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Acculturative stress, meaning-in-life, collectivistic coping, and subjective well-being among Chinese international students: A moderated mediation model

Fei Yi

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**Acculturative stress, meaning-in-life, collectivistic coping, and subjective well-being
among Chinese international students: A moderated mediation model**

by

Fei Yi

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Psychology

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Norman Scott

David Vogel

The student author and the program of study committee are solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2018

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TABLE OF CONTENTS

	Page
LIST OF FIGURES	iv
LIST OF TABLES	vi
ACKNOWLEDGMENTS	vii
ABSTRACT	viii
CHAPTER 1 INTRODUCTION	1
The Present Study	12
CHAPTER 2 LITERTURE REVIEW	23
Chinese International Students and Acculturative Stress	23
The Theoretical Framework of Acculturation	29
Acculturative Stress, Meaning-in-Life, and Subjective Well-Being	36
Proposed Moderated Mediation	51
CHAPTER 3 METHODS	58
Power Analysis	58
Participants	58
Measures	60
Procedure	65
CHAPTER 4 RESULTS	67
Preliminary Analysis	67
Plan for Data Analysis	69
Moderated Mediation Analyses	69
Post Hoc Exploratory Analyses	83

CHAPTER 5 DISCUSSION	88
Moderated Mediation Effects	89
Contribution to the Chinese International Student Mental Health Literature	92
Limitations and Future Research Directions	94
Implications for Counseling Chinese International Students	96
REFERENCES	100
APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL	111
APPENDIX B: PARTICIPANT E-MAIL CORRESPONDENCE	112
APPENDIX C: RECRUITMENT E-MAIL CORRESPONDENCE.....	114
APPENDIX D: INFORMED CONSENT	116
APPENDIX E: DEBRIEFING FORM	120

LIST OF FIGURES

Figure 1	The Cultural and Contextual Model of Coping.	14
Figure 2	The Hypothesized Moderated Mediation Model with Moderator of ARS. ARS = Acceptance, Reframing, and Striving	15
Figure 3	The Hypothesized Moderated Mediation Model with Moderator of CRC. CRC = Chinese Relational Coping	16
Figure 4	Hypothesized Moderated the Effect of Acculturative Stress on Meaning-in-Life for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving. ARS = Acceptance, Reframing, and Striving	17
Figure 5	Hypothesized Moderated the Indirect Effect of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Acceptance, Reframing, And Striving. ARS = Acceptance, Reframing, and Striving	18
Figure 6	Hypothesized Moderated the Direct Effects of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Acceptance, Reframing, And Striving. ARS = Acceptance, Reframing, and Striving	19
Figure 7	Hypothesized Moderated the Effect of Acculturative Stress on Meaning-in-Life for Those with Higher and Lower Levels of Chinese Relational Coping. CRC = Chinese Relational Coping.	20
Figure 8	Hypothesized Moderated the Indirect Effect of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Chinese Relational Coping. CRC = Chinese Relational Coping.	21
Figure 9	Hypothesized Moderated the Direct Effect of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Chinese Relational Coping. CRC = Chinese Relational Coping.	22
Figure 10	Conceptual Model of Moderated Mediation.....	72
Figure 11	The Effects of Acculturative Stress on Meaning-in-Life for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving. ARS = Acceptance, Reframing, and Striving.....	75
Figure 12	The Indirect Effects of Acculturative Stress on Life Satisfaction for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving. ARS = Acceptance, Reframing, and Striving.	76

Figure 13	The Indirect Effects of Acculturative Stress on Positive Affect for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving. ARS = Acceptance, Reframing, and Striving	78
Figure 14	The Indirect Effects of Acculturative Stress on Negative Affect for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving. ARS = Acceptance, Reframing, and Striving	80
Figure 15	The Effects of Acculturative Stress on Negative Affect for Those with Higher and Lower Levels of Chinese Relational Coping. CRC = Chinese Relational Coping	85
Figure 16	The Effects of Acculturative Stress on Negative Affect for Those with Higher and Lower Levels of Understanding Oneself in Context. UOC = Understanding Oneself in Context.	88

LIST OF TABLES

Table 1	Means, Standard Deviations, Inter-Correlations of Variables	68
Table 2	Moderated Mediation Analyses for Acculturative Stress, Meaning-in-Life, ARS, and Three Outcomes (i.e., Life Satisfaction, Positive Affect, and Negative Affect).....	73
Table 3	Moderated Mediation Analyses for Acculturative Stress, Meaning-in-Life, ARS, and Three Outcomes (i.e., Life Satisfaction, Positive Affect, and Negative Affect).....	81
Table 4	Post Hoc Exploratory Analyses of Moderated Mediation Analyses for Acculturative Stress, Meaning-in-Life, Four Dimensions of Chinese Relational Coping, and Negative Affect.	86

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ABSTRACT

During the acculturative process, Chinese international students may encounter numerous stresses in linguistic, academic, financial, interpersonal, and intrapersonal areas. In line with Berry's (2006) theoretical framework of acculturation and Heppner et al.'s (2014) Cultural and Contextual Model of Coping, the present study examined a moderated mediation model. More specifically, collectivistic coping strategies (i.e., acceptance, reframing, and striving; Chinese relational coping) were hypothesized to moderate the indirect path (via meaning-in-life) and direct path from acculturative stress to subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect). Particularly, the indirect effect was hypothesized to be mainly due to the moderation on the path from acculturative stress to meaning-in-life.

A total of 419 Chinese international students attending predominately White, Midwestern universities completed an online survey. Data was analyzed via Hayes's (2013) PROCESS as a means of conducting conditional process modeling. Results indicated that acceptance, reframing, and striving significantly moderated the negative indirect path between acculturative stress and subjective well-being via meaning-in-life. Moreover, the indirect effect was weaker for those with higher than for those with lower levels of using the coping strategy of acceptance, reframing, and striving. As hypothesized, this moderated mediation was mainly due to the moderation on the path between acculturative stress and meaning-in-life. Conversely, results indicated a nonsignificant direct effect of acceptance, reframing, and striving on the path between acculturative stress and subjective well-being.

Furthermore, Chinese relational coping significantly moderated the direct path between acculturative stress and negative affect. In particular, post-hoc analyses indicate that this path was more salient in relation to the use of understanding oneself in context (i.e., understanding or being aware of one's own emotions, thoughts, limitations, or how the situation impacts him or her) as a coping strategy. The direct effect was especially stronger for those with higher versus those with lower levels of use of the understanding oneself in context coping strategy. However, results indicated that understanding oneself in context did not significantly moderate the indirect path between acculturative stress and subjective well-being via meaning-in-life. Limitations, future research directions, and counseling implications will be discussed.

CHAPTER 1. INTRODUCTION:

Acculturative Stress, Meaning-in- Life, Collectivistic Coping, and Subjective Well-being among Chinese International Students: A Moderated Mediation Model

Introduction

Studying and living in a foreign country imposes numerous challenges for Chinese international students, including linguistic, academic, financial, interpersonal, and intrapersonal problems (Pan, Yue, & Chan, 2010). These acculturative challenges may be associated with negative outcomes such as anxiety, depression, or suicidal ideation (Lau, 2006). Much of the acculturative stress literature investigating international students has overemphasized adjustment problems and psychopathological outcomes (Yoon & Portman, 2004). Recent studies suggest extending the concept of mental health beyond the absence of psychological symptoms to also include the presence of positive affect (Diener, Oishi, & Lucas, 2003), and protective factors of psychological health (e.g., meaning-in-life, Cohen & Cairns, 2012; collectivistic coping, Heppner et al., 2006; Chinese relational coping, Heppner et al., 2016).

While the effect of acculturative stress on international students' psychosocial adjustment has been studied (e.g., see the review of Zhang & Goodson, 2011), only a few focused on acculturation and well-being among Chinese international students (e.g., Lau, 2006; Liu, 2009). Although scholars in recent years have begun to assess the mediating and moderating factors that protect Chinese international students from the negative effects of acculturation (e.g., Du & Wei, 2015; Pan, Wong, Joubert, & Chan, 2007; Wang et al., 2012; Wang, Wei, & Chen, 2015; Wei, Liao, Heppner, Chao, & Ku, 2012), this research is still limited. As such, it is imperative to

examine the predictive and protective factors of subjective well-being for this group. Previous research indicates that meaning-in-life mediates the relationship between acculturative stress and subjective well-being (e.g., Pan, Wong, Joubert, & Chan, 2007). Furthermore, there is a call for research to examine culturally relevant acculturative stress coping strategies (e.g., Heppner, 2008; Wong, Wong, & Scott, 2006; Yeh, Arora, & Wu, 2006). Such research would aid in the development of more culturally effective tools for mental health professionals to better assist Chinese international students in their process of cross-cultural transition. Thus, the purpose of the present study is to examine whether the use of a culturally relevant coping strategy (i.e., acceptance, reframing, and striving [ARS] or Chinese Relational Coping [CRC]) would alter the strength of the indirect (via meaning-in-life) and direct path between acculturative stress and subjective well-being.

Berry's Theoretical Framework of Acculturation

Berry (2006) expanded on Lazarus and Folkman's (1984) stress-coping model in the development of a coping framework for acculturation to explain the process of transiting and adjusting from one culture to another (acculturation experience → appraisal of experiences → coping strategies → immediate effects or outcomes → long-term outcomes). In addition, Berry (2006) proposed that several personal and cultural factors could serve as mediators and moderators impacting the associations outlined in the above process of acculturation (e.g., coping strategies and outcomes).

The application of Berry's (1997) model to the process of acculturation found in the literature, have largely focused on the negative outcomes of acculturation. *Acculturative stress*, defined as the conflicts and difficulties that arise from the process of acculturation (Joiner &

Walker, 2002), was found to be associated with increased negative emotions (e.g., anxiety or depression) and reduced positive affect (e.g., Lau, 2006; Noh, Kaspar, & Wickrama, 2007). Because of this overemphasis on adjustment problems and psychopathological outcomes (Yoon & Portman, 2004), recent studies, although few in number, have shifted in focus to explore the relationships between acculturation, positive emotions (e.g., happiness or satisfaction), and successful adaptation among international students (e.g., Abadi, 2000; Gao & Liu, 1998; Parr, Bradley & Bingi, 1992; Rosenthal, Russell, & Thomson, 2006). Empirical evidence indicates that acculturation accounted for 45% of the variance in subjective well-being among Korean immigrants (Yoon, Lee, & Goh, 2008) and adds 24.8% of the variance in life satisfaction among Chinese international students (Bai, 2015).

Previous research has identified several protective factors that could buffer the negative effect of acculturative stress, among which meaning-in-life is central to the process of resilience and well-being (e.g., Cohen & Cairns, 2012; Ehrensaft & Tousignant, 2006). *Meaning-in-life*, defined as “the cognizance of order, coherence, and purpose in one’s existence, the pursuit and attainment of worthwhile goals, and an accompanying sense of fulfillment” (Reker & Wong, 1988), may play a role in mediating the effects of acculturation and subjective well-being. Conceptually, in response to the adversity that arise from acculturation, attaining meaning-in-life could help resolve the cognitive dissonance through one of the following approaches: (a) modify the situational meaning of adversity to make it consistent with one’s global value system, or (b) change one’s global value to accommodate the adverse event. Both approaches help to transform one’s emotional experience from negative to positive (O’Connor, 2002). Empirically, research indicates that meaning-in-life is negatively associated with negative affect (e.g., Pan, Yue, & Chan, 2010; Shek, 1992) and positively associated with positive affect (e.g., Fleer et al., 2006;

Mascaro & Rosen, 2005) and life satisfaction (e.g., Pan, Wong, Joubert, & Chan, 2007). This suggests that the acculturation process may pose new freedoms for the individual to search for meaning-in-life (Wong, 2007), and the subsequent attainment of meaning-in-life may be a key path to a happier and more satisfying life. Thus, it is reasonable to suggest a mediating effect of meaning-in-life on the relationship between acculturative stress and subjective well-being. That is, through seeking or affirming meaning-in-life and reprioritizing one's life goals, international students may gain additional strengths to cope with the difficulties of acculturation and maintain subjective well-being.

With specific reference to Chinese international student groups, meaning-in-life may help regulate negative affect and maintain positive affect and life satisfaction through providing sources of meaning and coping methods. This is congruent with and unique to traditional Chinese culture (e.g., Taoism, Buddhism, and Confucianism). For example, one of the sources of meaning-in-life is acceptance and content, which suggests that a person seeks meaning-in-life by accepting setbacks. This coping strategy could help to regulate affect and maintain subjective well-being (Lin, 2001). Furthermore, meaning-in-life could provide a cognitive, affective, and motivational framework for individuals to deal with stress and adversity, to reassure their sense of purpose and meaning for existence (Reker & Wong, 1988). As a result, positive emotion might be an inevitable byproduct of living a meaningful life (Wong, 1998a). Meaning-in-life and its cultural relevance to stress and coping may be overlooked by mental health professionals who were trained in Western theories. Yet, it may serve as a potentially culturally effective intervention tool for Chinese international students to maintain subjective well-being in the acculturation process.

Cultural and Contextual Model of Coping

With a shift in focus from universal to culturally specific coping strategies, the coping literature has advanced in the last three decades. Heppner, Wei, Neville, and Kanagui-Munoz (2014) add cultural relevance to existing coping literature by integrating cultural and contextual variables in multiple stages of coping for racial and ethnic minorities in the U.S. The Cultural and Contextual Model of Coping (CCMC; Heppner et al., 2014) is an Individual × Environmental ecological coping model emphasizes that coping occurs within a cultural context. CCMC suggests two forms of conceptualization for coping. One is to distinguish general dispositional coping styles (e.g., problem-solving focused, emotion focused) with situation-specific coping strategies (e.g., seeking family support, spiritual coping). Empirical studies found out that both dispositional and situation-specific coping strategies predict acculturative adjustment among international students (e.g., Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005; Heppner et al., 2006; Wang et al., 2012; Wei, Ku, Russell, Mallinckrodt, & Liao., 2008).

Another conceptualization of coping is the individualistic-collectivistic dimension, which is determined by the values of a particular cultural context. Collectivistic coping is culturally congruent with the Chinese cultural context, which usually reflects an interdependent self-construal rather than an independent self-construal often found in Western cultures (Heppner et al., 2014). CCMC argues that collectivistic coping (Domain D, in Figure 1) often moderates the association between stressors (Domain C) and outcomes (Domain E). This moderating role of coping has been supported empirically (e.g., Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Wei, Heppner, Ku, & Liao, 2010). In addition, the constructs and corresponding measures of collectivistic coping developed by Heppner et al. (2006, 2016) (i.e., acceptance, reframing, and striving; Chinese relational coping), are rooted in Chinese cultural values. These reflect the

construct of secondary control commonly practiced in Eastern cultures (Weisz, Rothbaum, & Blackburn, 1984). These hypothesized moderators of collectivistic coping may serve as potential culturally specific protective factors from acculturative stress that Chinese international student faces.

Acculturative Stress, Meaning-in-Life, and Subjective Well-Being

Previous research indicates that meaning-in-life may mediate the relationship between acculturative stress and subjective well-being. More specifically, the acculturative stress experienced by Chinese international students may contribute to a sense of loss in meaning-in-life, which in turn would lead to a decline in subjective well-being (e.g., Pan, Wong, Chan, & Joubert, 2007).

To the author's knowledge, very few studies have investigated the mediating effect of meaning-in-life among Chinese international students. Among those, inconsistent results were reported. For example, Pan, Wong, Joubert, and Chan (2007; 2008) conducted multiple analyses using one cross-sectional dataset. Their analyses revealed an inconsistent mediation effect of meaning-in-life on the positive dimension (positive affect) versus negative dimension (the absence of negative affect) of subjective well-being. They also found another inconsistent mediation effect of meaning-in-life among Chinese international students in a collectivistic society (i.e., Hong Kong) versus in an individualistic society (i.e., Australia). The aforementioned results imply that the relations between meaning-in-life and the positive and negative dimensions of subjective well-being remained unclear, thus calls for further investigation. Furthermore, the inconsistent mediation effects on both affective outcomes and

among different cultural samples suggest the potential of a third variable moderating the indirect effect of meaning-in-life on the link between acculturative stress and subjective well-being.

Proposed Moderated Mediation

Acceptance, reframing, and striving. I proposed that acceptance, reframing, and striving would moderate both the indirect path (via meaning-in-life) and direct path between acculturative stress and subjective well-being. The construct of acceptance, reframing, and striving was developed by Heppner et al. (2006) which emphasizes the acceptance of unpredictable life circumstances, positively reframing stressors, and actively striving to cope. Acceptance, reframing, and striving may serve as a protective factor moderating the relationship between acculturative stress and adjustment. The Cultural and Contextual Model of Coping (CCMC; Heppner et al, 2014, see Figure 1) provides a comprehensive theoretical framework for the moderation effect of collectivistic coping (e.g., acceptance, reframing, and striving) on the indirect and direct relationship between acculturative stressors and health outcomes (see Figure 2). Thus, the CCMC model was used as the theoretical base for the proposed moderated mediation model in the present study.

Moderated indirect effect. First, it was proposed that acceptance, reframing, and striving would moderate the indirect path between acculturative stress and subjective well-being through meaning-in-life (see path d1 in Figure 2). Mainly, the nature of the moderated indirect effect depends on whether or not acceptance, reframing, and striving moderates the association between acculturative stress and meaning-in-life. Specifically, it was hypothesized the negative association between acculturative stress and meaning-in-life would be weaker for those with higher than for those with lower acceptance, reframing, and striving (see Figure 4). Similarly, it

was hypothesized the moderated indirect effect from acculturative stress to subjective well-being through meaning-in-life would be weaker for those with higher than for those with lower acceptance, reframing, and striving (see Figure 5). I had the following reasons for these predictions. Accepting what one cannot change and reframing adversity with positive meaning is a sign of wisdom and key to meaningful living for Chinese people (Wong, 1998a). It also has positive implications for stress-reduction, staying optimistic, and promoting internal tranquility and peace of mind in the face of adversity (Ma, 1993). Acceptance, reframing, and striving, along with meaning-in-life, mirror various cultural values rooted in Taoism, Buddhism, and Confucianism, which provide Chinese people guidance for living a satisfactory life. In the face of acculturative stress, Chinese international students with high acceptance, reframing, and striving may accept and reframe acculturative challenges with a positive outlook. Therefore, they are likely to maintain their sense of meaning-in-life, which in turn would be associated with high subjective well-being. For example, individuals with high acceptance, reframing, and striving may use reframing (e.g., “personal growth often comes after overcoming adversity”) to accept the acculturative challenges they experienced, thereby promoting the self-development aspect of their meaning-in-life. In turn, their negative affect is likely to go up in a slower speed, and their positive affect and life satisfaction is likely to go down in a slower speed.

Moderated direct effect. Second, it was expected that acceptance, reframing, and striving would moderate the direct path between acculturative stress and subjective well-being (see path d_2 in Figure 2). That is, the negative association between acculturative stress and subjective well-being would be weaker for those with higher than for those with lower acceptance, reframing, and striving. I had the following reasons for these predictions. Conceptually, acceptance, reframing, and striving reflects a blend of acceptance, fatalism,

reframing, efficacy, and interpersonal harmony strategies, which are congruent with Asian values and the types of secondary control described by Weisz et al. (1984). Chinese international students with high acceptance, reframing, and striving are likely to follow the cultural doctrines of acceptance and reframing implied in Taoism or Buddhism. By engaging in non-action or passive coping, they pursue the secondary control to manage acculturative challenges. Since this approach is congruent with their values, it was reasonable to hypothesize that it would help their coping with stress and maintain their subjective well-being. Conversely, those with low acceptance, reframing, and striving are less likely to use such culturally congruent strategies to cope with acculturative stress, and their subjective well-being may be lower in the face of greater acculturative stress. Empirically, studies with Taiwanese college students have found acceptance, reframing, and striving to be positively associated with resolving trauma and rated as most helpful of the five collectivistic coping styles (Heppner et al., 2006). In a longitudinal study, acceptance, reframing, and striving was associated with higher acculturative adjustment (Wang et al., 2012).

Chinese relational coping. It was proposed that Chinese relational coping would moderate both the indirect path (via meaning-in-life) and direct path between acculturative stress and subjective well-being. Along with the same line of research on culturally congruent and situation-specific coping, Heppner et al. (2016) identified a collectivistic coping strategy, the Chinese relational coping. It depicted the intricate internal evaluation of both oneself and the other(s) involved within the stressful situations, and the use of social relationships as coping resources. The development of Chinese relational coping is based on Chinese collectivistic constructs (social orientation, relational orientation, the self, and withhold action) and two Chinese personality theories (e.g., K.S. Yang, 1997; C. F. Yang, 2006). Chinese relational

coping emphasizes that one's desired outcomes of coping includes not only the direct function of dealing with stress, but also maintaining interpersonal harmony and subjective well-being (Heppner et al., 2016).

Moderated indirect effect. First, it was expected that Chinese relational coping would moderate the indirect path between acculturative stress and subjective well-being through meaning-in-life (see path d1 in Figure 3). Specifically, it was hypothesized that the negative association between acculturative stress and meaning-in-life would be weaker for those with higher than for those with lower Chinese relational coping (see Figure 7). Likewise, the moderated indirect effects from acculturative stress to subjective well-being through meaning-in-life would be weaker for those with higher than for those with lower Chinese relational coping (see Figure 8). I had the following reasons for these predictions. First, Chinese relational coping reflects nuanced and acceptable coping functions within Chinese cultural context (i.e., taking into account awareness of one's social roles and impact on others) in individuals' choice of coping strategy and perceived desirable coping outcomes. For example, in the face of acculturative stressors, individuals may choose a relational-oriented coping strategy like *guanxi* (social network) to ask friends to help deal with a stressful situation. By using mutually beneficial relationships, it is likely to resolve the stressful situation, reduce distress, and strengthen the mutual bond (K.S. Yang, 1997). Thus, in the face of acculturative stress, those students with high Chinese relational coping are likely to enjoy the above benefits and retain their sense of meaning-in-life, which in turn is associated with greater subjective well-being. Conversely, individuals with low Chinese relational coping may be less likely to use relational-oriented resources to cope with acculturative stress and miss the opportunity to rely on or invest

in their social network. As a result, in the face of acculturative stress, their sense of meaning-in-life may be lower, which in turn would be associated with lower subjective well-being.

Moderated direct effect. Second, it was expected that Chinese relational coping would also moderate the direct path between acculturative stress and subjective well-being (see path d2 in Figure 3). That is, the negative association between acculturative stress and subjective well-being would be weaker for those with higher than for those with lower Chinese relational coping. The rationale was that Chinese relational coping is congruent with Chinese collectivist cultural values and provides unique coping strategies (e.g., detachment and gaining perspective, consideration others in context, or involving relevant others in context) beyond commonly used Western-based problem-solving coping. In response to acculturative stress, individuals with high Chinese relational coping may use culturally congruent strategies, which may feel more familiar and natural than using Western-based problem-solving coping.

Conversely, those with low Chinese relational coping may be less likely to benefit from using culturally congruent coping strategies to preserve their subjective well-being. Hence, their subjective well-being may drop in the face of greater acculturative stress. In certain stressful acculturation situations where the stressor may not be easily removed or resolved (e.g., cultural differences, financial stress), detaching from the situation may prevent the situation from getting worse, or prevent excessive rumination about the situation. As such, it may reduce negative affect and maintain well-being. In individualistic culture, detachment and acceptance is often understood as avoidance behaviors or passivity, and associated with negative coping outcomes (Liu, 2009). However, in Chinese collectivistic cultures, detaching oneself from current acculturative stressors is an acceptable solution. In addition, Chinese relational coping reflects the traditional Chinese philosophies of Taoism, Buddhism, and Confucianism. These

philosophies advocate an attitude towards life with detachment and acceptance in the face of life problems, and interdependence on social networks. Thus, using a culturally congruent coping strategy (i.e., Chinese relational coping) may enhance perceived coping effectiveness and prevent subjective well-being from decreasing. Given that the construct and measure of Chinese relational coping was newly developed, no studies have yet examined the protective effect of Chinese relational coping on acculturation and subjective well-being. The present study responded to Heppner et al. (2016)'s call for future research in investigating the combined contributions of Chinese relational coping and other culturally specific coping inventories (e.g., acceptance, reframing, and striving) to predict psychological adjustment (e.g., acculturation).

The Present Study

In line with Berry's (2006) theoretical framework of acculturation and Heppner et al. (2014) Cultural and Contextual Model of Coping, the present study examines whether the use of collectivistic coping (i.e., acceptance, reframing, and striving and Chinese relational coping) alters the strength of the indirect path (via meaning-in-life) and direct path from acculturative stress to well-being. This research question is consistent with a call for examining culturally relevant coping strategies for acculturation (e.g., Heppner, 2008; Wong, Wong, & Scott, 2006; Yeh, Arora, & Wu, 2006). Furthermore, it is consistent with the long-standing goal in counseling psychology and multiculturalism of determining which coping strategies (e.g., collectivistic coping) help to maintain subjective well-being, in efforts to develop culturally-congruent clinical interventions for immigrants and international students. Limited studies (e.g., Wang et al., 2012; Wei, Liao, Heppner, Chao, & Ku, 2012) have explored the moderating role of collectivistic coping in the acculturation of Chinese international students', and only a few studies (e.g., Pan, Wong, Joubert, & Chan, 2007) explored the mediating role of meaning-in-life in the relationship

between acculturative stress and subjective well-being. The present study would test two sets of hypotheses that form the postulated moderated mediation model (see Figures 2 and 3).

The first hypothesis was that acceptance, reframing, and striving would moderate both the indirect path (via meaning-in-life) and direct path from acculturative stress to subjective well-being. For the moderated indirect effect, it was expected that the association between acculturative stress and subjective well-being through meaning-in-life would be weaker for those with higher than for those with lower acceptance, reframing, and striving (see Figure 4 and 5). For the moderated direct effect, it was expected that the association between acculturation stress and subjective well-being would be weaker for those with higher than for those with lower acceptance, reframing, and striving (see Figure 6).

Similarly, the second hypothesis was that Chinese relational coping would moderate both indirect path (via meaning-in-life) and direct path from acculturative stress to subjective well-being. For the moderated indirect effect, it was expected that the association between acculturative stress and subjective well-being through meaning-in-life would be weaker for those with higher than for those with lower Chinese relational coping (see Figure 7 and 8). For the conditional direct effect, it was expected that the association between acculturation stress and subjective well-being would be weaker for those with higher lower Chinese relational coping (see Figure 9)

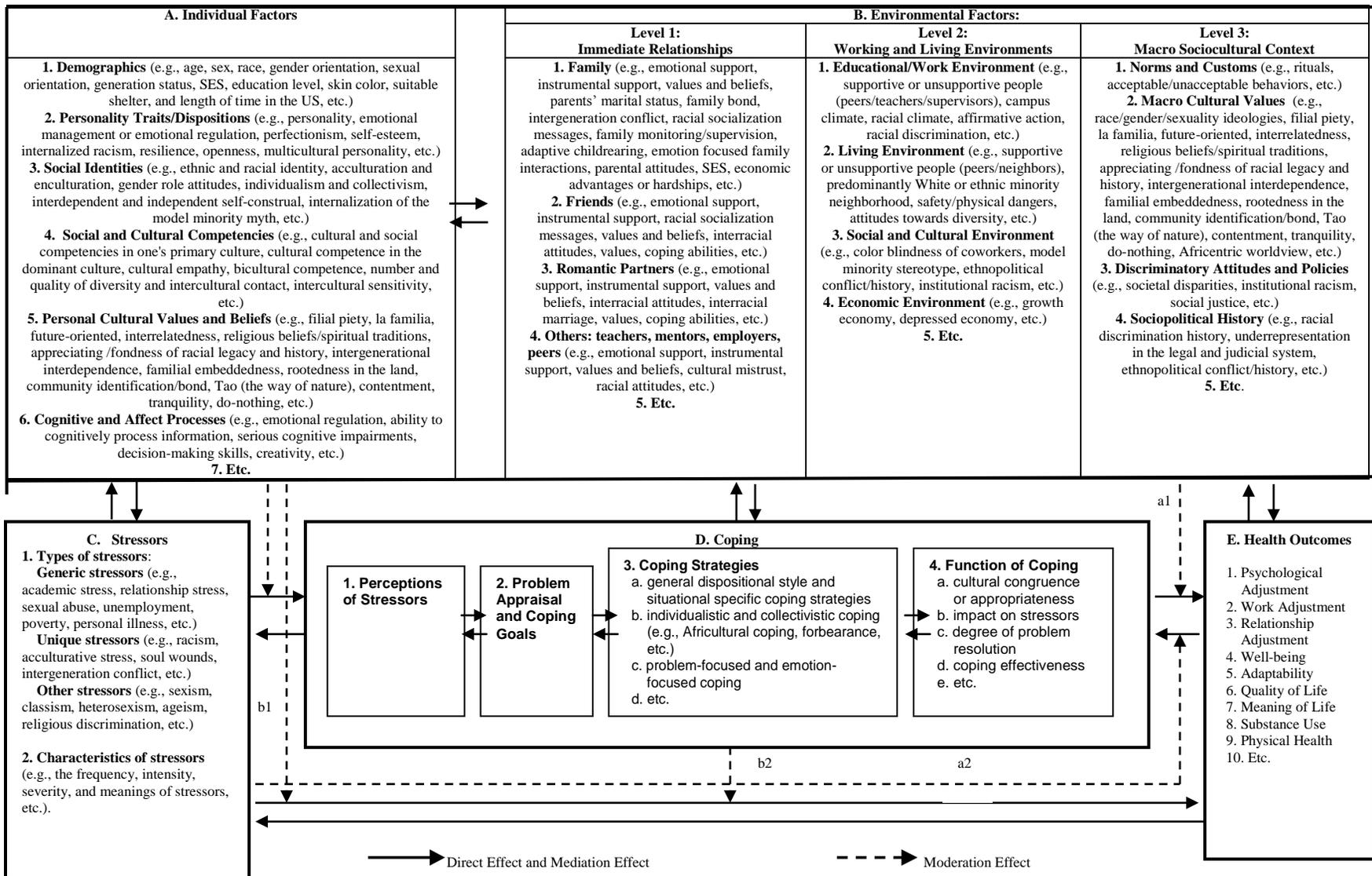


Figure 1. The Cultural and Contextual Model of Coping.

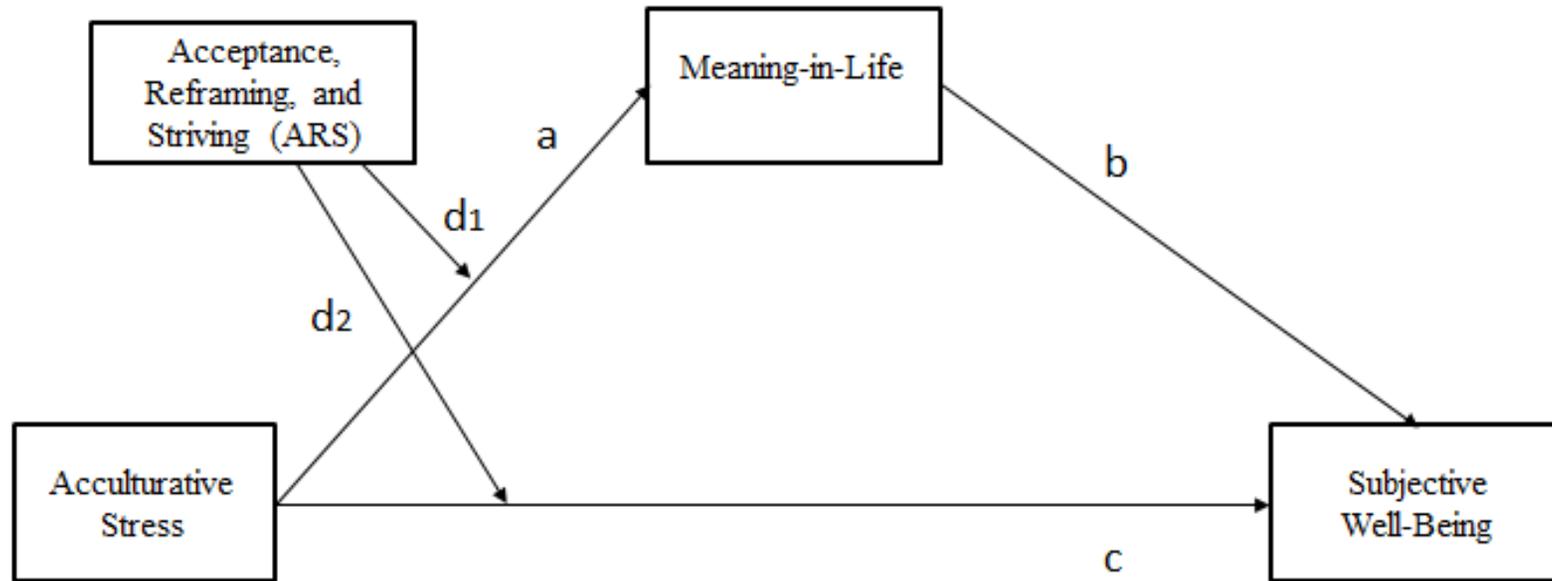


Figure 2. The Hypothesized Moderated Mediation Model with Moderator of ARS.

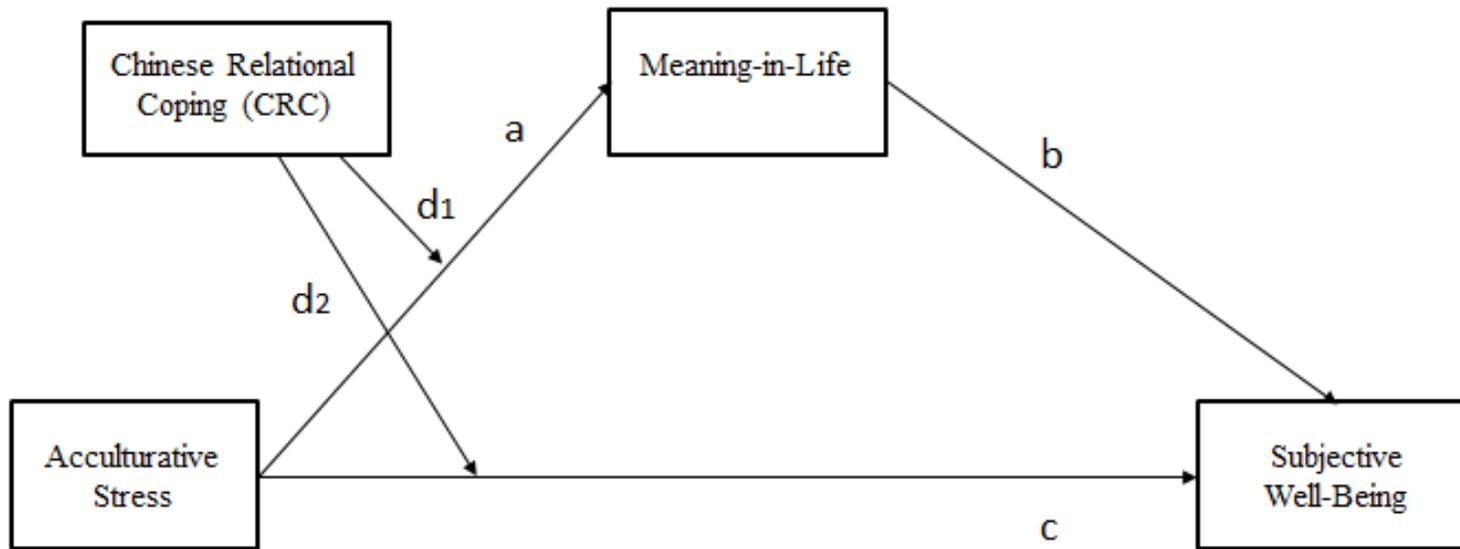


Figure 3. The Hypothesized Moderated Mediation Model with Moderator of CRC.

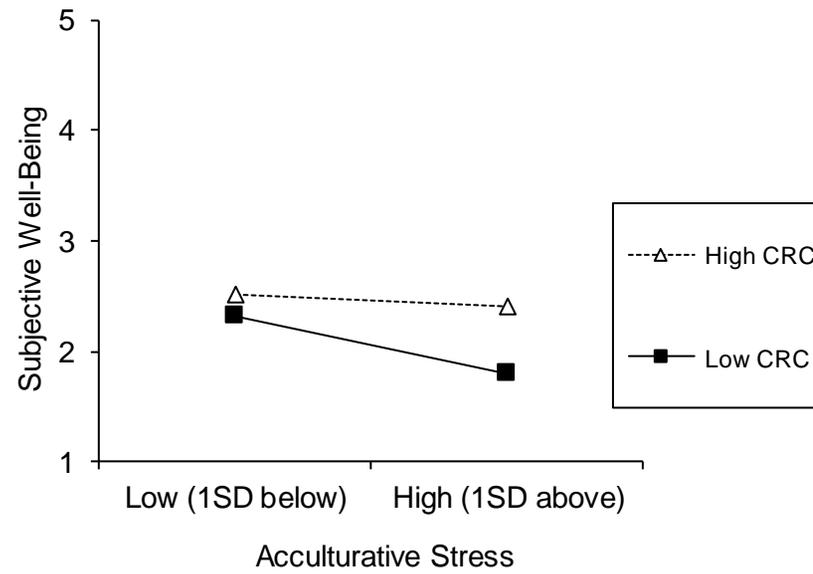


Figure 4. Hypothesized Moderated the Effect of Acculturative Stress on Meaning-in-Life for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.

ARS = Acceptance, Reframing, and Striving.

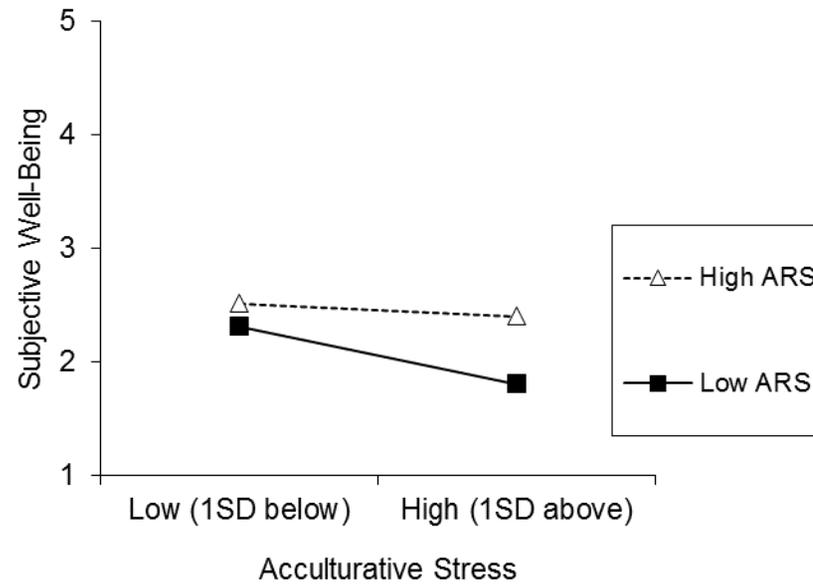


Figure 5. Hypothesized Moderated the Indirect Effect of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.

ARS = Acceptance, Reframing, and Striving.

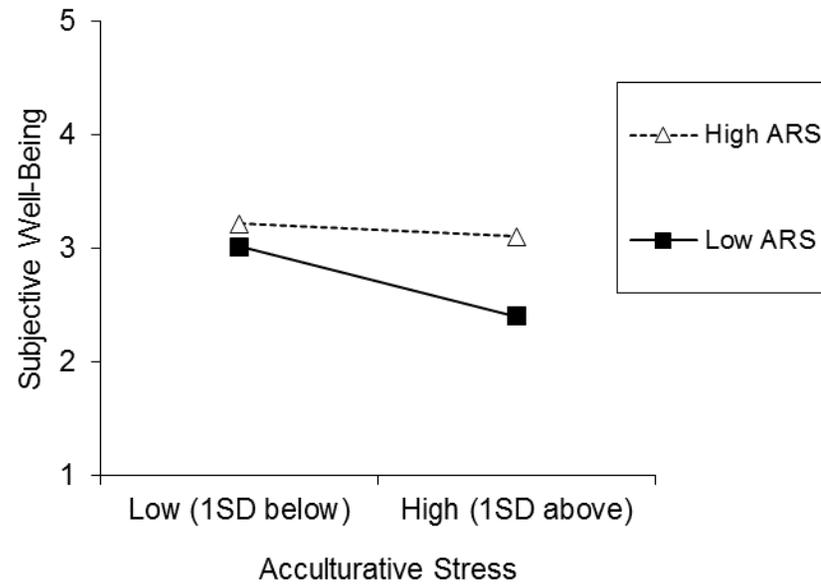


Figure 6. Hypothesized Moderated the Direct Effects of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.

ARS = Acceptance, Reframing, and Striving.

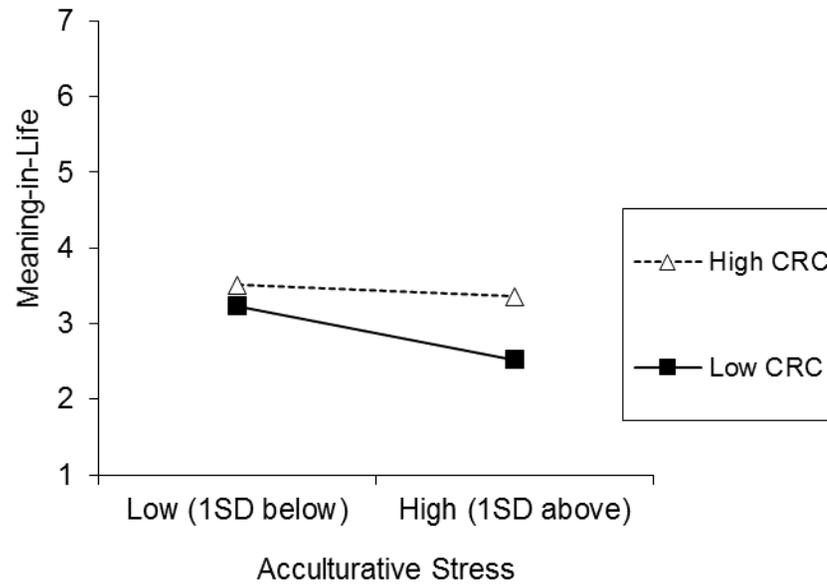


Figure 7. Hypothesized Moderated the Effect of Acculturative Stress on Meaning-in-Life for Those with Higher and Lower Levels of Chinese Relational Coping.

CRC = Chinese Relational Coping.

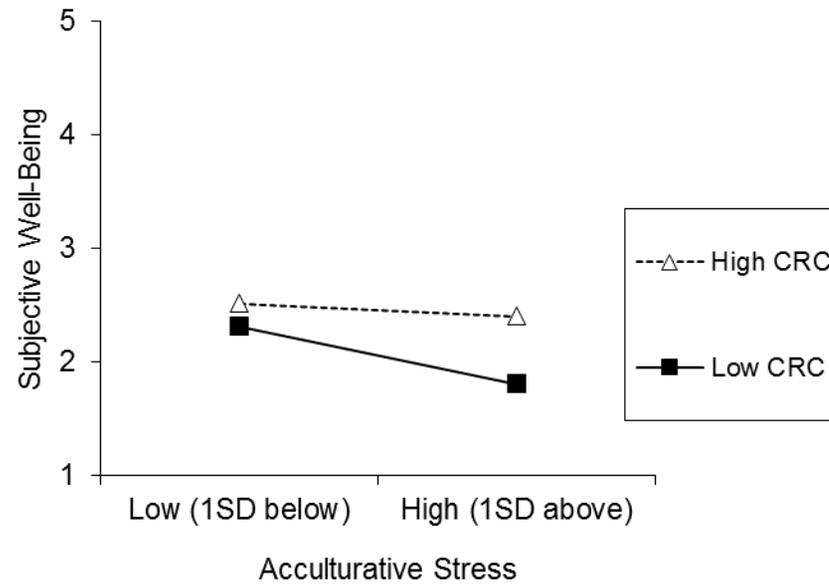


Figure 8. Hypothesized Moderated the Indirect Effect of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Chinese Relational Coping.

CRC = Chinese Relational Coping.

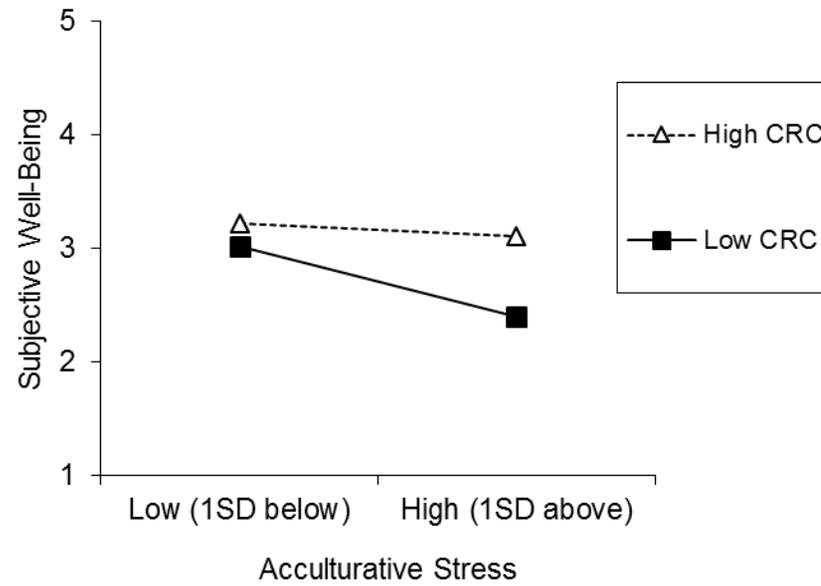


Figure 9. Hypothesized Moderated the Direct Effect of Acculturative Stress on Subjective Well-Being for Those with Higher and Lower Levels of Chinese Relational Coping.

CRC = Chinese Relational Coping.

CHAPTER 2: LITURATURE REVIEW

In this literature review, I would first discuss the acculturative stress experienced by Chinese international students and its impact on mental health. Second, I would review the theoretical foundation of the present study, including Berry's (2006) acculturation model, the resilience framework of acculturation, and meaning-in-life as a secondary control coping method and its relationship with subjective well-being. I would then provide an overview of the empirical evidence examining meaning-in-life as a potential mediator of acculturative stress and subjective well-beings. Third, I would review Heppner et al.'s (2014) Cultural and Contextual Model of Coping, highlighting the collectivistic coping strategies that pertain to the hypothesized moderating variables (i.e., acceptance, reframing, and striving; Chinese relational coping) in the proposed moderated mediation model. I would also discuss traditional Chinese values to support the conceptual arguments that lay the foundation for the hypothesized moderators. These values may serve as culturally specific protective factors in the acculturation process of Chinese international students.

Chinese International Students and Acculturative Stress

According to the Institute of International Education's annual report, Open Door,(IIE, 2015), the number of international students enrolled in U.S. higher education institutions had the highest rate of growth over the past 35 years. It had an increase of 10% and reached a record high of 974,926 students in the 2014/2015 academic year. Chinese international students comprise the largest international student group, accounting for 29% of all international students. In fact, China has remained the top country of origin of international students in the U.S. since 2009. In this study, *Chinese international students* refers to Chinese students from mainland

China enrolled in U.S. colleges and universities with F-1 visa status, which differentiates this group from Chinese students who are permanent U.S. residents.

Studying and living in a foreign country imposes numerous challenges on international students, including linguistic, academic, financial, interpersonal, and intrapersonal problems (Mori, 2000; Pan, Yue, & Chan, 2010). International students are continually exposed to Western values, beliefs, and life styles that are vastly different from those fostered by their upbringing (Iwamoto & Liu, 2010). The socialization process of being influenced by two cultures, in this case both Eastern and Western cultures, is referred to as *acculturation*. Kim and Omizo (2006) defined acculturation as a process in which individuals adjust, change, or keep their ethnic cultural values and behaviors after entering into a new culture with a different set of values and behaviors. Acculturation experiences, along with its tremendous challenges, may lead to difficulty in sociocultural and psychological adaptation and pose various risk factors for psychopathology or poor mental health. One major risk factor is *acculturative stress*, which is defined as the conflicts and difficulties that arise from the process of acculturation (Joiner & Walker, 2002). Acculturative stress occurs when acculturation experiences cause problems for the adjusting individual and can produce a reduction in the individual's physical, psychological, and social health (Berry, 2006). It is estimated that 15-25% of all international students are at risk of experiencing psychological and psychiatric problems in the process of cross-cultural adaptation (Leong & Chou, 2002).

For Chinese international students, acculturation experiences may potentially be even more challenging due to a number of unique factors, including, but not limited to: (a) a wider cultural distance between Chinese culture and American culture (Liu, 2009), marked by the stark contrast between cooperation versus competition, collectivism versus individualism, and

hierarchical versus egalitarian relationships (Yeh & Inose, 2002); (b) differences in the higher education system and sociocultural norms between China and the U.S. (Wan, 2001), such as having greater difficulties in adopting the American style of social interaction and conversation, as well as taking the initiative to ask questions and express opinions in the classroom (Wang & Mallinckrodt, 2006); and (c) the English language barrier. In addition, research has found that Chinese students tend to somatize mental health problems, which is consistent with the holistic mind-body philosophy in traditional Chinese culture, and the lack of a distinctive concept in the Chinese language for mental health. This may lead to underreported acculturative stress in Chinese international students and underutilization of mental health services among this group (Liu, 2009). Empirical studies reveal that, compared to European students, Chinese international students often experienced greater levels of trait anxiety, prejudice, and adaptation and communication difficulties (e.g., Chataway & Berry, 1989). A more recent study indicated that Chinese international students experience more communication barriers compared to Japanese and Korean international students (Yeh & Inose, 2002), which can be attributed to the greater cultural distance between Chinese and U.S. values and norms (Liu, 2009).

Measuring acculturative stress among Chinese international students. Limited studies have made efforts to measure the acculturative stress of Chinese international students. In the review of the existing instruments, four scales were found that measure the acculturative stress of international students, and only one specifically applies to Chinese international students. The first scale is the Acculturative Stress Scale for International Students (ASSIS, Sandhu & Asrabadi, 1998), which contains 36 items and seven subscales, including perceived discrimination, homesickness, perceived hate/rejection, fear, stress due to change/cultural shock, guilt, and other nonspecific items. Although the scale has been found to be a reliable and valid

measure of acculturative stress, it has been criticized for not including academic stressors. Academic stress has been identified in other studies as one of the greatest challenges for international students. The second scale is the Index of Life Stress for Asian Students (ILS; Yuan & Clum, 1995), which contains 31 items and five subscales, including language difficulty, cultural adjustment, academic concerns, financial concerns, and outlook for the future. The creators of this scale reported psychometric data, but no applications of ILS were found from other empirical studies. In addition, ILS does not differentiate acculturative stress from general stress, nor does it address the within-group differences among Asian international students. The third scale is the Acculturative Hassles Scale for Chinese Students (AHSCS; Pan, Wong, Joubert, & Chan, 2007), which contains 17 items and four subscales, including language deficiency, academic work, cultural differences, and social interaction. Although the scale was found to be both reliable and valid, it was developed and validated with Chinese students in Hong Kong. As such, this application has some limitations in its cultural relevance to Chinese international students in the U.S., since Hong Kong is culturally and geographically closer to mainland China compared to the U.S. Admittedly, the authors of this scale noted that perceived discrimination, a significant source of acculturative stress and commonly included in Western measures, was missing in the AHSCS.

The fourth scale is the Acculturative Stress Scale for Chinese Students (ASSCS; Bai, 2015), which was selected for the present study to measure acculturative stress among Chinese international students attending a predominately White university in the U.S. ASSCS was selected as the appropriate measure of acculturative stress for this study because it captures those domains missing from other preexisting scales, such as academic stressors and language barriers. In addition, compared to preexisting scales, the ASSCS is the most cultural relevant and is the

only Chinese scale of acculturative stress designed specifically for Chinese international students attending a predominately White university in the U.S. Bai (2015) developed 72 preliminary items, 22 of which were adapted from ASSIS and 11 from AHSCS, and conducted in-depth interviews that generated 39 additional items to measure missing domains. Face validity and content validity were tested by five experts, and readability and comprehensiveness were piloted with a sample of three Chinese students. The results from this pilot were used to make minor language modifications to the scale. The 72-item pool was then tested with a large sample of Chinese students, among which 267 students completed the survey and responses were analyzed via an Exploratory Factor Analysis (EFA). The EFA resulted in a 32-item scale with a 5-factor structure, including language insufficiency (10 items, 32% of total variance), social isolation (8 items, 6%), perceived discrimination (7 items, 3.56%), academic pressure (4 items, 4.1%), and guilt towards family (3 items, 2.56%). Two dimensions of acculturative stress (financial stress, and cultural difference) commonly reported in previous literature, were not supported by the results of Bai's study. Bai argued that a lack of financial stress may reflect recent economic developments in China, thereby making studying abroad more affordable. A total of 67.6% graduate students in Bai's study received a scholarship from their country of origin or the university they attend, and 97.7% of the undergraduate students were financially supported by their families. The decreased culture shock was attributed to the impact of globalization and increased exposure to Western culture among students in China prior to studying abroad. This result was somewhat supported by Wang, Wei and Chan's (2015) findings in which approximately 6% to 35% of Chinese international students in the U.S. reported experiencing "culture shock."

Given that the ASSCS was newly published, no study was found that tested the applicability of the scale with psychometric data, beyond what was reported in Bai's (2015) original study. In Bai's study, the ASSCS was found to be highly reliable (overall $\alpha = .94$) and criterion validity was upheld in predicting depression and life satisfaction. Specifically, when acculturative stress becomes overwhelming for students and exceeds their coping resources, they may develop depression. In contrast, when students view acculturative stress as new opportunities for self-growth, they tend to interpret this as "good stress" and are more satisfied with their lives (Berry, 2006). Bai's (2015) results were supported by prior studies (e.g., Pan, Wong, Chan, & Joubert, 2008; 2011), with acculturative stress positively predicting depression and negatively predicting life satisfaction.

Given the significant influx of Chinese immigrants to the U.S. and this population's unique risk factors and high prevalence of mental health concerns, it is surprising that only a few studies were found that focus on acculturation experiences of this specific group. For instance, in Zhang and Goodson's (2011) systematic review of the existing 64 studies on international students' psychosocial adjustment published between 1990 and 2009, only 5 focused specifically on international students from mainland China. Among these, researchers examined various predictors of acculturative stress, including demographic information, family support, support from interpersonal social networks, attachment styles, English proficiency, maladaptive perfectionism, identification with host culture, American cultural knowledge, and life satisfaction (Kline & Liu, 2005; J. Ye, 2006a; Wang & Mallinckrodt, 2006; Wei, Ku, Russell, Mallinckrodt, & Liao., 2008; Zhang & Goodson, 2011). Even fewer studies addressed the complicated process involved in acculturation for Chinese international students (i.e., mediation and moderation effects of risk factors and protective factors) and often failed to incorporate those

culturally relevant constructs (e.g., collectivistic coping) that are largely absent in mainstream U.S. culture. Furthermore, the majority of previous studies on acculturation have focused on adjustment difficulties, psychopathological issues, and negative outcomes such as anxiety, depression, loneliness, and suicidal ideation (e.g., Hovey & King, 1996), often overlooking positive outcomes of the acculturation process, such as the potential for such experiences to be inspiring, growth-promoting, and offer new learning opportunities (Yoon, Lee, & Goh, 2008).

The following section discusses the psychological acculturation of Chinese international students, drawing from the frameworks of existing acculturation models (e.g., Berry, 2006; Heppner et al., 2014). Notably, none of these models were developed specifically for this population and have been applied in very few studies (e.g., Du & Wei, 2015; Wang et al., 2012). The present study incorporates these acculturation models into a theoretical framework, with particular focus on the individual factors (e.g., personal cultural values and beliefs, Heppner et al., 2006), coping strategies (e.g., collectivistic coping), and outcomes (e.g., meaning-in-life, subjective well-being) outlined in these models.

The Theoretical Framework of Acculturation

Berry (2006) expanded on Lazarus and Folkman's (1984) stress-coping model in the development of a coping framework for acculturation. Berry's (2006) framework has been used in research examining acculturation and adjustment processes of individuals transiting from one culture to another. In his framework, Berry depicts the acculturation process in terms of appraisal of experiences, coping strategies, immediate or long-term outcomes, and eventual adaptation, as well as cultural and individual variables that may influence the process as a whole. Particularly, Berry proposed several mediating and moderating factors that could impact any associations (e.g., coping strategies and outcomes) outlined in the above process of acculturation.

This model has spurred a multitude of studies examining the risk factors and negative outcomes of acculturation. Results revealed numerous stressors and challenges arising from acculturation experiences which could result in varying levels of acculturative stress.

Acculturative stress was found to be associated with increased negative emotions (e.g., anxiety, depression; Zhang & Goodson, 2011) and reduced positive affect (e.g., Lau, 2006; Noh, Kaspar, & Wickrama, 2007).

Yoon and Portman (2004) criticized existing acculturative stress literature of international students for an overemphasis on adjustment difficulties and psychopathology outcomes. Diener et al. (2003) suggest extending the concept of mental health beyond the mere absence of symptoms of psychological problems to also include the presence of positive affect. Empirically, a few studies (e.g., Abadi, 2000; Rosenthal, Russell, & Thomson, 2006) have found positive emotions (e.g., happiness, satisfaction) in adaptation among international students. Findings suggest that international students are not as vulnerable as reported in most acculturative stress literature (Pan, 2008). It seems possible that individuals with certain characteristics and resources were able to show resilience to overcome acculturative challenges, adapt to the new culture, and experience positive affect and life satisfaction. Similarly, Berry (2006) argued that acculturation experiences may enhance one's life chances and mental health, and that adaptation outcomes are dependent on various individual and environmental factors in the acculturation process. Wang, Wei, and Chen (2015) also noted that the "cultural shock syndrome" documented in other acculturation studies has decreased among Chinese international students in recent years, as China has become more globalized and increasingly exposed to Western cultures.

In the past decade, studies are increasingly incorporating a resilience perspective (e.g., Masten, 2001; Pan, Wong, Joubert, & Chan, 2007; Pan, 2011; Pan, 2015; Yoon & Portman,

2004), representing a paradigm shift in acculturation research from focusing on negative outcomes and risk factors, to adaptation outcomes (e.g., subjective well-being, post-migration growth) and contributing protective factors (e.g., meaning-making, collectivistic coping) of individuals in the cross-cultural adaptation process. Pan, Wong, Joubert, and Chan (2007) refer to this new emphasis on resilience as the resilience framework of acculturation, in resonance with the recent surge in positive psychology research. *Resilience* is defined as a personal trait or the process of bouncing back from, overcoming, surviving, or successfully adapting to a variety of adverse conditions or life stressors (Grotberg, 2003). In short, resilience is overcoming difficulties and gaining strength from adversity. In response to the challenges and adversity that often arise throughout the acculturation process, individuals with resilience are likely to overcome acculturative stressors and adapt to the new environment.

Pan, Wong, Joubert and Chan (2007) suggested two ways in which research might further our understanding of the acculturation process by applying the resilience framework. The first is to identify positive adaptation outcomes in the acculturation process, such as positive affect, life satisfaction, happiness, post-migration growth, and so forth. In the present study, positive outcomes are conceptualized as one's emotional well-being in terms of positive affect, negative affect, and life satisfaction, also known as the combined construct of subjective well-being. Diener et al. (2003) defined subjective well-being as one's emotional and cognitive evaluation and judgment of how satisfied one is with their life and how happy they are, in both the current moment and for a longer period of time. It consists of both a negative dimension (i.e., absence of negative affect) and a positive dimension (i.e., positive affect and life satisfaction). Research has shown that acculturation, characterized by environmental change, could substantially affect subjective well-being. In one study's findings, acculturation accounted for 45% of the variance

in subjective well-being among Korean immigrants (Yoon, Lee, & Goh, 2008), and in another study, acculturative stress adds 24.8% of the variance in life satisfaction among Chinese international students (Bai, 2015). Although studies are increasingly exploring the role of subjective well-being in the acculturation process, only a few have examined the mediation and moderation effects on the relationship between acculturation and subjective well-being to investigate how and for whom acculturation may be associated with higher subjective well-being.

Measuring subjective well-being. Existing literature highlights three constructs of subjective well-being, including positive affect, absence of negative affect, and life satisfaction (Diener et al., 2003). In the present study, subjective well-being was measured by the Positive Affect and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) and Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985).

Meaning-in-life. The second recommendation for applying the resilience framework in acculturation research is to identify protective factors and the protective mechanisms in which these factors work to buffer the negative effects of risk factors (Henderson & Milstein, 2003) and/or promote positive adaptation outcomes. Previous resilience research has identified several protective factors, among which meaning-in-life is critical in the development of resilience and the capacity to maintain subjective well-being throughout the acculturation process (e.g., Cohen & Cairns, 2012; Ehrensaft, & Tousignant, 2006). *Meaning-in-life* is defined as “the cognizance of order, coherence, and purpose in one’s existence, the pursuit and attainment of worthwhile goals, and an accompanying sense of fulfillment” (Reker & Wong, 1988). According to Schnell (2010), sources of meaning motivate commitment, give direction to life, and increase its significance. Each source of life (e.g., personal relationship, hobbies, altruism) reflects basic

needs, corresponding life goals, and the four components of the meaning structure: purpose, understanding, responsible action, and enjoyment (McDonald, Wong, & Gingras, 2012).

Frankl (1967) developed the theoretical foundation for meaning-in-life and the various clinical implications that may arise from loss of meaning, such as psychopathology. Lazarus and DeLongis (1983) include meaning-making in their model of stress and coping and assert that sources of personal meaning influence the stress and coping process throughout the life span. *Coping* is defined as “constantly changing cognitive and behavioral efforts to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984, p.141). Folkman and Lazarus (1988) extend this model by adding the “positive reappraisal subscale” to the *Ways of Coping Questionnaire*. Meaning-making coping, which differs from problem-focused and emotion-focused coping, involves reframing adversity in positive and psychologically effective ways (Davis, Nolen-Hoeksema, & Larson, 1998). It consists of two dimensions: making sense of the event and finding benefit of the experience (Davis et al., 1998). Within the coping literature, coping is often broken down into three types: problem-focused, emotion-focused, and meaning-focused (Folkman, 2008). However, in the past decade, researchers have begun to focus more on how individuals ascribe meaning to adverse circumstances and how such interpretations of meaning affect outcomes (Folkman & Moskowitz, 2000). Meaning-making has typically been studied in situations of loss, grief, and trauma as individuals reform their belief systems and goals in light of their experiences (Ai & Park, 2006; Park, 2005).

There are two levels of meaning: global meaning and situational meaning (Park & Folkman, 1997). *Global meaning* refers to the more generalized meaning an individual ascribes to their basic goals and fundamental assumptions, as well as their expectation about the world,

such as purpose of life and life goals. *Situational meaning* refers to the result of finding meaning in a specific situation or experience in a manner that is consistent with one's global meaning system (Wong, Reker, & Peacock, 2006). In the present study, meaning-in-life refers to the level of global meaning. In response to adversity arise from acculturation, individuals may attempt to discover the situational meaning of the current adverse event within their existing framework of global meaning. Individuals could either modify the situational meaning of the adverse event to make it consistent with their preexisting global meaning system (e.g., the proverb of "Turn your wounds into wisdom."), or change relevant global meanings of goals and beliefs to accommodate the event (e.g., reprioritize one's life goals). In both approaches, the process of meaning-making could potentially transform one's emotional experience from negative to positive, indicating a substantial relationship between meaning-in-life and subjective well-being (Pan et al., 2011).

Empirical studies have demonstrated that meaning-in-life significantly predicts subjective well-being, either when subjective well-being is used as a combined construct or separated as negative and positive dimensions. When combined, a study (Doğana, Sapmaza, Telb, Sapmazc, & Temizelc, 2012) found that the presence of meaning-in-life and search for meaning-in-life significantly predicted subjective well-being, and accounted for 34% of the variance in subjective well-being. In Yalçın and Malkoç's study (2015), meaning-in-life significantly predicted subjective well-being, and the relationship was moderated by hope and forgiveness. Compton's (2000) analyses also revealed that meaningfulness significantly predicted subjective well-being. Studies have also shows that higher attainment of personal meaning and purpose associates with lower negative affect, including anxiety, depression, and hostility in health-related areas (e.g., Fry, 2000; Konstam et al., 2003; Mascaro & Rosen, 2005; Reker, 1997;). The presence of meaning-in-life was found to significantly distinguish the resilient group from the

maladaptive group in school adaption among Korean adolescents (Lee & Puig, 2005).

Acculturation studies, although few in number, have found a negative association between meaning-in-life and negative affect (e.g., Shek, 1992; Pan, Yue, & Chan, 2010). Meaning-in-life has also been found to be positively associated with positive affect (e.g., Fleer et al., 2006; Mascaro & Rosen, 2005) and life satisfaction (Pan, Wong, Joubert, & Chan, 2007). Specifically, Wu, Terry, Shih, and Huang's (2006) findings suggest that meaning-making and goal-setting are the two major contributing factors contributing to the survival of Chinese immigrants. It seems as though the acculturation process may pose new freedoms for individuals to engage in a quest for meaning-in-life (Wong, 2007), and the attainment of meaning-in-life may be a key path to a happier and more satisfying life.

Measuring meaning-in-life. Sources of meaning in life have been investigated both qualitatively and quantitatively in the research literature. Wong (1998a) developed the Personal Meaning Profile (PMP) to assess the current level of life meanings. PMP is a 57-item, 7-factor, reliable English self-reported measure, (overall $\alpha = .93$). These factors include: achievement ($\alpha = .91$), religion ($\alpha = .89$), self-transcendence ($\alpha = .84$), relationship ($\alpha = .81$), intimacy ($\alpha = .78$), self-acceptance ($\alpha = .54$), and fair treatment ($\alpha = .54$). According to Lin (2001), PMP was based on Eurocentric White perspectives and implicit theories of what makes their lives meaningful. Since meaning-in-life is constructed and interpreted through a cultural context by means of socialization processes, the PMP may not be applicable to the Chinese population, whose cultural heritage differs from that of Western societies.

To resolve this limitation of the PMP, Lin (2001) extended Wong's (1998a) PMP in the development of the Chinese Personal Meaning Profile (CPMP). CPMP included additional culturally specific components based on traditional Chinese heritage and philosophical

influences (i.e., Confucianism, Taoism, and Buddhism). Lin's factor analysis also led to the inclusion of items related to family, self-development, and being close to nature and authentic. In Lin's (2001) study with a sample of 392 Chinese residents in Canada, the 57 items from PMP were translated and interpreted in the Chinese language, and a content analysis was used to inform the development of additional items that are specific to Chinese culture, which resulted in a total of 87 items. The 87-item Chinese PMP was then administered to 392 Chinese residents in Canada, and factor analysis yielded 12 factors: self-development, achievement, acceptance & content, Western religion, relationship, pursuit of purpose, family, being close to nature & authentic, fair treatment, intimate relationships, universal religion, and self-transcendence. The total variance accounted for by these 12 factors was 60.8%. Within this sample, CPMP was found to be positively correlated with purpose in life and life satisfaction (Lin, 2001).

Pan, Wong, Joubert, and Chan (2007) modified Lin's (2001) CPMP by excluding those items with a factor loading less than .50, factors with fewer than 3 items, and Western religion factors due to its limited relevance to the Chinese population. Thus, a shortened version of the CPMP was formed with 41 items and 7 factors: self-development, achievement, acceptance & content, relationship, pursuit of purpose, family, and being close to nature and authentic. Higher scores on the seven factors reflect a greater meaning-in-life. The revised CPMP has been tested with acceptable levels of reliability (e.g., $\alpha = .97$, Pan, 2007; $\alpha = .96$, Pan, Wong, Joubert, & Chan, 2007). It has also demonstrated good convergent validity, with a positive correlation with positive affect, and negative correlation with negative affect.

Acculturative Stress, Meaning-in-Life, and Subjective Well-Being

Taken together, the acculturation models and the resilience and meaning-in-life literature suggests that meaning-in-life may mediate the relationship between acculturative stress and

subjective well-being (see paths a and b in Figures 2 and 3). Previous research has shown that acculturative stress is negatively associated with subjective well-being (e.g., Zhang & Goodson, 2011). As such, the acculturative stress experienced by Chinese international students may contribute to a loss of meaning-in-life, which in turn might lead to a decline in subjective well-being (e.g., Pan, Wong, Joubert, & Chan, 2007). Particularly, if students' sources of meaning-in-life (e.g., achievement, family, relationship, self-development) were not fulfilled in the cross-cultural transition, they may be more vulnerable to the negative effects of acculturative stress (i.e., negative affect and lowered life satisfaction) in a multitude of domains (e.g., academic, financial, interpersonal, and intrapersonal).

To the author's knowledge, several studies examine the mediating effect of meaning-in-life, with findings indicating that meaning-in-life partially mediate the link between acculturative stress and life satisfaction (Wallace & Lahti, 2004) and offset the impact of traumatic life events on depression (Krause, 2007). There were a few studies that specifically investigated meaning-in-life as a mediator between acculturative stress and subjective well-being among Chinese international students. Among those, inconsistent results were reported. Pan, Wong, Joubert, and Chan (2007; 2008), using one cross-cultural dataset to conduct multiple analyses, found an inconsistent mediation effect of meaning-in-life on the positive dimension (i.e., positive affect) versus negative dimension (i.e., absence of negative affect) of subjective well-being. They also found an inconsistent mediation effect among Chinese international students in a collectivistic society (i.e., Hong Kong) versus in an individualistic society (i.e., Australia).

Specifically, they found that meaning-in-life mediated the relationship between acculturative stress and *positive* affect among Chinese international students in both Hong Kong and Australia. However, the magnitude of the mediation effect varies in two samples, with

meaning-in-life having a complete mediation effect in the Australia sample and a partial mediation effect in the Hong Kong sample. Regarding the negative affect, they found that meaning-in-life partially mediated the relationship between acculturative stress and *negative* affect only in the Hong Kong sample, and not in the Australia sample. They explained this discrepancy between the two samples by referring to the sources of meaning-in-life. Some sources of meaning-in-life (e.g., in-group harmony, family) reflect social values of a collectivist society (i.e., Mainland China and Hong Kong), whereas other meaning sources (e.g., self-reliance) are more salient in an individualistic society (i.e., Australia). In their study, Chinese international students may experience more value conflicts and disorientation in Australia with an individualistic culture, which leads to a diluted protective effect of meaning-in-life on the negative affect of well-being.

Furthermore, using the same data set of the Hong Kong sample from Pan's (2008) work, Pan (2011) proposed a Resilience-based and Meaning-oriented Model of Acculturation (RMMA) to include other indirect pathways (i.e., via threat appraisal, sense-making coping) between acculturative stress and affective outcomes. In this integrated model, meaning-in-life showed a mediation effect on *positive* affect but exerts no such effect on negative effect. Pan (2011) concluded that, although this result disconfirmed her previous results showing partial mediation for negative affect, it corroborated Zika and Chamberlain's (1992) findings that meaning-in-life relates more strongly to positive than to negative dimensions of subjective well-being. In addition, results of studies in a non-acculturative context are mixed on the relationship between meaning-in-life and subjective well-being. Findings indicate meaning-in-life may function as a mediator (Harlow, Newcomb, & Bentler, 1986; Newcomb & Harlow, 1986), may be directly associated with subjective well-being (Zika & Chamberlain, 1987), or serves as a moderator for

stress (Ganellen & Blaney, 1984; Halama & Bakosova, 2009; Cohen & Cairns, 2012). The aforementioned results imply that the relations between meaning-in-life and the positive and negative dimensions of well-being are unclear.

Several studies attempted to explain this inconsistency. Zika and Chamberlain (1992) argued that the stronger mediating effect of meaning-in-life on positive affect may be due to the overlap of these two constructs, that both meaning and subjective well-being involve affective experience. Pan (2011) attempted to explain the significant effect of meaning-in-life on positive affect via referring to how meaning-in-life was theorized and conceptualized. According to Reker and Wong (1988), there are three components of personal meaning: cognitive, motivational, and affective. The *cognitive* component involves making sense of one's experience in life, and it can facilitate the recognition of a stressful situation and the reframing of it to a more positive reinterpretation of the situation (Halama & Bakosova, 2009). The *motivational* component involves a sense of purpose through pursuing personal goals. For example, in the context of acculturation, international students need to build up new connections while their old connections with homelands may or may not be available when there is a need. Good relationships provide important reminders that life is worth living even in the most difficult times (Janoff-Bulman, 1992). This may motivate students to interact with others more often and experience more positive affect with interpersonal support. The *affective* component indicates that positive affect is an inevitable byproduct of living a meaningful life (Wong, 1998a). For instance, seeking meaning-in-life by accepting the setbacks with a sense of contentment was shown to promote positive affect in acculturation (Pan, Wong, Joubert, & Chan, 2007). In brief, both the motivational and affective component of meaning-in-life shed light on the positive association between meaning-in-life and positive affect.

Furthermore, the differentiated mediation effects on both affective outcomes and among different cultural samples could also suggest that there might be a third variable moderating the indirect effect of meaning-in-life on the association between acculturative stress and subjective well-being. Perhaps there are some culturally congruent coping strategies used by some Chinese students that might impact the effect of meaning-in-life on coping with acculturative stress and maintaining subjective well-being. Thus, in the following section, I will review Heppner et al. (2014) Cultural and Contextual Model of Coping and highlight the collectivistic coping that pertains to the moderating variables (i.e., acceptance, reframing, and striving; Chinese relational coping) hypothesized to affect the proposed mediation model. I will also discuss traditional Chinese values to support the conceptual arguments behind the hypothesized moderators, which may serve as culturally-specific and potentially protective factors for acculturation processes among Chinese international students.

The Cultural and Contextual Model of Coping

How individuals respond to and cope with stressful life events has been the focus of psychology over the past 30 years (Sommerfield & McCrae, 2000). Research has indicated that coping plays an important role in dealing with stress and is associated with pathological symptoms and psychological well-being (e.g., Neville & Heppner, 1999). Individuals who cope more efficiently with stressful life events feel better in life and report positive psychological adjustment (e.g., Sommerfield & McCrae, 2000). Furthermore, coping is often found to moderate and mediate the relationship between stress and psychological well-being (e.g., Heppner, Witty, & Dixon, 2004). A large body of studies has examined many variables concerning coping, including the nature and severity of the stressor (i.e., perceived threat), personality traits (i.e., openness), a variety of coping strategies (i.e., problem-solving), and various outcomes (i.e.,

psychological distress and well-being). Yet, few studies have included or focused on the role of cultural context in coping, especially among ethnic minority groups (Wong, Wong, & Scott, 2006). Heppner et al. (2016) claimed the lack of culture-specific coping in the literature is a major omission, and called for more diverse research in non-Western contexts to expand coping theories.

Traditional coping literature, derived from a Western context and adhering to an individualistic world view, views coping as primarily problem-solving and asserts personal control through taking actions (e.g., Van der Walt, Potgieter, Wissing, & Temane, 2008). For example, Heppner et al. (2006) cite a substantial body of research in the past 20 years which indicate that “applied problem solving plays a crucial adaptive role in dealing with stressful life events and often mediates or moderates the relationship between both psychological and physical health” (p. 107). Meanwhile, research conducted in non-Western cultural context reveals that individuals utilize different coping strategies. For example, O’Connor and Shimizu (2002) found that Japanese groups use more emotion-focused coping strategies and less problem-solving and personal control coping than their British counterparts. Similar results were found in other studies that indicate difference in coping between collectivistic and individualistic groups (e.g., Heppner et al., 2006; Utsey, Adams, & Bolden, 2000). Baumgardner and Crothers (2009) predicted that the issue of universality vs. cultural relativity in coping might be a major part of future research in positive psychology. Given that cultural context is broadly associated with a wide range of cognitive, emotional, and behavioral strategies (Markus & Kitayama, 1991), it is important to integrate both etic and emic approaches to (a) identify culturally specific constructs and culturally congruent strategies in coping; and (b) build a comprehensive knowledge base about stress and psychological adjustment among diverse groups.

With a shift of focus from universal to culturally specific strategies, the coping literature has advanced in the last three decades and extended Berry's (1997) acculturation model which drew heavily on Lazarus and Folkman's (1984) coping model. Heppner et al. (2014) add cultural relevance to existing coping literature by integrating cultural and contextual variables in multiple stages of coping for racial and ethnic minorities in U.S. The Cultural and Contextual Model of Coping (CCMC; Heppner et al., 2014) is an Individual × Environmental ecological coping model emphasizes that coping occurs within a cultural context. *Cultural context*, defined as a complex system of norms and values that provides standards for acceptable and unacceptable behaviors (Triandis, 1995), affects how individuals perceive and cope with stress; it also influences how individuals define psychological adjustment and well-being (Cheung, 2000). Thus, the CCMC consists of five domains (i.e., Individual and Environmental Factors, Stressors, Coping, and Health Outcomes; see Figure 1) that represent various ways of dealing with stress. These domains can be conceptualized in various dimensions., One conceptualization is to distinguish general dispositional coping styles (i.e., problem-solving) with situation-specific coping strategies (e.g., seeking family support, spiritual coping), and empirical studies found out that both dispositional and situation-specific coping strategies predict acculturative adjustment among international students (Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005; Heppner et al., 2006; Wang et al., 2012; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008). Another conceptualization of coping strategies is the individualistic-collectivistic dimension based on the values in a particular cultural context. For the Chinese international student group, collectivistic coping would be culturally congruent within a Chinese cultural context, which usually reflects an interdependent self-construal rather than an independent self-construal often found in Western cultures (Heppner et al., 2014).

In addition to having a direct effect on health outcomes, coping strategies often buffer the negative effects of stressful events (Heppner et al., 2014). Coping can have a moderation effect on the direct and indirect relationship between stressors and health outcomes. Theoretically, CCMC suggested that coping (Domain D, in Figure 1) can moderate the association between stressors (Domain C) and outcomes (Domain E), as marked by the dotted line b_2 in Figure 1.

Empirically, previous studies have documented the moderation effect of coping on health outcomes related to stress (e.g., Heppner et al., 2004; Zeidner & Saklofske, 1996), as well as the moderating role of culturally related coping. For example, Wei et al. (2008) found the association between perceived discrimination (Domain C) and depressive symptoms (Domain E) was moderated by reactive coping (Domain D) among Asian international students. Particularly, low reactive coping served as a protective factor for depressive symptoms predicted by perceived discrimination, and this may be because low reactive coping is congruent with the Asian cultural value of emotional self-control and maturity. Additionally, Wei et al. (2010) found out that among three minority groups, the relationship between minority stress and depression was lessened by high bicultural competence as a culturally related coping source.

Previous research suggests that there is cultural difference in how individuals view control and approach to coping. Heppner et al. (2006) indicated that cultural assumptions, values, and philosophies shared the coping constructs. According to Weisz, Rothbaum and Blackburn (1984), there are two types of control: (a) primary control (more prominent in Western culture) in which individuals take control through direct and active influence on existing realities. Examples of strategies include self-controlling and seeking social support; and (b) secondary control (more prominent in Eastern culture) in which individuals take control by accommodating and reframing existing realities, leaving realities unchanged but exerting control over their

personal psychological impact. Examples of strategies include distraction by thinking of pleasant thoughts, or by engaging in other activities to keep one's mind off the stressor. Western theories implicitly assume that healthy individuals cope through primary control and those who do not are seen as suffering from problems such as learned helplessness and low self-efficacy (Weisz et al., 1984). However, in Eastern culture, control could be pursued differently, which they labeled as secondary control. Weisz et al. (1984) identified four types of secondary control: (a) *predictive control*, in which the person "attempts to accurately predict events and conditions so as to control their impact on self"; (b) *vicarious control*, in which the person "attempts to associate or closely align oneself with others, groups, or institutions so as to participate psychologically in the control they exert"; (c) *illusory control*, in which the person "attempts to associate or get into synchrony with chance so as to enhance comfort with and acceptance of one's fate"; and (d) *interpretive control*, in which the person "attempts to understand or construe existing realities so as to derive a sense of meaning or purpose from them and thereby enhance one's satisfaction with them" (p. 957). These types of secondary control indicate that individuals from the Eastern culture may approach stress differently, and utilize coping strategies such as acceptance, reframing realities, fatalism, and interdependence, which are congruent with the Asian philosophical roots in Confucianism and Buddhism, as opposed to problem-solving efficacy, blame attributions, independence and individualism prevalent in Western culture (Heppner et al., 2006; Heppner & Lee, 2002; Markus & Kitayama, 1991; Lazarus & Folkman, 1984). Empirically, researchers found using secondary coping mechanisms which do not directly fix the problem predicted lower stress and depression among international students in Singapore (Ward et al., 2001), and using of unconditional positive regard as secondary coping predicted lower acculturative stress among Chinese international students (Lin & Betz, 2009).

Based on Asians' use of primary and secondary control (Weisz et al., 1984), the major categories of the problem-solving type of coping found in Western countries, and the problem resolution approach in the adaptation model of coping (Zeidner & Saklofske, 1996), Heppner et al. developed the Collectivist Coping Styles Inventory (CCS; Heppner et al., 2006) to measure Asian ways of coping with situation specific problems. First, 70 items were initially developed based on adapting 17 common stressful events from the Traumatic Event Survey – Lifetime (TES-L; Gershuny, 1999), and elaborating on those items to collectively reflect the Asian values, U.S. coping literature, as well as primary and secondary control. These 70 items were pilot tested with eight Asian graduate students, and then translated and back-translated into Chinese (Mandarin). The items were then administered to 344 college students in Taiwan to examine adequate psychometric properties. Results from exploratory factor analyses (EFA) resulted in five-factor oblique model, which was also supported by a subsequent study with a sample of Hong Kong college students (Siu & Chang, 2011).

According to Heppner et al. (2006), factor 1 was named Acceptance, Reframing, and Striving (ARS; 11 items, accounting for 20.14% of the total variance). These items represent one's combined efforts to accept the stressful life events, or adapt to existing realities (i.e., fatalism), reframe the meaning of the event, persistence, and their perceived efficacy to resolve the situation. Two additional items reflect maintaining interpersonal harmony. Eight of the items were secondary control, and three items were primary control. Factor 2 is Family Support (FS; 6 items, 10.13% of variance). Factor 3 is Religion-Spirituality (RS; 4 items, 8.32%). Factor 4 is Avoidance and Detachment (AD; 5 items, 5.68%). Factor 5 is Private Emotional Outlets (PEO; 4 items, 3.90%). Internal consistency is as follows: total score CCS =.87, ARS =.85, FS =.86, RS =.90, AD =.77 and PEO =.76. Subsequent confirmatory factor analyses (CFA) indicated high

concurrent and construct validity. Specifically, two estimates of concurrent validity were examined: the associations between scores of CCS factors and scores of (a) Problem-Solving Appraisal (PSA); and (b) the Problem Resolution Index (PRI). They found that the CCS total score and PSI total score were negatively associated. In addition, ARS was related to problem-solving confidence, approaching problems, and perceived personal control. Furthermore, two estimates of construct validity were examined: associations between scores on the CCS inventory and (a) scores on the Global Severity Index (GSI); and (b) scores on the Posttraumatic Diagnostic Scales (PTDS). Results indicated that three factors of CCS (i.e., RS, AD, and PEO) were negatively associated with two indices of psychological distress (i.e., GSI and PTDS), but ARS and FS were not significantly associated with the distress indices. This suggested a more complex relationship among the five factors of CCS.

Based on the coping literature, the cultural relevance to Chinese values, and the psychometric properties of the CCS inventory, the ARS subscale was included in the present study to measure collectivistic coping characterized by acceptance. This is because: (a) the ARS subscale has the highest cultural relevance to the type of coping and living suggested by traditional Chinese culture, which is based on Confucianism, Buddhism, and Taoism (e.g., U. Kim, 1997); (b) the ARS factor was the largest factor among all the above five factors in the factor analyses (Heppner et al., 2006); (c) subsequent studies found that, among all five factors, the ARS factor was used most frequently and rated as most helpful among Taiwanese college students. In addition, the ARS is one of the two factors found to be positively associated with resolving the trauma (Heppner et al., 2006); (d) Heppner et al. (2006) indicated that the total CCS score may be misleading, and suggested that researchers should use subscale scores until more information is known about the meaning of total score; and (e) acceptance, reframing, and

striving was associated with higher acculturative adjustment among Chinese international students in a longitudinal study (Wang et al., 2012).

Acceptance, reframing, and striving. Acceptance, reframing, and striving emphasizes acceptance of unpredictable life circumstances, positively reframing stressors, and also actively striving to cope (Heppner et al., 2006). It reflects a blend of acceptance, fatalism, reframing, efficacy, and interpersonal harmony strategies, which are congruent with Asian values and consistent with the types of secondary control described by Weisz et al. (1984). acceptance, reframing, and striving, along with meaning-in-life, shares similar cultural values rooted in Taoism, Buddhism, and Confucianism. acceptance, reframing, and striving suggests passively accepting and naturally adapting to change of life through actively reframing the adverse situation or modifying the belief that one must strive to cope. Accepting what one cannot change and reframing adversity with positive meaning is a sign of wisdom and key to meaningful living for Chinese people (Wong, 1998a); this type of coping has positive implications for stress-reduction, remaining optimistic, and promoting internal tranquility in the face of adversity (Ma, 1993).

Chinese students are heavily influenced by traditional culture characterized with Confucianism, Buddhism and Taoism. These Eastern philosophies advocate a holistic, intrapersonal meaning system and an attitude of acceptance, contentment, and striving in the face of adverse situation. According to these philosophies, suffering, as a result of desire and karma, is inevitable (Lin, 2001). With such doctrines, Chinese people tend to engage in non-action or passive coping (e.g., acceptance, reframing) with suffering. For example, Asian children are often taught to endure suffering by accepting what has happened, searching for positive meaning, and building persistence, self-control and restraint in overcoming adversity. According to the

Asian collectivistic perspective, enduring suffering may also be driven by a sense of responsibility for the happiness of family or peers (U. Kim, 1997). acceptance, reframing, and striving reflects two types of selves identified among Chinese international students: (a) the harmonizing self (“acceptance to self, others, and nature”); and (b) the endeavor self (“pragmatic, doing-oriented, and tries to overcome obstacles”; Kwan, Sodowsky, & Ihle, 1994). In sum, acceptance, reframing, and striving is congruent with Chinese collectivistic culture and the traditional doctrines of coping, and might be culturally efficient to buffer the negative effect of acculturative stress on one’s psychological distress and well-being.

Measuring acceptance, reframing, and striving. In concordance with Heppner et al. (2006), the 11-item ARS subscale from the Collectivistic Coping Styles (CCS; Heppner et al., 2006) were used in the present study.

The CCS inventory is a 30-item situation-specific measure assessing various coping styles in Asian collectivistic culture. The items in the CCS inventory were developed based on Asian cultural values, primary control (i.e., control through direct and active influence) and secondary control (i.e., control through accommodating and reframing existing realities), and problem resolution (Zeidner & Saklofske, 1996). The CCS inventory consists of five factors: Acceptance, Reframing, and Striving (ARS); Family Support (FS); Religion-Spirituality (RS); Avoidance and Detachment (AD); and Private Emotional Outlets (PEO). These factors reflect a mix of primary and secondary control. The CCS total score showed satisfactory reliability ($\alpha = .97$), and estimates of construct validity were supported through correlations with measures of psychological distress and other problem-solving measures. Numerous studies have used the CCS inventory to assess collectivistic and situation-specific coping among Asian American and

international students (e.g., Allen & Heppner, 2011; Allen & Smith, 2015; Siu & Chang, 2011; Wang et al., 2012; Wang, Heppner, Wang, & Zhu, 2015; Wei, Heppner, Ku, & Liao, 2010).

When participants complete the ARS subscale, they were asked to rate the helpfulness of each coping activity, specifically in response to how they coped with the cross-cultural transition in the U.S. Responses are rated on a six-point Likert scale, where 0 = *never used this strategy/not applicable*, 1 = *used but of no help at all*, and 5 = *a tremendous amount of help*. Higher scores indicate higher rated helpfulness of using acceptance, reframing, and striving in cross-cultural transition. The ARS subscale demonstrated satisfactory index of internal consistency ($\alpha = .85$), and concurrent validity associating with scores on Problem-Solving Appraisal (PSA) and Problem Resolution Index (PRI; Heppner et al., 2006). Construct validity is supported in a recent scale validation study among Hong Kong Chinese (Siu & Chang, 2011).

Chinese relational coping. Along the same line of research on culturally-specific coping strategies, Heppner et al. (2016) identified another collectivistic coping strategy, namely Chinese relational coping. It is explicitly based on Chinese collectivistic values and Chinese personality theories. Specifically, according to K.S. Yang (1997), Chinese personality includes a Social Orientation (i.e., maintaining harmonious and cooperative relationships with family and strangers) and Relational Orientation (emphasizes social relationships [i.e., *guanxi*] to cope with daily stress). In addition, according to C. F. Yang (2006), the Chinese concept of self is intertwined within the context of others and defined in terms of social roles and situations. Therefore, one's desired outcome of coping includes not only the direct function of reducing stress, but also satisfying others and maintaining or even enhancing interpersonal harmony (Heppner et al., 2016). Chinese relational coping also includes "passive" attitude of "not doing" or even "withholding" one's action towards stressors. In the literature on Western coping

strategies, “withholding” was considered as avoidance and maladaptive, and usually associated with negative outcomes (e.g., Skinner, Edge, Altman, & Sherwood, 2003). Yet, within a collectivistic culture, withholding actions may be considered as maturity and self-control, and may be associated with positive effects, such as maintaining interpersonal relationships (Heppner et al., 2016).

Measuring Chinese relational coping. Heppner et al. (2016) developed a situation-specific Chinese Relational Coping Inventory to assess perceived coping effectiveness in a collectivistic Chinese cultural context. The item development team discussed (a) reviewing empirical coping literature in both U.S. and Chinese cultural context, (b) relevant theoretical models (e.g., K.S. Yang’s and C.F. Yang’s personality theories), (c) the central role of Chinese collectivistic values (e.g., interpersonal harmony), and (d) potential coping items to operationalize relational-coping activities. They identified four main domains: Self-Awareness, Assessment of the Situation, *Guanxi*, and Coping Strategies, and they developed 80 initial items that are not included in existing coping inventories. Approximately 1807 Chinese college students were asked to choose one of the given 20 stressful life problems and rate the effectiveness of their coping activities within their chosen problem on a 7-point Likert-type scale (e.g., 1 = *Very harmful to my situation*, 4 = *Neither helpful nor harmful to my situation*, 7 = *Very helpful to my situation*, and N/A = *Not applicable, or didn’t make use of this*). Exploratory and confirmatory factor analyses with three samples resulted in a final 17-item four-factor inventory with acceptable fit indices and internal consistency. The four factors include: (1) Understanding Oneself in Context (UOC), which reflects one’s awareness of thoughts and goals in social context and related to other’s social expectations (K.S. Yang, 2004). A sample item is “Being aware of my own emotions.” (2) Involving Relevant Others in Context (IROC), which reflects

knowing and using the right social resources (i.e., *guanxi*, or social networks), and developing mutually beneficial relationships in resolving life problems (Chen & Chen, 2004). A sample item is “Asking people who have more experiences to help deal with the situation.” (3) Considering Others in Content (COC), which reflects one’s judgement of how others might be affected by one’s coping responses; this factor represents the goal to balance all possible solutions for intrapersonal harmony (C.F. Yang, 2006). A sample item is “Being sensitive to others’ emotions in this situation.” (4) Detaching and Gaining Perspective (DGP), which reflects the patience and ability to detach oneself from the situation event and gain a broader perspective (Chun, Moos, & Cronkite, 2006). A sample item is “Being patient to allow the situation to evolve over time.”

Heppner et al. (2016) reported evidence for convergent, construct, and incremental validity, suggesting that the Chinese relational coping inventory positively correlates with but also conceptually distinct from existing coping inventories, and adds unique variance in coping outcomes. Even though the Chinese relational coping inventory was constructed through combined coping responses across different types of stressful life problems, the authors recommended that the Chinese relational coping inventory could be used to assess a single stressful problem simply by slight modification in the instructions (e.g., asking participants to respond with regard to acculturative stress;(Heppner et al., 2016). Thus, the Chinese relational coping inventory is used in the present study to assess the perceived helpfulness of a relational coping strategy used by Chinese students.

Proposed Moderated Mediation

Combining the coping literature, the Cultural and Contextual Model of Coping, empirical evidence of the moderation effect of coping, as well as the Chinese cultural guidance of living and coping, I propose that acceptance, reframing, and striving as well as Chinese relational

coping would moderate both the indirect path (via meaning-in-life) and direct path between acculturative stress and subjective well-being.

Acceptance, reframing, and striving. First, it was expected that acceptance, reframing, and striving will moderate the *indirect* path between acculturative stress and subjective well-being through meaning-in-life (see path d_1 in Figure 2). Mainly, the nature of the moderated indirect effect depends on whether or not acceptance, reframing, and striving moderates the association between acculturative stress and meaning-in-life. Specifically, it was hypothesized that the negative association between acculturative stress and meaning-in-life would be weaker for those with higher than for those with lower levels of acceptance, reframing, and striving. Similarly, it was hypothesized the moderated indirect effect from acculturative stress to subjective well-being through meaning-in-life would be weaker for those with higher than for those with lower acceptance, reframing, and striving. Acceptance, reframing, and striving coping emphasizes acceptance of unpredictable life circumstances, positively reframing stressors, and actively striving to cope. Accepting what one cannot change and reframing adversity with positive meaning is a sign of wisdom and key to meaningful living for Chinese people (Wong, 1998a). Acceptance, reframing, and striving has positive implications for stress-reduction, staying optimistic, and promoting internal tranquility and peace of mind in the face of adversity (Ma, 1993).

Acceptance, reframing, and striving, along with meaning-in-life, shares similar cultural values rooted in Taoism, Buddhism, and Confucianism, which provides Chinese people guidance for a satisfactory life. In the face of acculturative stress, Chinese international students with high acceptance, reframing, and striving may accept and reframe acculturative challenges with a positive outlook. Therefore, when facing acculturative stress, they are likely to maintain their

sense of meaning-in-life, which in turn would be associated with higher subjective well-being. Conversely, those with low acceptance, reframing, and striving are less likely to accept or reframe acculturative stressor with a positive outlook. Therefore, it was expected that their sense of meaning-in-life would drop, which in turn would be associated with lower subjective well-being. For example, individuals with high acceptance, reframing, and striving may use reframing (e.g., “personal growth often comes after overcoming adversity”) to accept the acculturative challenge they experienced, which promotes the self-development aspect of their meaning-in-life. In turn, they are likely to experience less negative affect and/or report more positive affect and life satisfaction. Given the above conceptual rationale, acceptance, reframing, and striving may play a moderating role for the indirect effect between acculturative stress and subjective well-being through meaning-in-life.

Second, it was expected that acceptance, reframing, and striving would moderate the *direct* path between acculturative stress and subjective well-being (see path d_2 in Figure 2); that is, the negative association between acculturative stress and subjective well-being would be weaker for those with higher than for those with lower acceptance, reframing, and striving. Conceptually, acceptance, reframing, and striving reflects a blend of acceptance, fatalism, reframing, efficacy, and interpersonal harmony strategies, which are congruent with Asian values and the types of secondary control described by Weisz et al. (1984). Chinese international students with high acceptance, reframing, and striving coping are likely to follow the cultural doctrines of acceptance and reframing implied in Taoism or Buddhism; by engaging in non-action or passive coping, they pursue the secondary control to manage acculturative challenges. Since this approach is congruent with their values, it was reasonable to hypothesize that it would help their coping with stress and maintain their subjective well-being. Conversely, those with

low acceptance, reframing, and striving are less likely to use such culturally congruent strategies to cope with acculturative stress, and their subjective well-being may be lower in the face of greater acculturative stress. Empirically, studies with Taiwanese college students found that acceptance, reframing, and striving was positively associated with resolving trauma and rated as most helpful among the five collectivistic coping styles (Heppner et al., 2006). In a longitudinal study, acceptance, reframing, and striving was associated with a better cross-cultural transition among international students in U.S. Specifically, compared to other groups, the well-adjusted group reported the highest perceived helpfulness in using acceptance, reframing, and striving as coping strategies at both semesters, indicating that acceptance, reframing, and striving may predict higher level of acculturative adjustment (Wang et al., 2012). Another study found that passive collective coping (i.e., fatalism) partially mediated the relationship between acculturative stress and depression and anxiety among Chinese international students (Lau, 2006). Siu and Chang (2011) noted that when dealing with stress that comes directly from relationship-related events, Chinese people tended to employ avoidance or detachment strategies to cope with stressful situations, according to the value of interpersonal harmony.

In addition, acceptance has been found to be positively associated with subjective well-being (Makino & Tagami, 1998; Hammarström & Sandra, 2012; Smedema, Catalano, & Ebener, 2010), and mediate or moderate the effect of stress on subjective well-being. For example, Xu, Oei, Liu, Wang, & Ding (2014) found self-acceptance significantly mediates the link between mindfulness and subjective well-being. Stoeber and Janssen (2011) found that positive reframing and acceptance predicted higher satisfaction for all students, with positive reframing being most helpful for those high in perfectionism. Given the above conceptual rationale and research

results, there is evidence to show that acceptance, reframing, and striving may play a moderating role for the direct association between acculturative stress and subjective well-being.

Chinese relational coping. First, it was expected that Chinese relational coping would moderate the *indirect* path between acculturative stress and subjective well-being through meaning-in-life (see path d_1 in Figure 3). Primarily, the nature of the moderated indirect effect depends on whether or not Chinese relational coping moderates the association between acculturative stress and meaning-in-life. Specifically, it was hypothesized that the negative association between acculturative stress and meaning-in-life would be weaker for those with higher than for those with lower levels of Chinese relational coping. Similarly, it was hypothesized the moderated indirect effect from acculturative stress to subjective well-being through meaning-in-life would be weaker for those with higher than for those with lower Chinese relational coping. The rationale is that Chinese relational coping reflects more nuanced and acceptable coping functions within the Chinese cultural context (i.e., taking into account awareness of social roles, social situations, and impact on others. in individuals' choice of coping strategy and perceived desirable coping outcome). For example, in the face of acculturative stressors, individuals may choose a rational coping strategy like *guanxi* (i.e., social networks) to ask friends to help deal with a stressful situation. By using mutually beneficial relationships, it is likely to resolve the stressful situation, reduce distress, and strengthen the mutual bond (K.S. Yang, 1997). Thus, in the face of acculturative stress, those with high Chinese relational coping are likely to enjoy the above benefits to retain their sense of meaning-in-life, which in turn is associated with greater subjective well-being. Conversely, individuals with low Chinese relational coping may be less likely to use relational-oriented resources to cope with acculturative stress and miss the opportunity to rely on or invest in their social network. As a

result, in the face of acculturative stress, their sense of meaning-in-life may be lower, which in turn would be associated with lower subjective well-being.

According to K.S. Yang's (1997) personality theory of the Chinese social orientation, it is common to consider others' needs and expectations and strive to maintain harmonious relationships when coping with a stressful life problem. As a result, "collective and social relational goals and purposes can be achieved effectively" (p. 244). In Chinese culture, relationships with others are a big part of one's meaning-in-life. Thus, using Chinese relational coping maintains or even enhances interpersonal relationships, which can contribute to a consistent level of well-being in the face of a stressful situation. Given the above conceptual rationale, it is reasonable to hypothesize that Chinese relational coping may play a moderating role for indirect effect from acculturative stress to subjective well-being through meaning-in-life.

Second, it was expected that Chinese relational coping would also moderate the *direct* path between acculturative stress and subjective well-being (see path d_2 in Figure 3); that is, the negative association between acculturative stress and subjective well-being would be weaker for those with higher than for those with lower Chinese relational coping. The rationale is that Chinese relational coping is congruent with Chinese collectivistic cultural values and thus provides unique coping strategies (e.g., detachment and gaining perspective) beyond commonly used Western-based coping (e.g., problem-solving). In response to acculturative stress, individuals with high Chinese relational coping may use culturally congruent strategies, which may feel more familiar and natural than using Western-based problem-solving coping. Conversely, those with low Chinese relational coping may be less likely to benefit from using culturally congruent coping strategies to preserve their subjective well-being. Hence, their subjective well-being may drop in the face of greater acculturative stress. In certain stressful

acculturation situations where the stressor may not be easily removed or resolved (e.g., cultural differences, financial stress), detaching from the situation may prevent the situation from getting worse or prevent excessive rumination about the situation, thus reducing negative affect and maintaining well-being. In individualistic culture, detachment and acceptance is usually seen as avoidance or passiveness and associated with negative coping outcomes (Liu, 2009). However, in Chinese collectivistic culture, detaching oneself from current acculturative stressors is an acceptable solution, and may help to (a) bring a broader perspective of the situation, (b) remain patient to let things evolve in time, or (c) prevent exacerbation of the stressful situation (Heppner et al., 2016). In addition, Chinese relational coping reflects the traditional Chinese philosophies of Taoism, Buddhism, and Confucianism, which advocate a life attitude of detachment, acceptance in the face of life problems, and dependence on social relationships. Thus, using a culturally congruent coping strategy (i.e., Chinese relational coping) may also enhance perceived coping effectiveness and protect from decreased well-being. Given that the construct and measure of Chinese relational coping was newly developed this year, no studies have examined the protective effect of Chinese relational coping on acculturation and subjective well-being. Heppner et al. (2016) encourages future research to examine the combined contributions of Chinese relational coping and other culturally specific coping inventories (e.g., acceptance, reframing, and striving) to predict psychological adjustment (e.g., acculturation). Thus, I use the above conceptual rationale to support the hypothesis that Chinese relational coping may moderate the association between acculturative stress and subjective well-being.

CHAPTER THREE: METHODS

Power Analysis

In a quantitative study, power is a function of effect size, sample size, and significance level. Effect size can be expressed by a standardized regression coefficient. In regression, an effect size of $f^2 = .02$, $.15$, or $.35$ represents small, medium, or large effect sizes for regression (Cohen, 1992). In the hypothetical model, it would include two regression analyses for each moderator in PROCESS. The first regression has three predictors (i.e., acculturative stress [AS], ARS, and $AS \times ARS$) for meaning-in-life as a criterion variable. The second regression has four predictors (i.e., meaning-in-life, AS, ARS, and $AS \times ARS$) for subjective well-being as a criterion variable. According to Cohen's (1992) recommendation, the sample sizes of 599, 84, or 38 were needed for a small, medium, or large effect size, respectively, when there are three predictors with a power of .80 or higher at $p < .05$. Similarly, the sample sizes of 547, 76, or 34 were needed for a small, medium, or large effect size, respectively, when there are four predictors with a power of .80 or higher at $p < .05$. I expect a small to medium effect size for the mediation moderation, thus, a sample size of approximately 200-400 participants would be chosen in the present study.

Participants

The sample of the present study included 419 Chinese international students from large, public, predominantly White universities in the Midwest (i.e., Iowa State University and University of Michigan at Ann-Arbor). Participants' ages ranged from 18 to 45 and older ($M = 26.50$, $SD = 3.21$). Approximately 44 percent of the participants identified as female (i.e., 185, 44.2%), 55 percent of the participants identified as male (i.e., 230, 54.9%), less than one percent

of the participants identified as transgender (i.e., 3, 0.7%), and one participant provided invalid response (0.2%). Regarding sexual orientation, about 90 percent identified as heterosexual (i.e., 378, 90.2%), two percent identified as homosexual (i.e., 10, 2.4%), seven percent identified as bisexual (i.e., 28, 6.7%), one participant preferred not to answer this question (0.2%) and one participant provided invalid response (0.2%). With respect to current relationship status, about 55 percent participants identified as single (i.e., 232, 55.4%), 34 percent identified as in a committed relationship (i.e., 143, 34.1%), and 11 percent identified as married (i.e., 44, 10.5%).

Of the 419 participants, 32 (7.6%) were first-year undergraduate students, 34 (8.1%) were second-year undergraduate students, 33 (7.9%) were third-year undergraduate students, 56 (13.4%) were fourth-year undergraduate students and above, 127 (30.3%) were master-level graduate students, 137 (32.7%) were doctoral level graduate students. With respect of current residence state, approximately 51 percent of participants were from Iowa (i.e., 212, 50.6%), 45 percent were from Michigan (i.e., 187, 44.6%), two percent were from other Midwest states (i.e., 9, 2.1%), and three percent of participants preferred not to answer this question (11, 2.6%). With respect of the length of stay in the U.S., approximately 38 percent of participants have stayed for less than one year (i.e., 160, 38.2%), 15 percent have stayed for two years (i.e., 61, 14.6%), 15 percent have stayed for three years (i.e., 63, 15.0%), 14 percent have stayed for four years (i.e., 58, 13.8%), 9 percent have stayed for five years (i.e., 39, 9.3%), 22 percent have stayed for six years (i.e., 22, 5.3%), 7 percent have stayed for seven years (i.e., 7, 1.7%), less than one percent have stayed for eight years (i.e., 3, 0.7%), and less than one percent have stayed for nine years and above (i.e., 1, 0.2%). Lastly, more than 99 percent of participants identified from Mainland China (i.e., 418, 99.8%), and one participant preferred not to answer this question (0.2%).

Measures

Acculturative stress. Acculturative Stress Scale for Chinese Students (ASSCS; Bai, 2015). The ASSCS scale is a 32-item self-report measure written in Simplified Chinese language. It assesses the acculturative stressors experienced by Chinese international students in their daily lives living in U.S. ASSCS include the following five factors: (a) language insufficiency (10 items; e.g., “It is hard for me to follow the lectures and conversations in classes.”), (b) social isolation (8 items; e.g., “My social circles shrank after I came to the U.S.”), (c) perceived discrimination (7 items; e.g., “I feel that I receive unequal treatment.”), (d) academic pressure (4 items; e.g., “I often have to work overtime in order to catch up.”), and (e) guilt towards family (3 items; e.g., “I feel guilty to leave my family and friends behind.”). Participants rate items on a 7-point Likert scale from 1 (never) to 7 (all the time). Higher scores on the scale reflect a higher level of acculturative stress. ASSCS demonstrated high reliability (overall $\alpha = .94$) and initial criterion validity by predicting depression and life satisfaction among Chinese international students (Bai, 2015). In this study, Cronbach’s alpha was .93 for acculturative stress.

Meaning-in-life. Chinese Personal Meaning Profile, modified, short version (CPMP; Pan, Wong, Joubert, & Chan, 2007; Lin, 2001). The CPMP scale assesses the sources and levels of meaningfulness individuals experience in their lives. CPMP consists of 41 items and 7 factors. Participants rate the degree to which the items described the sources of a meaningful life in their own lives. Sample items were “I value my work,” “I enrich my life by acquiring knowledge every day,” and “I am trusted by others.” Responses would be rated on a seven-point Likert scale, where 1 = (not at all) and 7 = (a great deal). Higher total scores indicate a higher level of the sense of meaningfulness experienced in one’s life (Pan, Wong, Joubert, & Chan, 2007). The

revised CPMP showed a satisfactory reliability with Cronbach's alphas ranging from .96 to .97 (Pan, 2008; Pan, Wong, Joubert, & Chan, 2007). The scale also showed good convergent validity, which was evidenced by a positive correlation with positive affect, and a negative correlation with negative affect. In addition, meaning-in-life is positively correlated with purpose in life and life satisfaction among a sample of 392 Chinese residents in Canada (Lin, 2001). In this study, Cronbach's alpha was .96 for meaning-in-life.

Acceptance, reframing, and striving. Collectivistic Coping Styles scale, Acceptance, Reframing, and Striving subscale (CCS; Heppner et al., 2006). The acceptance, reframing, and striving subscale of the CCS is a 11-items subscale that measures the use of acceptance, reframing, and striving as coping strategy. Participants rate the helpfulness of an activity related to acceptance, reframing, and striving, specifically in response to how they were coping with stress related to acculturation in the U.S. Sample items were "Realized that good often comes after overcoming bad situations" and "Waited for time to run its course." Responses would be rated on a six-point Likert scale, where 0 = (*never used this strategy/not applicable*), 1 = (*used but of no help at all*), and 5 = (*a tremendous amount of help*). Higher scores indicate a higher level of rated helpfulness of using acceptance, reframing, and striving. The ARS subscale demonstrated satisfactory evidence for internal consistency ($\alpha = .85$), and concurrent validity with problem-solving appraisal and problem resolution index among Taiwanese individuals (Heppner et al., 2006). As for CCS, the validity of the CCS inventory was supported by correlations between CCS and the Chinese-based problem solving (Tian, Heppner, & Hou, 2014), as well as associations with two indices of psychological distress (Heppner et al., 2006). Construct validity was evidenced by negative association of CCS with depression and anxiety among Hong Kong Chinese individuals (Siu & Chang, 2011). Cultural validity was evidenced in a recent study using

CCS among Chinese international students (Wang et al., 2012). In this study, Cronbach's alpha was .87 for acceptance, reframing, and striving.

Chinese relational coping. Chinese Relational Coping inventory (CRC; Heppner et al., 2016). The CRC consists of 17 items and is a Chinese situation-specific measure assessing the perceived helpfulness of relational-related coping strategies in the Chinese collectivistic culture. The items were developed based on Chinese personality theories (i.e., social orientation, relational orientation, the Chinese self, and withhold action) and the central Chinese collectivistic value (i.e., *guanxi*). The CRC inventory consists of four factors, including: (1) Understanding Oneself in Context (UOC), which reflects one's awareness of thoughts and goals in social context and related to other's social expectations. A sample item is "Being aware of my own emotions." (2) Involving Relevant Others in Context (IROC), which reflects knowing and use of the right social resources (i.e., *guanxi*), and developing a mutually beneficial relationships in resolving life problems. A sample item is "Asking people who have more experiences to help deal with the situation." (3) Considering Others in Content (COC), which reflects how others might be affected by one's coping responses; this factor represents the goal to balance all possible solutions for intrapersonal harmony. A sample item is "Being sensitive to others' emotions in this situation." (4) Detaching and Gaining Perspective (DGP), which reflects the patience and ability to detach oneself from the situation event and gain a broader perspective. A sample item is "Being patient to allow the situation to evolve over time." Participants were asked to refer to their acculturative stressors, and rate the effectiveness of their coping activities on a 7-point Likert-type scale (e.g., 1 = *Very harmful to my situation*, 4 = *Neither helpful nor harmful to my situation*, 7 = *Very helpful to my situation*, and N/A = *Not applicable, or didn't make use of*

this). Higher score indicate a higher level of perceived helpfulness of using Chinese relational coping in acculturation.

The CRC inventory demonstrated good convergent, construct, and incremental validity. Specifically, Heppner et al. (2016) reported that convergent validity was evidenced by CRC scores positively correlated with scores on existing coping inventories (i.e., Simplified Coping Style Questionnaire, Chinese Problem Solving Inventory, and Problem-Focused Style of Coping, and Collectivistic Coping Styles). Construct validity was evidenced by helpfulness ratings of the CRC coping strategies were positively associated with life satisfaction and self-esteem as well as negatively associated with psychological distress. Incremental validity was evidenced by that CRC factors uniquely added variance over and beyond existing dispositional measures of coping in predicting psychological adjustment, life satisfaction, and self-esteem (Heppner et al., 2016). In this study, Cronbach's alpha was .84 for Chinese relational coping and .84 for understanding oneself in context.

Conceptually, subjective well-being consists of three components, including positive affect, absence of negative affect, and life satisfaction (Diener et al., 2003). Accordingly, subjective well-being were measured by the following two scales.

Positive affect and negative affect. Positive and Negative Affect Scale (PANAS; Watson, Clark & Tellegen, 1988). The PANAS consists of 10-item scales measuring aroused states of positive affect (PA) and negative affect (NA). Participants rate their affect over the past week on a six-point Likert scale, where 1 = (*very slightly or not at all*) and 5 = (*extremely*)¹. The PA subscale assess the extent to which one experiences 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 “ashamed” and “irritable.” Higher scores

indicate stronger positive or negative affect. In previous studies with Asian international students and Korean immigrants, Cronbach's alphas ranged from .81 to .89 for PA scores and .88 to .90 for NA scores (Yoon, Jung, Lee, & Felix-Mora, 2012; Yoon & Lee, 2010). In a recent study with Chinese international students, Cronbach's alphas ranged from .86 to .89 for PA scores, and .88 for NA scores (Du & Wei, 2015). A significant positive correlation between PA and life satisfaction, as well as a significant negative correlation between NA and life satisfaction provide evidence for convergent and discriminant validity (Du & Wei, 2015). In this study, Cronbach's alpha was .85 for positive affect and .86 for negative affect.

Satisfaction with life. Satisfaction with Life Scale (SWLS; Diener et al., 1985). The SWLS is a 5-item scale measuring global life satisfaction based on one's cognitive self-evaluation. A sample item is "In most ways my life is close to my ideal." Participants rate their satisfaction level over the past week on a 7-point Likert scale, where 1 = (*strongly disagree*) and 7 = (*strongly agree*). Higher scores indicated higher levels of satisfaction with life. The scale has been administered in Chinese with various groups in China and Taiwan (e.g., Ye, 2007; Sachs, 2004; Wu & Yao, 2006). The Cronbach's alphas reported in previous studies among Chinese international students ranged from .85 to .93 (e.g., Du & Wei, 2015; Wang, Wei, & Chen, 2015; Zhang, Mandl, & Wang, 2010). Good cross-cultural validity of this scale was supported by a study comparing SWLS scores of college students from the U.S., China, Hong Kong, and Korea (Oishi, 2006), as well as a study testing for cross-cultural differences in predictors of life satisfaction (Oishi, Diener, Lucas, & Suh, 2009). In this study, Cronbach's alpha was .89 for life satisfaction.

The Chinese version of the above measures were directly adopted from the scale developers and previously validated in the literature, and were provided to participants in this study. All participants completed the Chinese version of the survey.

Procedure

All study procedures were approved by the Iowa State University (ISU) Institutional Review Board (IRB) and department of psychology (IRB ID: 16-281; approval date: 7/5/2016; see Appendix A). First names and email addresses of self-identified Chinese international students from Mainland China studying at ISU was obtained through the Office of the Registrar at ISU. Recruitment was conducted by means of direct invitation emails as well as the ISU department of psychology's research sign up system (a.k.a., SONA) and administered using the Qualtrics online survey system (see Appendix B). A reminder email was also sent to those students who had not completed the survey two weeks after the initial email invitation (see Appendix C).

Additionally, approval of forwarding the invitation email to Chinese international students attending the University of Michigan (U-M) was obtained from the Office of the Registrar and Student Records at U-M. A separate approval by U-M IRB was not required. The invitation email was forwarded through U-M online research distribution system to Chinese international students attending the U-M on the author's behalf, including an automatically distributed reminder email sent two weeks after the initial email invitation.

When participants clicked on the link to the survey, they were first asked to read through an informed consent page that explains the nature of the study, the risks and benefits, and their rights as participants (see Appendix D). Informed Consent was obtained from all study participants before they proceeded to the survey. The survey included four validity check items

(e.g., “Choose 5 on this item”) to help filter random responses. At the end of the survey, the participants were debriefed about the purpose of this study, thanked for their participation, and given my contact information for their reference (see Appendix E). Participants were informed about the opportunity to submit their contact information (i.e., name, email address, phone number) to be entered into a random drawing for a \$25 VISA gift card. The contact information for the drawing was stored separately from the survey data so as to protect participant’s confidentiality

CHAPTER FOUR: RESULTS

Preliminary Analysis

Missing data analysis. Several preliminary analyses were conducted before analyzing the main hypotheses. First, missed data was examined. Of the 488 Chinese international students who completed the survey, 60 participants were removed because they incorrectly answered at least one of the three validity questions (e.g., “Please check ‘strongly agree’ for this item.”). Additionally, nine participants were removed because they failed to respond to all the items in at least one of the scales (N= 419). Regarding the remaining participants, there were 65 missing responses out of 57,822 possible data points, resulting with a less than .01% missing rate of response. This suggested that the impact of missing data was likely to be minimal. Thus, the statistical means of each item response was used to replace the missing data.

Means, standard deviations, and inter-correlations of the variables. The means, standard deviations, and correlations of all variables were computed (see Table 1). Correlation analyses indicated that acculturative stress was negatively associated with meaning-in-life, positive affect, and satisfaction with life with a moderate effect size and positively associated with negative affect with a moderate effect size. Meaning-in-life was positively associated with acceptance, reframing, and striving, Chinese relational coping, positive affect, and life satisfaction with a moderate or large effect size and negatively associated with negative affect with a moderate effect size. Acceptance, reframing, and striving as well as Chinese relational coping were positively associated with one another as well as with positive affect, life satisfaction with a moderate or small effect size. Negative affect was negatively associated with positive affect with a small effect and life satisfaction with a moderate effect size (Cohen, 1992)

Table 1: Means, Standard Deviations, and Intercorrelations of Variables

Note. $N = 419$.

* $p < .05$. ** $p < .01$.

	1	2	3	4	5	6	7
1. Acculturative Stress	-----						
2. Meaning-in-Life	-.38**	-----					
3. Acceptance, Reframing, Striving	-.11*	.43**	-----				
4. Chinese Relational Coping	-.12*	.40**	.45**	-----			
5. Negative Affect	.39**	-.33**	-.06	-.08	-----		
6. Positive Affect	-.39**	.47**	.32**	.22**	-.13**	-----	
7. Life Satisfaction	-.41**	.55**	.26**	.26**	-.43**	.48**	-----
<i>M</i>	2.67	5.56	4.19	5.34	2.47	3.34	4.23
<i>SD</i>	0.87	0.83	0.90	0.77	0.72	0.67	1.35

Plan for Data Analysis

PROCESS (Hayes, 2013) was used to examine the proposed moderated mediation hypotheses. PROCESS is a computational tool designed for path analysis-based mediation and moderation analysis and their combination (i.e., “conditional process model”; Hayes, 2012; 2013). PROCESS offers a number of complex conceptual models and statistical templates that combine moderation and mediation (i.e., moderated mediation) (see example Figures 2 or 3). Conceptually, moderated mediation (a.k.a. conditional indirect effect) is when an indirect effect varies across levels of the moderator variable (Preacher, Rucker, & Hayes, 2006). PROCESS generated the index of moderated medication and the bias-corrected bootstrap confidence intervals (CI). According to Hayes (2013, 2015), if the index of moderated mediation is significant, it indicates that the conditional indirect effects at different levels (e.g., at one SD above, below, and at the mean) of the moderator variable are significantly different from one another. This provides evidence that the moderated mediation effects are significant. Furthermore, for simple indirect effects, PROCESS also generated the bias-corrected CI at one SD above, below, and at the mean. I selected a total of 1,000 bootstrap samples (Mallinckrodt, Abraham, Wei, & Russell, 2006) and a 95% CI for these estimations. If the 95% CI for the average estimates of these 1,000 indirect effects does not include zero, it indicates that the indirect effect is statistically significant at the .05 level (Shrout & Bolger, 2002).

Moderated Mediation Analyses

The original hypotheses were that (1) acceptance, reframing, and striving and (2) Chinese relational coping would moderate the relationship between acculturative stress and outcome variables (i.e., life satisfaction, positive affect, and the absence of negative affect) indirectly

through meaning-in-life. Assuming that this moderation hypothesis can be proven, the strength of the hypothesized indirect effect (mediation) is plausibly conditional on the level of the moderators. This effect is referred to as a conditional indirect effect, or moderated mediation (Preacher, Rucker, & Hayes, 2006). Similarly, I hypothesized that (1) acceptance, reframing, and striving and (2) Chinese relational coping would also moderate the direct association between acculturative stress and outcome variables. In other words, the strength of this direct effect is plausibly conditional on the level of the moderators. This effect is referred to as a conditional direct effect (Preacher et al., 2006). The conceptual model and statistical template of Model 8 (Hayes, 2013) fits best with my hypotheses and was therefore selected for the moderated mediation analyses.

The hypothesized moderated mediation model for the present study was illustrated in Figure 10. In this model, “*X*” (i.e., predictors) represented acculturative stress. “*Y*” (i.e., outcome) represented life satisfaction, positive affect, and negative affect. “*M*” (i.e., mediator) represented meaning-in-life. “*W*” (i.e., moderator) represented acceptance, reframing, and striving, as well as Chinese relational coping. PROCESS also generated conditional indirect and direct effects at one SD above, below, and at the mean values of the moderator to represent the nature of the effects at high, low, and medium levels, respectively. The predictor (i.e., acculturative stress) and moderators (i.e., acceptance, reframing, and striving; Chinese relational coping) were mean-centered to better interpret the moderation effects.

The hypothesized model includes the following: acceptance, reframing, and striving (*W*) will moderate: (a) the indirect effect of acculturative stress (*X*) on three outcome variables (*Y*) through meaning-in-life (*M*), and (b) the direct effect of acculturative stress (*X*) on three outcome variables (*Y*; see Figure 2). Similarly, Chinese relational coping (*W*) will moderate: (a)

the indirect effect of acculturative stress (X) on three outcome variables (Y) through meaning-in-life (M), and (b) the direct effect of acculturative stress (X) on three outcome variables (Y; see Figure 3.

Acceptance, reframing, and striving as a moderator. As shown in Figure 2 (path d_1) and Table 2, the moderation effect of acceptance, reframing, and striving (W) on the association between acculturative stress (X) and meaning-in-life (M) was significant ($B = 0.09$, 95% CI [0.01, 0.18]). See Figure 10 for a graph illustrating the nature of this interaction. Results indicate that the effect of acculturative stress (X) on meaning-in-life (M) was significant and negative for those with both low and high levels of acceptance, reframing, and striving (W). However, the negative association between acculturative stress (X) and meaning-in-life (M) was weaker for those with higher than for those with lower acceptance, reframing, and striving (W) (see Figure 11). (Please note that the significant moderation effect of acceptance, reframing, and striving on the association between acculturative stress and meaning-in-life was identical for each of the three outcomes of subjective well-being [see the first regression for each of the three sections in Table 2]. Accordingly, results will not be repeated for positive affect and negative affect.)

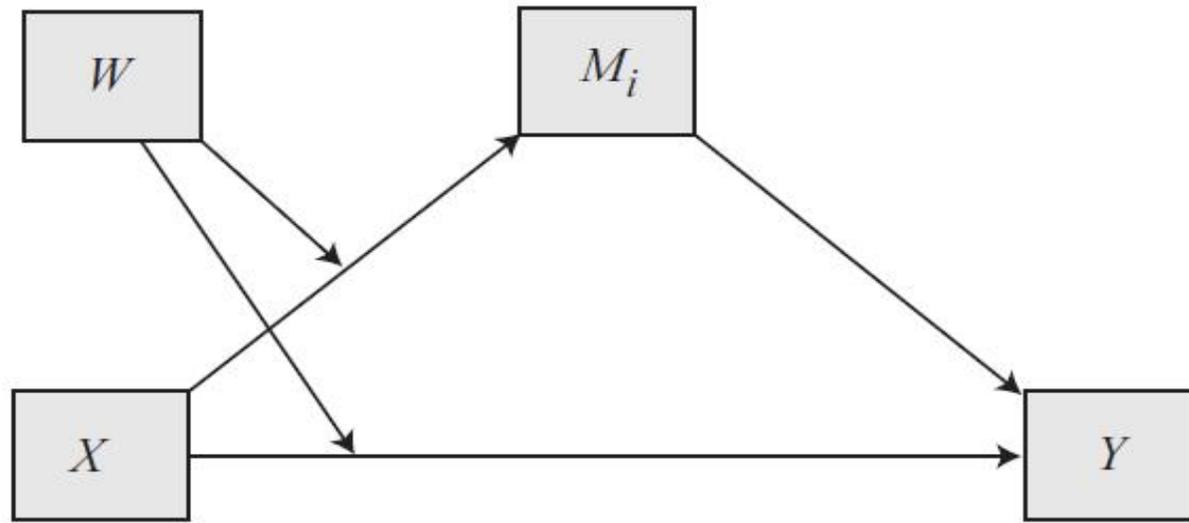


Figure 10. Conceptual Model of Moderated Mediation

Table 2. Moderated Mediation Analyses for Acculturative Stress, Meaning-in-Life, ARS, and Three Outcomes (i.e., Life Satisfaction, Positive Affect, and Negative Affect)

Note. $N = 419$. The betas presented in the table are from the regression analyses.

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

ARS = Acceptance, Reframing, and Striving.

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	95% <i>CI</i>
<u>Outcome Variable (Y): Life Satisfaction</u>					
Mediator (M): Meaning-in-Life					
Constant	5.57	.03		162.64	[5.50, 5.64]
Predictor (X): Acculturative stress	-0.32	.04	-.33***	-8.06	[-0.40, -0.24]
Moderator (W): ARS	0.38	.04	.41***	9.83	[0.30, 0.45]
Interaction (XW): Acculturative Stress x ARS	0.09	.04	.09*	2.13	[0.01, 0.18]
Outcome (Y): Life Satisfaction					
Constant	0.26	.43		0.60	[-0.59, 1.11]
Mediator (M): Meaning-in-Life	0.71	.08	.44***	9.25	[0.56, 0.86]
Predictor (X): Acculturative Stress	-0.39	.07	-.24***	-5.67	[-0.51, -0.25]
Moderator (W): ARS	0.06	.07	.04	0.87	[-0.07, 0.19]
Interaction(XW): Acculturative Stress x ARS	-0.03	.07	-.02	-0.37	[-0.16, 0.11]
<u>Outcome Variable (Y): Positive Affect</u>					
Mediator (M): Meaning-in-Life					
Constant	5.57	.03		162.64	[5.50, 5.64]
Predictor (X): Acculturative stress	-0.32	.04	-.33***	-8.06	[-0.40, -0.24]
Moderator (W): ARS	0.38	.04	.41***	9.83	[0.30, 0.45]
Interaction (XW): Acculturative Stress x ARS	0.09	.04	.09*	2.13	[0.01, 0.18]
Outcome (Y): Positive Affect					
Constant	1.99	.22		9.00	[1.56, 2.43]
Mediator (M): Meaning-in-Life	0.24	.04	.31***	6.16	[0.17, 0.32]
Predictor (X): Acculturative Stress	-0.20	.03	-.26***	-5.87	[-0.27, -0.13]
Moderator (W): ARS	0.12	.03	.16***	3.41	[0.05, 0.18]
Interaction (XW): Acculturative Stress x ARS	0.01	.04	.02	0.38	[-0.06, 0.08]
<u>Outcome Variable (Y): Negative Affect</u>					
Mediator (M): Meaning-in-Life					
Constant	5.57	.03		162.64	[5.50, 5.64]
Predictor (X): Acculturative stress	-0.32	.04	-.33***	-8.06	[-0.40, -0.24]
Moderator (W): ARS	0.38	.04	.41***	9.83	[0.30, 0.45]
Interaction (XW): Acculturative Stress x ARS	0.09	.04	.09*	2.13	[0.01, 0.18]
Outcome (Y): Negative Affect					
Constant	3.70	.26		14.34	[3.19, 4.21]
Mediator (M): Meaning-in-Life	-0.22	.05	-.25***	-4.78	[-0.31, -0.13]
Predictor (X): Acculturative Stress	0.26	.04	.31***	6.44	[0.18, 0.33]
Moderator (W): ARS	0.07	.04	.09	1.80	[-0.01, 0.15]
Interaction (XW): Acculturative Stress x ARS	0.05	.04	.05	1.15	[-0.03, 0.13]

The hypothesis for acceptance, reframing, and striving to moderate the indirect effect (via meaning-in-life) of acculturative stress on subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect) was examined. When life satisfaction was analyzed as a dependent variable, the significant index of moderated mediation indicated that acceptance, reframing, and striving (W) moderated the indirect effects of acculturative stress (X) on life satisfaction (Y) through meaning-in-life (M) ($B = 0.07$, 95% CI [0.005, 0.14]). This provided evidence to support the hypothesized indirect effect of acculturative stress on life satisfaction through meaning-in-life. Further, results from conditional indirect effects (i.e., simple indirect effects) indicated that the indirect effect of acculturative stress on life satisfaction through meaning-in-life was significant and negative at both low ($B = -0.29$, 95% CI [-0.42, -0.17]) and high levels ($B = -0.17$, 95% CI [-0.26, -0.10]) of acceptance, reframing, and striving. Meanwhile, the negative slope was significantly weaker for those with higher rather than lower levels of acceptance, reframing, and striving (See Figure 12). In other words, for Chinese students with higher acceptance, reframing, and striving (W), life satisfaction (Y) is likely to drop at a slower rate when experiencing more acculturative stress (X).

Regarding the hypothesized moderated direct effect, as shown in Figure 2 (i.e., path d_2) and Table 2 (i.e., Outcome (Y): Life Satisfaction), the moderation effect of acceptance, reframing, and striving (W) on the association between acculturative stress (X) and life satisfaction (Y) was not significant ($B = -0.03$, 95% CI [-0.16, 0.11]). Consequently, the hypothesis for acceptance, reframing, and striving to moderate the direct effect of acculturative stress on life satisfaction was not supported by this data.

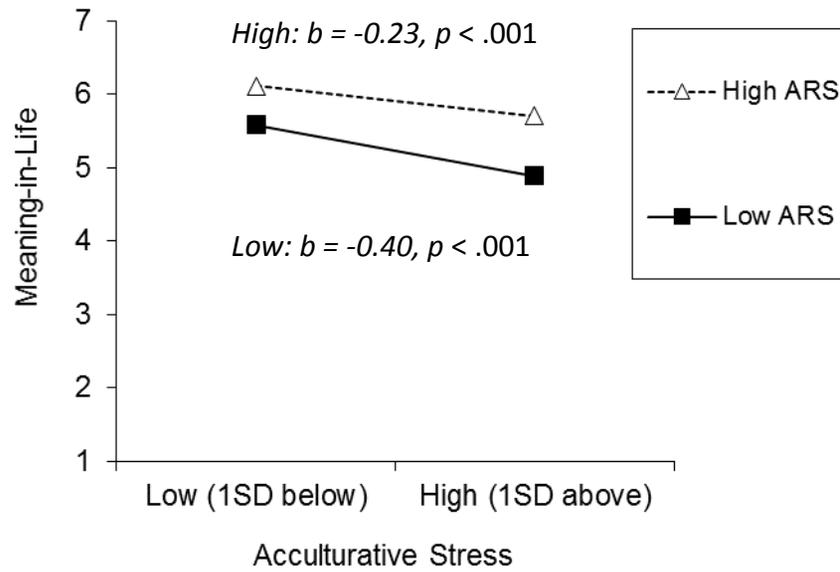


Figure 11. The Effects of Acculturative Stress on Meaning-in-Life for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.

ARS = Acceptance, Reframing, and Striving.

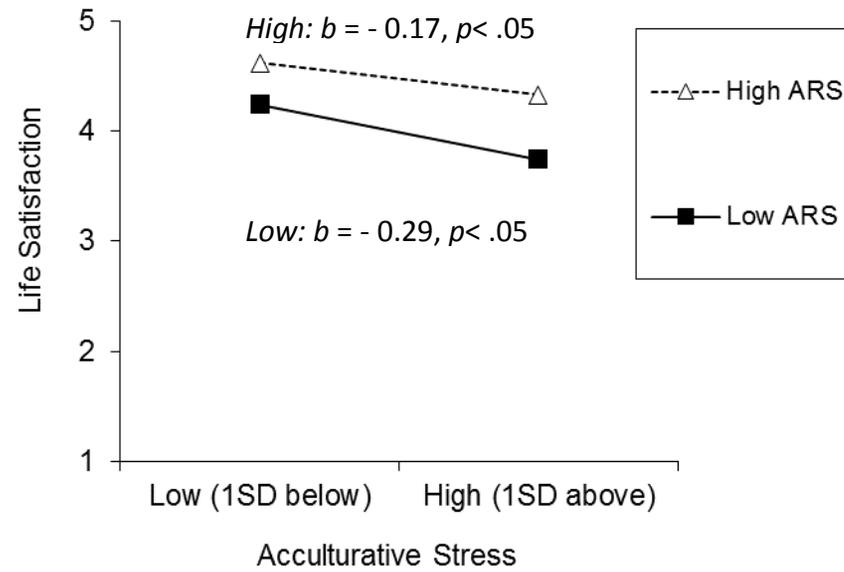


Figure 12. The Indirect Effects of Acculturative Stress on Life Satisfaction for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.
 ARS = Acceptance, Reframing, and Striving.

In the examination of positive affect as a dependent variable, the significant index of moderated mediation indicated that acceptance, reframing, and striving (W) moderated the indirect effects of acculturative stress (X) on positive affect (Y) through meaning-in-life (M) ($B = 0.023$, 95% CI [0.002, 0.05]). This provided evidence to support the hypothesized significant indirect effect of acculturative stress on positive affect through meaning-in-life. Additionally, results from conditional indirect effects (i.e., simple indirect effects) indicated that the indirect effect of acculturative stress on positive affect through meaning-in-life was significant and negative at both low ($B = -0.10$, 95% CI [-0.16, -0.06]) and high levels ($B = -0.06$, 95% CI [-0.10, -0.03]) of acceptance, reframing, and striving. Moreover, the negative slope was significantly weaker for those with higher compared to those with lower levels of acceptance, reframing, and striving (See Figure 13). In other words, for Chinese students with higher acceptance, reframing, and striving (W), positive affect (Y) is likely to drop at a slower rate when exposed to higher levels of acculturative stress (X).

Regarding the hypothesized moderated direct effect, as shown in Figure 2 (i.e., path d_2) and Table 2 (i.e., Outcome (Y): Positive Affect), the moderation effect of acceptance, reframing, and striving (W) on the association between acculturative stress (X) and positive affect (Y) was not significant ($B = 0.01$, 95% CI [-0.06, 0.08]). Therefore, the hypothesis regarding acceptance, reframing, and striving as a moderator of the direct effects of acculturative stress on positive affect was not supported by this data.

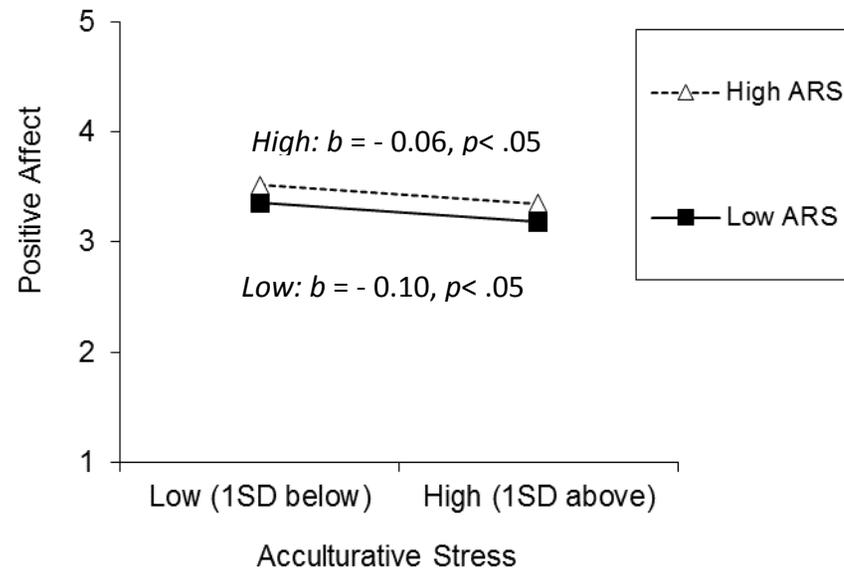


Figure 13. The Indirect Effects of Acculturative Stress on Positive Affect for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.

ARS = Acceptance, Reframing, and Striving.

When negative affect was analyzed as a dependent variable, the significant index of moderated mediation indicated that acceptance, reframing, and striving (W) moderated the indirect effects of acculturative stress (X) on negative affect (Y) through meaning-in-life (M) ($B = -0.021$, 95% CI [-0.05, -0.002]). This provided evidence to support the hypothesized significant indirect effect of acculturative stress on negative affect through meaning-in-life. More specifically, results from conditional indirect effects (i.e., simple indirect effects) indicated that the indirect effect of acculturative stress on negative affect through meaning-in-life was significant and positive at both lower ($B = 0.09$, 95% CI [0.04, 0.15]) and higher levels ($B = 0.05$, 95% CI [0.02, 0.09]) of acceptance, reframing, and striving. Additionally, the positive slope is significantly weaker for those with higher in contrast to those with lower levels of acceptance, reframing, and striving (See Figure 14). In other words, for Chinese students with higher acceptance, reframing, and striving (W), negative affect (Y) is likely to lessen in extent at a slower pace when experiencing greater acculturative stress (X).

Regarding the hypothesized moderated direct effect, as shown in Figure 2 (i.e., path d_2) and Table 2 (i.e., Outcome (Y): Negative Affect), the moderation effect of acceptance, reframing, and striving (W) on the association between acculturative stress (X) and negative affect (Y) was not significant ($B = 0.05$, 95% CI [-0.03, 0.13]). Thus, the hypothesis for acceptance, reframing, and striving to moderate the direct effect of acculturative stress on negative affect was not supported by this data.

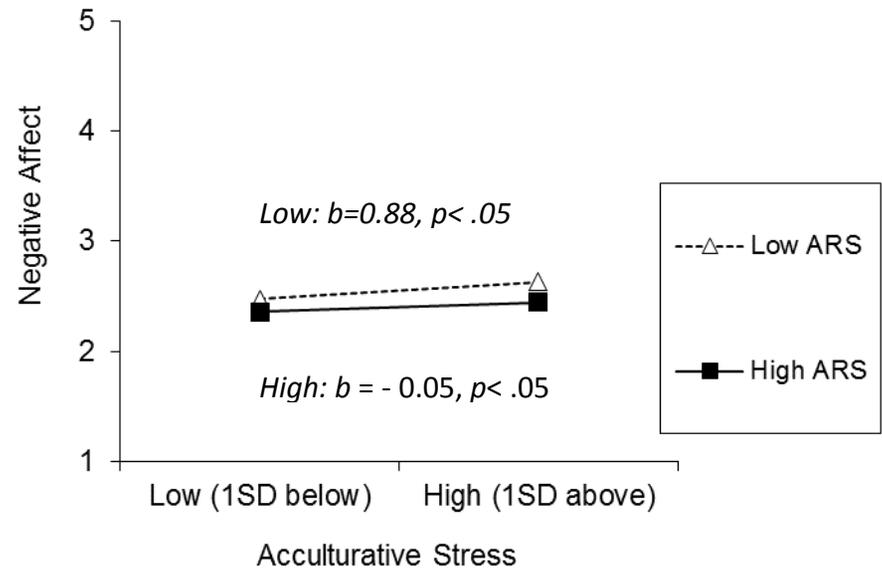


Figure 14. The Indirect Effects of Acculturative Stress on Negative Affect for Those with Higher and Lower Levels of Acceptance, Reframing, and Striving.

ARS = Acceptance, Reframing, and Striving.

Table 3. Moderated Mediation Analyses for Acculturative Stress, Meaning-in-Life, CRC, and Three Outcomes (i.e., Life Satisfaction, Positive Affect, and Negative Affect)

Note. $N = 419$. The betas presented in the table are from the regression analyses.

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

CRC = Chinese Relational Coping

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	95% <i>CI</i>
<u>Outcome Variable (Y): Life Satisfaction</u>					
Mediator (M): Meaning-in-Life					
Constant	5.57	.04		158.06	[5.50, 5.64]
Predictor (X): Acculturative stress	-0.32	.04	-.33***	-7.73	[-0.40, -0.24]
Moderator (W): CRC	0.39	.05	.36***	8.51	[0.30, 0.48]
Interaction (XW): Acculturative Stress x CRC	0.06	.05	.05**	1.20	[-0.04, 0.15]
Outcome (Y): Life Satisfaction					
Constant	0.33	.42		0.78	[-0.50, 1.16]
Mediator (M): Meaning-in-Life	0.70	.08	.43***	9.32	[0.55, 0.85]
Predictor (X): Acculturative Stress	-0.37	.07	-.24***	-5.60	[-0.51, -0.24]
Moderator (W):CRC	0.10	.08	.06	1.33	[-0.05, 0.25]
Interaction(XW): Acculturative Stress x CRC	-0.01	.07	-.002	-0.06	[-0.15, 0.14]
<u>Outcome Variable (Y): Positive Affect</u>					
Mediator (M): Meaning-in-Life					
Constant	5.57	.04		158.06	[5.50, 5.64]
Predictor (X): Acculturative stress	-0.32	.04	-.33***	-7.73	[-0.40, -0.24]
Moderator (W): CRC	0.39	.05	.36***	8.51	[0.30, 0.48]
Interaction (XW): Acculturative Stress x CRC	0.06	.05	.05**	1.20	[-0.04, 0.15]
Outcome (Y): Positive Affect					
Constant	1.78	.22		8.14	[1.35, 2.21]
Mediator (M): Meaning-in-Life	0.28	.04	.36***	7.25	[0.21, 0.36]
Predictor (X): Acculturative Stress	-0.19	.03	-.25***	-5.47	[-0.26, -0.12]
Moderator (W): CRC	0.05	.04	.05***	1.17	[-0.03, 0.12]
Interaction (XW): Acculturative Stress x CRC	0.04	.04	.04	0.96	[-0.04, 0.11]
<u>Outcome Variable (Y): Negative Affect</u>					
Mediator (M): Meaning-in-Life					
Constant	5.57	.04		158.06	[5.50, 5.64]
Predictor (X): Acculturative stress	-0.32	.04	-.33***	-7.73	[-0.40, -0.24]
Moderator (W): CRC	0.39	.05	.36***	8.51	[0.30, 0.48]
Interaction (XW): Acculturative Stress x CRC	0.06	.05	.05**	1.20	[-0.04, 0.15]
Outcome (Y): Negative Affect					
Constant	3.62	.25		14.44	[3.13, 4.12]
Mediator (M): Meaning-in-Life	-0.21	.04	-.24***	-4.59	[-0.29, -0.12]
Predictor (X): Acculturative Stress	0.26	.04	.32***	6.66	[0.19, 0.34]
Moderator (W): CRC	0.06	.05	.06	1.27	[-0.03, 0.15]
Interaction (XW): Acculturative Stress x CRC	0.10	.04	.10*	2.25	[0.01, 0.18]

Chinese relational coping as a moderator. As shown in Figure 3 (i.e., path d_1) and Table 3, results indicated that the moderation effect of Chinese relational coping (W) on the association between acculturative stress (X) and meaning-in-life (M) was not significant ($B = 0.06$, 95% CI [-0.04, 0.15]). The hypotheses for Chinese relational coping to moderate the indirect effect (via meaning-in-life) and direct effect of acculturative stress on subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect) was also examined.

When examining life satisfaction as a dependent variable, the index of moderated mediation ($B = 0.04$, 95% CI [-0.07, 0.16]) was not significant. Therefore, the hypothesis for Chinese relational coping to moderate the indirect effect of acculturative stress on life satisfaction was not supported by this data. Regarding the hypothesized direct effect, as shown in Figure 3 (i.e., path d_2) and Table 3 (i.e., Outcome (Y): Life Satisfaction), the moderation effect of Chinese relational coping (W) on the association between acculturative stress (X) and life satisfaction (Y) was not significant ($B = -0.01$, 95% CI [-0.15, 0.14]). As a result, the hypothesis for Chinese relational coping to moderate the direct effect of acculturative stress on life satisfaction was not supported by this data.

When positive affect was analyzed as a dependent variable, the index of moderated mediation ($B = 0.02$, 95% CI [-0.03, 0.06]) was not significant. Consequently, the hypothesis for Chinese relational coping to moderate the indirect effect of acculturative stress on positive affect was not supported by this data. Regarding the hypothesized direct effect, as shown in Figure 3 (i.e., path d_2) and Table 3 (i.e., Outcome (Y): Positive Affect), the moderation effect of Chinese relational coping (W) on the association between acculturative stress (X) and positive affect (Y)

was not significant ($B = 0.04$, 95% CI [-0.04, 0.11]). Hence, the hypothesis for Chinese relational coping to moderate the direct effect of acculturative stress on positive affect was not supported by this data.

In the examination of negative affect as a dependent variable, the index of moderated mediation ($B = -0.01$, 95% CI [-0.05, 0.02]) was not significant. Therefore, the hypothesis for Chinese relational coping to moderate the indirect effect of acculturative stress on negative affect was not supported by this data. Regarding the hypothesized direct effect, as shown in Figure 3 (i.e., path d_2) and Table 3 (i.e., Outcome (Y): Negative Affect), the moderation effect of Chinese relational coping (W) on the association between acculturative stress (X) and negative affect (Y) was significant ($B = 0.10$, 95% CI [0.01, 0.18]). See Figure 15 for a graph illustrating the nature of this interaction. Results indicated that the effect of acculturative stress (X) on negative affect (Y) was significant and positive for those with higher and lower levels of Chinese relational coping (W). Furthermore, the slope was significantly stronger for those with higher compared to those with lower levels of Chinese relational coping. In other words, for Chinese international students with higher Chinese relational coping (W), negative affect (Y) is likely to be higher despite increases in acculturative stress (X). This provided evidence to support the hypothesis for Chinese relational coping to moderate the direct effect of acculturative stress on negative affect. However, the direction of the moderated direct effect was opposite from the proposed hypothesis.

Post Hoc Exploratory Analyses

Results indicated that Chinese relational coping moderated the direct effect of acculturative stress on negative affect. For the purpose of clinical application, it would be interesting to further examine which specific domain of Chinese relational coping primarily

contributed to the moderation effect. In addition, as Heppner et al. (2016) pointed out, the total Chinese relational coping scores might be difficult to interpret due to the low to moderate correlations among subscales.

As such, post hoc analyses were conducted to explore whether the previously observed moderation influence on negative affect only applies to specific domains of Chinese relational coping. As shown in Table 4, the moderated direct effect on acculturative stress and negative affect was significant only for the domain of understanding oneself in context, and not found with the other three domains of Chinese relational coping. See Figure 16 for a graph illustrating the nature of this interaction and the simple slopes for the direct effects. Results also indicated that the effect of acculturative stress (X) on negative affect (Y) was significant and positive for those with higher and lower levels of understanding oneself in context (W). Moreover, for individuals with higher levels of understanding oneself in context (W), negative effect (Y) is likely to be higher when experiencing greater acculturative stress (X). This pattern of the moderated direct effect of understanding oneself in context (W) on the association between acculturative stress (X) and negative affect (Y) was very similar to the hypothesized moderated direct effect of Chinese relational coping as a whole, indicating that it is the domain of understanding oneself in context that primarily contributed to the conditional direct effect of Chinese relational coping.

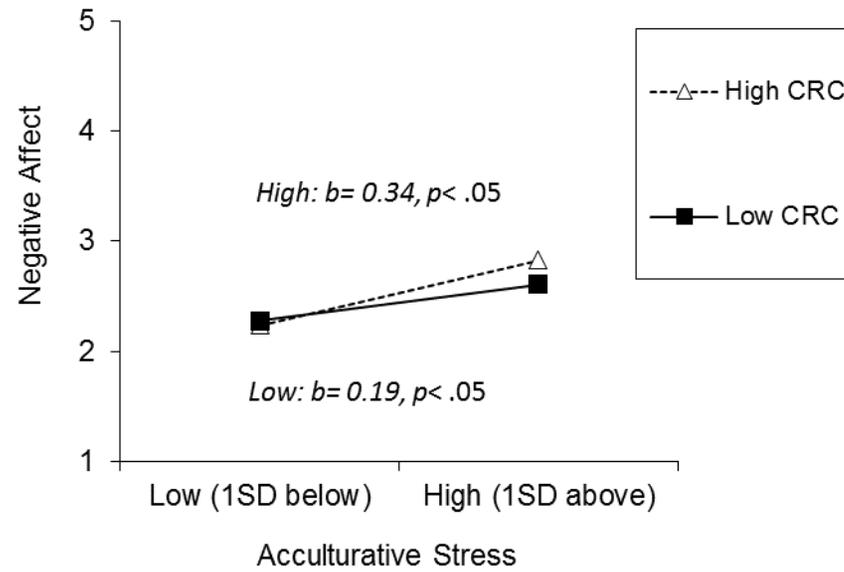


Figure 15. The Effects of Acculturative Stress on Negative Affect for Those with Higher and Lower Levels of Chinese Relational Coping.
 CRC = Chinese Relational Coping.

Table 4. Post Hoc Exploratory Analyses of Moderated Mediation Analyses for Acculturative Stress, Meaning-in-Life, Four Dimensions of Chinese Relational Coping, and Negative Affect
Note. $N = 419$. The betas presented in the table are from the regression analyses.

Variable	<i>B</i>	<i>SE B</i>	<i>t</i>	95% <i>CI</i>
<u>Moderator (W): Understanding Oneself in Context (UOC)</u>				
Mediator (M): Meaning-in-Life				
Constant	5.56	.03	159.16	[5.49, 5.62]
Predictor (X): Acculturative stress	-0.32	.04	-8.05	[-0.40, -0.25]
Moderator (W): UOC	0.35	.04	9.04	[0.27, 0.43]
Interaction (XW): Acculturative Stress x UOC	-0.06	.04	-1.48	[-0.14, 0.02]
Outcome (Y): Negative Affect				
Constant	3.63	.25	14.34	[3.13, 4.13]
Mediator (M): Meaning-in-Life	-0.21	.05	-4.56	[-0.30, -0.12]
Predictor (X): Acculturative Stress	0.26	.04	6.44	[0.18, 0.33]
Moderator (W):UOC	0.05	.04	1.24	[-0.03, 0.13]
Interaction(XW): Acculturative Stress x UOC	0.08	.04	2.11	[0.01, 0.15]
<u>Moderator (W): Involving Relevant Others in Context (IROC)</u>				
Outcome (Y): Negative Affect				
Constant	3.46	.25	14.06	[2.98, 3.94]
Mediator (M): Meaning-in-Life	-0.18	.04	-4.04	[-0.26, -0.09]
Predictor (X): Acculturative Stress	0.26	.04	6.32	[0.18, 0.34]
Moderator (W): IROC	-0.03	.04	-0.81	[-0.11, 0.04]
Interaction (XW): Acculturative Stress x IROC	0.03	.04	0.67	[-0.05, 0.11]
<u>Moderator (W): Considering Others in Context (COC)</u>				
Outcome (Y): Negative Affect				
Constant	3.62	.24	14.87	[3.14, 4.10]
Mediator (M): Meaning-in-Life	-0.20	.04	-4.70	[-0.29, -0.12]
Predictor (X): Acculturative Stress	0.27	.04	6.65	[0.19, 0.35]
Moderator (W): COC	0.04	.03	1.29	[-0.02, 0.11]
Interaction (XW): Acculturative Stress x COC	0.06	.03	1.93	[-0.001, 0.12]
<u>Moderator (W): Detaching and Gaining Perspective (DGP)</u>				
Outcome (Y): Negative Affect				
Constant	3.54	.24	14.70	[3.07, 4.02]
Mediator (M): Meaning-in-Life	-0.19	.04	-4.43	[-0.27, -0.11]
Predictor (X): Acculturative Stress	0.26	.04	6.41	[0.18, 0.34]
Moderator (W): DGP	0.02	.03	0.83	[-0.03, 0.07]
Interaction (XW): Acculturative Stress x DGP	0.04	.03	1.60	[-0.01, 0.94]

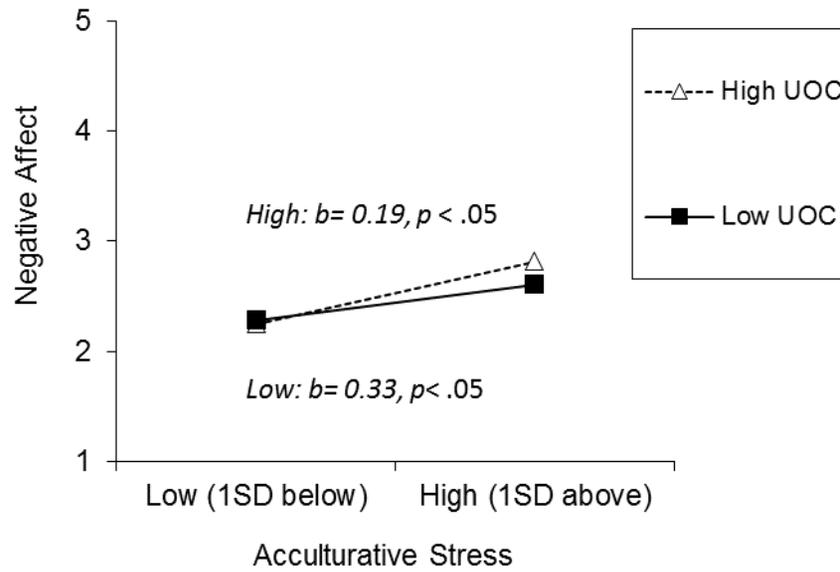


Figure 16. The Effects of Acculturative Stress on Negative Affect for Those with Higher and Lower Levels of Understanding Oneself in Context.
 UOC = Understanding Oneself in Context.

CHAPTER FIVE: DISSCUSSION

During the process of adjustment and acculturation, Chinese international students encounter numerous challenges in linguistic, academic, financial, interpersonal, and intrapersonal areas (Pan, Yue, & Chan, 2010). These acculturative challenges may be associated with negative outcomes, such as anxiety, depression, or suicidal ideation (Lau, 2006). The acculturative stress literature has primarily focused on the adjustment problems and psychopathological outcomes of acculturative stress (Yoon & Portman, 2004). Thus far, only a few studies have examined the impact of acculturative stress on subjective well-being and the protective factors of psychological health using culturally specific constructs (e.g., meaning-in-life, Cohen & Cairns, 2012; collectivistic coping, Heppner et al., 2006; Chinese relational coping, Heppner et al., 2016). Even fewer studies have assessed mediating or moderating factors that protect or negate Chinese international students' psychological well-being throughout the acculturation process following their entry and settlement into U.S. society.

The findings of this study supported the stress-coping path outlined in the Cultural and Contextual Model of Coping (CCMC; Heppner et al., 2014). Specifically, collectivistic coping (Domain D: Coping in Figure 1) was found to moderate the association between acculturative stress (Domain C: Stressors) and subjective well-being (Domain E: Health Outcomes). Other empirical support for the moderating role of collectivistic coping can be found in the literature (e.g., Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Wei, Heppner, Ku, & Liao, 2010). The present study also expands upon the literature by assessing whether culturally relevant coping strategies (i.e., acceptance, reframing, and striving; Chinese relational coping) moderate the mediation effects of acculturative stress on subjective well-being through meaning-in-life in a

sample of Chinese international students at two predominantly White, Midwestern universities in the U.S.

Moderated Mediation Effects

With respect to moderated mediation, the present study proposed that collectivistic coping (e.g., acceptance, reframing, and striving) would moderate the associations between acculturative stress and subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect) through meaning-in-life. Particularly, it was proposed that the moderated mediation effect would contribute primarily through the path from acculturative stress to meaning-in-life (see path d_1 in Figure 2).

The data supports these moderated indirect effects. In other words, when Chinese students experienced high level of acculturative stress, their sense of meaning-in-life dropped slower for those with higher compared to those with lower levels of acceptance, reframing, and striving, which in turn was associated with greater subjective well-being (i.e., life satisfaction, positive affect and the absence of negative affect; see Figures 9 to 11). This is not surprising given that accepting what one cannot change, reframing adversity with positive meaning, and striving to survive are often essential elements to a sense of living a meaningful life among Chinese people (Wong, 1998a), which, in turn, is beneficial to regulating stress, maintaining optimism and positivity, and promoting internal tranquility and peace of mind in the face of adversity (Ma, 1993).

Results advance the literature by providing insight and interpretation of moderated mediation effects, in which previous studies exploring these effects have yielded mixed results. For example, in previous two studies with the same dataset, Pan, Wong, Joubert, and Chan (2007, 2008) found that meaning-in-life mediated the association between acculturative stress

and positive affect among Chinese students in Australia, but did not mediate the association between acculturative stress and negative affect. The authors called for future research to examine the inconsistent mediation effects of meaning-in-life on positive and negative dimensions of subjective well-being. Findings from the present study provide evidence that the mediation effect is moderated by accepting, reframing, and striving.

With respect to moderated direct effects, even though findings supported the moderated direct effect, the direction of this effect was unexpected and contradicted the proposed hypothesis. That is, it was hypothesized that the positive association between acculturative stress and negative affect would be weaker for those with higher as opposed to lower Chinese relationship coping. However, results revealed that Chinese international students with higher Chinese relational coping experienced *more* negative effect in the face of high acculturative stress. Post hoc analyses show that this moderation was especially apparent with the aspect of understanding and being aware of oneself (e.g., emotions, thoughts, goals, limitations, and how the situation could affect oneself) in coping with acculturative stress situations within Chinese cultural expectations.

To better understand the potential reasons for the unexpected direction of the observed moderation effects, three possible interpretations are explored. The first is related to the potential cultural applicability of this approach to dealing with acculturative stress (i.e., understanding one's own emotions, limitations, and how the situation could affect oneself) within a Western context (e.g., a predominantly White Midwestern university in the U.S.). For example, in a Chinese cultural context, when students encounters interpersonal conflict with a professor, it is expected for students to first think through how they may have contributed to the conflict and the contextual factors (e.g., hierarchical positions and power differences between the student and

professor) before reaching out to the professor to resolve the problem. By contrast, in an American academic environment, such social and cultural expectations of self-reflection and context-focused awareness may not be necessary to resolving interpersonal problems, and would likely delay actively resolving the dispute, thereby prolonging acculturative stress and exacerbating negative affect. Given that the Chinese relational coping measure was recently developed and based on data from college students in China (Heppner et al., 2016), it remains unclear the extent to which these coping strategies can be effectively applied to reduce acculturative stress in other contexts, such as an American university setting. It is possible that what helps in resolving stress in a Chinese cultural context may or may not be equivalently helpful in another cultural context (e.g., in the U.S. culture).

A second possible reason for the understanding oneself in context approach worsening the impact of acculturative stress on negative affect may be due to the attention paid to negative thoughts, emotions, and limitations often generated from acculturative stress. Unfortunately, certain types of acculturative stress (e.g., perceived discrimination, guilt towards family) are beyond personal control. Therefore, awareness of these limitations and negative consequences might prolong acculturative stress and exacerbate negative affect.

A third possibility is that the function of the understanding oneself in cultural context approach is to maintain interpersonal harmony by reflecting on one's role in the situation, yet this may not help regulate negative affect. Heppner et al. (2016) suggested that Chinese people's desired outcome of coping includes not only to reduce stress and solve problems, but also to maintain interpersonal harmony. However, using the approach of understanding self in context to achieve interpersonal harmony does not guarantee the absence of negative emotions. In fact, in acculturative stress situations which require confrontational actions (e.g., an altercation),

interpersonal harmony may be impeded. Those individuals with greater use of this coping approach could experience appreciably more interpersonal discord (and more negative affect) compared to those with lower use of this coping strategy. Future research could examine whether Chinese relational coping (e.g., understanding oneself in cultural context) helps to reduce the negative impact of acculturative stress on social outcomes (e.g., interpersonal harmony).

Meanwhile, the other three domains of Chinese relational coping (i.e., involving relevant others in context, considering others in context, and detaching and gaining perspective) did not significantly moderate the direct effect of acculturative stress on negative affect. Perhaps these domains do not direct one's attention to negative thoughts and emotions in the face of acculturative stress, but rather, require more of an external focus and involve social networks to solve problems, understanding oneself in context to others. For example, Chinese international students who identify useful resources within their social networks or carefully consider all possible solutions in order to achieve maximum interpersonal harmony (Yang, 2006) may not experience as much interpersonal discord and negative affect despite increases of acculturative stress.

Contribution to the Chinese International Student Mental Health Literature

Acculturative stress and coping studies in recent years have begun to explore factors related to outcome variables which extend beyond the absence of psychological symptoms to also include the presence of positive affect, as well as the possible mediators and moderators of protective factors from acculturative stress (e.g., meaning-in-life, Cohen & Cairns, 2012; collectivistic coping, Heppner et al., 2006; Chinese relational coping, 2016). Drawing from previous findings, the present study contributes to the Chinese international student acculturative stress and coping literature in several ways.

First, the present study identifies specific collectivistic coping strategies (i.e., acceptance, reframing, and striving; Chinese relational coping) based on the situation-specific coping of Heppner and colleagues' Cultural and Contextual Model of Coping (CCMC; Heppner et al., 2014). Since few studies have included the role of cultural context in coping, especially among ethnic minority groups (Wong, Wong, & Scott, 2006), culturally-specific coping strategies are especially important to consider. Heppner et al. (2016) pointed out that the lack of culture-specific coping in the traditional coping literature as a significant omission, given that empirical studies have shown that individuals from Eastern cultures often utilize different coping strategies (e.g., emotion-focused and context-focused; e.g., O'Connor and Shimizu, 2002) than what Western coping theories have suggested as effective (e.g., problem-solving, asserting personal control through taking actions) (e.g., Van der Walt, Potgieter, Wissing, & Temane, 2008).

Second, the present study adds further depth to the literature on acculturative stress among Chinese international students by exploring the moderated mediation effect beyond the direct effect of acculturative stress on mental health outcomes. It is only recently that acculturation studies have found that collectivistic coping strategies predict acculturative adjustment among international students (e.g., Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005; Heppner et al., 2006; Wang et al., 2012; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008). The findings of Heppner et al. (2014) further suggest the moderating effects of collectivistic coping on stress and its related outcomes. The present study extends the literature in its examination of the mediation and moderation mechanism and lends support to the theory that collectivistic coping serves as a potential protective factors in the process of acculturation among Chinese international students.

Third, results advance the literature by highlighting the resilience framework of acculturation by investigating both negative and positive outcomes, as well as both risk and protective factors of acculturative stress among international students. Yoon and Portman (2004) criticized existing acculturative stress literature of international students for an overemphasis on adjustment difficulties and psychopathology outcomes, and suggested that the concept of mental health should extend beyond the mere absence of symptoms of psychological problems to also include the presence of positive affect (also see Diener et.al. 2003). Similarly, Pan (2011) proposed a resilience and meaning-oriented framework to conceptualize Chinese international students' acculturation. Findings from the present study identify characteristics and resources that Chinese international students might utilize to overcome acculturative challenges and maintain subjective well-being. Results also revealed for *whom* (i.e., Chinese international students with higher acceptance, reframing, and striving, and lower Chinese relational coping) and *how* (via meaning-in-life) subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect) is likely to be maintained when experiencing more acculturative stress.

Limitations and Future Research Directions

First, the present study was a cross-sectional study, and thus no causal conclusions can be made from the results. Although the moderated mediation model chosen for the present study is seemingly conceptually compatible, it is possible that there are other alternative, competing models that fit the data equally well or better than the existing model, thereby providing different explanations of the associations among variables. Future research should conduct longitudinal, experimental, or intervention studies to confirm or repudiate the associations among the variables found in this study. Still, the results advance the existing literature by moving from

examining the direct effects of acculturative stress on psychological outcomes and inconsistent previous findings to examining a complex moderated mediation relationship. Findings also provides preliminary empirical support for future longitudinal studies to promote resilience in the context of acculturative stress, culturally relevant coping strategies, and mental health.

Second, the present study is limited to only focusing on two collectivistic coping strategies as moderators (i.e., acceptance, reframing, and striving; Chinese relational coping), one mediator (i.e., meaning-in-life), and one outcome indicator of mental health (i.e., subjective well-being). It remains unknown whether including other potential culturally relevant variables as moderators and mediators in the existing conceptual model would alter the current findings. Future research could extend this research to include other culturally relevant positive mediators (e.g., coping flexibility), moderators (e.g., social connectedness, bicultural competence, compassion and mindfulness), and indicators of positive (e.g., acculturative adaptation, cultural empathy, or personal growth and maturation) and negative outcomes (e.g., depression, suicidal ideation, or psychological distress). Furthermore, future studies might explore the interactive role of acculturation and enculturation (e.g., assimilation, marginalization, integration, or separation) with other culturally relevant mediators and moderators in protecting Chinese international students from acculturative stress and maintaining mental health.

Third, the study may be subject to a self-selection bias. Participants who were interested in the topic of acculturation, coping with stress, and mental health as well as who were comfortable disclosing personal experiences related to acculturative stress, meaning-in-life, collectivistic coping, and subjective well-being through an online survey may have been more likely to participate in the present study. These individuals may demonstrate group differences in acculturation stress and coping compared to those who did not participate. Future research may

benefit from expanding recruitment effort and educating a larger population of Chinese international students to increase their interest and knowledge of this topic, and adding more means of participation (e.g., paper format, in-person interviews, and focus groups) for individuals who are less comfortable with disclosing personal experiences in an online survey.

Lastly, results may be subjective to some extent due to the use of self-reported questionnaire as a method of data-collection. Self-reported measures can be impacted by memory bias and social desirability. Future studies might benefit from controlling for social desirability and/or obtaining multiple sources of Chinese international students' acculturation data (e.g., interview with their significant others) and comparing self-reported data with others' observations to achieve greater accuracy and validity.

Implications for Counseling Chinese International Students

The present study suggested several implications applicable to mental health providers working with Chinese international students studying at predominantly White, Midwestern universities in the U.S. First, clinicians may better understand the depth and complexity of acculturation experiences of Chinese international students, as well as mental health risks and protective factors. Particularly, clinicians can understand that Chinese international students who experience acculturative stress may challenge their sense of meaning-in-life, which could in turn put their subjective well-being at risk. This new understanding may facilitate clinicians' ability to conceptualize the anxiety and distress experienced by Chinese international students through a cultural and contextual lens. That is, to explore how their acculturative experiences and thwarted meaning-in-life relate to their lack of subjective well-being. Furthermore, clinicians can be aware that these students may experience more life satisfaction and positive affect when they accept adversity, reframe it with a positive outlook, and strive to survive. Meanwhile, they may

experience more negative affect when they pay more attention to their own emotions, thoughts, limitations, and how the situation impacts them personally.

Second, the moderated mediation effects of collectivistic variables (e.g., meaning-in-life, acceptance, reframing, and striving, and Chinese relational coping [e.g., understand oneself in context]) found in the present study have potential implications for clinical interventions. Clinicians who work with Chinese international students can provide a safe space to explore students' cultural background, meaningful living, and learned coping resources in a Chinese cultural context, and make connections to their present concerns of acculturative stress. Knowing the advantages and disadvantages of certain collectivistic coping strategies, clinicians could coach students to cope with their stressful acculturation experiences through making sense of their suffering or reframing through positive thinking (e.g., "learn from your mistakes", "adversity is opportunity to success", "a friend in need is a friend indeed") in order to restore meaning to their life and accomplish their goals (e.g., self-improvement, character building, or social networking). Moreover, clinicians could pay attention to student's over-emphasis on being aware of their own negative emotions and personal limitations in the face of acculturative stress, and redirect their focus to more positive thinking or direct action-taking in order to prevent them from experiencing a decline in meaningful living and subjective well-being.

Finally, current results provide alternative insights for working with Chinese international students above and beyond the traditional acculturative stress and coping theories based on Western cultural values. The cultural and contextual factors highlighted in the present study may help clinicians develop ethno-cultural empathy (e.g., empathic perspective taking or empathic awareness; Wang et al., 2003; Wei, Li, Wang, & Ko, 2016) for Chinese international student's acculturative stress experiences. Clinicians may feel more comfortable encouraging Chinese

international students to reflect on their own cultural values and resources in relation to the challenges in the process of adapting to American culture. Such increased ethno-cultural empathy and culturally-relevant interventions could also help build rapport and trust between clinicians with a different cultural background from their Chinese clients, and the positive therapeutic experience may in turn become a corrective emotional and interpersonal acculturation experience for Chinese international students.

In conclusion, the current empirical study examined a moderated mediation model in which acceptance, reframing, and striving as well as Chinese relational coping were hypothesized to moderate the mediation effect of meaning-in-life on the association between acculturative stress and subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect). In the face of high acculturative stress, acceptance, reframing, and striving appear to prevent Chinese international student from experiencing a decline in their sense meaning-in-life, which in turn helps to preserve subjective well-being (i.e., life satisfaction, positive affect, and the absence of negative affect). Meanwhile, the direct effect of acculturative stress on negative affect was stronger for individuals who used the coping strategy to be more aware of their own emotions, thoughts, and personal limitations as well as how the situation might personally affect them. This study contributes to the existing literature on acculturative stress in relation to collectivistic coping and subjective well-being, specifically among Chinese international students studying at predominantly White, Midwestern universities in the U.S. Implications of the present study suggest that students who experience high acculturative stress may maintain subjective well-being by learning how to utilize culturally congruent coping strategies in order to preserve their sense of meaning-in-life.

REFERENCE

- Abadi, J. M. (2000). Satisfaction with Oklahoma state university among selected groups of international students. *Dissertation Abstracts International: Section A: Humanities and Social Sciences*, 60(8-A), 2821.
- Allen, G. E., & Heppner, P. P. (2011). Religiosity, coping, and psychological well-being among Latter-Day Saint Polynesians in the US. *Asian American Journal of Psychology*, 2, 13-24.
- Allen, G. E., & Smith, T. B. (2015). Collectivistic coping strategies for distress among Polynesian Americans. *Psychological services*, 12, 322-329.
- Bai, J. (2015). Development and validation of the Acculturative Stress Scale for Chinese College Students in the United States (ASSCS). *Psychological Assessment*, 28, 443-447. doi: <http://dx.doi.org/10.1037/pas0000198>
- Baumgardner, S. R., & Crothers, M. K. (2009). *Positive psychology*. Upper Saddle River, NJ: Prentice Hall/Pearson Education.
- Berry, J. W. (2006). Acculturative stress. In P. T. P. Wong & L. C. J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping* (pp. 287–298). New York, NY: Springer.
- Chataway, C. J., & Berry, J. W. (1989). Acculturation experiences, appraisal, coping, and adaptation: A comparison of Hong Kong Chinese, French, and English students in Canada. *Canadian Journal of Behavioral Science*, 21, 295–309. doi:10.1037/h0079820
- Chen, L. Y., Hsiao, B., Chern, C. C., & Chen, H. G. (2014). Affective mechanisms linking Internet use to learning performance in high school students: A moderated mediation study. *Computers in Human Behavior*, 35, 431-443.
- Chen, X.-P., & Chen, C. C. (2004). On the intricacies of the Chinese *Guanxi*: a process model of *Guanxi* development. *Asian Pacific Journal of Management*, 21, 305-324. doi: 10.1023/B:APJM.0000036465.19102.d5
- Cheung, F. M. (2000). What Deconstructing Counseling in a Cultural Context. *The Counseling Psychologist*, 28, 123-132. doi:10.1177/0011000000281008
- Chun, C. A., Moos, R. H., & Cronkite, R. C. (2006). Culture: A fundamental context for the stress and coping paradigm. In P. T. P. Wong & L. C. J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping* (pp. 29-53). New York: Springer.
- Cohen, J. (1992). A power primer. *Psychological bulletin*, 112, 155-159.
- Cohen, K., & Cairns, D. (2012). Is searching for meaning in life associated with reduced subjective well-being? Confirmation and possible moderators. *Journal of Happiness Studies*, 13, 313-331. doi: 10.1007/s10902-011-9265-7

- Constantine, M. G., Kindaichi, M., Okazaki, S., Gainor, K. A., & Baden, A. L. (2005). A qualitative investigation of the cultural adjustment experiences of Asian international college women. *Cultural Diversity and Ethnic Minority Psychology, 11*, 162-175.
- Davis, C., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefitting from the experience: Two construals of meaning. *Journal of Personality and Social Psychology, 75*, 561-574. Retrieved from <http://ovidsp.tx.ovid.com>
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment, 49*, 71-75.
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual review of psychology, 54*, 403-425.
- Doğana, T., Sapmaza, F., Telb, F. D., Sapmazc, S., & Temizelc, S. (2012). Meaning in life and subjective well-being among Turkish University students. *Procedia-Social and Behavioral Sciences, 55*, 612-617. doi: 10.1016/j.sbspro.2012.09.543
- Du, Y., Wei, M. (2015). Acculturation, enculturation, social connectedness, and subjective well-being among Chinese international students. *The Counseling Psychologist, 43*, 299-325.
- Ehrensaft, E., & Tousignant, M. (2006). Immigration and resilience. In D. L. Sam & J. W. Berry (Eds.), *The Cambridge handbook of acculturation psychology* (pp. 469-483). Cambridge, UK: Cambridge University Press.
- Fleer, J., Hoekstra, H. J., Sleijer, D.T., Tuinman, M. A., & Hoekstra-Weebers, J. E. H. M. (2006). The role of meaning in the prediction of psychological well-being of testicular cancer survivor. *Quality of Life Research, 15*, 705-717.
- Folkman, S. (2008). The case for positive emotions in the stress process. *Anxiety, stress, and coping, 21*, 3-14.
- Folkman, S., & Lazarus, R. S. (1988). Coping as a mediator of emotion. *Journal of personality and social psychology, 54*, 466-475.
- Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist, 55*, 647-654. doi: 10.1037//0003-066X.55.6.647
- Frankl, V. E. (1967). Logotherapy and existentialism. *Psychotherapy: Theory, Research & Practice, 4*, 138-142.
- Fry, P. S. (2000). Religious involvement, spirituality and personal meaning for life: Existential predictors of psychological well-being in community-residing and institutional care elders. *Aging and Mental Health, 4*, 375-397.

- Ganellen, R., Blaney, P., & Hogan, R. (1984). Hardiness and social support as moderators of the effects of life stress. *Journal of Personality and Social Psychology*, *47*, 156-163.
- Gershuny, B. S. (1999). *Structural models of psychological trauma, dissociative phenomena, and distress in a mixed-trauma sample of females: Relations to fear about death and control*. Unpublished doctoral dissertation, University of Missouri—Columbia.
- Halama, P., & Bakosova, K. (2009). Meaning in life as a moderator of the relationship between perceived stress and coping. *Studia Psychologica*, *51*, 143-148.
- Hammarström, G., & Sandra, T. (2012). Variations in subjective well-being when “aging in place”—A matter of acceptance, predictability and control. *Journal of Aging Studies*, *26*, 192-203. doi: 10.1016/j.jaging.2011.12.004
- Harlow, L., Newcomb, M., & Bentler, P. (1986). Depression, self-derogation, substance use, and suicide ideation: Lack of purpose in life as a mediational factor. *Journal of Clinical Psychology*, *42*, 5-21.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed-variable mediation, moderation, and conditional process modeling [Whitepaper]. Retrieved from <<http://www.afhayes.com/public/process2012.pdf>>.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis*. New York: Guilford Press.
- Hayes, A. F. (2013b). *Model Templates for Process for SPSS and SAS*. Retrieved from <http://www.afhayes.com/>
- Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research*, *50*, 1-22.
- Henderson, N., & Milstein, M. M. (2003). *Resiliency in schools: Making it happen for students and educators*. Thousand Oaks, CA: Corwin Press Inc.
- Heppner, P. P. (2008). Expanding the conceptualization and measurement of applied problem solving and coping: From stages to dimensions to the almost forgotten cultural context. *American Psychologist*, *63*, 805-816.
- Heppner, P. P., Heppner, M. J., Lee, D. G., Wang, Y. W., Park, H. J., & Wang, L. F. (2006). Development and validation of a collectivist coping styles inventory. *Journal of Counseling Psychology*, *53*, 107-125.
- Heppner, P. P., & Lee, D-G. (2002). Problem-solving appraisal and psychological adjustment. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 288–298). New York: Oxford University Press.

- Heppner, P. P., Tian, L., Zhao, R., Wang, K. T., Bi, Y., Hou, Z. J., He, Y. H., Chiao, H., & Hsieh, C. (2016). A Chinese Relational Coping Inventory: Initial evidence and implications. *International Perspectives in Psychology: Research, Practice, Consultation*.
- Heppner, P. P., Wei, M., Neville, H. A., & Kanagui-Munoz, M. (2014). A cultural and contextual model of coping and health. In F. T. L. Leong (Ed.), *The APA handbook of multicultural psychology: Theory and research*. Washington, D.C.: American Psychological Association.
- Heppner, P. P., Witty, T. E., & Dixon, W. A. (2004). Problem-solving appraisal and human adjustment: A review of 20 years of research using the Problem Solving Inventory. *The Counseling Psychologist, 32*, 344-428. doi:10.1177/0011000003262793
- Hovey, J. D., & King, C. A. (1996). Acculturative stress, depression, and suicidal ideation among immigrant and second generation Latino adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 1183-1192.
- Institute of International Education (IIE). (2015). Open Doors 2014: International students in the United States and study abroad by American students are at all-time high. Retrieved from <http://www.iie.org/Who-We-Are/News-and-Events/Press-Center/Press-Releases/2015/2015-11-16-Open-Doors-Data>
- Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma*. New York: Free Press.
- Joiner, T. E., Jr., & Walker, R. L. (2002). Construct validity of a measure of acculturative stress in African Americans. *Psychological Assessment, 14*, 462-466
- Kim, B. S., & Omizo, M. M. (2006). Behavioral acculturation and enculturation and psychological functioning among Asian American college students. *Cultural Diversity and Ethnic Minority Psychology, 12*, 245-258.
- Kim, U. (1997). Asian collectivism: An indigenous perspective. , H. S. R. Kao & D. Sinha (Eds.), *Asian perspective in psychology* (pp. 147–163). *Cross-cultural research and methodology series*, Vol. 19., Thousand Oaks, CA: Sage Publications, Inc.
- Kline, S. L., & Liu, F. (2005). The influence of comparative media use on acculturation, acculturative stress, and family relationships of Chinese international students. *International Journal of Intercultural Relations, 29*, 367-390.
- Konstam, V., Holmes, W., Wilczenski, F., Baliga, S., Lester, J., & Priest, R. (2003). Meaning in the lives of caregivers of individuals with Parkinson's disease. *Journal of Clinical Psychology in Medical Settings, 10*, 17-25.
- Krause, N. (2007). Evaluating the stress-buffering function of meaning-in-life among older people. *Journal of Aging and Health, 19*, 792-812.

- Kwan, K.-L. K., Sodowsky, G. R., & Ihle, G. M. (1994). Worldviews of Chinese international students: An extension and new findings. *Journal of College Student Development, 35*, 190-197.
- Lau, J. S. (2006). *Acculturative stress, collective coping, and psychological well-being of Chinese international students* (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses database. (DAI-B 67/12).
- Lazarus, R. S., & DeLongis, A. (1983). Psychological stress and coping in aging. *American psychologist, 38*, 245-254.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Leong, F. T. L., & Chou, E. L. (2002). Counseling international students. In P. B. Pedersen, J. G. Draguns, W. J. Lonner, & J. E. Trimble (Eds.), *Counseling across cultures* (5th ed., pp. 185–207). Thousand Oaks, CA: Sage.
- Lin, A. (2001). *Exploring sources of life meaning among Chinese*. Unpublished Master's thesis, Trinity Western University, Langley, Canada.
- Lin, S. P., & Betz, N. E. (2009). Factors related to the social self-efficacy of Chinese international students. *The Counseling Psychologist, 37*, 451-471.
- Liu, M. (2009). Addressing the mental health problems of Chinese international college students in the United States. *Administration in Social Work, 10*, 69-86.
- Makino, Y., & Tagami, F. (1998). Subjective well-being and self-acceptance. *The Japanese Journal of Psychology, 69*, 143-148. Retrieved from https://www.jstage.jst.go.jp/article/jjpsy1926/69/2/69_2_143/_article/-char/ja/
- Mallinckrodt, B., Abraham, W. T., Wei, M., & Russell, D. W. (2006). Advances in testing the statistical significance of mediation effects. *Journal of Counseling Psychology, 53*, 372-378.
- Markus, H. R., & Kitayama, S. (1991). Culture and self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253. doi:10.1037/0033-295X.98.2.224
- Mascaro, N., & Rosen, D. H. (2005). Existential meaning's role in the enhancement of hope and prevention of depressive symptoms. *Journal of Personality, 73*, 985-1013.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American psychologist, 56*, 227-238.
- McDonald, M. J., Wong, P. T., & Gingras, D. T. (2012). Meaning-in-life measures and development of a brief version of the Personal Meaning Profile. *The Human Quest for Meaning: Theories, research, and applications, 357-382*.

- Mori, S. C. (2000). Addressing the mental health concerns of international students. *Journal of Counseling & Development, 78*, 137-144.
- Neville, H. A., & Heppner, M. J. (1999). Contextualizing rape: Reviewing sequelae and proposing a culturally inclusive ecological model of sexual assault recovery. *Applied and Preventive Psychology, 47*, 59-70.
- Newcomb, M., Harlow, L., & Sarason, I. G. (1986). Life events and substance use among adolescents: mediating effects of perceived loss of control and meaninglessness in life. *Journal of Personality and Social Psychology, 51*, 564-577.
- Noh, S., Kaspar, V., & Wickrama, K. A. S. (2007). Overt and subtle racial discrimination and mental health: Preliminary findings for Korean immigrants. *American Journal of Public Health, 97*, 1269-1274.
- O'Connor, D. B., & Shimizu, M. (2002). Sense of personal control, stress and coping style: A cross-cultural study. *Stress and Health, 18*, 173-183.
- O'Connor, M. F. (2002). Making meaning of life events: Theory, evidence, and research directions for an alternative model. *OMEGA, 46*, 51-75.
- Oishi, S. (2006). The concept of life satisfaction across cultures: An IRT analysis. *Journal of Research in Personality, 40*, 411-423.
- Oishi, S., Diener, E., Lucas, R. E., & Suh, E. M. (2009). Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. In *Culture and Well-Being* (pp. 109-127). Springer Netherlands.
- Pan, J. Y. (2008). *Acculturation and resilience of Mainland Chinese postgraduate students in Hong Kong* [PhD thesis]. Hong Kong: University of Hong Kong [Unpublished].
- Pan, J. Y. (2011). A resilience-based and meaning-oriented model of acculturation: A sample of mainland Chinese postgraduate students in Hong Kong. *International Journal of Intercultural Relations, 35*, 592-603.
- Pan, J. Y. (2015). Predictors of post-migration growth for Chinese international students in Australia. *International Journal of Intercultural Relations, 47*, 69-77.
- Pan, J. Y., Wong, D. F. K., Chan, C. L. W., & Joubert, L. (2008). Meaning of life as a protective factor of positive affect in acculturation: A resilience framework and a cross-cultural comparison. *International Journal of Intercultural Relations, 32*(6), 505-514.
- Pan, J. Y., Fu Keung Wong, D., Joubert, L., & Chan, C. L. W. (2007). Acculturative stressor and meaning of life as predictors of negative affect in acculturation: a cross-cultural comparative study between Chinese international students in Australia and Hong Kong. *Australian and New Zealand Journal of Psychiatry, 41*, 740-750.

- Pan, J. Y., Yue, X. D., & Chan, C. L. W. (2010). Development and validation of the Acculturative Hassles Scale for Chinese Students (AHSCS): An example of Mainland Chinese university students in Hong Kong. *Psychologia*, *53*, 163-178.
- Reker, G. T., & Wong, P. T. P. (1988). Aging as an individual process: Toward a theory of personal meaning. In J. E. Birrer & V. L. Bengtson (Eds.), *Emergent theories of aging* (pp. 214–246). New York: Springer Publishing Company.
- Reker, G. T. (1997). Personal meaning, optimism, and choice: Existential predictors of depression in community and institutional elderly. *The Gerontologist*, *37*, 709-716.
- Rosenthal, D. A., Russell, V. J., & Thomson, G. D. (2006). *A growing experience: The health and well-being of international students at the University of Melbourne*. Melbourne: The University of Melbourne.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2006). Assessing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*, 185-227.
- Rose, P. (2015). Leveraged Guanxi in Employment Acquisition: Scale Development and Validation. *Asian Social Science*, *11*, 19-31.
- Schnell, T. (2010). Existential indifference: Another quality of meaning in life. *Journal of Humanistic Psychology*, *50*, 351-373.
- Shek, D. T. L. (1992). Meaning-in-life and psychological well-being: An empirical study using the Chinese version of the purpose in life questionnaire. *The Journal of Genetic Psychology*, *153*, 185-200.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, *7*, 422-445.
- Siu, A. F., & Chang, J. F. (2011). Coping styles and psychological distress among Hong Kong university students: Validation of the collectivist coping style inventory. *International Journal for the Advancement of Counselling*, *33*, 88-100.
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: a review and critique of category systems for classifying ways of coping. *Psychological bulletin*, *129*, 216-269.
- Smedema, S., Catalano, D., & Ebener, D. J. (2010). The relationship of coping, self-worth, and subjective well-being: a structural equation model. *Rehabilitation Counseling Bulletin*, *53*, 131-142. doi:10.1177/0034355209358272
- Somerfield, M. R., & McCrae, R. R. (2000). Stress and coping research: Methodological challenges, theoretical advances, and clinical applications. *American Psychologist*, *55*, 620-625. doi:10.1037/0003-066X.55.6.620

- Stoeber, J., & Janssen, D. P. (2011). Perfectionism and coping with daily failures: Positive reframing helps achieve satisfaction at the end of the day. *Anxiety, Stress & Coping, 24*, 477-497.
- Tian, L., Heppner, P. P., & Hou, Z. (2014). Problem-solving appraisal and its relationship to career decision-making difficulties and psychological adjustment in China. *International Perspectives in Psychology: Research, Practice, Consultation, 3*, 19-36. doi: 10.1037/ipp0000011.
- Triandis, H. C. (1995). *Individualism & collectivism*. Boulder, CO: Westview Press.
- Utsey, S. O., Adams, E. P., & Bolden, M. (2000). Development and initial validation of the Africultural Coping Systems Inventory. *Journal of Black Psychology, 26*, 194-215.
- Van der Walt, C., Potgieter, J. C., Wissing, M. P., & Temane, M. Q. (2008). Validation of a coping scale in an African context. *Journal of Psychology in Africa, 18*, 155-166.
- Wallace, K., & Lahti, E. (2004). Spirituality as a mediator of the relation between perceived stress and life satisfaction. *The Gerontologist, 44*, 567.
- Wan, G. (2001). The learning experiences of Chinese students in American universities: A cross-cultural perspective. *College Student Journal, 35*, 28-44.
- Wang, K., Heppner, P., Fu, C., Zhao, R., Li, F., Chuang, C., & Tracey, T. (2012). Profiles of acculturative adjustment patterns among Chinese international students. *Journal of Counseling Psychology, 59*, 424-436.
- Wang, K. T., Heppner, P. P., Wang, L., & Zhu, F. (2015). Cultural intelligence trajectories in new international students: Implications for the development of cross-cultural competence. *International Perspectives in Psychology: Research, Practice, Consultation, 4*, 51-65.
- Wang, C., & Mallinckrodt, B. (2006). Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students. *Journal of Counseling Psychology, 53*, 422-433. doi:10.1037/0022-0167.53.4.422
- Wang, K. T., Wei, M., & Chen, H.-H. (2015). Social Factors in Cross-National Adjustment: Subjective Well-Being Trajectories among Chinese International Students. *The Counseling Psychologist, 43*, 272-298.
- Ward, C. (2001). The A, B, Cs of acculturation. In D. Matsumoto (Ed.), *The handbook of culture and psychology* (pp. 411-445). New York, NY: Oxford University Press.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063-1070.

- Wei, M., Heppner, P. P., Ku, T. Y., & Liao, K. Y. H. (2010). Racial discrimination stress, coping, and depressive symptoms among Asian Americans: A moderation analysis. *Asian American Journal of Psychology, 1*, 136-150.
- Wei, M., Ku, T. Y., Russell, D. W., Mallinckrodt, B., & Liao, K. Y. H. (2008). Moderating effects of three coping strategies and self-esteem on perceived discrimination and depressive symptoms: A minority stress model for Asian international students. *Journal of Counseling Psychology, 55*, 451-462.
- Wei, M., Li, C. I., Wang, C., & Ko, S. Y. (2016). Finding benefits from acculturative stress among Asian Americans: Self-reflection moderating the mediating effects of ethnocultural empathy on positive outcomes. *Journal of Counseling Psychology, 63*(6), 633.
- Wei, M., Liao, K. Y-H., Chao, R. C., Mallinckrodt, B., Tsai, P-C., & Botello-Zamarron, R. (2010). Minority stress, perceived bicultural competence, and depressive symptoms among ethnic minority college students. *Journal of Counseling Psychology, 57*, 411-422.
doi:10.1037/a0020790
- Wei, M., Liao, K. Y. H., Heppner, P. P., Chao, R. C. L., & Ku, T. Y. (2012). Forbearance coping, identification with heritage culture, acculturative stress, and psychological distress among Chinese international students. *Journal of Counseling Psychology, 59*, 97-106.
- Weisz, J. R., Rothbaum, F. M., & Blackburn, T. C. (1984). Standing out and standing in: The psychology of control in America and Japan. *American Psychologist, 39*, 955-969.
- Wong, L. F. (2007). *From atheists to evangelicals: The Christian conversion experiences of mainland Chinese intellectuals in the United States of America* (Order No. AAI3251230). Available from PsycINFO. (622020550; 2007-99013-117). Retrieved from <http://search.proquest.com.proxy.lib.iastate.edu/docview/622020550?accountid=10906>
- Wong, P. T. P. (1998). Implicit theories of meaningful life and the development of the personal meaning profile. In P. T. P. Wong & P. S. Fry (Eds.), *The human quest for meaning: A handbook of psychological research and clinical application* (pp. 111-140). Mahwah, NJ: Lawrence Erlbaum Associates.
- Wong, P. T. P., Reker, G. T., & Peacock, E. J. (2006). A resource-congruence model of coping and the development of the coping schema inventory. In P. T. P. Wong, & L. C. J. Wong (Eds.), *Handbook of multicultural perspectives on stress and coping* (pp. 223-286). New York: Springer.
- Wong, P. T. P., Wong, L. C. J., & Scott, C. (2006). Beyond stress and coping: The positive psychology of transformation. In P.T.P. Wong, L.C. J. Wong, & W. J. Lonner, (Eds.) *Handbook of multicultural perspectives on stress and coping* (pp. 1-26). New York: Springer. doi:10.1007/0-387-26238-5_3

- Wu, P. L., Terry, L. L., Shih, S., & Huang, C. H. (2006). Individual and family resilience: Resources for surviving stress in immigrant families. Retrieved from <http://cc.shu.edu.tw/~e62/NewSiteData/20061007Conference/uploadpapers/Peili-Wu---paper.pdf>, Accessible on Dec. 20th, 2007.
- Wu, C. H., & Yao, G. (2006). Do we need to weight satisfaction scores with importance ratings in measuring quality of life?. *Social Indicators Research*, 78, 305-326.
- Xu, W., Oei, T., Liu, X., Wang, X., & Ding, C. (2014). The moderating and mediating roles of self-acceptance and tolerance to others in the relationship between mindfulness and subjective well-being. *Journal of Health Psychology*, 1-11. doi: 10.1177/1359105314555170
- Yalçın, İ., & Malkoç, A. (2015). The relationship between meaning in life and subjective well-being: Forgiveness and hope as mediators. *Journal of Happiness Studies*, 16, 915-929. doi: 10.1007/s10902-014-9540-5
- Yang, C. F. (2006). The Chinese conception of the self: Towards a person-making (做人) perspective of the self. In U. Kim, K.S. Yang, & K.K. Hwang (Eds.), *Indigenous and cultural psychology: Understanding people in context* (pp. 327-357). New York: Springer.
- Yang, K. S. (1997). Theories and research in Chinese personality: An indigenous approach. In H. S. Kao & D. Sinha (Eds.), *Asian perspectives on psychology* (pp. 236-262). New Delhi, India: Sage.
- Yang, K. S. (2004). A theoretical and empirical analysis of the Chinese self from the perspective of social and individual orientation. *Indigenous Psychological Research in Chinese Societies*, 22, 11-80.
- Ye, J. (2006a). An examination of acculturative stress, interpersonal social support, and use of online ethnic social groups among Chinese international students. *The Howard Journal of Communications*, 17, 1-20.
- Yeh, C., & Inose, M. (2002). Difficulties and coping strategies of Chinese, Japanese, and Korean immigrant students. *Adolescence*, 37, 69-82.
- Yeh, C. J., Arora, A. K., & Wu, K. A. (2006). A new theoretical model of collectivistic coping. In *Handbook of multicultural perspectives on stress and coping* (pp. 55-72). New York: Springer US.
- Yoon, E., Jung, K. R., Lee, R. M., & Felix-Mora, M. (2012). Validation of Social Connectedness in Mainstream Society and the Ethnic Community Scales. *Cultural Diversity and Ethnic Minority Psychology*, 18, 64-73.
- Yoon, E., & Lee, R. M. (2010). Importance of social connectedness as a moderator in Korean immigrants' subjective well-being. *Asian American Journal of Psychology*, 1, 93-105.

- Yoon, E., Lee, R. M., & Goh, M. (2008). Acculturation, social connectedness, and subjective well-being. *Cultural Diversity and Ethnic Minority Psychology, 14*, 246-255.
- Yoon, E., & Portman, T. A. A. (2004). Critical issues of literature on counseling international students. *Journal of Multicultural Counseling and Development, 32*, 33-44.
- Zeidner, M., & Saklofske, D. (1996). Adaptive and maladaptive coping. in Zeidner, M., & Endler, N. S. (Eds.), *Handbook of coping: Theory, research and applications* (Vol. 195). New York: Wiley.
- Zhang, J., & Goodson, P. (2011). Predictors of international students' psychosocial adjustment to life in the United States: A systematic review. *International Journal of Intercultural Relations, 35*, 139-162.
- Zhang, J., Mandl, H., & Wang, E. (2010). Personality, acculturation, and psychosocial adjustment of Chinese international students in Germany 1, 2. *Psychological reports, 107*, 511-525.
- Zika, S., & Chamberlain, K. (1992). On the relation between meaning-in-life and psychological well-being. *British Journal of Psychology, 83*, 133-145.

APPENDIX A. INSTITUTIONAL REVIEW BOARD APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 7/5/2016

To: Fei Yi
W112 Lagomarcino Hall

CC: Dr. Meifen Wei
W112 Lagomarcino Hall

From: Office for Responsible Research

Title: Cultural Adjustment and Well-being

IRB ID: 16-281

Study Review Date: 7/1/2016

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures with adults or observation of public behavior where
 - Information obtained is recorded in such a manner that human subjects cannot be identified directly or through identifiers linked to the subjects; or
 - Any disclosure of the human subjects' responses outside the research could not reasonably place the subject at risk of criminal or civil liability or be damaging to their financial standing, employability, or reputation.

The determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. Changes to key personnel must also be approved. The purpose of review is to determine if the project still meets the federal criteria for exemption.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Detailed information about requirements for submission of modifications can be found on the Exempt Study Modification Form. A Personnel Change Form may be submitted when the only modification involves changes in study staff. If it is determined that exemption is no longer warranted, then an Application for Approval of Research Involving Humans Form will need to be submitted and approved before proceeding with data collection.

Please note that you must submit all research involving human participants for review. **Only the IRB or designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.

Please be aware that **approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX B. PARTICIPANT E-MAIL CORRESPONDENCE

Invitation Email (ISU SONA system)

Dear Student,

I am writing to invite you to participate in an online study on SONA. My name is Fei Yi, and I am a doctoral student at Department of Psychology, Iowa State University. I am conducting a study related to Chinese international student's cultural adjustment and well-being. I need your help to complete this important task. This study has been reviewed and approved by the Institutional Review Board for protection of human subjects at Iowa State University. The survey will take 30 minutes or less to complete. You will receive 1 research credit.

In order to participate in this study, you must be a Chinese international student from Mainland China and at least 18 years old. If you are interested in participating in this study, please click the link below.

<http://www.isupsyh.sona-systems.com/>

In appreciation of your time and effort of participating in this study, you will also have a chance to enter a random drawing for a \$25 VISA gift card at the end of the survey.

Participation in this study is voluntary and all data collected will be confidential. Should you have any questions, please feel free to email me at this email address. Your help is greatly appreciated.

Fei Yi, M.S.
Iowa State University
feiyi@iastate.edu

Invitation Email (All other students)

Dear Student,

My name is Fei Yi, and I am a doctoral student at Iowa State University. I am conducting a study related to cultural adjustment and psychological outcomes. I need your help to complete this important task. This study has been reviewed and approved by the Institutional Review Board for protection of human subjects at Iowa State University. The survey will take approximately 30 minutes or less to complete.

In order to participate in this study, you must be an international student from Mainland China and 18 years or older. If you are interested in this study, please click the link below.

https://iastate.qualtrics.com/SE/?SID=SV_0jNaz86OMXIgXUp

In appreciation of your time and effort of participating in this study, you will have a chance to enter a random drawing for a \$25 VISA gift card.

Should you have any questions, please feel free to email me at this email address. Your help is greatly appreciated.

Fei Yi, M.S.
Iowa State University
feiyi@iastate.edu

APPENDIX C. RECRUITMENT E-MAIL CORRESPONDENCE

University Recruitment Emails

To whom it may concern,

My name is Fei Yi, and I am currently a doctoral student researcher at Iowa State University. This semester, I will be conducting my dissertation study related to the cultural adjustment and well-being among currently enrolled undergraduate and graduate Chinese international students. The purpose of this study is to better understand how adjustment stress and cultural coping strategies affect well-being in Chinese international students. We would like to collect data from universities in the Midwest, including the [name of university].

We have already received IRB approval from Iowa State University (attached) to conduct this study. Per the advice of the [name of university] IRB office, I have emailed you to ask if it is possible to gain access to a list of first names and email addresses for currently enrolled undergraduate and graduate Chinese international students from Mainland China. We hope to contact these students via email invitation about this opportunity to participate an online study of approximately 30 minutes.

I appreciate your help in advance. Should you need more information about this study, I would be more than happy to provide. I look forward to hearing from you.

Cordially,

Fei Yi, M.S.
Iowa State University
feiyi@iastate.edu

To whom it may concern,

My name is Fei Yi, and I am a graduate student at Iowa State University. I am contacting you for help with recruitment of Chinese international students from Mainland China for my dissertation study. The purpose of this study is to better understand how adjustment stress and cultural coping strategies affect well-being among Chinese international students studying at Midwestern universities like [name of university]. This is an online study that would take 30 minutes or less to complete.

Would it be possible for you to forward an email invitation of this study (attached) to your members in [name of organization]? I have included it below for your convenience.

I truly appreciate your help in advance. Should you need more information about this study, I would be more than happy to provide. I look forward to hearing from you.

Cordially,

Fei Yi, M.S.
Iowa State University
feiyi@iastate.edu

APPENDIX D. INFORMED CONSENT

Informed Consent Form (ISU students)

Title of Study: Cultural Adjustment and Well-being

Investigator: Fei Yi, M.S. (Principal Investigator) and Meifen Wei, Ph.D. (Faculty Supervisor)

This is a research study. Please take your time in deciding if you would like to participate. You must be at least 18 years old and self-identified as international student from Mainland China to participate in this study.

INTRODUCTION

The purpose of this study is to better understand the how adjustment stress and cultural coping strategy affect well-being among Chinese international students. You are invited to participate in this study because you attend Iowa State University and self-identify as international student from Mainland China.

DESCRIPTION OF PROCEDURES

Participation in this research is completely voluntary. If you agree to participate in this study, you could click the “Next” button on this page, and you will be taken to the online survey. Your participation will take 30 minutes or less to complete.

RISKS

Although the risks of participation 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 may skip any question that you do not wish to answer or that makes you feel uncomfortable, or exit the survey at any time without penalty. For the information to be useful to us, however, we encourage you to complete all the items. Should you wish to talk about or consult with someone about your discomfort, we will provide you with contact information for support and counseling services at the end of our survey.

BENEFITS

If you decide to participate in this study, there will be no direct benefit to you. It is hoped that the information gained in this study will benefit the scientific research community by helping researchers better understand the how adjustment stress and cultural coping strategy affect well-being among Chinese international students.

COST AND COMPENSATION

You will not have any costs from participating in this study. For your time and effort, we will offer you a chance to enter a random drawing to win a \$25 VISA gift card (the odds of winning are 1 in 400). The drawing will be held after all the data has been collected. The winner will be notified via email and will need to fill out the research participation receipt. Information regarding documentation required for participant compensation may be obtained from the controller’s Department at (515) 294-2555 or www.controller.iastate.edu. You will not be monetarily compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide not to participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You may skip any question that you do not wish to answer or that makes you feel uncomfortable without receiving any penalty. For the information to be useful to us, we encourage you to complete all the items.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: No personal identifying information will be asked on the questionnaire responses. Only the principal investigator and her faculty supervisor will have access to the data, and the data will be stored on the principal investigator's computer with a password protection. Once the data collection has completed, all names and email addresses will be removed. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Fei Yi, via email at feiyi@iastate.edu, or via phone at (515) 708-1940 or Dr. Meifen Wei, via email at wei@iastate.edu, or via phone at (515) 294-7534. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, Office for Responsible Research, (515) 294-3115, 1138 Pearson Hall, Ames, IA 50011.

If you would like to retain a copy of the consent form for your records, please print this page.

By clicking the "Next" button below, you indicate that you have read the informed consent form and agree to participate in this study.

Informed Consent Form (All other students)

Title of Study: Cultural Adjustment and Well-being

Investigator: Fei Yi, M.S. (Principal Investigator) and Meifen Wei, Ph.D. (Faculty Supervisor)

This is a research study. Please take your time in deciding if you would like to participate. You must be at least 18 years old and self-identified as international students from Mainland China to participate in this study.

INTRODUCTION

The purpose of this study is to better understand the how adjustment stress and cultural coping strategy affect well-being among Chinese international students. You are invited to participate in this study because you self-identify as international student from Mainland China.

DESCRIPTION OF PROCEDURES

Participation in this research is completely voluntary. If you agree to participate in this study, you could click the “Next” button on this page, and you will be taken to the online survey. Your participation will take 30 minutes or less to complete.

RISKS

Although the risks of participation 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 may skip any question that you do not wish to answer or that makes you feel uncomfortable, or exit the survey at any time without penalty. For the information to be useful to us, however, we encourage you to complete all the items. Should you wish to talk about or consult with someone about your discomfort, we will provide you with contact information for support and counseling services at the end of our survey.

BENEFITS

If you decide to participate in this study, there will be no direct benefit to you. It is hoped that the information gained in this study will benefit the scientific research community by helping researchers better understand the how adjustment stress and cultural coping strategy affect well-being among Chinese international students.

COST AND COMPENSATION

You will not have any costs from participating in this study. For your time and effort, we will offer you a chance to enter a random drawing to win a \$25 VISA gift card (the odds of winning are 1 in 400). The drawing will be held after all the data has been collected. The winner will be notified via email and will need to fill out the research participation receipt. Information regarding documentation required for participant compensation may be obtained from the controller’s Department at (515) 294-2555 or www.controller.iastate.edu. You will not be monetarily compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide not to participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled. You may

skip any question that you do not wish to answer or that makes you feel uncomfortable without receiving any penalty. For the information to be useful to us, we encourage you to complete all the items.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: No personal identifying information will be asked on the questionnaire responses. Only the principal investigator and her faculty supervisor will have access to the data, and the data will be stored on the principal investigator's computer with a password protection. Once the data collection has completed, all names and email addresses will be removed. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Fei Yi, via email at feiyi@iastate.edu, or via phone at (515) 708-1940 or Dr. Meifen Wei, via email at wei@iastate.edu, or via phone at (515) 294-7534. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, Office for Responsible Research, (515) 294-3115, 1138 Pearson Hall, Ames, IA 50011.

If you would like to retain a copy of the consent form for your records, please print this page.

By clicking the "Next" button below, you indicate that you have read the informed consent form and agree to participate in this study.

APPENDIX E. DEBRIEFING FORM

Debriefing Form (ISU students)

Thank you very much for participating in this study. The purpose of this project is to understand the associations between adjustment stress, cultural coping strategy, and subjective well-being among Chinese international students. It is hoped that the information gained in this study will provide valuable information regarding these processes.

If you have any questions or would like to learn about the study, please contact the principal investigator, Fei Yi, via email at feiyi@iastate.edu, or via phone at (515) 708-1940 or Dr. Meifen Wei, via email at wei@iastate.edu, or via phone at (515) 294-7534. Moreover, if you experienced any discomfort while completing this survey and would like to talk about your reactions, you may contact the National Alliance on Mental Illness (800-950-6264) for support, information, or referrals to a local mental health agency, or visit the Student Counseling Service in your university. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, at IRB@iastate.edu, or Director, Office for Responsible Research, (515) 294-3115, 1138 Pearson Hall, Ames, IA 50011.

Please click on “Next” below to finish the survey and enter a drawing for a \$25 VISA gift card. If you do not wish to enter the drawing, please close this window.

FOOTNOTE

¹ When collecting data, a Likert scale with four points were mistakenly used instead of the previously proposed five points. When data collection was completed, I took the raw score of positive affect and negative affect of each respondent and multiplied 1.25 to generate an adjusted score to be used in later analysis. The results of the associations among various variables should remain equivalent.