A sample item is "When I want to achieve something, I set goals and consider specific means for reaching those goals." The ZTPI uses a 5-point Likert-type format ranging from 1 (very uncharacteristic) to 5 (very characteristic). Higher scores reflect a stronger orientation toward FTP. The Cronbach's alpha coefficients of the original version were .77 for FTP (Zimbardo & Boyd, 2015). The reliability and validity of this scale were supported by a study that evaluated the Chinese version of the ZTPI among 303 Chinese university students (Wang, Chen, Cui, & Liu, 2015). In this study, the test-retest coefficients were .55 for FTP. For the convergent validity, the FTP was negatively correlated with dysfunctional impulsivity, BAS fun-seeking, depression, and trait anxiety, and it was positively correlated with time concern, self-esteem, and conscientiousness (Wang, Chen, Cui, & Liu, 2015).

CHAPTER IV. RESULTS

IBM SPSS Statistics Version 22 for Microsoft Windows was used for all statistical analyses.

Data Screening

No missing data were found in this study because all the questions were set as mandatory to answer. Data screening is used to exclude univariate and multivariate outliers. A univariate outlier is identified and removed if its z score is larger than 3.29 or smaller than -3.29 ($p < 0.001$). One case was identified as an outlier because the Z Score for Positive Affect was smaller than -3.29. Two cases were identified as outliers because the Z Scores for Length of stay were larger than 3.29. One case was identified as an outlier because the Z Score for Age 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, one case was identified as outliers because its probability was below .001. Therefore, there was a reduction in the usable sample size from 198 to 193 participants.

Because previous research findings (e.g., Wang & Mallinckrodt, 2006; Wei et al., 2012; Ying & Liese, 1990) suggest that some demographic variables, such as English language proficiency, age, and length of time stay in the U.S., may be associated with psychological well-being, these variables were included as covariates in the subsequent analyses. The means, standard deviations, and inter-correlations among all the main study variables are presented in Table 1.

Table 1. *Correlations, Means, and Standard Deviations among Main Study Variables*

Variable	1	2	3	4	5	6	7	8	9
1. Age	1								
2. LoS	.39**	1							
3. PEP	.15*	.44**	1						
4. ASSCS	-.08	-.09	-.31**	1					
5. CPC	.06	.05	.09	-.11	1				
6. FTP	.06	.06	.23**	-.12	.43**	1			
7. PA	.09	.021	.37**	-.27**	.37**	.39**	1		
8. NA	-.06	-.052	-.12	.59**	-.12	-.13	-.21**	1	
9. SWLS	.15*	.11	.28**	-.41**	.30**	.22**	.47**	-.48**	1
Mean	26.61	4.06	11.82	95.76	62.91	3.54	35.16	22.33	20.95
SD	3.94	2.84	2.06	31.52	7.30	.50	5.97	7.42	7.01

Note. LoS=Length of stay in the United State; PEP=Perceived English Proficiency; ASSCS=Acculturative Stress; CPC=Chinese Proactive Coping; FTP=Future Time Perspective; PA=Positive Affect; NA=Negative Affect; SWLS=Satisfaction with Life.
*p < .05. **p < .01

Preliminary Analyses

Hierarchical multiple regression was used to examine the proposed moderation model given that it is typically used as a data-analytic strategy to explain predictions and moderations based on theoretical assumptions (Petrocelli, 2003). To ensure the assumptions for hierarchical multiple regression (i.e., normality, linearity, homoscedasticity, and absence of multicollinearity) are met (Cohen et al., 2013), preliminary analyses including assumption checking and necessary data transformations were conducted prior to examining the main analysis.

Normality. In order to make valid inferences from multiple regression, the residuals of the regression need to follow an approximately normal distribution. A normal Predicted Probability (P-P) plot was examined to determine if the residuals of outcome variables are normally distributed. The closer the dots lie to the diagonal normality line in the plot, the closer to normal the residuals are distributed. The results indicated the data met the assumption of normality.

Linearity. Linearity means that the predictor variables in the regression have a linear relationship with the outcome variable. Scatterplots were created to check for linearity. The scatterplot of the residuals shows that there are points equally distributed above and below zero on the X axis, and to the left and right of zero on the Y axis. Therefore, the linearity assumption is satisfied.

Homoscedasticity. Homoscedasticity refers to the variance of the residuals is homogeneous across levels of the predicted values. The standard residual score and Cook's Distance score in the Residuals Statistics table were used to examine homoscedasticity. Specifically, the minimum and maximum of the standard residual score should be within -3 to 3. Furthermore, the maximum of Cook's Distance score should not be above 1. According to these criteria, three cases were detected as outliers because the standard residual scores were higher than 3. Thus, there was a reduction in sample size for the main analysis from 193 to 190 participants.

Non-multicollinearity. Lastly, non-multicollinearity indicates that independent variables 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 0.8 suggests a high correlation among

independent variables (Cohen et al., 2013). In the Collinearity Statistics table, a Tolerance value below 0.2 indicates possible multicollinearity (Cohen et al., 2013). To indicate non-multicollinearity, the VIFs in the Collinearity Statistics table is expected to be below 10. After checking all four key criteria, the assumption of non-multicollinearity was upheld.

Main Analysis

A hierarchical multiple regression analysis was performed to test the research hypotheses. Before conducting the main analysis, predictor and moderator variables (acculturative stress, Chinese proactive coping, and future time perspective) were centered to avoid multicollinearity in testing interactions. In Step 1, the three covariate variables (i.e., perceived English proficiency, length of time in the United States, and age) were entered. In Step 2, one predictor (i.e., acculturative stress) and two moderators (i.e., Chinese proactive coping and future time perspective) were entered to test the main effects. In Step 3, all possible combinations of two-way interactions (acculturative stress \times Chinese proactive coping, acculturative stress \times future time perspective, and Chinese Proactive coping \times future time perspective) were entered. Finally, in Step 4, a three-way interaction (acculturative stress \times Chinese proactive coping \times future time perspective) was entered to test the three-way interaction hypothesis.

The results of hierarchical multiple regression analysis are displayed in Table 2-4. In Step 1, age was significant in predicting positive affect ($\beta = .16$, $t(187) = 2.21$, $p < .05$) and satisfaction with life ($\beta = .16$, $t(187) = 2.09$, $p < .05$). Length of stay in the U.S. had a negative effect on positive affect ($\beta = -.24$, $t(187) = -3.08$, $p < .01$). Perceived English proficiency predicted positive affect ($\beta = .47$, $t(187) = 6.49$, $p < .001$) and satisfaction with life ($\beta = .31$, $t(187) = 4.01$, $p < .001$). Step 2 showed the negative effect of acculturative stress on positive affect ($\beta = -.15$, $t(184) = -2.41$, $p < .05$) and satisfaction with life ($\beta = -.35$, $t(184) = -5.40$, p

< .001), and the positive effect of acculturative stress on negative affect ($\beta = .60$, $t(184) = 9.65$, $p < .001$). The main effects of Chinese proactive coping and positive affect were significant ($\beta = .27$, $t(184) = 4.21$, $p < .001$). Chinese proactive coping also showed significantly positive effects on satisfaction with life ($\beta = .25$, $t(184) = 3.63$, $p < .001$). Future time perspective was significantly associated with positive affect ($\beta = .20$, $t(184) = 3.05$, $p < .001$). In step 3 and step 4, the two-way interactions and the three-way interactions were not significant.

Results indicated that the covariates significantly contributed to positive affect and satisfaction with life. Covariates accounted for 20% of the variance in positive affect ($\Delta F(3, 186) = 15.45$, $p < .001$, $\Delta R^2 = .20$) and 11% of the variance in satisfaction with life ($\Delta F(3, 186) = 7.58$, $p < .001$, $\Delta R^2 = .11$). Adding one predictor (i.e., acculturative stress) and two moderators (i.e., Chinese proactive coping and future time perspective) in Step 2 significantly added an additional 18% of predicted variance in positive affect ($\Delta F(3, 183) = 18.25$, $p < .001$, $\Delta R^2 = .18$), an additional 34% of predicted variance in negative affect ($\Delta F(3, 183) = 32.67$, $p < .001$, $\Delta R^2 = .34$), and an additional 19% of predicted variance in satisfaction with life ($\Delta F(3, 183) = 16.47$, $p < .001$, $\Delta R^2 = .19$). The two-way interactions in Step 3 did not account for additional variance in the outcome variables. Entering the three-way interaction in Step 4 did not contribute additional variance in the subjective well-being either.

Table 2. Moderation effect of Chinese proactive coping and future time perspective on the association between acculturative stress and positive affect

Variables	b	SE b	β	t	ΔR^2	ΔF
Step 1					.20	15.45***
Age	.23	.11	.16	2.21*		
LoS	-.49	.16	-.24	-3.08**		
PEP	1.33	.21	.47	6.49***		
Step 2					.18	18.25***
ASSCS	-.02	.01	-.15	-2.41*		
CPC	.21	.05	.27	4.21***		
FTP	2.33	.76	.20	3.05***		
Step 3					.00	.18
ASSCS \times CPC	-.00	.00	-.04	-.52		
ASSCS \times FTP	.00	.02	.00	.06		
CPC \times FTP	-.05	.09	-.04	-.58		
Step 4					.01	2.08
ASSCS \times CPC \times FTP	.00	.00	.10	1.44		

Note. N=190

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

Table 3. Moderation effect of Chinese proactive coping and future time perspective on the association between acculturative stress and negative affect

Variables	b	SE b	β	t	ΔR^2	ΔF
Step 1					.01	.90
Age	-.13	.15	-.07	-.90		
LoS	.11	.23	.04	.50		
PEP	-.38	.29	-.11	-1.33		
Step 2					.34	32.67***
ASSCS	.14	.02	.60	9.65***		
CPC	-.05	.07	-.05	-.70		
FTP	-.69	.99	-.05	-.70		
Step 3					.01	.65
ASSCS \times CPC	.00	.00	.05	.64		
ASSCS \times FTP	-.01	.03	-.02	-.28		
CPC \times FTP	.15	.12	.08	1.26		
Step 4					.00	.98
ASSCS \times CPC \times FTP	-.00	.00	-.07	-.99		

Note. N=190

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

Table 4. Moderation effect of Chinese proactive coping and future time perspective on the association between acculturative stress and satisfaction with life

Variables	b	SE b	β	t	ΔR^2	ΔF
Step 1					.11	7.58***
Age	.28	.13	.16	2.09*		
LoS	-.20	.20	-.08	-.96		
PEP	1.05	.26	.31	4.01***		
Step 2					.19	16.47***
ASSCS	-.08	.02	-.35	-5.40***		
CPC	.24	.07	.25	3.63***		
FTP	.04	.98	.00	.04		
Step 3					.02	1.48
ASSCS \times CPC	.00	.00	.08	1.13		
ASSCS \times FTP	.01	.03	.02	.31		
CPC \times FTP	-.13	.12	-.07	-1.09		
Step 4					.01	2.06
ASSCS \times CPC \times FTP	-.01	.00	-.11	-1.44		

Note. N=190

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

CHAPTER V. DISCUSSION

Existing research demonstrated that Chinese international students, a growing population in United States universities, encounter various acculturative challenges in different areas, such as language barriers, academic difficulties, discrimination, and so on. These acculturative challenges may affect their psychological well-being. The Cultural and Contextual Model of Coping (CCMC; Heppner et al., 2014) suggested that culturally-congruent coping (Domain D: Coping) and cognitive process (Domain A: Individual Factors) may moderate the association between acculturative stress (Domain C: Stressors) and subjective well-being (Domain E: Health Outcomes). In particular, Chinese international students hold unique cultural values (i.e., Confucian values which emphasize preparing for the future) that may have implications for how they use Chinese proactive coping to handle acculturative stress.

This study addressed the dearth of literature investigating various culturally relevant or individual variable interactions influencing the stress and health outcome variables among Chinese international students. In this study, participants' subjective well-being was evaluated with three scales: positive affect, negative affect, and life with satisfaction. Results suggest associations between subjective well-being, acculturative stress, Chinese proactive coping, and future time perspective in Chinese international students.

Moderation Effects

Although there are some studies that have found evidence that proactive coping and future time perspective relate to positive psychological outcomes respectively (e.g., Coudin & Lima, 2011; Greenglass & Fiksenbaum, 2009; Greenglass, Marques, deRidder, & Behl, 2005; Kooij, Kanfer, Betts, & Rudolph, 2018), there is limited research that evaluates the effect that Chinese proactive coping or future time perspective have on the relationship between

acculturative stress and subjective well-being. With respect to the moderation effects, the present study proposed a three-way interaction of acculturative stress, Chinese proactive coping, and future time perspective in predicting subjective well-being.

Study results did not provide support for the hypothesized moderation effects. In other words, it means that the current results found non-significant interactions among acculturative stress, Chinese proactive coping, and future time perspective in predicting Chinese international students' subjective well-being. To better understand the non-significant results, a few possible interpretations are explored.

First, since the Chinese proactive coping scale is newly developed and has been used exclusively with Chinese college students in China as the study sample (Tian & Heppner, 2018), it is unknown its effectiveness in coping with acculturative stress for Chinese international. Perhaps the scale may not have equivalent validity for Chinese international students in the context of U.S. higher education. For example, Chinese international students studying abroad may experience unique challenges, such as language barriers and racism, which Chinese college students are not expected to encounter in China. Moreover, certain proactive coping activities may not be applicable to Chinese international students in the U.S. For instance, Chinese college students may acquire more internship experiences in their early college years to prepare for potential future stressors, such as the stress of getting a job after college. However, Chinese international students always encounter restrictions on occupational opportunities (e.g., H1B wage rules) due to U.S. governmental policies that are beyond personal control. As such, it is possible that Chinese proactive coping may be effective in buffering academic or vocational stress in a Chinese academic context because of the greater control in which they have, but may

not have the equivalent effectiveness in dealing with a different type of stress in another cultural or political context.

Second, the Chinese proactive coping scale describes potential stressors in general terms instead of including specific potential stressors (Tian & Heppner, 2018). Thus, it is possible that Chinese proactive coping might not be helpful in dealing with a specific situation in acculturative stress, such as perceived discrimination or guilt towards family. For example, Chinese international students may attempt to learn from other's experiences and consequently make plans and prepare for potential acculturative stress. However, some domains of acculturative stress (e.g., perceived discrimination, guilt towards family) may be very personal and subjective experiences. Therefore, there may be wide variations among students with these experiences. Because they are so personal, many students choose not to disclose them to others. Thus, potential instructive strategies which could be learned from other Chinese students might not be available.

Third, people with a future time perspective are likely to have a more optimistic view of the future, which in turn may lead to more goal-oriented activities. However, their optimism may not help Chinese international students regulate contemporary unpleasant emotions in the face of acculturative stress, such as anger due to perceived discrimination and guilt toward family. Furthermore, personal goal-oriented activities are not likely to mitigate the effects of systemic racism and discrimination. The exacerbated xenophobia and bigotry toward people of Asian descent in the U.S. during the COVID-19 pandemic illustrates the type of systemic adversity that is possible. Clearly, more research is needed to investigate the role of Chinese proactive coping and future time perspective on various stressors for Chinese international students in particular.

Due to the lack of significant moderation or interaction relationships in the model, there was no evidence indicating a need for further testing of the moderating roles of the main factors. However, the bivariate correlations of the main study variables and their subscales provide valuable information and preliminary support for important relationships among these variables.

Acculturative Stress and Subjective Well-being

In this study, Research Question #1 examined the hypothesized correlation between acculturative stress and subjective well-being. It was expected that acculturative stress would display a negative correlation with subjective well-being in the study sample. A large amount of evidence in the field has found that acculturative stress is negatively associated with positive health outcomes in many different mental health variables, such as well-being, social self-efficacy, and social support (e.g., Edara, 2018; Lau, 2007; Park, Song, & Lee, 2014; Ye, 2006; Yi, 2017; Zhao, 2019).

As expected, study results supported the hypothesis that acculturative stress negatively associates with subjective well-being. High-level acculturative stress experienced by Chinese international students will decrease their positive affect and life satisfaction as well as increase their negative emotions and negativity in relationships and surroundings. Further regression analysis for subscales of acculturative stress indicated that language insufficiency, social isolation, and academic pressure significantly correlated with all three aspects of subjective well-being. Perceived discrimination and guilt towards family were found to be significantly related to negative affect and life satisfaction. This suggests that low language insufficiency, social isolation, and academic pressure might be the primary reasons for explaining their greater positive affect. Perhaps those individuals with low-level stress in these domains are likely to experience more positive emotions, such as enthusiasm, excitement, and joy. For example,

people with sufficient language competency are likely to engage in more social activities with others. More social interactions, therefore, can contribute to a sense of belonging and happiness.

Chinese Proactive Coping and Subjective Well-being

Due to preliminary evidence in the literature, it was expected that greater Chinese proactive coping would correlate with lower negative affect and higher positive affect and satisfaction with life. Results showed that Chinese proactive coping significantly predicts positive affect and satisfaction with life among Chinese international students. Results did not support the hypothesis that Chinese proactive coping is associated with lower levels of negative affect. It is possible that the use of Chinese proactive coping may have a stronger influence on positive mental health outcomes than negative mental health outcomes. Along these lines, Tian and Heppner (2018) found that proactive coping includes positive functions of coping, such as acquiring resources and developing future goals and plans. This not only can prepare individuals prepare for potential future stressors but also deal with existing stressors and enhance their current psychological adjustment and well-being. Taken together, these findings point to the importance of understanding and assessing Chinese international students' use of Chinese proactive coping in their efforts to promote pleasant feelings and life satisfaction.

Future Time Perspective and Subjective Well-being

Another significant finding in this study indicates that a future time perspective is strongly correlated with positive affect and satisfaction with life. This finding supported the previous literature indicating the positive impact of future time perspective (e.g., Allemand, Hill, Ghaemmaghmi, & Martin, 2012; Coudin & Lima, 2011; Kooij, Kanfer, Betts, & Rudolph, 2018). This suggests that a future time perspective may have potential benefits in addition to the subjective well-being of Chinese international students. It may contribute to positive educational

and health outcomes, including higher academic achievement (i.e., GPA), decreased risk behaviors (i.e., substance use), and increased motivation and goal-directed activities (Kooij et al., 2018; Mello & Worrell, 2006; Zimbardo & Boyd, 1999; Keough, Zimbardo, and Boyd, 1999). Given that the attainment of educational and health goals often requires planning and long-term efforts, future-oriented individuals are more likely to set future-oriented goals and have greater success in achieving those goals. For example, achieving academic success is a long-term goal that requires maintaining good academic performance over a long period of time, and even over an entire academic career. Future-oriented students may be able to self-regulate and link their current behaviors to the attainment of valuable future achievement (Miller & Brickman, 2004). Therefore, a future time perspective can be considered a strength in academic settings and consequently improving positive affect and satisfaction with life.

Covariate Variables

Although all the three covariate variables were significantly predicting subjective well-being, Perceived English proficiency is the only covariate variable to significantly correlate with acculturative stress and subjective well-being (i.e., positive affect and satisfaction with life) at the .01 level. It means that greater perceived English proficiency predicts lower levels of acculturative stress as well as higher levels of positive affect and life satisfaction in Chinese international students. This is not surprising given that higher English fluency can benefit international students in various ways. Given that English proficiency can shape Chinese international students' lived experiences in an English-spoken country, it is possible that higher English proficiency may be related to more interactions with majority group members in the host culture. More interactions may contribute to greater social support and in turn, enhance their mental health. In addition, international students with higher perceived English proficiency may

be more likely to seek social support and professional help when facing adversity. Finally, higher levels of English proficiency would help international students have a better academic performance.

One obvious implication is that English language proficiency programs are needed to help Chinese international students evaluate and improve their English proficiency in order to better adapt to life and study in the U.S. In a systematic review examining predictors of psychosocial adjustment of international students in the United States, Zhang and Goodson (2011) found that greater self-perceived English proficiency was associated with fewer psychological symptoms and better sociocultural adjustment. Wang, Wei, and Chen's (2015) study also suggested a longitudinal association between English proficiency and subjective well-being of Chinese international students. Indeed, in an academic setting in which English is the main language used, inadequate English competency has direct negative impact on the academic performance of Chinese international students, diminishing their ability to comprehend study materials, to understand lectures, and to participate in discussion with peers. In contrast, Chinese international students with higher English proficiency are more likely to communicate effectively with others (i.e., feeling comfortable asking and answering questions in classes) and in turn promote long-term academic success, social cultural adjustment, and psychological well-being. In addition, previous research also suggested that limited English proficiency can be a barrier for international students to seeking professional mental health services (Furnham & Bochner, 1986; Sue et al., 2019; Zhou & Wu, 2011). As such, another implication is that university counseling and psychological services should have assertive outreach to this population of students to reduce language barriers and increase their access to services.

Limitations and Future Research Directions

First, the use of a cross-sectional design in this study indicates that no causal inferences between the variables would be derived. A longitudinal design can be conducted to replicate the present findings or examine the causal relationships between variables. For instance, it can help us understand whether Chinese proactive coping has implications for subjective well-being over time.

Second, social desirability bias may exist due to the use of self-reported questionnaires as a method to collect data. It means that participants might respond in a manner that would be socially acceptable. Future research might implement a social desirability scale or combine self-reported data with observer reports and behavioral measures to reduce social desirability.

Third, the use of convenience sampling to recruit participants may lead to sampling bias and lack of representation of the population. Participants who were interested in the topic of the research and available to take an online survey may have been more likely to participate in the current research. It may be beneficial for future research to use random sampling and include more methods of data collection, such as traditional paper-and-pencil questionnaires.

Fourth, given that the majority of the participants identify as students from Mainland China, the results may not represent the experiences of students from Hong Kong, Macau, and Taiwan. Thus, it demands caution to generalize the results to populations from these areas. Future research might expand recruitment efforts to include more participants from Hong Kong, Macau, and Taiwan.

Fifth, the current study only examined two moderators and one positive mental health outcome. Since the moderation effects were not supported in the present study, it leaves open the possibility for alternative hypotheses and explanations for the moderation mechanism for the

association between acculturative stress and subjective well-being. Future studies might explore alternative culturally congruent coping strategies and expand to other positive mental health outcomes (i.e., environmental mastery, self-acceptance, and positive relations with others). For instance, would the combined utility of Chinese proactive coping and other culturally-specific coping strategy (i.e., Chinese relational coping) help Chinese international students build more positive relationships with others?

Lastly, the use of quantitative research design limits the deeper understanding of the underlying mechanisms of the correlations between variables, such as the impact of Chinese proactive coping on subjective well-being. The role Chinese proactive coping plays in promoting subjective well-being is complex. As such, it would be helpful to include interviews, open-ended questions, and other qualitative methods to gather more in-depth information to interpret the quantitative findings from the present study. In spite of these limitations, the current study provides the preliminary groundwork for this relatively unexamined area of Chinese proactive coping research.

Implications for Practice

The current study provided several important clinical implications for university faculty and staff who work with Chinese international students on U.S. college campuses. First, as this study has shown, English proficiency, acculturative stress, Chinese proactive coping, and future time perspective are important predictors of subjective well-being among Chinese international students. Particularly, the findings might help mental health professionals identify potential risk and protective factors of their well-being and conceptualize their presenting concerns through a multicultural perspective. For example, clinicians need to be aware of and understand the impact of particular aspects of acculturative stress (i.e., social isolation and perceived discrimination) on

well-being. With the increasing hate crimes targeting people of Asian descent since the pandemic, it is highly possible that Chinese international students may experience significant fear and anxiety given the social prejudices and hostility against them in the host country. Therefore, university services, such as university counseling centers, international student services, and the office of diversity, equity, and inclusion, need to take an active role in designing outreach programs to address discrimination and oppression against Chinese international students and promote social justice and inclusion. In addition, faculty, advisors, and practitioners who work closely with Chinese international students should increase their awareness of the systematic oppression and discrimination and normalize students' experiences related to acculturation.

Second, the strong association between Chinese proactive coping and subjective well-being found in the current study provides valuable insights for culturally responsive practice. This study not only extends the scope beyond reactive coping to proactive coping but also broadens our understanding of proactive coping within a Chinese cultural context. It is important to identify which cultural values and strengths as well as how such values and strengths shape their coping styles and in turn facilitate their positive adaptation. Specifically, it would be beneficial for clinicians to use cultural humility to explore students' unique experiences and interpretation of their cultural values, norms, and contexts, in order to look beyond racial or ethnic labels and incorporate deep-structure culture data into practice (Ridley et al., 2021). The highlighted roles of the cultural context in proactive coping may help clinicians develop coping strategies that are compatible with students' cultural experiences. Clinicians might empower and give expert status to Chinese international students by capitalizing on their personal or cultural strengths. Such culturally sensitive practice could help develop a strong therapeutic alliance and

in turn facilitate positive therapeutic changes. Furthermore, Brinson and Kottler (1995) suggested that a diverse counseling center staff could increase the confidence of international students that their unique issues will be understood and solved. Thus, hiring more practitioners with a Chinese cultural heritage might increase Chinese international students' utilization of mental health services.

Third, considering the significant association between Chinese proactive coping, future time perspective, and subjective well-being, developing proactive coping or other future-oriented coping programs could be an effective option to provide for new students entering U.S. colleges. As students learn effective proactive coping strategies to cope with future stressors, they may feel an increased sense of control in the new environment. For instance, seminars and workshops on acculturative stress and Chinese proactive coping could be set up during the international student orientation. Moreover, university counseling centers can develop Chinese international student support groups to offer them ongoing social support and culturally sensitive services throughout their academic career. These support groups might be enhanced by having Chinese counselors or advisors discuss effective culturally congruent strategies for coping with potential stressors and improving life and well-being.

In conclusion, the present study provides valuable information about the relationships among acculturative stress, Chinese proactive coping, future time perspective, and subjective well-being in Chinese international students. The findings provide valuable insight into a proactive coping strategy within a Chinese cultural context that influences positive mental health outcomes of Chinese international students studying in the U.S. As this population continues to grow, it is crucial for researchers and practitioners to become more aware of the unique stress as well as coping of this population.

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APPENDIX A: IRB APPROVAL

DIVISION OF RESEARCH



EXEMPTION DETERMINATION (Common Rule –Effective January, 2018)

April 15, 2020

Any study that involves in-person or face-to-face interactions may not begin or continue in-person or face to face study visits until the pause in human research activities is lifted. Only online or remote communications, telephone contact, remote monitoring, remote data collection or studies involving only data analysis may continue. Please continue to monitor the Division of Research's VPR website on the latest information available regarding changes to research related to COVID-19 conditions. <https://vpr.tamu.edu/covid-19>.

Type of Review:	IRB Amendment
Title:	Acculturative Stress, Chinese Proactive Coping, Time Perspective, and Subjective Well-being among Chinese International Students
Investigator:	Charles R Ridley
IRB ID:	IRB2020-0340M
Reference Number:	109153
Funding:	Internal Funds
Documents Reviewed:	Recruitment Email 1.2 INFORMED CONSENT SCRIPT 1.3
Review Category	Category 2: Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met: i. The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects; ii. Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or iii. The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by .111(a)(7).

Dear Charles R Ridley:

The HRPD determined on 03/27/2020 that this research meets the criteria for Exemption in accordance with 45 CFR 46.104.

750 Agronomy Road, Suite 2701
1186 TAMU
College Station, TX 77843-1186

Tel. 979.458.1467 Fax. 979.862.3176
<http://rcb.tamu.edu>

This determination applies only to the activities described in this IRB submission and does not apply should any changes be made. If changes are made you must immediately contact the IRB. You may be required to submit a new request to the IRB.

Your exemption is good for three (3) years from the Approval Start Date. Thirty days prior to that time, you will be sent an Administrative Check-In Notice to provide an update on the status of your study.

If you have any questions, please contact the IRB Administrative Office at 1-979-458-4067, toll free at 1-855-795-8636.

Sincerely,
IRB Administration

APPENDIX B: CONSENT FORM

Title of Research Study: Acculturative Stress, Chinese Proactive Coping, Time Perspective, and Subjective Well-being among International students with Chinese cultural heritages

Investigator: Charles Ridley, Ph.D. (Principal Investigator) and Siming Xie, M.A.

Why are you being invited to take part in a research study?

You are invited to participate in this study because we are trying to learn more about: the impact of coping and individual factors on the relationship between acculturative stress and subjective well-being among International students with Chinese cultural heritages.

You are selected as a possible participant in this study because you identify yourself as an international student from Mainland China, Hong Kong, Macao, or Taiwan who is currently enrolled in an American college or university. You must be 18 years of age or older to participate.

What should you know about a research study?

- Whether or not you take part is up to you.
- You can choose not to take part.
- You can agree to take part and later change your mind.
- Your decision will not be held against you.
- You can ask all the questions you want before you decide.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, contact Dr. Charles Ridley via email at cridley@tamu.edu, or via phone at (979) 862-6584 or Siming Xie via email at xiexx398@tamu.edu.

This research has been reviewed and approved by the Texas A&M Institutional Review Board (IRB). You may talk to them at 1-979-458-4067, toll-free at 1-855-795-8636, or by email at irb@tamu.edu, if

- You cannot reach the research team.
- Your questions, concerns, or complaints are not being answered by the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Why is this research being done?

The survey is designed to understand the cultural context of International students with Chinese cultural heritages' coping strategies. The study is also designed to investigate participants' experiences of acculturative stress and its association with well-being.

How long will the research last?

It will take about 10 – 15 minutes to complete the survey.

What happens if I say “Yes, I want to be in this research”?

If you decide to participate, please click the “Yes, I consent to participate in research” button below and you will be taken to the survey.

What happens if I do not want to be in this research?

Your participation in this study is voluntary. You can decide not to participate in this research and it will not be held against you. You can leave the study at any time. **However, you will not be granted the gift card if you decide to withdraw.**

Is there any way being in this study could be bad for me?

Although the risks to you as a participant are minimal, it is possible that you may experience very mild emotional discomfort when you respond to personal questions related to adjustment experience and well-being. You can exit the survey at any point without penalty. For the information to be useful to us, however, we encourage you to complete all the items.

Will being in this study help me in any way?

If you decide to participate in this study, there will be no direct benefit to you. This research benefits the field as a whole and has the potential to better the understanding of how acculturative stress and cultural coping strategy affect well-being among International students with Chinese cultural heritages.

What else do I need to know?

After you have completed and submitted your survey, you will be eligible to get a \$5 digital Amazon gift card. You can provide your name and email address for receiving the reward by going to a separate link. The link for the reward is separate from your survey information so that we can assure the confidentiality of your survey responses. Thus, a completed/submitted survey will not be associated with your name. The Digital gift card will be sent to you by email after all surveys have been collected. After the gift cards are dispersed, the encrypted data file containing these addresses will be destroyed.

What happens to the information collected for the research?

Participants have the option to enter a separate link by voluntarily providing their name and email address. This information is separate and independent of the survey response and will be stored separately from your survey data. All information will be kept on a password-protected computer and is only accessible by the research team.

The results of the research study may be published but no one will be able to identify you.

You may view the survey host's confidentiality policy at: <https://www.qualtrics.com/privacy-statement>.

If you want a copy of this consent for your records, you can print it from the screen.

If you wish to participate, please click the "Yes, I consent to participate in research" button and you will be taken to the survey.

If you do not wish to participate in this study, please select "No, I do not consent to participate in this research study" or select X in the corner of your browser

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

APPENDIX C: EMAIL INVITATION

Howdy!

My name is Siming Xie, and I am a doctoral candidate in the Department of Educational Psychology, Texas A&M University. I would like to invite you to participate in my dissertation research under the supervision of Dr. Charles R. Ridley. The study is about international students' cultural adaptation and adjustment when studying in the United States. The survey will ask you questions relating to your adjustment to living in the United States and your well-being. 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.). Participation in this study is voluntary. All your responses are anonymous and kept confidential.

In order to participate in this study, you must be:

- (1) 18 years or older
- (2) a full-time international student currently enrolled in a college or university in the United States (including on CPT or OPT)
- (3) originally from Mainland China, Hong Kong, Macau, or Taiwan

Eligible participants will complete an anonymous online survey that takes 15 minutes or less to complete. You will be eligible to get a \$5 electronic Amazon gift card only upon completion of the survey. The gift card will be sent to you after all surveys have been collected. If you would like to participate, please follow the link:

https://tamucehd.qualtrics.com/jfe/form/SV_5d6EA5oFdlibW01

This study has been reviewed and approved by the Texas A&M Institutional Review Board

IRB number: IRB2020-0340

Approval date: 03/27/2020

Expiration date: 03/27/2023

If you have any questions regarding this study, please contact me at xiexx398@tamu.edu. I greatly appreciate your participation.

Regards,
Siming Xie, M.A.
Pronouns: he/him/his
Counseling Psychology Doctoral Candidate
Department of Educational Psychology
Texas A&M University