

Abstract

Title of Dissertation: A SOCIAL COGNITIVE APPROACH TO
COPING WITH ACCULTURATIVE STRESS
IN INTERNATIONAL STUDENTS

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The present study employed a cross-sectional design to test a model of coping with acculturative stress in an international student sample. Drawing from Lent's (2004) social cognitive model of restorative well-being, several direct and mediated paths were hypothesized to predict (negatively) acculturative stress and (positively) life satisfaction. Behavioral acculturation and behavioral enculturation (Kim & Omizo, 2006) were also examined as predictors of coping with acculturative stress among international students. Using a self-report survey, participants' ratings of acculturative stress, life satisfaction, social support, behavioral acculturation, behavioral enculturation, and coping self-efficacy were assessed. The results revealed that the variables of the model explained 16% of the variance in acculturative stress and 27% of the variance in life satisfaction. A final model, including the use of modification indices, provided good fit to the data. Findings also suggested that coping self-efficacy was a direct predictor of acculturative stress, and that behavioral acculturation and coping self-efficacy were direct predictors of

students' life satisfaction. Limitations, future research, and practical implications are discussed.

A SOCIAL COGNITIVE APPROACH TO COPING WITH ACCULTURATIVE
STRESS IN INTERNATIONAL STUDENTS

by

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Table of Contents

Acknowledgements.....	ii
Table of Contents.....	iii
List of Tables.....	vii
List of Figures.....	viii
Chapter 1: Introduction.....	1
Acculturation and Acculturative Stress.....	3
Social Cognitive Model of Restorative Well-Being.....	6
Adapting the Restorative Model.....	8
Life satisfaction.....	10
Social support for sojourners.....	11
Acculturation and enculturation as coping strategies.....	12
Coping self-efficacy for international students.....	15
Purpose of the Study.....	17
Hypotheses.....	17
Chapter 2: Method.....	19
Participants.....	19
Instruments.....	21
Screening questions (Appendix C).....	21
English fluency (Appendix D).....	21
Demographics questionnaire (Appendix E).....	22
Prior U.S. exposure (Appendix F).....	22

Acculturative stress (Appendix G).....	22
Social support (Appendix H)	24
Behavioral acculturation and enculturation (Appendix I)	25
International student coping self-efficacy (Appendix J).....	26
General self-efficacy (Appendix K).....	27
Life satisfaction (Appendix L).....	28
Procedures	29
Chapter 3: Results	31
Preliminary Analyses	31
Scale Development	33
Parallel analysis	33
Exploratory factor analysis	33
Reliability estimates and convergent validity	35
Summary	37
Model Testing	37
Model-data fit.....	37
Direct effects	38
Indirect effects	40
Summary	42
Chapter 4: Discussion	43
Limitations	45
Future Research	47
Extensions of the current study.....	47

Alternative studies	51
Practical Considerations.....	51
Summary.....	53
Appendix A: Extended Literature Review.....	54
International Students in the United States.....	54
Theoretical Conceptualizations of Acculturation	56
Dimensionality of acculturation.....	58
Berry’s model of acculturation	60
Acculturative stress.....	61
Theoretical Conceptualizations of Stress and Coping	65
Transactional model of stress and coping.....	65
Extant Research on International Students’ Coping.....	69
Social Cognitive Model of Restorative Well-Being.....	71
Model of Coping with Acculturative Stress.....	74
Social support.....	74
Enculturation and acculturation	77
Coping self-efficacy.....	81
Life satisfaction.....	83
Summary.....	84
Appendix B: Informed Consent Form	86
Appendix C: Screening Page	88
Appendix D: English Competency Questions	89
Appendix E: Demographic Questionnaire	90

Appendix F: Prior U.S. Cultural Exposure Questionnaire.....	92
Appendix G: Riverside Acculturation Stress Inventory (RASI).....	93
Appendix H: Index of Sojourner Social Support (ISSS)	94
Appendix I: Vancouver Index of Acculturation (VIA).....	95
Appendix J: International Student Coping Self-Efficacy Scale (ISCSES).....	96
Appendix K: Generalized Self-Efficacy Scale (GSES)	97
Appendix L: Satisfaction with Life Scale (SWLS).....	98
Appendix M: Email Invitation to International Students.....	99
Appendix N: Campus Flyer	100
Appendix O: Letter to Offices of International Affairs	101
References.....	103

List of Tables

Table 1. Descriptives of the Sample	20
Table 2. Descriptive Statistics, Correlations, and Reliability Estimates.....	32
Table 3. Parallel Analysis Output	34
Table 4. Pattern Matrix of the EFA of the ISCSE	36

List of Figures

Figure 1. Berry's Model of Acculturation	4
Figure 2. Social Cognitive Model of Restorative Well-Being.....	7
Figure 3. Model of Coping with Acculturative Stress	9
Figure 4. Parameter Estimates of the Modified Model.....	39
Figure 5. Parameter Estimates of Asian International Students Model	48
Figure 6. Transactional Model of Stress and Coping	67

Chapter 1: Introduction

According to a 2014 report from the Institute for International Education (IIE), there were 886,052 international students in the United States during the 2013-2014 school year, representing 4.2% of total U.S. college student enrollment. At the author's own university, international students accounted for 13% of the total student population for that year. The number of international students currently studying in the US has grown 7% over the previous year, continuing a steady year-by-year rise of international student enrollment in U.S. schools since the IIE began collecting these data over 50 years ago (IIE, 2013). Despite the growth of the international student population in the US, one researcher described international students as “one of the most quiet, invisible, underserved groups on the American campus” (Mori, 2000, p.143).

To clarify what is meant by an *international student*, an international student is “anyone studying at an institution of higher education in the United States on a temporary visa that allows for academic coursework” (IIE, 2014). International students “are not citizens of the US, immigrants, or refugees...[or] students who have long-term or permanent residency” (Verbik, 2007, p. 7). They differ from other migrating groups (e.g., immigrants, asylees) because they are sojourners, that is, they are “short-term visitors to new cultures where permanent settlement is not the [explicit] purpose of the sojourn” (Church, 1982; Hazen & Alberts, 2006). According to Swagler and Ellis (2003), “sojourners typically arrive to complete a specific task (i.e., earn a degree) and then depart; in contrast, immigrants arrive with the intention to reside in the new country and thus have different needs in terms of integrating into the new culture” (p. 420). Though international students in the US represent over 200 different countries,

“regardless of their diverse cultural, social, religious, and political backgrounds,” they share common characteristics, such as being “people in transition who choose to live in a foreign academic setting to realize their educational objectives” and “unlike other ethnic minorities, refugees, or recent immigrants...[typically] plan to return to their home countries eventually” (Mori, 2000, p. 137).

International students come to the US seeking to expand their professional knowledge and worldview and, for some, to experience an adventure (Swagler & Ellis, 2003). The most commonly endorsed reason international students give for electing to study in the US is the belief that the US will offer a better quality education (Chow, 2011; Hazen & Alberts, 2006), which will yield increased professional opportunities in their countries of origin (Hazen & Alberts, 2006; Sandhu, 1994). Other common reasons include a perception of better educational funding opportunities in the US (Chow, 2011; Hazen & Alberts, 2006) and a desire to experience a new culture (Hazen & Alberts, 2006; Sandhu & Asrabadi, 1994).

The process of moving to the US and adjusting to a new culture, however, can present various challenges (Chen, 1999; Smith & Khawaja, 2011). The well-being of international students studying in the US may be adversely affected by differences between their home culture and the U.S. culture in values, customs, behaviors, and expectations (Sandhu & Asrabadi, 1994). International students’ may experience anxiety, depression, and emotional distress upon arriving in the US (Hyun, Quinn, Madon, & Lustig, 2007; Pedersen, 1991). For some international students, psychological distress may manifest as physical symptoms like headaches, respiratory issues, and stomach problems (Lee, Koeske, & Sales, 2004). Some researchers have asserted that

international students experience more stress than their U.S.-based peers due to the compounding of academic stress with stress arising from the cultural adjustment process (Lee et al., 2004; Pedersen, 1991; Reynolds & Constantine, 2007; Sandhu, 1994).

Acculturation and Acculturative Stress

The process of adjusting to a new culture is known as *acculturation*.

Acculturation is more precisely defined as a bilateral culture change process occurring at the individual and group level from continuous contact between two different cultures (Berry, 1992). This definition captures two salient aspects of acculturation: first, both the individual *and* group experience acculturation and second, both the nondominant and the dominant cultures acculturate to each other, though Berry (1992) acknowledged that “most changes in fact occur in the non-dominant (migrating) group as a result of influence from the dominant (society of settlement) group” (p. 70). Berry (2006) provided a model of acculturation rooted in stress and coping theory to conceptualize the various influences operating at the group and individual level during acculturation (Figure 1).

For the acculturating group, acculturation may result in physical changes (e.g., new housing); biological changes (e.g., exposure to new diseases); political changes (e.g., new hierarchies); economic changes (e.g., new forms of employment); cultural changes (e.g., new religions or languages); and social changes (e.g., new intergroup relationships). At the individual level, acculturation, or more specifically, *psychological acculturation*, may result in numerous changes to the individual. According to Berry (1992), psychological acculturation may result in changes in behaviors and abilities; values, attitudes, and motives; personal identity and ethnic identity; and lifestyle preferences. In

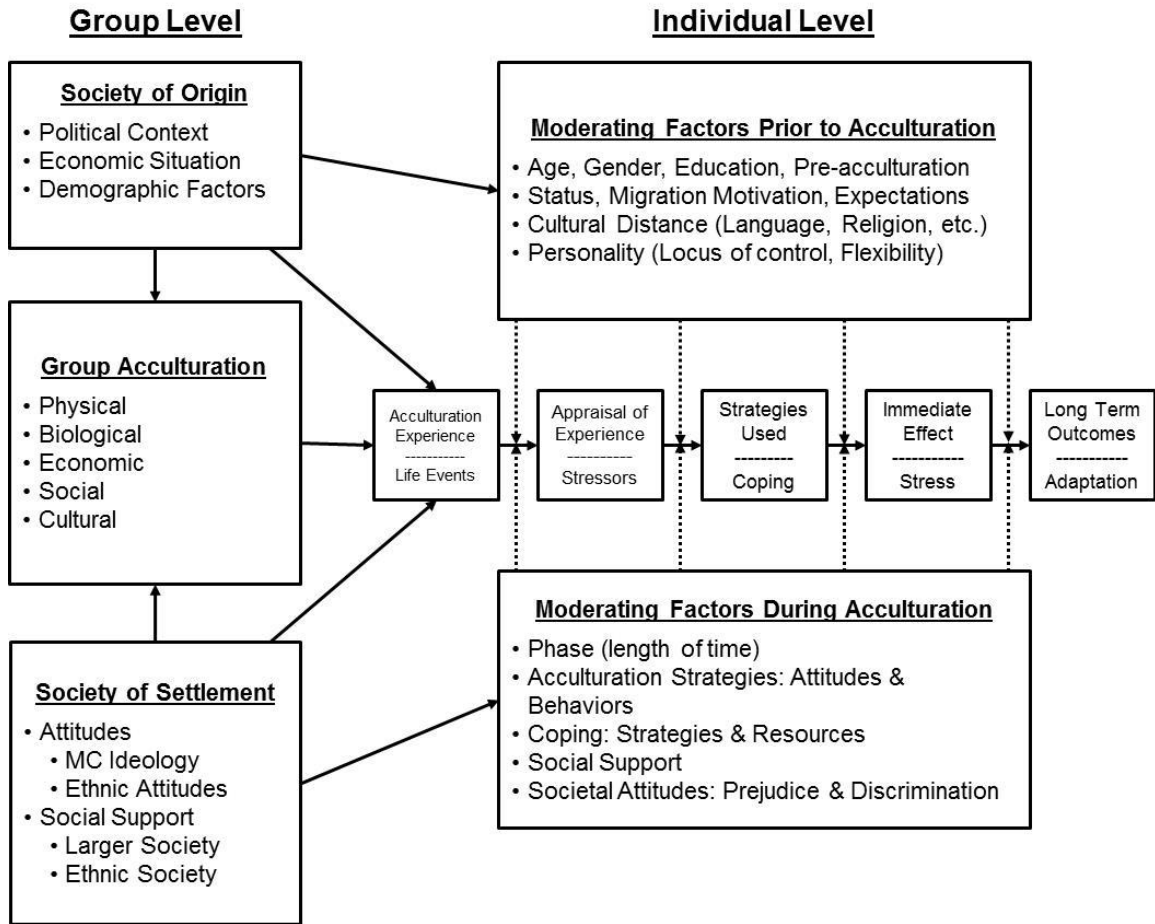


Figure 1. Berry's Model of Acculturation. Reprinted with permission from the author.

Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review*, 46(1), 5-68.

addition, psychological acculturation may give rise to *acculturative stress*, or “psychological, social, and physical health consequences [which are]...negative and largely unwanted” (Berry, 1992, p. 70). That is, when individuals perceive that the changes and challenges presented through intercultural contact cannot be easily overcome, the stress reaction they experience may be termed acculturative stress (Berry, 2006).

Acculturative stress has been shown to relate to depression, anxiety, and identity confusion among international students in the US (Constantine, Okazaki, & Utsey, 2004; Pedersen, 1991; Winkelman, 1994). Research has identified several stressors that may contribute to international students’ experience of acculturative stress. Church (1982) identified language problems, financial issues, homesickness, racial discrimination, and adjusting to new customs and norms as common stressors among international students. In their study of Taiwanese students in the US, Swagler and Ellis (2003) uncovered lack of English fluency, loss of social contact, pressure to be more independent, racial discrimination, feelings of incompetence, cultural misunderstandings, distance from family, and differences in academic and social expectations as common themes related to cultural adjustment barriers. Constantine, Anderson, Berkel, Caldwell, and Utsey (2005) conducted a qualitative analysis of African international students, finding several sources of acculturative stress, including isolation from Americans and other international students; perceptions that Americans viewed them as inferior; financial concerns; and discriminatory treatment from African Americans.

Despite these findings, few research studies have examined the coping process of international students dealing with acculturative stress in the US (Lee et al.,2004;

Tavakoli, Lumley, Hijazi, Slavin-Spenney, & Parris, 2009; Ye, 2006) and this author found no studies that explored the relationship between acculturative stress and life satisfaction among international students in the US.

Social Cognitive Model of Restorative Well-Being

Effective coping with acculturative stress may ameliorate its potential to trigger adverse mental health outcomes and may foster the experience of life satisfaction. Lent's (2004) social cognitive model of restorative well-being, or social cognitive coping model and hereafter referred to as the SCCM, provides a theoretical framework for understanding how various factors may contribute to coping following the experience of a problematic event (Figure 2). The social cognitive coping model is rooted in Bandura's (1986, 1997) social cognitive theory, but also reflects various theoretical and philosophical frameworks of well-being (Lent, 2004).

The restorative model includes seven core social cognitive, personality, and environmental factors. The *problematic event* or internal difficulty impinges on the individual's normal state of well-being. *Coping appraisal* mediates the effect of the stressor by informing the individual about the nature of the stressor and identifying the individual's available resources and abilities to cope with the stressor (Lent, 2007). The available resources and abilities comprise the individual's *coping strategies*. *Problem-related coping efficacy* represents an individual's confidence in her or his ability to cope with a stressor. *Environmental support and resources* may take several forms, such as material resources (e.g., salary increase), social support (e.g., warm friend), and institutional support (e.g., career counseling) (Lent, 2004). *Personality and affective disposition* predict how one perceives a problematic event. The sixth and seventh

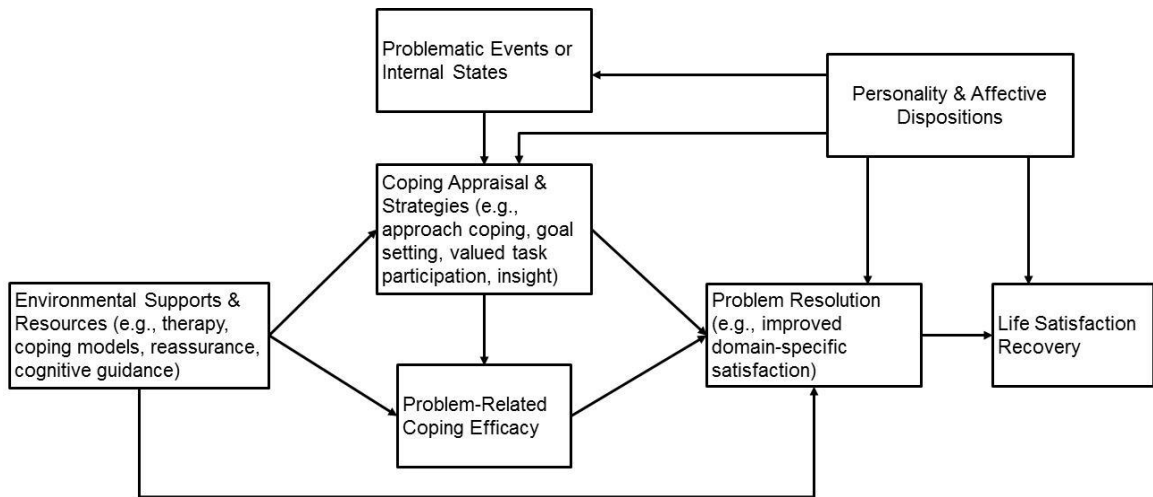


Figure 2. Social Cognitive Model of Restorative Well-Being. Reprinted with permission from the author. Lent, R. W. (2004). Toward a unifying theoretical and practical perspective on well-being and psychosocial adjustment. *Journal of Counseling Psychology, 51*(4), 482–509.

elements are *problem resolution* and *life satisfaction recovery*, respectively (Lent, 2004). The former reflects short-term or domain-specific restoration, whereas the latter reflects long-term or global restoration. Although the restorative well-being model was developed on the basis of existing research and has been extended conceptually to psychological coping with serious medical conditions (Hoffman, Lent, & Raque-Bogdan, 2013; Lent, 2007), it has yet to be tested empirically in its own right.

Adapting the Restorative Model

In the present study, I adapted the social cognitive coping model to the context of coping with acculturative stress. The hypothesized model was informed by a review of the literature on international students and sojourners, acculturative stress, and coping. From a social cognitive view, “the coping process is seen as being jointly negotiated by personality variables, cognitive and behavioral coping strategies, coping self-efficacy, and social support” (Lent, 2004, p. 501). In this study, the factors of the coping process were operationalized as social support for sojourners; behavioral enculturation, or heritage culture maintenance; behavioral acculturation, or host culture maintenance; and international student coping self-efficacy (see Figure 3). Personality variables were not included for two reasons. First, I wanted to study variables that were relatively amenable to change and thus, to intervention. Second, as there was little existing research on the relationship between acculturative stress and life satisfaction in international students, I elected to keep the model as parsimonious as possible and focus on those factors for which there had been some prior study. A cross-sectional design was used to examine the roles of social support, coping efficacy, behavioral acculturation, and behavioral enculturation as (a) negative predictors of acculturative stress and (b) positive predictors

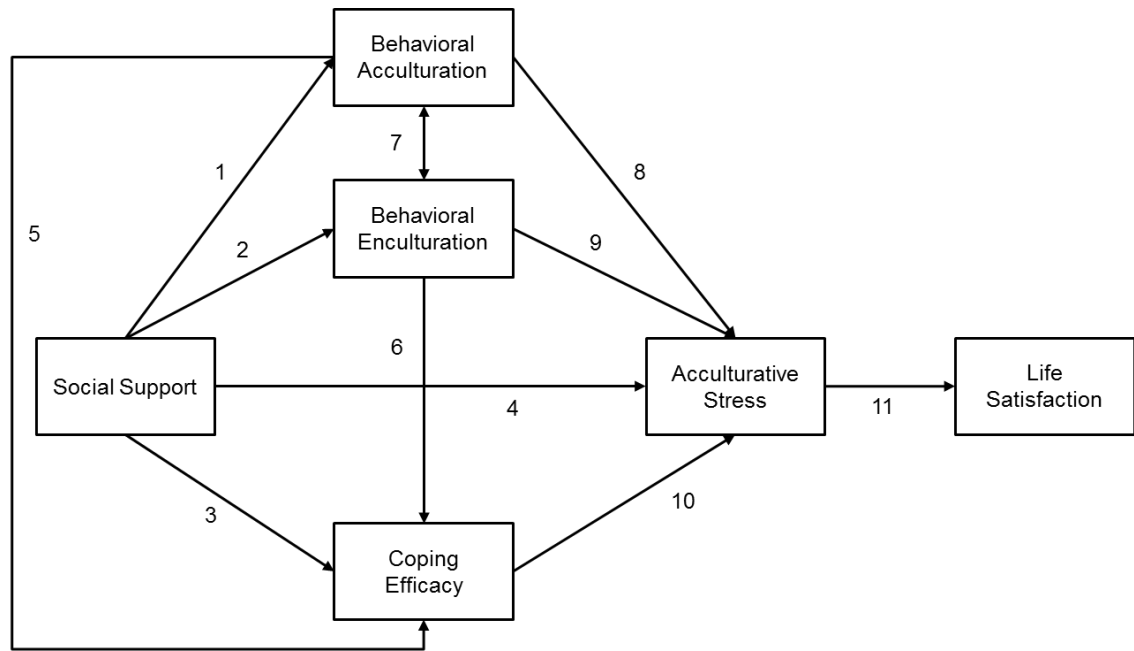


Figure 3. Model of Coping with Acculturative Stress, based on the Social Cognitive Model of Restorative Well-Being. Coping efficacy is expected to partially mediate the relation of the acculturation strategies to acculturative stress.

of life satisfaction in the US (Figure 3). Each of the key variables is described below, along with their roles in the proposed model of international student coping with acculturative stress.

Life satisfaction. Life satisfaction was chosen as the outcome variable for a number of reasons. First, evidence suggested that life satisfaction was a cross-culturally valid construct, though predictors and indicators of life satisfaction may vary across cultures (Oishi, Diener, Lucas, & Suh, 1999). Second, life satisfaction fit within the social cognitive framework as an outcome variable because it reflected individuals' cognitive evaluation of their lives (Diener, Oishi, & Lucas, 2003; Lent, 2004). Third, life satisfaction had been shown to be negatively related to acculturative stress in immigrant youth (Liebkind & Jasinskaja-Lahti, 2000) and international students in Australia (Pan, Wong, Joubert, & Chan, 2008), with results suggesting that increases in acculturative stress predicted decreases in life satisfaction. Fourth, most empirical studies had assessed psychological adaptation by measuring levels of depression, anxiety, or psychological distress. Yet, in the context of acculturation, psychological adaptation refers to individuals' "sense of wellbeing, absence of depression, and life satisfaction" (Ward, Fox, Wilson, Stuart, & Kus, 2010, p.27). It was this author's opinion that the emphasis on negative indicators of psychological adaptation promoted a deficits-based approach to examining adjustment in acculturating groups. Thus, the fifth reason for studying life satisfaction was to promote a strengths-based approach by studying an indicator of positive psychological adaptation.

Evidence suggests that life satisfaction is a relatively stable, trait-like construct (Lucas & Donnellan, 2007; Schimmack, Diener, & Oishi, 2002), though particular social

cognitive variables have, nevertheless, been found to predict change in life satisfaction (e.g., Lent, Taveira, Sheu, & Singley, 2009; Singley, Lent, & Sheu, 2010). For the purpose of this study, participants were asked to rate their satisfaction with life *in the US*. It seemed unlikely that significant drops in global life satisfaction would be observed on the basis of participants' reports of acculturative stress, but such reports might predict levels of satisfaction with life specifically in the US, since the acculturative stress experience was related to participants transitioning to life in the US.

Social support for sojourners. Lent (2004) states that social support, as a source of coping, may provide emotional empathy, potentiate other coping strategies, and increase coping self-efficacy. Berry (1997) wrote that “supportive relationships with both cultures are most predictive of successful adaptation” (p. 25). Social support for sojourners may manifest in various forms (Ong & Ward, 2005). Ong and Ward found that a scale of support for sojourners tapped into two distinct dimensions, socioemotional and instrumental support. Socioemotional support captures support in the form of love, care, sympathy, and belongingness (Ong & Ward, 2005). Instrumental support captures support in the form of financial assistance, material resources, advice, and information (Ong & Ward, 2005).

In the SCCM, support is theorized to facilitate the use of cognitive and behavioral coping strategies. Similarly, the present model hypothesized a predictive relationship between social support and the acculturation strategies. Specifically, I proposed that social support would predict behavioral acculturation (Figure 3, Path 1) by providing international students with access to individuals who could offer them guidance, encouragement, and information about U.S. culture (Winkelman, 1994). I also proposed

that social support would predict behavioral enculturation (Figure 3, Path 2) by providing international students with a community that embraces their cultural values, connects them to cultural events, and offers them a home away from home (Winkelman, 1994). Based on the SCCM, it was also hypothesized that support would predict international student coping self-efficacy (Figure 3, Path 3) by providing international students with models and sources of encouragement to foster confidence in their ability to overcome acculturative stress (Lent, 2004). Finally research indicates that social support is negatively related to acculturative stress, thus social support was hypothesized to directly predict levels of acculturative stress over time (Figure 3, Path 4) (Smith & Khawaja, 2011).

Acculturation and enculturation as coping strategies. According to Lazarus and Folkman (1987), coping strategies describe ongoing cognitive and behavioral efforts to manage stress, efforts which may differ based on the specific context, time, and situation. Berry (2006) proposed that members of an acculturating group might engage in a variety of acculturation strategies as a means to cope with acculturative stress resulting from the acculturation process. Thus, the acculturating strategies of acculturation and enculturation may be considered coping strategies in the context of acculturative stress. At this point, a bit of clarification about the usage of the “acculturation” term may be warranted.

Earlier in this paper, acculturation was defined as a change process occurring upon the meeting of two cultures. At the individual-level and within a coping context, acculturation and enculturation reflect two different strategies individuals may employ in their efforts to cope with acculturative stress. In the former, individuals might cope with

acculturative stress by adopting the values, customs, behaviors, social identities, and norms of the host culture; in the latter, they might cope by maintaining the values, customs, behaviors, social identities, and norms of their culture of origin (Kim & Omizo, 2006). These two orientations are seen as bilinear, that is, existing on two independent continua (Miller, 2007). A person may be high in enculturation and acculturation, low in both, or high in one and low in the other. Based on this, Berry (1992) proposed four categories of acculturation strategies: integration ($\uparrow A, \uparrow E$), assimilation ($A \uparrow, E \downarrow$), separation ($A \downarrow, E \uparrow$), and marginalization ($A \downarrow, E \downarrow$). While these categories provide a useful heuristic for conceptualizing acculturation strategies, research has not been conclusive regarding the presence of all four acculturation types in the population (Rudmin, 2003; Schwartz & Zamboanga, 2008).

Rudmin (2003) criticized the four-factor typology of acculturation for its lack of predictive utility. He cited a study by Kim (1988) that demonstrated that Koreans living in Canada responded similarly to Koreans with no intentions to immigrate to Canada on preferences for integration, assimilation, separation, and marginalization. In other words, he concluded that measures of the four-factor structure of acculturation “seem to be devoid of information about the acculturation of Koreans in Canada and to be composed only of response bias artifacts” (p. 5). Rudmin (2003) also challenged the notion that the integration strategy was the most effective strategy for positive adjustment.

Del Pilar and Udasco (2004) argued against the existence of the marginalization category, stating that “the idea of people becoming cultureless is contrary to the interpersonally based nature of human beings and contrary to psychology’s view of individuals as dynamically involved in the creation of their cultures” (p. 174). In an

empirical test to examine the four-factor structure, Schwartz and Zamboanga (2008) uncovered six classes of acculturation strategies using cluster analysis. Furthermore, they found no evidence for the existence of the marginalization category.

Bhatia and Ram (2009) challenged Berry's four-factor typology of acculturation and the notion that the acculturation process was a universal experience that operated "essentially [the] same for all groups" (Berry & Sam, 1997, p. 296). Bhatia and Ram (2009) asserted that acculturation should no longer be conceived of as an individual, psychological process, but as a "broad, contextual, and political phenomenon." (p. 141). The authors conducted a qualitative study of Indian immigrants to present the effect of diasporas on immigrant identities. ("Diasporas" refers to the experience of immigrant groups that "distinctly attempt to maintain...connections and commitments to their homeland and recognize themselves and act as a collective community...outside their ancestral homeland..."; Bhatia & Ram, 2009, p. 141). They hold that the acculturation process is "a dynamic, back-and-forth play concurrently between structure and self, being privileged and marginalized and is caught in the web [of] socio-political and historical forces" (p. Bhatia & Ram, 2009, p. 147). They specifically criticized the integration strategy within Berry's model, noting that while it might be desirable to reach such a state, "achieving integration may simply not be an option and/or may be achieved temporarily only to be lost at some point" The authors added that Berry's model of acculturation ignores "issues of conflict, power, and asymmetry [that] affect many diasporic immigrants' acculturation process" (Bhatia & Ram, 2009, p. 148). Given the criticism surrounding the four-factor model, the coping strategies were framed in the 2-dimensional structure of acculturation for this study.

Returning to the concept of coping strategies within a social cognitive coping framework, Lent (2004) asserts that coping strategies may, among many things, equip individuals with the skills or resources to directly resolve the problem, help individuals to reframe or reinterpret the meaning of the stressor, or distract individuals from ruminating about the problem (Lent, 2004, 2007). As a result of this potential for coping strategies to act directly on the stressors, coping strategies are theorized to directly predict problem resolution and indirectly predict life satisfaction recovery via problem resolution. The SCCM also depicts the effect of the coping strategies to problem resolution as partially mediated by coping self-efficacy (Lent, 2004).

Thus, in this study, it was hypothesized that behavioral enculturation and behavioral acculturation would directly predict coping self-efficacy (Figure 3, Paths 5 and 6). In other words, increased use of host and heritage cultural practices and behaviors might lead to a greater sense that one could cope competently with acculturative stress. Behavioral acculturation and behavioral enculturation were expected to correlate significantly with each other since they both represent culturally-based strategies for coping acculturative stress (Figure 3, Path 7). Finally, behavioral acculturation and behavioral enculturation strategies were hypothesized to negatively predict acculturative stress (Figure 3, Paths 8 & 9). This hypothesis is supported by prior studies which have shown that acculturation and enculturation relate positively to life satisfaction and positive functioning in other acculturating populations (Yoon et al., 2013; Zhang & Goodson, 2011).

Coping self-efficacy for international students. Bandura (1999) wrote that “unless people believe that they can produce desired results by their actions, they have

little incentive to act or to persevere in the face of difficulties” (p. 46). Coping self-efficacy refers to “a person’s confidence in his or her ability to cope effectively” (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006, p. 422). In the context of this study, international student coping self-efficacy describes international students’ confidence in their ability to cope with acculturative stress.

Miller, Yang, Farrell, and Lin (2011) defined a related construct, *bicultural coping self-efficacy*, as “domain-specific estimates of one’s confidence in his or her ability to negotiate and cope with perceived interactions and incompatibilities in language (e.g., translation), social interaction (e.g., understanding nuances in social norms), and value (e.g., weighing the merits of individualistic versus collectivistic ways of viewing the world) domains between the culture of origin and a second culture” (p. 490).

International student coping self-efficacy, as it is conceptualized here, differs from bicultural coping self-efficacy because the latter is about individuals’ beliefs that they “can function effectively within two cultural groups without compromising one’s cultural identity” (David, Okazaki, & Saw, 2009, p. 212), whereas the former is defined as individuals’ beliefs that they can effectively overcome the stress of acculturation with no reference to integration or biculturalism as the preferred coping strategy (which is assumed by the bicultural coping self-efficacy position).

Coping self-efficacy, in a broad sense, can serve to “facilitate use of active coping and support-seeking methods, encourage persistence at coping efforts despite setbacks, and promote domain-specific satisfaction and affect” (Lent, 2004, p. 502). In the proposed model, coping self-efficacy was hypothesized to predict lower levels of acculturative stress (Figure 3, Path 10). Although, coping efficacy with acculturative has

not been studied in an international student population, Miller, Yang, Farrell, et al. (2011) demonstrated in a sample of Asian Americans that bicultural coping efficacy predicted both negative and positive mental health outcomes. David et al. (2009) developed a measure of bicultural self-efficacy using two samples of ethnic minority college students. They found that most or all of the six dimensions of bicultural self-efficacy correlated positively with life satisfaction in their samples. In a study by Lee and Bradley (2005), among international students, general self-efficacy for “coping with daily hassles as well as adaptation after undergoing stressful experiences” was found to correlate negatively and strongly with acculturative stress.

Purpose of the Study

This author is not aware of prior studies that have looked at the factors which predict increases in life satisfaction and decreases in acculturative stress in international students in the US. An aim of the present study was to examine the relationships among possible factors. A second aim was to test the role of enculturation and acculturation as coping strategies for managing acculturative stress. That said, the overarching goal of this study was to test a number of hypotheses based on the SCCM regarding factors that predict a reduction in acculturative stress and an improvement in life satisfaction in international students in the US.

Hypotheses. Based on the extant literature on international students’ coping with acculturative stress and life satisfaction and the SCCM, the following hypotheses are posited about the relationships of the predictor and criterion variables (Figure 3).

Social support as a predictor.

H1: Social Support positively predicts behavioral acculturation (Path 1).

H2: Social Support positively predicts behavioral enculturation (Path 2).

H3: Social Support positively predicts coping self-efficacy (Path 3).

H4: Social Support negatively predicts acculturative stress (Path 4).

Behavioral acculturation/enculturation as predictors.

H5: Behavioral acculturation positively predicts coping self-efficacy (Path 5).

H6: Behavioral enculturation positively predicts coping self-efficacy (Path 6).

H7: Behavioral acculturation and behavioral enculturation covary significantly (Path 7)

H8: Behavioral acculturation negatively predicts acculturative stress (Path 8).

H9: Behavioral enculturation negatively predicts acculturative stress (Path 9).

Coping self-efficacy as a predictor.

H10: Coping efficacy negatively predicts acculturative stress (Path 10).

Acculturative stress as a predictor.

H11: Acculturative stress negatively predicts life satisfaction (Path 11).

Overall model-to-data fit.

H12: The overall model will provide adequate fit to the data (Figure 3).

Chapter 2: Method

Participants

No definitive guidelines exist for determining the sample size for structural equation modeling (Dilalla, 2000; Hoyle, 2000). A number of factors including multivariate normality, model identification, number of manifest variables, and power will influence sample size estimates (Dilalla, 2000; Hoyle, 2000). Some guidelines for sample size estimates have been offered, which base the number of desired cases on the number of free parameters in a model. Researchers have cited a ratio of 20:1 (twenty cases to one free parameter) as ideal if the effect size is large and the data exhibit multivariate normality (Kline, 2011; Tabachnick & Fidell, 2007). A ratio of 10:1 is less than ideal but may be acceptable if the model is simple (i.e., has relatively few free parameters) (Hoyle, 2000; Kline, 2011; Tabachnick & Fidell, 2007). In absolute terms, Kline (2011) reported that an *N* of about 200 has consistently been offered and is “the approximate median sample size in surveys of published articles in which SEM results are reported” (p. 12).

A total of two hundred and twenty-one international student participants were used in the present study. Three hundred and forty responses were received but 112 of those surveys were incomplete and removed from the dataset. Of the remaining two hundred and twenty-eight completed surveys, three surveys were removed because the response times were under five minutes, suggesting that these respondents had not carefully read and responded to the survey questions; another three surveys were removed because the respondents answered incorrectly to *both* validity checks; and one additional survey was removed because the submission was a duplicate of another

Table 1.*Descriptives of the Sample.*

	<i>M</i>	<i>SD</i>	Range
Age (Years)	24.8	5.2	18-54
Length of stay in US (Years)	2.8	3.3	0-17.2
English Fluency	9.9	2.9	0.0-13.0
U.S. Exposure	8.3	2.6	2.0-13.0
	<i>N</i>	%	
Gender			
Male	80	36.2	
Female	139	62.9	
Other	2	0.9	
Place of Origin			
Africa	14	6.3	
Asia	158	77.8	
Europe	14	6.3	
North America	10	4.5	
Oceania	4	1.8	
South America	21	9.5	
University Level			
1 st Year Undergraduate	22	10.0	
2 nd Year Undergraduate	18	8.1	
3 rd Year Undergraduate	23	10.4	
4 th Year Undergraduate	16	7.2	
Graduate	137	62.0	
Other	5	2.3	
First in Family to attend U.S. College			
Yes	166	75.1	
No, Parents attended	16	7.2	
No, Siblings attended	32	14.5	
Other	7	3.2	

Note. *N*= 221.

survey. The majority of participants were women (62.9%), graduate students (62.0%), and from Asia (77.8%). For most participants, they were the first in their family to attend college in the US (75.1%). The average age was 24.8 years and average length of time in the US 2.8 years. On a brief questionnaire that assessed the various means by which an international student might become familiar with U.S. culture, students fell in the mid-range ($M = 8.3$, $SD = 2.6$). Table 1 summarizes the sample's characteristics.

Instruments

The online survey was comprised of a consent form (Appendix B), a screening page (Appendix C), a set of English competency questions (Appendix D), a demographic questionnaire (Appendix E), a brief assessment of U.S. cultural exposure (Appendix L) and six Likert-type scales (Appendix F-K). One measure was created for the purpose of this study because an acceptable measure did not exist at the time this study was conducted. The order in which the measures were displayed was randomized as was the order of the items within each measure. Two validity checks were included near the beginning and end of the survey. Participants were asked to make specific selections (e.g., "*Select 7 for this item*") to gauge their level of attention to the survey questions.

Screening questions (Appendix C). After providing their consent, participants were asked to answer two screening questions confirming that they were at least 18 years old and identified as an international student.

English fluency (Appendix D). Respondents were asked to complete a short questionnaire about their English fluency. English fluency was assessed with questions from the Yeh and Inose (2003) and Cross (1995) studies, which assessed respondents' ability to speak and understand English. The primary purpose of the English fluency

questions was to provide a description of the English language ability of the current sample and to gauge participants' capacity to understand the study materials. Individual item scales ranged from 0 (*e.g., not fluent*) to 3 (*e.g., very fluent*) and total scores were calculated by summing the items.

Demographics questionnaire (Appendix E). Participants were asked about their age, gender, country of origin/birth, racial identity, number of years in the US, year in school, first generation U.S. college student status, university type, and university region.

Prior U.S. exposure (Appendix F). A brief questionnaire of six questions was created to informally assess international students' level of exposure to U.S. culture prior to arrival. Given their experiences of acculturative stress in the US, this questionnaire was included to gain a better sense of how exposed to US culture participants of the study's sample were overall. The questions inquired about students' familiarity with various forms of U.S. media, relationships with close ones living in the US, and their own experiences in the US prior to their most current stay. For the four true/false questions, 1 point was awarded for a *true* response. For the two 5-point scale items, scores ranged from 1 (*not often*) to 5 (*every day*). Total scores were computed by summing the items, with higher scores indicating greater pre-arrival U.S. exposure.

Acculturative stress (Appendix G). Acculturative stress in international students was measured with the Riverside Acculturation Stress Inventory (RASI; Benet-Martínez & Haritatos, 2005). The RASI features 15 items, rated on 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). It was developed to assess acculturative stress along five dimensions: language skills, work, intercultural relations, discrimination, and cultural/ethnic makeup of the community (Benet-Martínez & Haritatos, 2005). A sample

item is “I feel discriminated against by mainstream Americans because of my cultural/ethnic background.” A total score for the measure can be computed by calculating the mean score of the scale items. For the current study, the total scale, rather than subscale scores, was used because acculturative stress as conceptualized here was the result of a full spectrum of stressors. Miller, Kim, and Benet-Martínez (2011) described some strengths of the RASI as its brevity, its broad applicability due to its “non-ethnic-group-specific nature”, and its attention to stress owing to both host and heritage culture (p. 301).

Researchers have confirmed the factor structure of the RASI and provided evidence of validity and reliability (Benet-Martínez & Haritatos, 2005; Miller et al., 2011). Benet-Martínez & Haritatos (2005) conducted an exploratory factor analysis with varimax rotation to evaluate the measure’s underlying structure. They found support for the originally theorized five-factor model. Cronbach alphas for the subscales ranged from .68 - .84. Miller et al. (2011) tested the structure of the model using confirmatory factor analysis with robust weighted least squares estimation. The authors tested several models including two first-order and one higher-order model and concluded that although the higher order model and five-factor first-order model both achieved good model fit, the latter was favored due to its “theory-driven and parsimonious nature” (p. 305). Miller et al. (2011) provided evidence of criterion-related validity by obtaining significant correlations in the expected direction between the RASI and measures of bicultural identity integration (distance domain) ($r = .12, p < .05$), bicultural identity integration (conflict domain) ($r = .44, p < .01$), depression ($r = .20, p < .01$), and anxiety ($r = .20, p < .01$). Miller et al. obtained internal consistency estimates with the RASI and its subscales

ranging from .71 - .84. Cronbach α of the total score in the current study was .83.

Social support (Appendix H). The Index of Sojourner Social Support (ISSS; Ong & Ward, 2005) was developed to assess “social support in an acculturation context” and integrate “generic conceptualizations of the construct with the unique circumstances of a sojourning population” (p. 637). The ISSS features 18 items rated on a scale from *1(no one would do this)* to *5 (many would do this)*. Participants are asked to consider if there are people in or outside the US who would do things such as “Comfort you whenever you are homesick.” The scale score was calculated by summing the 18 items of the scale and dividing by the total number of items.

Ong and Ward (2005) conducted a principal component analysis (PCA) with this measure and identified two dimensions of social support, instrumental support and socioemotional support. A cross-validation study upheld the two-factor model. Ong and Ward (2005) also found evidence of concurrent, convergent, discriminant, and incremental validity by correlating the socioemotional and instrumental measures with measures of received socioemotional support ($r = .61$ and $r = .49$, respectively); received instrumental support ($r = .56$ and $r = .57$, respectively); sense of mastery ($r = .11$ and $r = .14$, respectively); interpersonal distrust ($r = -.18$ and $r = -.19$, respectively), locus of control ($r = -.22$ and $r = -.14$, respectively), depression ($r = -.18$ and $r = -.25$, respectively), and social desirability ($r = .05$ and $r = -.01$, respectively). The socioemotional and instrumental subscales correlated significantly with each other ($r = .72$). Cronbach alphas in a Singapore sample were .92, .91, and .94 for the socioemotional support subscale, the instrumental support subscale, and the full ISSS scale, respectively; respective values were .92, .92, and .95 in a New Zealand sample.

For the present study, Cronbach α for the total scale was .96.

Behavioral acculturation and enculturation (Appendix I). The Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000) is a 20-item scale designed to measure individuals' level of agreement with various indicators of behavioral acculturation to mainstream "American" culture and behavioral enculturation to their "heritage" culture on "several domains relevant to acculturation, including values, social relationships, and adherence to traditions" (p. 53). Participants respond on a 9-point scale from 1 (*strongly disagree*) to 9 (*strongly agree*) on items such as "I often participate in my heritage cultural traditions" (heritage culture dimension) and "I am comfortable interacting with typical American people" (mainstream culture dimension). Total scores for the acculturation and enculturation subscales were derived, respectively, by summing ratings on the acculturation items and dividing by 10 and summing ratings on the enculturation items and dividing by 10.

Ryder et al. (2000) conducted a PCA across four groups of acculturating individuals (two Chinese subsamples, one East Asian subsample, and a subsample of first and second generation non-English speaking, non-Asian participants), which revealed two distinct factors in the VIA. Small nonsignificant correlations between the two dimensions ($r = .09$) provided evidence of discriminant validity. Ryder et al. (2000) also found that the heritage and mainstream dimensions were differently predicted by measures of independent self-construal ($\beta = .06$ and $\beta = .37$, respectively); interdependent self-construal ($\beta = .34$ and $\beta = -.05$, respectively); depression ($\beta = -.03$ and $\beta = -.18$, respectively), social maladjustment ($\beta = -.02$ and $\beta = -.20$, respectively), and symptom distress ($\beta = .17$ and $\beta = -.24$, respectively). They cited these findings as

evidence of two distinct dimensions of acculturation. Finally, Ryder et al. (2000) compared the VIA to the SL-ASIA, a unidimensional measure of acculturation and found that after controlling for demographics, the bidimensional measure related more consistently to self-construal, depression, social maladjustment, and academic maladjustment in a series of regression analyses.

For the proposed study, the VIA was modified to fit a coping framework (see Appendix I). A prompt, “The things that have helped me in coping with the challenges of living in the US are:” was added before the items. Also, the tense of the items was changed from present tense (e.g., “I am comfortable interacting with typical American people”) to present continuous tense (e.g., “Interacting with typical American people”). Finally, two items that assess respondents’ willingness to marry someone from their heritage culture or from the mainstream culture were removed because they did not represent strategies international students might use on an ongoing basis to cope with acculturative stress. The reliability estimates for the behavioral acculturation and enculturation subscales were, respectively, .92 and .93 in this study.

International student coping self-efficacy (Appendix J). The author was unable to locate an existing measure of international students’ coping self-efficacy, or more broadly, sojourners’ self-efficacy for coping with the challenges of adjusting to a new culture. The International Student Coping Self-Efficacy (ISCSE) scale is an 11-item measure created for the present study. It was designed to assess respondents’ self-efficacy for coping with acculturative stress related to being an international student in the US. Respondents rate their level of confidence on items such as “How confident are you in your ability to socialize effectively with Americans using the appropriate social

customs” using a 5-point scale from *1 (not at all confident)* to *5 (extremely confident)*.

The development of the present coping efficacy measure was informed by related self-efficacy scales (e.g., Bicultural Coping Self-Efficacy Scale [BCSES], Miller, Farrell, Grome, Lin, & Ong, 2009; Bicultural Self-Efficacy Scale [BSES], David et al., 2009; Coping Self-Efficacy Scale [CSES], Chesney et al., 2006). A review of the literature on international students’ adjustment to the US was also used to generate items. An effort was made to write items in language that would be accessible for individuals of varying levels of English familiarity. The initial item generation process resulted in a 49-item list. A round of revisions based on feedback from researchers familiar with scale development as well as international graduate student researchers yielded a 15-item scale. The 15-item scale was subjected to factor analysis to evaluate the factor structure of the new measure. The results of the empirical validation of the scale are presented in the *Results* section.

General self-efficacy (Appendix K). The Generalized Self-Efficacy Scale (GSES; Schwarzer & Jerusalem, 1995) is a 10-item instrument that measures an individual’s beliefs about their ability to meet the demands of new or difficult situations. It was originally developed in German but to date has been translated into 33 languages. Respondents use a 4-point scale ranging from *1 (not at all true)* to *4 (exactly true)* to rate their level of agreement with items such as “I can solve most problems if I invest the necessary effort.” The GSES was included in this study for the purposes of validating the newly developed ISCSE scale. As evidence of construct validity, a significant moderate correlation was expected between general (GSES) and context-specific (ISCSE) self-efficacy.

Support for the validity of the GSES has been evidenced across a number of studies conducted with diverse cultural populations (Bäßler & Schwarzer, 1996; Rimm & Jerusalem, 1999; Schwarzer et al., 1997; Zhang & Schwarzer, 1995). Luszczynska, Gutiérrez-Doña, and Schwarzer (2005) and Luszczynska, Scholz, and Schwarzer (2005) examined the relations of generalized self-efficacy to various indicators of positive and negative well-being across different national samples. Their findings revealed that generalized self-efficacy operated in theory-consistent ways with the various indicators (e.g., self-regulation, optimism) across samples (e.g., South Korean, Polish, German, Costa Rican).

Schwarzer & Jerusalem (1995) reported that factor analytic tests confirmed the unidimensionality of the measure. Evidence of concurrent validity was observed in studies where the GSES correlated significantly with measures of self-esteem, optimism, and internal control beliefs (Schwarzer & Jerusalem, 1995). Predictive validity was established in a study that found significant correlations between the GSES and measures of self-esteem and optimism taken two years later (Schwarzer & Jerusalem, 1995). Internal consistency estimates in previous studies with the GSES have ranged from $\alpha = .82$ to $.94$ (Luszczynska et al., 2005; Schwarzer & Jerusalem, 1995). Test-retest reliability over a two-year period was reported as $.47$ and $.63$, respectively, in a sample of East German men and women (Schwarzer & Jerusalem, 1995). Cronbach alpha in the present study was $.87$.

Life satisfaction (Appendix L). The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, and Griffin, 1985) is a 5-item measure of global, subjective life satisfaction (e.g., “in most ways my life is close to my ideal”). In the present study, the

measure was modified to refer specifically to satisfaction with life *in the United States*. Respondents rate their level of agreement with the items on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale scores were produced by summing all the items within the scale and dividing the sum by 5. The measure has been used extensively since it was initially developed and translated into over two dozen languages. Subsequent studies have found consistent evidence of sound psychometric reliability and validity. The authors assessed convergent validity by correlating the scores on the SWLS with scores from several well-being and personality measures. The results of these correlational analyses indicated that the SWLS was strongly related to similar measures of happiness or life satisfaction; the correlations ranged from .50 to .68 for positively-scored measures (Diener et al., 1985). In terms of reliability, Diener et al. (1985) reported a Cronbach α of .87 and a 2-month test-retest coefficient of .82. In this study, the internal reliability estimate for the SWLS was .84. Normative levels of life satisfaction have been published for various populations (Pavot & Diener, 1993). No such norms have been provided for international students in the US; however, norms for Chinese students and Korean university students were $M = 2.82$, $SD = 0.83$ and $M = 2.30$, $SD = 0.63$, respectively, as compared to American college students, $M = 3.50$, $SD = 0.90$. In the current study, $M = 4.68$, $SD = 1.30$, suggesting that the current participants reported higher levels of life satisfaction than these other student samples.

Procedures

The study was submitted to the Institutional Review Board (IRB) at the author's university for review and approval. Upon IRB approval, students were recruited through several means. The survey was hosted online via Qualtrics, a secure online survey

provider, for ease of dissemination and data collection. Only the author had access to the Qualtrics account. A link to the survey was included on a website hosted by the Department of Psychology. The website provides a repository of research studies students may access for participation. The Office of the Registrar provided a research-only listserv of 1,448 registered international undergraduate and graduate students and an invitation to participate in this study was sent out to this listserv by the primary investigator of the study (Appendix M). A reminder email was sent out two weeks after the initial request. Flyers were also posted around the campus (Appendix N). In addition, the survey was shared with offices of international students at other universities around the US (Appendix O). The email invitations and campus flyers indicated that the purpose of the study was to explore international students' experiences with coping with stress. Just over 150 universities across the U.S. were contacted; the majority of responses came from Maryland (57.7%), Arizona (15.0%), and Ohio (6.8%). Given the variety of recruitment methods used, calculating a response rate was not feasible. Upon completion of the survey, students were invited to submit their email addresses to participate in a raffle to win one of fifteen \$10.00 Amazon gift cards. At the end of the semester, students who participated in the study via the Department of Psychology website were awarded a unit of extra credit. For all other participants, the raffle was conducted for the fifteen Amazon.com gift cards and the raffle prizes were distributed at the close of the study.

Chapter 3: Results

Preliminary Analyses

The data contained no missing values as the survey was set to require a response for each item. No data points were observed outside the acceptable answer choices. Individual item responses were summed within their scales and divided by the number of items on the scale to compute the mean item score of each variable. Intercorrelations, means, standard deviations, and internal consistency estimates for each of the measures were calculated (Table 2). All of the variables were significantly intercorrelated, except for the behavioral enculturation/acculturative stress relationship.

The data were assessed for univariate normality, multicollinearity, and multivariate normality (Cohen, Cohen, West, & Aiken, 2003). Univariate normality was assessed by checking skewness and kurtosis (DeCarlo, 1997) in the Statistical Package for the Social Sciences, version 21.0 (SPSS; IBM Corporation, 2012). Kline (2011) has suggested that indices greater than 8.0 for kurtosis and 3.0 for skewness may be evidence of extreme non-normality. Based on the skewness and kurtosis values of the observed variables, which ranged from -.691 to .050 for skewness and -.583 to .344 for kurtosis, the assumption of univariate normality was not violated. Violations of multicollinearity were assessed in SPSS by examining the tolerance and variance inflation factor (VIF) values. Tolerance values less than .10 and VIF values greater than 10 suggest the presence of multicollinearity (Cohen et al., 2003). For the present study, tolerance values ranged from .735 to .874 and VIF values ranged from 1.145 to 1.361, suggesting that the data were within the acceptable limits for multicollinearity. PRELIS v.2 (Jöreskog & Sörbom, 2013) was used to evaluate the multivariate normality of the data. PRELIS

Table 2.*Descriptive Statistics, Correlations, and Reliability Estimates of Independent and Dependent Variables.*

	1	2	3	4	5	6	<i>M</i>	<i>SD</i>	Range	α
1. RASI	--						2.81	0.63	1.00 – 4.40	.83
2. ISSS	-.23**	--					3.12	0.90	1.06 – 5.00	.96
3. ISCSE-11	-.40**	.37**	--				3.35	0.64	1.50 – 5.00	.83
4. GSE	-.23**	.25**	.50**	--			3.15	0.47	1.80 – 4.00	.87
5. VIA-Acc	-.14*	.34**	.33**	.20**	--		6.27	1.67	1.00 – 9.00	.92
6. VIA-Enc	-.02	.27**	.20**	.10	.23**	--	6.25	1.76	1.22 – 9.00	.93
7. SWLS-US	-.24**	.31**	.42**	.39**	.44**	.16*	4.68	1.30	1.20 – 7.00	.84

Note. . ** $p < .01$, * $p < .05$. RASI = Riverside Acculturative Stress Inventory. ISSS = Index of Sojourner Social Support.

ISCSE-11 = International Student Coping Self-Efficacy Scale – 11 item. GSES = General Self-Efficacy Scale. VIA-Acc =

Vancouver Index of Acculturation – Acculturation Subscale. VIA-Enc = Vancouver Index of Acculturation – Enculturation

Subscale. SWLS-US = Satisfaction with Life (in the US) Scale (modified)

assesses multivariate normality by calculating Mardia's multivariate kurtosis and evaluating it on a normal z-score distribution. According to Bentler (2005), scores greater than five are typically indicative of multivariate non-normality. The test of multivariate kurtosis revealed that Mardia's normalized kurtosis for the data was 2.376, suggesting that the data did not violate the assumption of multivariate non-normality.

Scale Development

Before proceeding with model testing via path analysis, the newly developed International Student Coping Self-Efficacy scale was evaluated via a parallel analysis and exploratory factor analysis. Internal reliability estimates and convergent validity were also assessed.

Parallel analysis. A parallel analysis was conducted using SPSS to determine the number of factors to extract in the exploratory factor analysis (Horn, 1965; Kahn, 2006). Many researchers have endorsed the use of parallel analysis over the eigenvalue greater than one rule for determining the number of factors to extract in an exploratory factor analysis (Hayton, Allen, & Scarpello, 2004; Ledesma & Valero-Mora, 2007; Matsunaga, 2010). Parallel analysis compares the point at which eigenvalues from several randomly generated datasets exceed the eigenvalues for the current measure (Hayton et al., 2004). A macro developed by O'Connor (2000), which computes the parallel For the present study, a parallel analysis with 1,000 datasets using the 95% threshold suggested the presence of two factors (Table 3).

Exploratory factor analysis. Based on the parallel analysis, a two-factor structure was imposed on the data using principal axis factoring with oblimin oblique rotation in SPSS. The following criteria were used to determine which items to retain:

Table 3.

Parallel Analysis Output.

PARALLEL ANALYSIS:

PAF/Common Factor Analysis & Raw Data Permutation

Specifications for this Run:

Ncases 221
Nvars 15
Ndatsets 1000
Percent 95

Raw Data Eigenvalues, & Mean & Percentile Random Data Eigenvalues

Root	Raw Data	Means	Prcntyle
1.000000	4.291368	.545307	.662766
2.000000	.700745	.431613	.522174

3.000000	.405507	.348034	.418799
4.000000	.334282	.275871	.342345
5.000000	.185708	.206482	.264330
6.000000	.111835	.146997	.199204
7.000000	.091127	.088548	.134364
8.000000	.006486	.036682	.077347
9.000000	-.036597	-.013997	.027499
10.000000	-.112340	-.062284	-.023575
11.000000	-.152339	-.111618	-.075822
12.000000	-.189945	-.158763	-.118689
13.000000	-.214341	-.206251	-.171058
14.000000	-.218749	-.257281	-.220515
15.000000	-.251941	-.316189	-.270186

Note. . The dashed line represents the point after which the random eigenvalues at the 95th percentile (*Prcntyle*) exceed the actual eigenvalues (*Raw Data*).

items with loadings greater than .40 on one factor and a loading of under .30 on the second factor (Costello & Osbourne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Costello and Osbourne (2005) recommend that the pattern matrix be reviewed when conducting EFA with oblique rotation. The pattern matrix revealed one 11-item factor, which explained 28.6% of the variance, and one 2-item factor, which explained 5.1% of the variance (Table 4). Two items failed to load at higher than .40 on either factor. The items of the 2-item factor seemed to represent a self-efficacy for English communication factor. However, given that the factor was comprised of only two items, it was not retained on the recommendation that factors with less than three items not be retained as such factors may be unstable (Fabrigar et al., 1999). Furthermore, it accounted for only a small amount of additional variance.

To examine a single factor structure for the 11 items of the ISCSE, a second EFA was conducted in which the items were constrained to one factor. The results of this EFA are presented in Table 4. All of the items, with the exception of one, loaded above .40 on the single factor. One item, “*Locate items that you desire from your home country (e.g., food, movies, clothing),*” loaded at .38 on the factor. Bivariate correlations confirmed that the 11-item scale and the original 15-item scale were highly correlated, $r = .96, p < .001$.

Reliability estimates and convergent validity. The internal consistency estimate (Cronbach’s α) for the 11-item coping efficacy measure was .82. For comparison purposes, Cronbach’s α was .85 for the 15-item measure. Convergent validity, which refers to a measure’s strength of relation to conceptually similar constructs, was assessed using the Generalized Self-Efficacy Scale (GSES; Schwarzer &

Table 4.*Pattern Matrices of the EFA of the International Student Coping Self-Efficacy Scale.*

Item	1 st EFA		2 nd EFA
	Factor 1	Factor 2	Factor 1
12. Deal effectively with the requirements for international students to live and work in the US (e.g., OPT, CPT, visa status).	0.57	0.00	0.56
14. Maintain contact with loved ones back home despite situational challenges, such as differences in time zones.	0.56	0.01	0.54
13. Cope with people discriminating against you because you are not from the US.	0.53	-0.16	0.64
9. Locate items that you desire from your home country (e.g., food, movies, clothing).	0.53	0.22	0.38
5. Cope with missing your family and friends back in your home country.	0.52	0.01	0.51
7. Find ways to maintain traditional cultural practices while in the US.	0.51	-0.02	0.52
11. Cope with situations in which people mistake or stereotype your cultural background.	0.51	-0.25	0.65
15. Deal with financial pressures related to living in the US.	0.51	0.03	0.48
4. Socialize effectively with Americans using the appropriate social customs.	0.45	-0.28	0.61
10. Manage differences between what your family back home wants you to do after school and what you want.	0.45	-0.13	0.50
6. Cope with having relatively few or no students from your country to socialize with.	0.44	-0.23	0.57
8. Maintain your confidence in your academic skills, despite occasional disappointments.	0.35	-0.32	--
3. Communicate effectively with people in English based on your English language skills.	0.04	-0.75	--
2. Understand a professor who lectures in English.	0.02	-0.63	--
1. Study in an educational system that is different from the educational system in your home country.	0.32	-0.34	--

Jerusalem, 1995). Pearson's correlation coefficient for the two scales was $r = .52, p < .01$ (the 15-item scale correlated with the GSES at $r = .59, p < .01$). The 11-item scale also correlated in theory-consistent directions with other measures of coping constructs in international students (Table 2). For example, coping self-efficacy was negatively associated with acculturative stress ($r = -.40, p < .01$) and positively associated with life satisfaction ($r = .42, p < .01$).

Summary. Though additional research is necessary, including cross-validation of the factor structure with a different sample, the results of the factor analysis and initial reliability and validity analyses presented here provide preliminary support for the newly developed measure. As such, the 11-item international students' coping self-efficacy scale (ISCSE-11) was used in the subsequent model tests of the social cognitive model for coping with acculturative stress among international students.

Model Testing

Structural equation modeling with observed indicators and covariance matrices was used to test the hypothesized paths among the variables and the adequacy of model-data fit (Kline, 2011). The analysis involved maximum likelihood (ML) estimation procedures in Mplus v. 7.31 (Muthén & Muthén, 2015).

Model-data fit. The overall fit of the model was determined on the basis of the chi-square fit index (χ^2), the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), and comparative fit index (CFI) (Hoyle, 2000). Hu and Bentler (1999) proposed the following joint criteria as evidence of acceptable model fit: values less than .06 for RMSEA, values less than .08 for the SRMR, and values greater than .95 for the CFI. The results revealed that the hypothesized model

failed to meet minimum criteria for adequate model-to-data fit, $\chi^2(4) = 62.757, p < 0.001$; CFI = .703; RMSEA = .258; SRMR = .115. Due to the poor fit of the proposed model, modification indices were reviewed. These indices identify improvements in the fit of a model after select modifications are applied to it. The modifications involve freeing parameters previously set to zero and are generated by the SEM software package (MacCallum, 1995). Because the modification indices are based solely on statistical improvements to the specified model and may capitalize on idiosyncratic properties of a given sample, researchers are encouraged to carefully consider the conceptual and empirical basis for any proposed modifications to the model (MacCallum, 1995).

The first modification proposed was a path from behavioral acculturation to life satisfaction in the US (Figure 4). Adding a path from behavioral acculturation to life satisfaction made conceptual sense since it was probable that for international students, engaging in prototypical American behaviors and customs might directly predict greater satisfaction with life in the US. A second modification suggested the inclusion of a path from coping self-efficacy to life satisfaction in the US (Figure 4). This path also made sense conceptually. It implied that the more confidence international students had in their ability to cope with acculturative stress, the more positively they experienced their life in the US. The proposed paths were tested and resulted in significant improvements to model fit. The modified model met criteria for good fit, $\chi^2(2) = 2.018, p = 0.365$; CFI = 1.000; RMSEA = .006; SRMR = .014.

Direct effects. The results of the path analysis supported several of the hypothesized model paths (Figure 4). Social support was a significant positive predictor of behavioral acculturation ($\beta = .34, p < .001$), behavioral enculturation ($\beta = .27, p <$

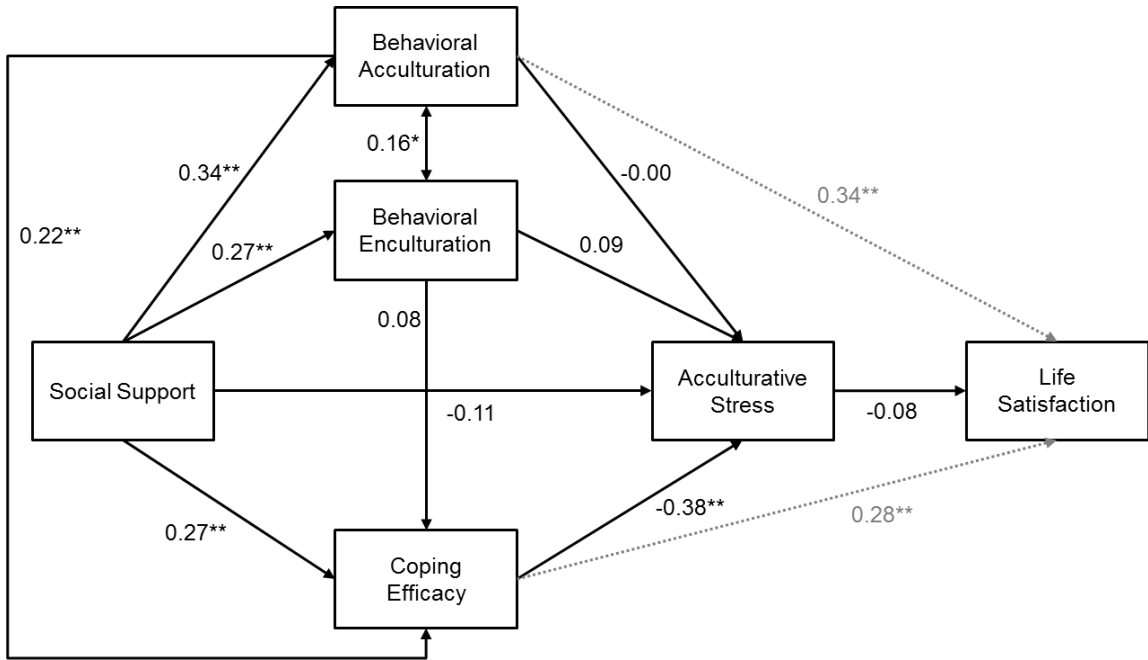


Figure 4. Parameter Estimates of the Modified Model.

† $p < .10$, * $p < .05$, ** $p < .01$

.001), and coping self-efficacy ($\beta = .27, p < .001$). However, the negative relationship of support to acculturative stress was not significant ($\beta = -.11, p = .107$) (Figure 4). The results also partially supported the hypothesis that the acculturation strategies predicted coping efficacy. Behavioral acculturation was significantly associated with coping efficacy ($\beta = .22, p = .001$), while the relationship between behavioral enculturation and coping self-efficacy was not ($\beta = .08, p = .241$). As hypothesized, behavioral acculturation and enculturation covaried significantly ($\beta = .16, p = .017$). However, neither behavioral acculturation ($\beta = -.00, p = .966$) nor enculturation ($\beta = .09, p = .165$) were significant predictors of acculturative stress. Coping self-efficacy was significantly associated with acculturative stress ($\beta = -.38, p < .001$) as hypothesized, but acculturative stress was not significantly associated with life satisfaction ($\beta = -.08, p = .206$). Finally, both newly added paths, behavioral acculturation to life satisfaction in the US ($\beta = .34, p < .001$) and coping self-efficacy to life satisfaction in the US ($\beta = .28, p < .001$) were significant.

Indirect effects. Mediation was assessed with bootstrapping, a nonparametric method that allows for the evaluation of indirect effects (Mallinckrodt, Abraham, Wei, & Russell, 2006; Preacher & Hayes, 2008). It is generally regarded as preferable to normal theory methods or the Sobel test for testing mediation because it does not require multivariate normality of the data, does not yield reductions in power, and can be used with small samples (Preacher & Hayes, 2008). Bootstrapping involves random re-sampling (with replacement) of the data to generate a new sampling distribution of each parameter estimate. Confidence intervals based on the sampling distributions can be derived (Mallinckrodt et al., 2006). In the present investigation, indirect effects were

tested using bootstrapping with 10,000 samples in Mplus v. 7.31 (Muthén & Muthén, 2015). Bias-corrected confidence intervals for the unstandardized parameter estimates were calculated and the results revealed that only a few of the mediated paths were significant.

The Lent (2004) social cognitive coping model holds that environmental supports (i.e., ISSS) predict life satisfaction recovery (i.e., SWLS) indirectly through problem resolution (i.e., RASI) (Figure 2). However, social support did not indirectly predict life satisfaction in the US via acculturative stress in the current study ($B = .013$, $SE = .016$, $p = .425$, $CI_{95} [-.006, .059]$). Environmental supports (i.e., ISSS) are also theorized to have an indirect effect on life satisfaction recovery (i.e., SWLS) via problem-related coping efficacy (i.e., ISCSE) and problem resolution (i.e., RASI). The pathway (i.e., $ISSS \rightarrow ISCSE \rightarrow RASI \rightarrow SWLS$) did not receive empirical support ($B = .012$, $SE = .012$, $p = .322$, $CI_{95} [-.007, .040]$). The theorized indirect effect of environmental supports on problem resolution via problem-related coping efficacy was significant ($B = -.072$, $SE = .022$, $p = .001$, $CI_{95} [-.122, -.035]$). Lastly, in the SCCM, problem-related coping efficacy (i.e., ISCSE) is posited as having an indirect effect on life satisfaction recovery (i.e., SWLS) via problem resolution (i.e., RASI). Acculturative stress was, however, not a significant mediator of the association between coping self-efficacy and life satisfaction in the US ($B = .060$, $SE = .058$, $p = .298$, $CI_{95} [-.043, .186]$).

Several new indirect paths were also established with the addition of direct links from behavioral acculturation and coping self-efficacy to satisfaction with life in the US. The indirect effect of social support to life satisfaction was found to be mediated individually by coping self-efficacy ($B = .109$, $SE = .039$, $p = .005$, $CI_{95} [.046, .201]$) and

behavioral acculturation ($B = .164$, $SE = .047$, $p < .001$, $CI_{95} [.086, .269]$), and jointly by the two variables ($B = .030$, $SE = .012$, $p = .016$, $CI_{95} [.012, .063]$). Coping self-efficacy and behavioral acculturation also jointly mediated the indirect effect of social support to acculturative stress ($B = -.020$, $SE = .009$, $p = .028$, $CI_{95} [-.044, -.009]$). Lastly, the indirect effects, via coping self-efficacy, of behavioral acculturation to acculturative stress ($B = -.032$, $SE = .012$, $p = .008$, $CI_{95} [-.061, -.013]$) and to life satisfaction ($B = .048$, $SE = .017$, $p = .005$, $CI_{95} [.022, .090]$) were significant.

Summary. All but four of the hypothesized direct effects of the model were significant. A number of the indirect effects also reached significance, though the majority did not. In addition, the path analysis showed that the factors of the model explained 16% of the variance in acculturative stress and 27% of the variance in life satisfaction in the US. Taken together, these results provide some support for the utility of an adapted version of the Lent (2004) social cognitive coping model as a theoretical framework for understanding international students' experiences coping with acculturative stress and maintaining satisfaction with life in the US.

Chapter 4: Discussion

Examining a sample of international students in the context of acculturative stress, this study represents the first empirical test of an adapted version of Lent's (2004) social cognitive model of restorative well-being. For international students studying in the US, the transition from their home country to the US can be rife with the unique challenges of living in a new culture (Hyun et al., 2007; Mori, 2000). A primary goal of this study was to investigate the factors that predict acculturative stress and life satisfaction for international students in the US. A secondary goal was to evaluate whether behavioral acculturation and enculturation might act as coping strategies for students in negotiating acculturative stress and life satisfaction in the US. A tertiary goal was to understand the relationship between acculturative stress and life satisfaction in U.S.-based international students. The results of this study address these three goals.

First, tentative support was found for the variables of the SCCM as predictors of coping for international students. Although the predictors explained 27% of the variance in life satisfaction, representing a large effect size (Cohen, 1992), two paths needed to be added to improve model fit and several hypothesized relations among variables were not significant. As hypothesized, social support positively predicted coping self-efficacy and the use of both acculturation strategies, suggesting that access to individuals who can offer socioemotional and instrumental support plays an important role in the adjustment process (Carr, Koyama, & Thiagarajan, 2003; Toyokawa & Toyokawa, 2002). However, only coping self-efficacy directly predicted levels of acculturative stress, with higher coping efficacy associated with lower stress.

The relationship of social support to acculturative stress was fully mediated by

coping self-efficacy. This suggests that social support may not directly contribute to diminished acculturative stress but may rather benefit students by bolstering their coping self-efficacy which, in turn, predicts decreased acculturative stress. Prior research had found that social support was associated with fewer psychological symptoms among international students (Zhang & Goodson, 2011). The present findings suggest that coping self-efficacy may help explain how social support alleviates psychological distress in international students. The relationship between coping self-efficacy and acculturative stress has not been studied specifically in previous research, but the present findings are consistent with those of Tavakoli et al. (2009), who found that confidence in being able to communicate one's needs was negatively predictive of acculturative stress.

In regard to the second aim of this study, it was found that the acculturation strategies did not produce significant direct paths to acculturative stress. However, behavioral acculturation was linked to acculturative stress indirectly via coping efficacy. In addition, acculturation (but not enculturation) was linked to life satisfaction in the US both directly and indirectly, through coping efficacy. It is possible that acculturation aids students' adjustment by bringing them into contact with local sociocultural resources that maximize opportunities to develop self-efficacy for coping with new cultural challenges. Enculturation strategies may provide other benefits (e.g., maintenance of cultural values and contact with one's prior support system), but these benefits may not aid adjustment to the current cultural context as effectively as do acculturation strategies.

Turning to the third aim of this study, contrary to expectations, it was discovered that acculturative stress was not directly predictive of students' life satisfaction in the US, that is, after controlling for the effects of other predictors. In fact, a better fitting model

was obtained by adding direct paths from coping self-efficacy and behavioral acculturation to life satisfaction. Although they were not theorized in the SCCM, modeling direct paths from behavioral acculturation to life satisfaction and from coping self-efficacy to life satisfaction has conceptual merit. For example, participation in US-based practices and behaviors may confer access to a wider range of coping resources, such as expanded social contacts. A positive association between acculturation and life satisfaction has also been reported in prior studies (David et al., 2009; Yoon et al., 2013; Zhang & Goodson, 2011).

The direct path from coping self-efficacy to life satisfaction suggests that international students' positive evaluation of their lives in the US may in part be due to their confidence in their ability to overcome the acculturative challenges they face. Although the relationship between coping self-efficacy and life satisfaction has not been examined in a U.S.-based international student sample, David et al. (2009) reported a significant positive association between bi-cultural self-efficacy and life satisfaction among U.S.-born and non-U.S.-born ethnic minority college students. In another relevant study, Tong and Song (2004) found that generalized self-efficacy correlated with life satisfaction among Chinese university students.

Limitations

The results should be viewed in light of the study's limitations. First, because most of the proposed relationships among variables in the SCCM had not been previously studied in the context of acculturative stress in international students living in the US, the model needed to rely more on theory than on established empirical findings. A second limitation is the use of the international student coping self-efficacy scale to measure

coping self-efficacy in the study's sample. Although preliminary analyses indicated solid psychometric estimates for the measure, additional testing is warranted. For example, cross-validation and confirmatory factor analyses with new samples should be conducted.

A third limitation of this study is the use of modification indices to improve model fit. Although the use of modification indices is common, doing so shifts the analysis from confirmatory to exploratory and risks relying on chance, sample-specific findings (Hox & Bechger, 1998; MacCallum, Roznowski, & Necowitz, 1992; Ullman, 2006). Additional support for the modified model via cross-validation with a different sample is needed. In addition, it is important to return to the original conceptualization of the model to ensure that the modifications are theoretically justifiable (MacCallum et al., 1992). This is particularly important because if the original model was incorrectly specified, the modifications may not necessarily uncover the "correct" model.

A fourth limitation involves the study's cross-sectional design. Cross-sectional analysis provides information about concurrent relations among variables. However, unlike a longitudinal design, it limits our ability to make inferences about (a) the temporal ordering among the variables and (b) the dynamic nature of the coping process, as reflected by likely changes in levels of well-being over time.

A fifth limitation, affecting the generalizability of findings, is the predominance of international students from Asian countries in the sample. Asian international students made up 77.8% of the study sample, compared to 64.3% of the U.S. international student population in 2014 (IIE, 2014). Supplementary analyses with only the Asian international students ($N = 178$) revealed minimal differences in fit indices ($\chi^2(2) = 3.151, p = 0.207$; CFI = 0.992; RMSEA = .060; SRMR = .023) and parameter estimates between the full

sample and the “Asian only” sample (see Figure 5). The only exception was that social support became a significant negative predictor of acculturative stress in the “Asian only” subsample. Additional research is needed to determine how well the restorative model may fit the data in more diverse samples of international students.

Future Research

This study adapted the social cognitive model of restorative well-being to the context of cultural adaptation.

Extensions of the current study. One of the most surprising findings of this study was the lack of support for social support as a significant direct predictor of acculturative stress. Research has consistently shown a negative relationship between social support and acculturative stress in international students (Duru & Poyrazli, 2007; Yeh & Inose, 2003). Smith and Khawaja (2011) published a summary of several models of acculturation, which shows that across all the models of acculturation, social support is a negative predictor of acculturative stress. Zhang and Goodson’s (2011) review of several studies that examined multiple predictors of international students’ psychosocial adjustment found that of the three studies which had studied the relationship between social support and acculturative stress, all the studies found a significant negative relationship (Poyrazli, Kavanaugh, Baker, & Al-Timimi, 2004; Ye, 2006; Yeh & Inose, 2003).

To explain the discrepancy between the findings in the present study and previous studies, it is tempting to suggest that since social support was found to be a significant direct predictor of acculturative stress in the Asian only sample examined herein, the lack of consistency between the findings of the full sample in this study and previous research

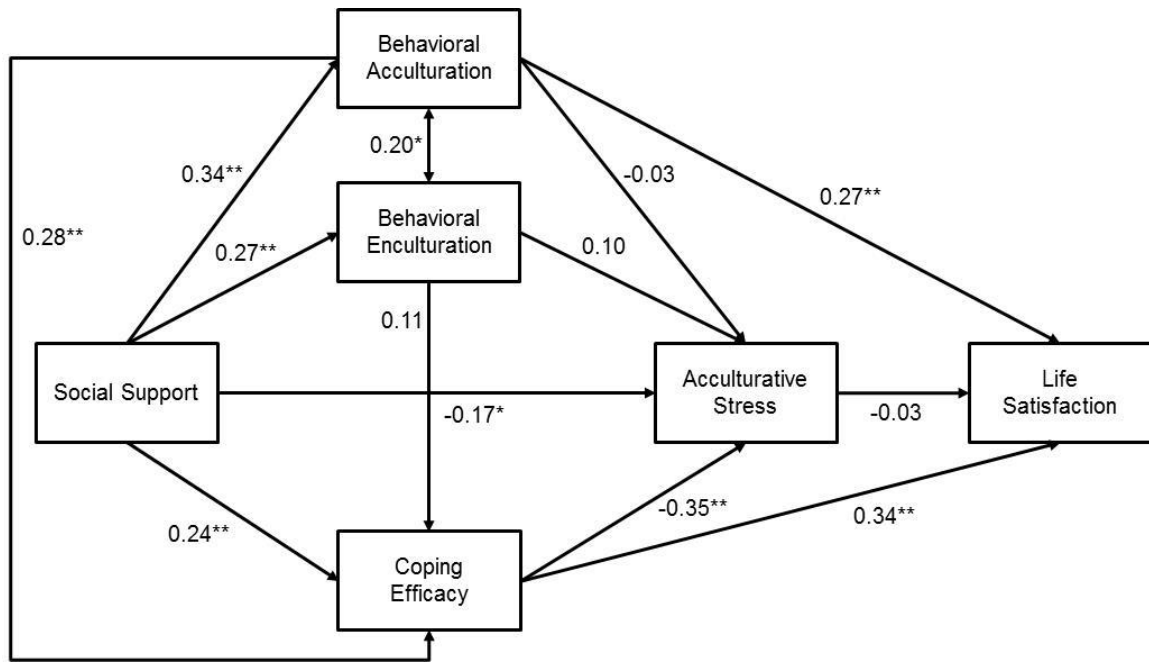


Figure 5. Parameter Estimates of Asian International Students Only Model ($N=158$).

† $p < .10$, * $p < .05$, ** $p < .01$

might be due to differences in sample characteristics. Interestingly, the studies reviewed by Zhang and Goodson (2011) included homogenous (e.g., Japanese only) and heterogeneous international student samples. However, it is possible that the lack of consistent findings may be due to differences in measurement (i.e., differences in instruments, differences in operationalizations of social support or acculturative stress) or the fact that the relation of support to acculturative stress in this study controlled for the presence of coping efficacy. The indirect effects findings suggested that support may be linked to acculturative stress indirectly, via coping efficacy, rather than directly.

International student coping self-efficacy and behavioral acculturation were not originally hypothesized as predictors of life satisfaction in the US because these paths were not modeled in the SCCM. They were proposed following the implementation of modification indices. It should be noted that, in testing the model of normative well-being, Lent et al. (2005) hypothesized that self-efficacy would yield a positive path to domain-specific satisfaction because confidence in one's abilities to perform tasks in a specific domain is considered integral to satisfaction in that domain. It may be that, for international students, satisfaction with life in the US could be conceived of as a form of *domain satisfaction* given that their stay in the US is presumed to be temporary and not necessarily indicative of their overall satisfaction with life (i.e., satisfaction with life in the US does not necessarily include satisfaction with their life in their country of origin). Future research might try to tease apart these two aspects of international students' life satisfaction.

The observed relationship between behavioral acculturation and life satisfaction was consistent with some prior findings. For example, Zhang and Goodson (2011) report

on the findings of a handful of studies which reveal that identification with host culture is positively predictive of psychological adaptation (Cemalcilar, Falbo, & Stapleton, 2005; Wang & Mallinckrodt, 2006). Cemalcilar et al. (2005) used structural equation modeling to test a model of adaptation with a sample of 280 international students and found that host identification had a significant direct effect on psychological adaptation. Wang and Mallinckrodt (2006) used multiple regression analysis to test models of international student adjustment and found that identification with US culture was a significant predictor of positive psychosocial adjustment. Toyokawa and Toyokawa (2002) summarized a number of studies which found that international students reported better adjustment to the host culture when they engaged more with host nationals and concluded that “these studies provide evidence that social interactions of international students with host national friends may enhance international students’ adjustment” (p. 365). Though these studies suggest a positive relationship between acculturation behaviors and life satisfaction in the US, some studies have found that Asian international students “provided devastating criticisms of American life and social customs” and “felt emotionally starved in the United States” (Lieberman, 1994, p. 176-177).

In addition, to the aforementioned findings, many of the proposed relationships in the hypothesized model have not been previously studied in a U.S.-based international student sample. Thus, there is a need for future research to continue studying the bivariate and multivariate relationships proposed herein with international student populations, focusing both on acculturative stress and other adjustment outcomes. Another opportunity for future research is to test the proposed model using a longitudinal design to capture the process of coping and restoration of positive well-being over time.

One such study might query new international students before their arrival to the US and again at multiple points through their academic year. In addition, a longitudinal analysis would allow for tests of alternate temporal orderings of the factors. For instance, in the present study, the acculturation strategies were hypothesized to precede coping self-efficacy. A longitudinal design could allow for examination of alternate models, such as one in which coping self-efficacy is hypothesized to predict the use of the acculturation strategies.

The present study could also be extended by testing the model with latent factors, which is desirable because it controls for measurement error (Cole & Preacher, 2014). In contrast to the present study, which used observed variable path analysis, future research could include a larger sample and multiple indicators of each variable in order to conduct structural equation modeling with latent variables.

Alternative studies. Other avenues for future research might involve tests of the social cognitive coping model with different populations experiencing different kinds of stress. For example, the coping process of recently released prisoners, newly admitted freshman, or recently diagnosed medical patients might be examined using the SCCM. Future research might also focus on cross-validating the psychometric characteristics of the ISCSE. The promising psychometric estimates of the measure in the current study suggest that the factor structure and validity of the scale should be further examined.

Practical Considerations

At a practical level, this study underscores the importance of social support as it relates to various positive outcomes. Access to social supports for international students is associated with higher levels of coping efficacy as well as greater engagement with the

acculturation strategies. It would, thus, be useful for counseling professionals and other student affairs personnel to offer programming that fosters social support for international students. Many universities around the US have offices designed to aid international students' administrative and academic transition to the US. Fewer institutions have resources that support students' social adjustment (e.g. international house or residence halls, international student group therapy, cultural exchange partner programs) (Toyokawa & Toyokawa, 2002). Implementation of such programs might be beneficial to the overall adjustment of international students because they provide students with a peer community from whom they can learn the cultural practices and customs of the host culture – and with whom they can maintain contact with heritage-based practices and customs (Toyokawa & Toyokawa, 2002).

Relatedly, social support also predicts coping self-efficacy, which was found to be a significant predictor of positive adjustment for international students in this study. The question of how to promote international students' confidence in their ability to cope with acculturative stress is important, both theoretically and practically. Bandura's four sources of self-efficacy posit that physiological and affective states, vicarious learning, past performance, and social persuasion all contribute to one's self-efficacy. Within the international student coping framework, formal programs that aid international students to feel confident about their cross-cultural skills and knowledge, observe peers and hear about their coping successes, build on and rehearse effective practices, and hear encouragement and affirmation from others would be valuable. A model for such a program may be found in the First Year Experience (FYEX) programs available at a number of college institutions. FYEX programs are generally credit-bearing courses

which, through a number of interactive means, introduce first-year students to the university culture and provide guidance regarding effective strategies and useful resources to enhance students' transition. A FYEX type program for international students could go beyond the typical brief international student orientations to provide ongoing guidance and support, for example, over a semester or year.

Summary

This study represents the first empirical examination of the Lent (2004) social cognitive model of restorative well-being as adapted to the context of cross-cultural adjustment. A modified version of the model provided good fit to the data, and future studies are needed to replicate and extend these findings. Although behavioral enculturation and acculturation were not found to be significant direct predictors of acculturative stress, evidence was found for an indirect relationship of acculturation strategies to acculturative stress via coping self-efficacy. Furthermore, behavioral acculturation was found to predict life satisfaction in the US.

For many international students in the US, adjusting to life in the US will likely carry with it the experience of acculturative stress (Chen, 1999; Sandhu & Asrabadi, 1994; Smith & Khawaja, 2011). Incidentally, at the time of this writing, the American Psychological Association Graduate Students (APAGS) magazine profiled international students who provided personal narratives highlighting the need for greater awareness of and attention to the needs of international students (Stringer, 2015). The current findings make a novel contribution to the literature and suggest important roles for coping self-efficacy and social support as coping resources relative to acculturative stress and for coping efficacy and behavioral acculturation relative to life satisfaction in the US.

Appendix A: Extended Literature Review

International students migrating to the United States are susceptible to acculturative stress (Sandhu, 1994). Acculturative stress is “a stress reaction” and response to “problems resulting from intercultural contact that cannot be dealt with easily or quickly by simply adjusting or assimilating to them” (Berry, 2006, p. 294). Unfortunately, little research has explored the relationship between acculturative stress and life satisfaction among international students. In addition, increased attention to specific factors that facilitate coping with acculturative stress among international students is needed.

The follow review first presents a summary of the acculturation and acculturative stress experiences of international students. Berry’s (1992) model of acculturation describes the relationship between acculturation and acculturative stress. Second, I discuss the relationship between coping and stress using Lazarus and Folkman’s (1984) transactional model of stress and coping. Lent’s (2004) model of restorative well-being is introduced as a framework for conceptualizing the individual factors implicated in the coping experiences of international students dealing with acculturative stress. The final section of this review details an adapted version of the Lent (2004) coping model designed to fit an acculturation context. I review literature which has explored the various hypothesized paths of the adapted model.

International Students in the United States

According to the Institute for International Education there were 886,052 international students studying in the United States during the 2013-2014 school year, representing 4.2% of total U.S. college student enrollment (IIE, 2014). The rate of

international student enrollment in U.S. schools has grown steadily since the IIE began collecting this data (IIE, 2014).

International students differ from immigrant students because international students are sojourners (Berry, Kim, Minde, & Mok, 1987). Sojourners are individuals who plan to stay in the host country temporarily and eventually return to their home country. Immigrants intend to stay in the host country permanently. According to Swagler and Ellis (2003), “Sojourners typically arrive to complete a specific task (i.e., earn a degree) and then depart; in contrast, immigrants arrive with the intention to reside in the new country and thus have different needs in terms of integrating into the new culture” (p. 420). Thus, in the US international students are defined as “students who enrolled at institutions of higher education in the US who are not citizens of the US, immigrants, or refugees...[and excludes] students who have long-term or permanent residency (Verbik, 2007).

The reasons international students give for electing to study in the US are varied (Hazen & Alberts, 2006). Some international students believe they will receive a better quality education in the US (Chow, 2011; Hazen & Alberts, 2006). There is also a belief that schooling in the US will result in more job opportunities upon returning home (Hazen & Alberts, 2006; Sandhu, 1994). Another reason international students may be motivated to pursue a postsecondary degree in the US is the desire for a new cultural experience (Hazen & Alberts, 2006; Sandhu & Asrabadi, 1994).

Despite many international students having a number of positive expectations about the experience of traveling to the US, the process of moving and adjusting to the US may uncover problematic events (Chen, 1999; Smith & Khawaja, 2011). The well-

being of international students studying in the US may be adversely affected by the process of adjusting to differences between the values, customs, behaviors, and expectations of their home culture and U.S. culture (Sandhu & Asrabadi, 1994).

Theoretical Conceptualizations of Acculturation

Acculturation was initially defined by the anthropologists Redfield, Linton, and Herskovits (1936) as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (p. 149). This classic definition of acculturation holds that both the receiving and the migrating group undergo acculturation; however, it has been noted by some researchers that the primary flow of acculturative change is the non-dominant group acculturating to the majority group (Yoon et al., 2013). Since this initial definition was proposed, acculturation is now consensually recognized as a process that occurs not only at the group level but at the individual level (Berry et al., 1987; Wang & Mallinckrodt, 2006). This latter process is termed psychological acculturation (Berry, 1992). According to Cabassa (2003), “Acculturation has a dualistic effect; it affects the culture of a group as well as changes the psychology of an individual...Although acculturation may have a profound effect on a given group, individuals within that group vary greatly in the extent to which they experience and adapt to these changes” (p. 129).

A number of models of acculturation exist, which provide theoretical frameworks for explaining the process and outcomes of the cultural adjustment phenomenon (Smith & Khawaja, 2011). Theories of acculturation differ in terms of the dimensions of acculturation (e.g., unidimensional, bidimensional) (Bourhis, Moïse, Perreault, &

Senécal, 1997; Ryder et al., 2000), the domains of acculturation (e.g., behaviors, values) (Kim & Abreu, 2001; Miller, 2010; Schwartz, Unger, Zamboanga, & Szapocznik, 2010), and the outcomes of acculturation (e.g., psychological adaptation, sociocultural adjustment, relational outcomes) (Arends-Tóth & Van de Vijver, 2006; Berry, 1992; Bourhis et al., 1997).

Berry (1992) posits a stress and coping model of acculturation that theorizes that the interaction between the acculturating individual and the host society may give rise to behavioral shifts and acculturative stress, which eventually will yield to psychological adaptation. Ward and her colleagues have proposed a model of acculturation rooted in social learning theory that conceptualizes how acculturation may result in sociocultural adaptation by the acculturating individual to the new culture (Searle & Ward, 1990; Ward & Kennedy, 1999). Put differently, from the stress and coping perspective, the ultimate outcome of positive adjustment is psychological adaptation (e.g., psychological well-being, lack of psychological distress, lack of depression and anxiety, life satisfaction); from the social learning perspective the ultimate outcome is sociocultural adaptation (e.g., acquisition of culturally appropriate skills and knowledge, familiarity with host society language, customs, and norms, interaction with members of host society) (Searle & Ward, 1990; Ward, 1996; Ward & Kennedy, 1999).

Safdar, Lay, and Struthers (2003) and Arends-Tóth and Van de Vijver (2006) independently developed models intended to be more comprehensive representations of the acculturation process. Safdar et al. (2003) developed the theoretically and empirically derived Multidimensional Individual Difference Acculturation (MIDA) model, which incorporates factors from previously existing models of acculturation, such as the stress

and coping and social learning frameworks. Arends-Tóth and Van de Vijver (2006) also developed their model by reviewing existing models of acculturation and organizing the various components of the models into single model comprised of acculturation conditions (e.g., personal characteristics, characteristics of the receiving society); acculturation orientations (e.g., cultural adaptation, cultural maintenance); and acculturation outcomes (e.g., psychological well-being, sociocultural competence in ethnic culture). Bourhis et al. (1997) developed the Interactive Acculturation Model (IAM) to model acculturation as the interaction between the individual and the receiving society. Based on their model, acculturation can give rise to three different relational outcomes: consensual, problematic, and conflictual relational outcomes.

Dimensionality of acculturation. An important consideration among theorists of acculturation is whether acculturation operates on a unidimensional continuum or on two bidimensional, independent continua. The dominant discourse regarding the concept of acculturation has conceptualized it as a bidimensional process in which orientation towards the host society and orientation towards the heritage culture are seen as separate processes rather than opposing ends of a single process (Berry; 1992; Miller, 2007; Ryder et al., 2000; Schwartz et al., 2010).

The unidimensional approach to acculturation posited that acculturating individuals progress towards a state in which they are fully assimilated to the host culture. Ryder et al. (2000) wrote that “more specifically, acculturating individuals are seen as being in a process of relinquishing the attitudes, values, and behaviors of their culture of origin while simultaneously adopting those of the new society” (p. 49). From the unidimensional perspective, acculturation is also perceived to only affect the

acculturating individuals; acculturation has no effect on the host society (Cabassa, 2003). A number of early measures of acculturation reflect this unidimensional conceptualization of acculturation (e.g., Acculturation Rating Scale for Mexican Americans [ARSMA], Cuellar, Harris, & Jasso, 1980; Suinn-Lew Asian Self-Identity Acculturation Scale [SL-ASIA], Suinn, Rickard-Figueroa, Lew, & Vigil, 1987).

More recent conceptualizations of acculturation have posited that acculturation is a bidimensional construct (Miller, 2007; Ryder et al., 2000). The bidimensional approach holds that acculturation occurs along two separate dimensions, reflecting adherence to one's heritage culture and assimilation to the host culture (Cabassa, 2003). According to theorists who espouse this position, "individuals may adopt many of the values and behaviors of the mainstream culture without giving up facets of self-identity developed in their culture of origin" (Ryder et al., 2000, p. 49). Within this framework, acculturation is also seen as having a two-way effect with the host culture influencing the acculturating group and the acculturating group influencing the host culture (Berry, 1992; Cabassa, 2003). Kang (2006) noted that bidimensional measures of acculturation may assess levels of acculturation in at least two ways. One subset of measures provides independent ratings of acculturating individuals' levels of heritage culture retention and host culture adoption. The second subset organizes acculturating individuals into distinct acculturation types based on their levels of heritage culture retention and host culture adoption. Berry's model of acculturation, discussed later in this paper, is one example of this latter typological approach to acculturation measurement.

Bidimensional conceptualizations have also been described in terms of their domains of measurement. Schwartz et al. (2010) also noted that "acculturation is

multidimensional not only in terms of the independence of heritage-culture and receiving-culture orientations but also with respect to the components that are assumed to change... such as ‘behavioral acculturation,’ ‘value acculturation,’ or ‘identity-based acculturation.’” (p. 244). Researchers have identified behaviors, values, knowledge, and identity as unique domains in which levels of acculturation may differ (e.g., an individual may be high in adherence to heritage culture values but low in adherence to heritage culture behaviors).

Berry’s model of acculturation. The present study conceptualizes acculturation using the Berry (1992) model of acculturation for two reasons. First, the multidimensionality of the Berry (1992) model is consistent with current theoretical and empirical research on the dimensionality of acculturation. Second, the Berry (1992) model utilizes a stress and coping framework to model the process by which individuals might cope with acculturation stressors, which is applicable to this study’s focus on the factors that contribute to international students’ coping with acculturative stress.

Berry (2006) provided a graphical representation of his model of acculturation to depict the various influences operating at the group and individual level during acculturation (see Figure 1). The distinction between group-level acculturation and psychological acculturation allows researchers to study the two phenomena separately and also acknowledges that members of the same group may experience acculturation differently (Berry, 1997). At the group level, acculturation may result in physical changes (e.g., new housing); biological changes (e.g., exposure to new diseases); political changes (e.g., new hierarchies); economic changes (e.g., new forms of employment); cultural changes (e.g., new religions or languages); and social changes (e.g., new

intergroup relationships). At the individual level, psychological acculturation may result in numerous changes to the individual. According to Berry (1992), psychological acculturation may result in changes in behaviors, abilities, values, attitudes, motives, personal identity, ethnic identity, and lifestyle preferences.

Berry's model of acculturation recognizes that while most individuals experiencing acculturation will undergo changes, the subjective experience of those changes on psychological well-being differs between individuals. According to Berry (2006), there are three ways to conceptualize the outcomes of acculturation: behavioral shifts, acculturative stress, and psychopathology. Individuals for whom the acculturation experience results in behavioral changes that are non-problematic are said to experience *behavioral shifts*. Those who experience *acculturative stress* are undergoing changes that are more conflictual and challenging but ultimately resolvable. Finally, *psychopathology* is reserved for those individuals who view the changes associated with the acculturation experience as insurmountable and need significant help to deal with the stressors (Berry, 2006). However, Berry notes that most research suggests that individuals undergoing acculturation are usually able to deal with the stressors relatively well such that psychopathology resulting from acculturation is not as likely an outcome as acculturative stress.

Acculturative stress. Acculturative stress refers to the “psychological, social, and physical health consequences [which are]...negative and largely unwanted” (Berry, 1992, p. 70) and stem from the acculturation experience when individuals appraise that the changes and challenges presented through the intercultural contact cannot be easily overcome (Berry, 2006). While individuals of many groups in the US experience

psychological acculturation and are susceptible to acculturative stress (e.g., refugees, ethnic minorities), the present study is focused specifically on the experiences of international students.

Acculturation and acculturative stress are significant aspects of international students' experience because upon arrival to the US, international students must negotiate many sociocultural, environmental, and psychological changes. Tseng and Newton (2002) identified four general areas of adjustment for international students: (a) adjusting to U.S. food, housing, transportation, and other practical needs; (b) adjusting to the U.S. educational system; (c) adjusting to new cultural norms and customs; and (d) adjusting to feelings of homesickness or isolation. For some students, adjusting to these changes does not place an unreasonable demand on them. Unfortunately, for other international students the changes can become stressors and contribute to international students' experience of acculturative stress. Several stressors have been identified in the literature on the acculturative stress experiences of international students in the US. Language problems, financial issues, homesickness, loss of social contact, distance from family, isolation from Americans, racial discrimination, adjusting to new customs and norms, pressure to be more independent, feelings of incompetence, cultural misunderstandings, and differences in academic and social expectations have been mentioned as characteristic sources of acculturative stress among international students (Church, 1982; Constantine et al., 2005; Swagler & Ellis, 2003).

Acculturative stress has consistently been cited as a predictor of negative psychological outcomes such as depression and anxiety (e.g., Hyun et al., 2007; Mori, 2000; Wei et al., 2007). In a study by Wei et al. (2007), acculturative stress was

significantly related to depression ($r = .60$). The authors were interested in testing a 3-way interaction effect for length of stay in the United States, maladaptive perfectionism, and acculturative stress on depression. Using a sample of 189 Chinese international students, Wei et al. (2007) found that after accounting for length of stay in the US and maladaptive perfectionism, there remained a strong positive association between acculturative stress and depression. There was also support for their 3-way interaction hypothesis, which suggested that the relationship between acculturative stress and depression was stronger at low perfectionism ($b = .67$) than at high perfectionism ($b = .35$) for students who had lived in the US for a shorter period of time. However, it was stronger at high perfectionism ($b = .58$) than at low perfectionism ($b = .21$) for students who had lived in the US for a longer period of time. Constantine et al. (2004) examined the relationship between acculturative stress and depression in a sample of 320 international students representing 33 countries. Among their sample, acculturative stress was positively related to depression ($r = .69$). A hierarchical regression analysis revealed that acculturative stress was a significant predictor of depression after accounting for regional group, sex, and English fluency (Constantine et al., 2004).

Rice, Choi, Zhang, Morero, and Anderson (2012) tested the main effects of self-critical perfectionism and acculturative stress, as well as the interaction effect between the two variables on depression. Using a sample of 129 Chinese and 166 Asian Indian international graduate students, the authors found that acculturative stress was significantly associated with depression for both groups ($r = .31$ and $r = .60$, respectively), which was consistent with the Wei et al. (2007) findings. Rice et al. (2012) also revealed a significant interaction effect such that the positive relationship between

acculturative stress and depression was attenuated at lower levels of perfectionism. Their findings differed from Wei et al.'s (2007) results, which found that for students who had lived in the US for a short time (students in the Rice et al. (2012) study had lived in the US for a year or less) the relationship between acculturative stress and depression was accelerated at lower levels of perfectionism.

Fritz, Chin, and DeMarinis (2008) looked at how levels of state anxiety and indicators of acculturative stress differed between Asian and European international students and U.S. students attending a community college in southern California. Asian international students' level of anxiety was significantly higher than that of U.S. students; European international students did not differ from U.S. students in levels of anxiety (Fritz et al., 2008). A comparison of the three cultural groups on various indicators of acculturative stress revealed that Asian international students reported greater difficulty than U.S. students with finding work, the English language, acculturation to the US, and making new friends. They also reported greater difficulty than European international students with the English language and making new friends (Fritz et al., 2008). European international students also reported greater difficulty than U.S. students with finding work, the English language, acculturation, and being apart from family (Fritz et al., 2008).

Finally, Sümer, Poyrazli, and Grahame (2008) examined the extent to which length of stay, English proficiency, gender, and social support predicted anxiety and depression among 440 international students. Depression was significantly predicted by length of stay ($\beta = .09$), English proficiency ($\beta = -.12$), and social support ($\beta = -.55$). Anxiety was significantly predicted by age ($\beta = .10$), English proficiency ($\beta = -.10$), and

social support ($\beta = -.57$). When controlling for racial and ethnic group membership, length of stay no longer significantly predicted depression, whereas the main effects of age, English proficiency, and social support on anxiety remained significant (Sümer et al., 2008).

Theoretical Conceptualizations of Stress and Coping

At least two distinct traditions exist in the study of stress (Krohne, 2002). One line considers stress a consequence of systemic biological and physiological processes (e.g., Selye, 1976) and the second considers stress a consequence of psychological processes (e.g., Lazarus & Folkman, 1987). Under the systemic stress models, stress is the body's response to intense and/or enduring changes to homeostasis brought on by heat, shock, toxin, and so on (Krohne, 2002). Under the psychological stress models, stress is a cognitive response to the perception of threat or conflict. Psychological stress models comprise two separate processes, an appraisal process and a coping process (Lazarus, 1993). The appraisal process is a two-step process; in the primary appraisal stage, individuals appraise the level of threat from the stimulus and in the secondary appraisal stage, individuals appraise their present coping options or capacity to deal with the threat. The coping process involves the efforts individuals actually make to manage the perceived stress based on their earlier appraisals (Krohne, 2002; Lazarus & Folkman, 1987). One of the most prominent psychological stress models is Lazarus and Folkman's (1987) transactional theory of stress and coping.

Transactional model of stress and coping. The Lazarus and Folkman (1987) transactional theory of stress and coping posits that stress is not an external event but an outcome of the transaction between a particular individual and a particular environment

(Figure 5). According to Lazarus and Folkman (1987), “threat...is not solely a property of the person or of the environment; it requires the conjunction of an environment having certain attributes with a particular kind of person who will react with threat when exposed to those environmental attributes” (p. 142). A corollary of their definition is that not all individuals will experience the same stressors as stress. Thus, stress refers to “a balance of forces such that the environmental demands tax or exceed the resources of the person. A demand is such that if it is not met and neutralized somehow, there will be harmful consequences for the person” (Lazarus & Launier, 1978, p. 288). Lazarus (1993) identified three types of stress: *harm* (past psychological damage); *threat* (imminent danger); and *challenges* (demands we feel we can successfully cope with).

Coping, as defined in the transactional theory of stress and coping, reflects “ongoing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus, 1993, p. 237). Under this theory, coping is seen as a process rather than a trait (Lazarus & Folkman, 1987). Coping as a process requires three conditions. First, coping must be described in terms of the actual thoughts and behaviors that have occurred; second, coping must be viewed within a specific context; and third, coping should be measured over different time points or contexts (Lazarus & Folkman, 1987). The trait approach to coping holds that individuals have generally established, non-context-dependent ways of coping when taxed that are reflective of their personality dispositions (Lazarus, 1993; Lazarus & Folkman, 1987).

Lazarus and Folkman’s (1987) framework for stress and coping suggests that

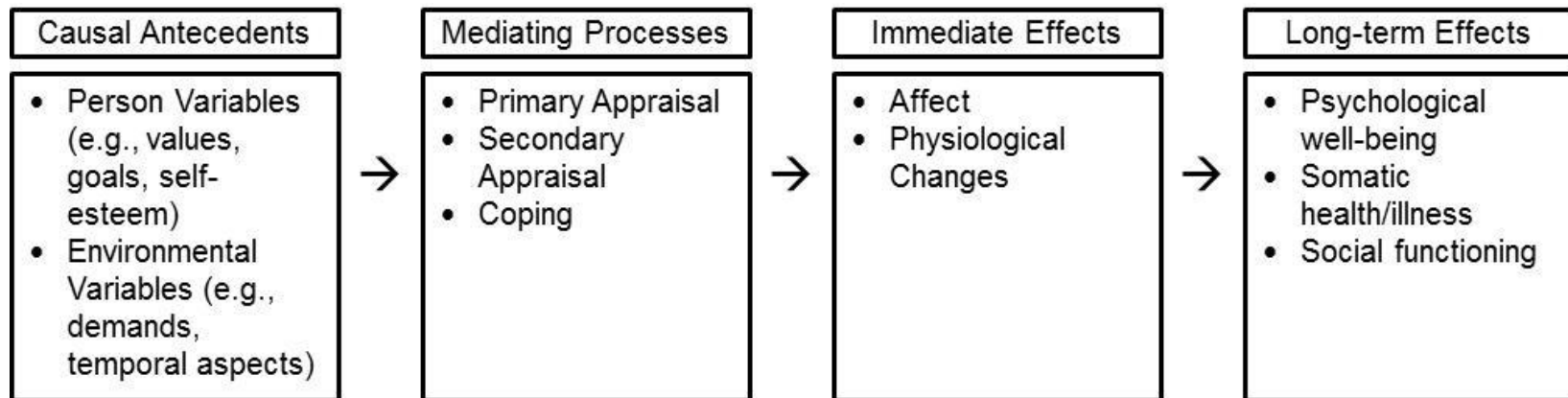


Figure 6. Transactional Model of Stress and Coping. Reprinted with permission from the publisher. Lazarus, R. S. & Folkman, S. (1987). Transactional theory and research on emotions and coping. *European Journal of Personality*, 1(3), 141-169.

coping mechanisms can buffer the effects of stress on the individual. Thus, international students may be presumed to engage in various coping strategies to manage the effects of acculturative stress on their psychological adaptation. In the transactional model, strategies employed in the coping process serve two major functions. Coping strategies may be problem-focused with the aim of addressing the problematic event directly (e.g., job-hunting after losing one's job) or emotion-focused with the aim of addressing the emotions or the meaning associated with the problematic event (e.g., having a "good" cry after losing one's job) (Lazarus, 1993; Lazarus & Folkman, 1987). Another commonly used classification of coping strategies is approach versus avoidance coping (Lent, 2007; Roth & Cohen, 1986). Approach and avoidance coping refer to individuals' moving towards or away from perceived sources of stress, respectively (Roth & Cohen, 1986). Some evidence has suggested that the relationship between emotion-focused/problem-focused coping and approach/avoidance coping is orthogonal such that one could engage in problem-focused approach coping and/or problem-focused avoidant coping and so on (Tobin, Holroyd, Reynolds, & Wigal, 1989).

In their transactional model, Lazarus and Folkman (1987) posit that the relationship between stress and various psychosocial outcomes is mediated by the appraisal-coping processes (see Figure 5). The model depicts Lazarus and Folkman's position that the antecedent in the stress and coping model is not an external stress force; rather the causal agent is the interaction between the person and the environment. Person characteristics and environmental aspects then both influence how individuals appraise the demands on them and the coping options available to them. In turn, individuals' appraisals of the demands and their actual coping efforts will predict immediate outcomes

such as affect, which eventually will predict long-term outcomes like psychological well-being.

Extant Research on International Students' Coping

Literature on acculturative stress among international students has generally focused on the factors that lead to acculturative stress (Duru & Poyrazli, 2007; Sandhu & Asrabadi, 1994; Poyrazli et al., 2004; Smith & Khawaja, 2011; Yeh & Inose, 2003). There is a dearth of research on factors that facilitate coping with acculturative stress and those studies that have explored coping with acculturative stress have been largely atheoretical (Church, 1982; Pedersen, 1991).

According to Lazarus and Folkman (1987), successful coping may result in immediate changes such as physiological changes and changes in affect, as well as long term changes such as changes in psychological well-being. In the context of coping with acculturative stress, outcomes of effective coping may include decreases in acculturative stress, psychological distress, and negative affect and increases in life satisfaction, adjustment, and positive affect.

Yeh and Inose (2003) observed that in a sample of 372 international students, greater social connectedness, social network satisfaction, and English fluency predicted lower levels of acculturative stress. Zhang and Goodson (2011) reviewed sixty-four published studies of psychosocial adjustment in international students and found that factors such as greater social support and greater identification with host culture predicted fewer psychological symptoms. Lee et al. (2004) found a significant moderating effect of social support on the relationship between acculturative stress and psychological distress. At low levels of acculturative stress, students in the high social support group reported

more psychological distress than students in the low social support group, while at high levels of acculturative stress, students in the low social support group reported higher levels of psychological distress than students with high social support group (Lee et al., 2004).

A few studies have examined the utility of specific interventions designed to provide coping strategies for international students. Tavakoli et al. (2009) conducted a randomized trial with a sample of 118 international students to compare the effects of assertiveness training and expressive writing on acculturative stress. Their results indicated that assertiveness training yielded better outcomes than expressive writing. Students in the assertiveness training group rated the intervention more positively and reported less negative affect. Students in the expressive writing group rated the intervention more negatively and reported more homesickness and fear, though they did report higher levels of positive affect. Ye (2006) examined the utility of online co-ethnic social networks as a coping intervention among 112 Chinese international students and found that “online social groups may play a protective role that is similar to the face-to-face social support in terms of stress reduction” (p. 15). Carr et al. (2003) discussed successful efforts by counselors at a large, Midwestern university to provide group therapy to Asian international women students. While the authors reported receiving feedback from group members about their satisfaction with the group, the study was descriptive and lacked experimental controls (Carr et al., 2003).

In essence, the limited body of research that has looked at potential coping factors for acculturative stress suggests that acculturative stress can be ameliorated through the use of different coping interventions and that social support is a key factor in coping with

acculturative stress. In addition, the results of the Tavakoli et al. (2009) study suggest that students' level of confidence in their ability to communicate their needs in a new country can have positive effects on their feelings of acculturative stress, which hints at the role of self-efficacy in decreasing acculturative stress. The limited body of research also points to a need for more research in the realm of coping with acculturative stress. Furthermore, there is a continuing need for theoretically grounded research that can enable integration of the findings of disparate empirical studies (Church, 1982).

Social Cognitive Model of Restorative Well-Being

The general framework presented in the transactional theory of stress and coping undergirds the Social Cognitive Model of Restorative Well-Being (Lent, 2004). This model was one of two models Lent (2004) proposed for understanding well-being. The restorative or coping model is based in Bandura's (1986) social cognitive theory and is intended to capture the social cognitive processes by which well-being is restored following exposure to a stressful event. The second model, the normative model, is also rooted in social cognitive theory (Bandura, 1986) and predicts the maintenance of well-being under normal, non-distressed conditions. The social cognitive normative and coping models represent efforts to integrate varying theoretical and philosophical frameworks of well-being, including subjective (hedonic) and psychological (eudaimonic) conceptualizations of well-being; top-down and bottom-up processing of well-being; state and trait predictors of well-being; and a process-participation orientation, that is, an emphasis on participating in valued, goal-directed activities to promote well-being (Lent, 2004). According to Lent (2004), "the coping model is envisioned as being superimposed on the basic, normative model...[and] the two sets of

processes should be viewed as interwoven rather than as discontinuous or truly distinct” (p. 498). However, the models can also be studied separately. Therefore, while both models are seen as relevant for capturing individuals’ well-being process, the restorative model with its focus on recovery may be considered a better model for understanding well-being under the context of coping (Lent, 2004). The model of restorative well-being thus serves as the primary framework for this study.

Several core factors comprise the social cognitive coping model (SCCM) (Figure 2). First, the problematic event or internal difficulty impinges on the individual’s normal state of well-being. The stressor is theorized to directly influence one’s coping appraisal. Second, coping appraisal and strategies, following Lazarus and Folkman’s (1987) model of stress and coping, mediate the effect of the stressor by first, informing the individual about the nature of the stressor and second, assessing the individual’s available resources and abilities to cope with the stressor (Lent, 2007). The available resources and abilities comprise the individual’s coping strategies. Specific coping strategies may also involve practices such as “hope building, benefit finding, sharing one’s story (verbally or in writing), spirituality, and use of humor” (p. 502); “emotional processing and expression” (p. 502); and participating in valued life activities, seeking social support, and goal setting (Lent, 2004). Third, problem-related coping efficacy represents an individuals’ confidence in their ability to cope with the stressor. Problem-related coping efficacy is seen as acting directly on domain satisfaction such that feeling confident that one can cope with the problem will contribute to problem resolution (Lent, 2004).

Fourth, environmental support and resources are presented in the model as having a direct effect on problem resolution and an indirect effect on problem resolution by

influencing both one's coping appraisals and strategies and one's coping efficacy. Environmental support may come as material resources (e.g., salary increase), social support (e.g., warm friend), institutional support (e.g., career counseling), and so on (Lent, 2004). Fifth, personality and affective disposition may predict not only what one perceives as a problematic event, but also how stressful one appraises the event to be and one's perception of problem resolution (Lazarus, 1993; Lent, 2004). The sixth and seventh factors are problem resolution and life satisfaction recovery, respectively (Lent, 2004). Examples of problem resolution include improved satisfaction in a particular domain and changes in situational affect. Life satisfaction represents one's overall (cross-domain) level of satisfaction or happiness (Lent, 2004). The model maintains that improved domain-specific satisfaction and functioning, particularly in centrally important life domains, can promote positive change in overall life satisfaction.

The SCCM reflects salient aspects of the transactional theory of stress and coping but also differs in important ways. Like the transactional theory of stress and coping, the SCCM proposes a mediated pathway whereby the stressful event acts initiates coping appraisal, which in turn stimulates efforts at problem resolution, with the potential to affect life satisfaction. Beyond this path, the SCCM offers additional pathways for environmental supports and resources to act on the coping process. Another important difference between the two theoretical models is the inclusion of coping efficacy in the SCCM model. Coping efficacy is thought to mediate the pathway between problem appraisal and resolution (Lent, 2004).

To date, there have been no empirical investigations of the social cognitive coping model. Researchers have tested the utility of the normative model and generally found

support for the theorized paths (e.g., environmental supports to self-efficacy, personality disposition to life satisfaction). Thus, testing the SCCM represents a novel contribution to the study of coping and stress. Furthermore, this test of the model will focus on the stress experiences of international students adjusting to the US, thereby contributing to the empirical and theoretical knowledge on international students' well-being and cultural adjustment processes.

Model of Coping with Acculturative Stress

A handful of studies have looked at coping and acculturative stress among international students (Lee et al., 2004; Tavakoli et al., 2009; Ye, 2006). While the results of these studies provide support for various coping strategies, a more holistic approach is needed to understand how different factors may relate to each other and explain adjustment over and above other factors. Furthermore, there is a dearth of theoretically-based examinations of the potential factors that may contribute to the coping process for international students (Church, 1982). Based on Lent's (2004) social cognitive model of coping, I propose a theoretically-informed model of coping with acculturative stress in the context of international student adjustment. This section reviews how particular social cognitive factors may be implicated and interrelated in the pathway from acculturative stress to life satisfaction among international students.

Social support. One of the most frequently cited coping factors for dealing with stress in general, and with acculturative stress, in particular, is social support (Thoits, 1995; Zhang & Goodson, 2011; Zimet, Dahlem, Zimet, & Farley, 1988). Cobb (1976) defined social supports as information which communicates to someone that "he is cared for and loved...is esteemed and valued...[and] belongs to a network" (p. 300). Lent

(2007) wrote that “social support provides a variety of specific benefits, such as material help, emotional support, companionship, and even positive physical outcomes...” (p. 237). Within this conceptualization, support is separated into actual support received and perceived availability or adequacy of social support.

In the context of sojourners, Ong and Ward (2005) described social support as a multidimensional construct that provides sojourners emotional support, social companionship, tangible assistance, and informational support. Similarly, Gilbert and Rhodes (2012) described four categories of social support: emotional support, which includes expressions of caring and empathy; instrumental support, which includes providing assistance; appraisal support, which includes positive feedback; and informational support, which includes providing information and advice. Some authors distinguish between expressive (i.e., emotional) and instrumental social support; while others have classified social support into emotional support, tangible support (e.g., material aid), and informational support (e.g., knowledge or feedback) (Lazarus & Folkman, 1984). In the development of a scale to measure social support among sojourners, Ong and Ward (2005) found that items assessing social support loaded onto two factors, socioemotional support, comprised of emotional support and social companionship items; and instrumental support, comprised of tangible assistance and informational support items. The present study will adopt this classification of social support as it has been empirically examined in an international population (Ong & Ward, 2005).

Lazarus and Folkman (1984) discussed the importance of social support as a coping resource. They contrasted social support with social network, the latter referring

to the presence of social relationships and the former referring to the functions served by these social relationships (Lazarus & Folkman, 1984). As it relates to international students, Mallinckrodt and Leong (1992) wrote that “social support also provides a powerful coping resource for persons experiencing stressful life changes, including the stress of adjusting to an unfamiliar culture” (p. 71). Hechanova-Alampay, et al. (2002) noted that social support “is important because...[it] can help sojourners feel...more in control” (p. 462).

In the SCCM, social support is theorized to directly predict coping strategies and coping efficacy, and indirectly predict life satisfaction through the process of problem resolution. In the proposed acculturative stress coping model, social support directly predicts the use of behavioral acculturation, behavioral enculturation, and coping efficacy. Several studies support a negative relationship between social support and indicators of negative psychological adaptation (e.g., acculturative stress, anxiety, depression) as well as a positive relationship between social support and indicators of psychological adaptation (e.g., sense of belonging, life satisfaction) (Smith & Khawaja, 2011; Sümer et al., 2008; Zhang & Goodson, 2011).

Yeh and Inose (2003) sampled international students from Asia, Africa, Central/Latin America, and Europe and found that social connectedness and social satisfaction was negatively related to acculturative stress for Asian and European students, while only social connectedness was negatively related to acculturative stress for African and Central/Latin American students. Sümer et al. (2008) examined the relationship between social support and depression and anxiety for international students and found that anxiety and depression were each negatively related to social support and

were positively related to each other in their sample.

In their effort to identify “predictors of psychosocial adjustment of international undergraduate and graduate students in the United States” (p. 139), Zhang and Goodson (2011) conducted a review of sixty-four studies published between 1990 and 2009. Their results revealed that social support was one of the most commonly cited predictors of psychological symptoms (e.g., depression, psychological well-being) among international students.

Smith and Khawaja (2011) conducted a review of 94 studies in an effort to understand how well existing acculturation models, many of which were developed with immigrant populations in mind, explain the experiences of international students. The authors expanded on the Zhang and Goodson (2011) review by including studies on international students outside the US. The results of their review indicated that there was empirical support for acculturation models which hypothesize that there is a negative relationship between social support and acculturative stress and a positive relationship between social support and various indicators of psychological adaptation in international students (Smith & Khawaja, 2011).

Finally, Lee et al. (2004) tested a buffering effects model of support on acculturative stress using a sample of Korean international students and found that students experiencing acculturative stress, but who reported high levels of social support, had lower levels of mental health symptoms than students who reported lower levels of social support.

Enculturation and acculturation. Acculturation can be conceived of as both a process, whereby individuals undergo changes as part of acculturation, and a state, which

refers to the extent to which a person identifies with the values, beliefs, and customs of a new culture (Wang & Mallinckrodt, 2006). In this study, acculturative stress is recognized as a possible outcome of one's process of acculturation, while one's state of acculturation (and enculturation) are conceptualized as coping strategies useful for managing the acculturative stress. This study borrows Kim and Omizo's (2006) definition of acculturation as "adapting to the norms of the dominant group (i.e., European American)" and enculturation as "retaining the norms of the indigenous group (e.g., Asian American)" (p. 246). Miller (2010) found evidence indicating that that enculturation and acculturation were comprised of two independent domains: behaviors and values. Similarly, Kim and Abreu (2001) reviewed thirty-three measures of acculturation and enculturation and determined that acculturation and enculturation were multidimensional constructs comprised of four dimensions: values, behaviors, knowledge, and identity.

Acculturation and enculturation are seen as bilinear constructs, existing on two independent continua (Miller, 2007). One may be high in both, low in both, or high in one and low in the other. Berry (1992) proposed four categories of acculturation strategies based on differences in level of acculturation and enculturation: integration, which describes high levels of acculturation and enculturation; assimilation, which describes high levels of acculturation and low levels of enculturation; separation, which describes low levels of acculturation and high levels enculturation; and marginalization, which describes low levels of acculturation and enculturation. These categories serve as useful heuristics for describing variability among individuals' acculturation levels. However, research on the existence of these categories among acculturating populations

has been inconclusive (Rudmin, 2003; Schwartz & Zamboanga, 2008). The present study focuses on the relationships between acculturation and enculturation and the other factors of the model. In the SCCM, it is theorized that coping strategies operate partly through coping efficacy to indirectly predict life satisfaction. In the proposed target model, behavioral enculturation and behavioral acculturation (as coping strategies) are theorized to predict coping efficacy.

Researchers have identified links between behavioral acculturation/enculturation and acculturative stress and psychological distress, one aspect of well-being. According to Winkelman (1994), “both maintenance and reparative behaviors are necessary for stress management and for maintaining one’s personal well-being in conditions of cultural immersion.” He describes maintenance behaviors as activities that sustain the individual’s cultural identity and well-being and reparative behaviors as those activities that help to reestablish aspects of the individual’s identity that was lost.

In a sample of 107 foreign-born and 185 U.S.-born Asian American students, Miller, Yang, Hui, Choi, and Lim (2011) compared the effects of behavioral acculturation, behavioral enculturation, values acculturation, and values enculturation on acculturative stress and mental health, which they operationalized as psychological distress. They found that among foreign-born students, behavioral acculturation negatively predicted acculturative stress ($\gamma = -.22, p < .05$) and psychological distress ($\gamma = -.10, p = ns$), such that for foreign-born students the greater their engagement in Western behavioral practices, the lower their levels of acculturative stress and psychological distress. Behavioral enculturation was positively predictive of acculturative stress ($\gamma = .37, p < .05$) and negatively predictive of psychological distress ($\gamma = -.39, p < .05$) for

foreign-born students (Miller, Yang, Hui, et al., 2011). That is, as foreign-born Asian students practiced more cultural maintenance behaviors, they experienced greater acculturative stress but less psychological distress).

Wei, Liao, Heppner, Chao, and Ku (2012) sampled 188 Chinese international students and found that identification with heritage culture did not correlate significantly with acculturative stress ($r = .02, p = ns$), but did negatively predict psychological distress ($\beta = -.17, p < .01$), replicating the findings of Miller, Yang, Hui, et al. (2011), and suggesting that for Chinese international students, performing behaviors that promote cultural retention facilitated decreases in psychological distress. Wang and Mallinckrodt (2006) studied the relationship between acculturation to host culture, cultural identification with home culture, attachment, and psychological distress, using a sample of 104 Chinese and Taiwanese international students. Wang and Mallinckrodt (2006) found that contrary to Miller et al.'s (2011) and Wei et al.'s (2012) findings, identification with home culture did not relate to psychological distress; the relationship was in the negative direction (i.e., lower identification with home culture predicted higher psychological distress but nonsignificant). Wang and Mallinckrodt (2006) also found that acculturation was negatively associated with psychological distress, which differed from Miller et al.'s (2011) lack of support for a significant, negative relationship between behavioral acculturation and psychological distress.

In sum, enculturation and acculturation have been shown to relate to acculturative stress and psychological distress, but the findings have been mixed. In addition, psychological distress represents one aspect of mental health. Research is still needed to examine the relationships between enculturation and acculturation to indicators of

positive adjustment, such as life satisfaction.

Coping self-efficacy. Chesney et al. (2006) defined coping self-efficacy as “a person’s confidence in his or her ability to cope effectively” (Chesney et al., 2006, p. 422). Within a cultural context, Miller, Yang, Farrell, et al. (2011) defined bicultural coping self-efficacy as “one’s confidence in his or her ability to negotiate and cope with perceived interactions and incompatibilities in language (e.g., translation), social interaction (e.g., understanding nuances social norms), and value (e.g., weighing the merits of individualistic versus collectivistic ways of viewing the world) domains between the culture of origin and a second culture” (p. 490). Their conceptualization of bicultural coping self-efficacy is rooted in LaFromboise, Coleman, and Gerton’s (1993) early definition of bicultural self-efficacy as “the belief, or confidence, that one can live effectively, and in a satisfying manner, within two groups without compromising one’s sense of cultural identity” (p. 404). According to LaFromboise et al. (1993), bicultural self-efficacy can facilitate individuals’ ability to deal with the challenges of successfully existing in two cultures.

Winkleman (1994) writes that “successful management of [acculturative stress] depends on ... a cognitive orientation that directs one toward successful adaptation...,” suggesting that in order to cope with acculturative stress one must possess the attitudes and beliefs that one can successfully adjust. In this study, international student acculturative stress coping efficacy refers specifically to international students’ confidence in their ability to cope with the stress of acculturation. It differs from bicultural coping self-efficacy, which emphasizes one’s self-efficacy for successfully integrating or living biculturally in a new culture.

In the SCCM, coping efficacy is theorized to predict life satisfaction indirectly via problem resolution. In the present study, international student coping self-efficacy is hypothesized to indirectly predict life satisfaction via its relationship with acculturative stress. International students' self-efficacy for coping with acculturative stress has never been studied. Research on the related construct, bicultural coping self-efficacy, in international students' adjustment is limited. Miller, Yang, Farrell, et al. (2011) tested a model in which bicultural coping self-efficacy was believed to moderate the relationship between acculturative stress and mental health among immigrant and U.S.-born Asian American adults. Their results revealed that bicultural coping self-efficacy was negatively predictive of mental health for the full sample, such that higher ratings of bicultural coping self-efficacy related to lower ratings of depression and anxiety ($\gamma = -.183, p < .05$). However, when examined across generational status (immigrant versus U.S.-born), bicultural coping self-efficacy was only significantly predictive of mental health for U.S.-born Asian American adults ($\gamma = -.202, p < .05$), but not for immigrant Asian American adults ($\gamma = -.126, p = ns$). The interaction between bicultural coping self-efficacy and acculturative stress was not significant for immigrant Asian Americans, but was significant for U.S.-born Asian Americans, suggesting that generational status may moderate the extent to which bicultural coping self-efficacy relates to mental health.

Li and Gasser (2005) looked at the relationship between cross-cultural self-efficacy and sociocultural adaptation among Asian international students and found support for their hypothesis that cross-cultural self-efficacy positively predicted sociocultural adaptation. Constantine and her colleagues (2004) hypothesized that social self-efficacy, which they defined as "a willingness to initiate behavior in social

situations” (p. 231) would mediate the relationship between acculturative stress and depression among African, Asian, and Latin American international college students (Constantine et al., 2004). They found that social self-efficacy was significantly negatively related to acculturative stress and depression but did not find support for their mediation hypothesis. Kim and Omizo (2006) found that among Asian American college students, general self-efficacy and cognitive flexibility were both positively related to students’ acculturation towards European American culture but did not correlate significantly with enculturation towards their culture of origin.

While none of the previous studies looked at the relationship between acculturative stress, coping self-efficacy, and positive psychological adaptation among international students, taken together, these studies suggest that it is reasonable to hypothesize a negative relationship between coping self-efficacy and acculturative stress and a positive relationship between coping self-efficacy with behavioral acculturation and behavioral enculturation.

Life satisfaction. Diener et al. (1985) described life satisfaction as a cognitive evaluation of one’s life and cite Shin and Johnson’s (1978) definition of life satisfaction as “a global assessment of a person’s quality of life according to his chosen criteria” (p. 71). The concept of life satisfaction has been studied extensively across cultures; indeed the Satisfaction with Life Scale (SWLS; Diener et al., 1985), one of the most commonly used measures of life satisfaction, has been translated into at least 30 languages.

Very few studies have examined life satisfaction among international students. One study looked at life satisfaction among 304 international students from different countries studying in Norway (Sam, 2001). They found that Asian and African students

reported lower levels of life satisfaction compared to European, North American, and Nordic students (Sam, 2001). A second study found significant negative correlations between life satisfaction and four sources of acculturative stress (fear, perceived discrimination, perceived hatred, and negative feelings caused by change) among 112 Chinese international students in the US (Ye, 2006).

In the present study, life satisfaction serves as an indicator of psychological adaptation. Although understudied in international students, life satisfaction is an important aspect of subjective well-being (Diener et al., 1985). Research suggests that acculturative stress is deleterious to life satisfaction among acculturating individuals. Thus, efforts to understand how various coping strategies may predict life satisfaction among international students are important. Furthermore, the cross-cultural relevance of life satisfaction makes it a culturally appropriate concept to study in a diverse international sample. Finally, a great deal of research on international students and well-being focuses on negative well-being outcomes, such as depression, anxiety, and psychological distress. Research is needed to capture the opposite end of the spectrum and understand international students' well-being experiences more fully.

Summary

The literature reviewed herein summarized relevant theories of acculturation and stress and coping. In particular, the Berry (1992) theory of acculturation provided a foundation for understanding the concepts of acculturation and acculturative stress. The Lazarus and Folkman (1987) theory of stress and coping informed the conceptualization of stress and coping and explicated the relationship between the two constructs. The social cognitive model of restorative well-being (Lent, 2004) was also reviewed as a

structural and conceptual framework for hypothesizing the temporal ordering of factors implicated in the coping process of international students experiencing acculturative stress. Finally, studies relevant to the hypothesized path model were reviewed. Based on the literature, a model for coping with acculturative stress was proposed. To assess the predictive utility of the individual factors and overall adequacy of the adapted model, an empirical test of the model will be conducted.

Appendix B: Informed Consent Form

Purpose of the Study

This research is being conducted by Ijeoma Ezeofor, under the supervision of Dr. Robert W. Lent, Department of Counseling, Higher Education, and Special Education, at the University of Maryland, College Park. I am inviting you to participate in this research project because you are **at least 18 years old** and have been identified as **an international student**. The purpose of this research is to better understand the factors that help international students adjust to their experience of living in the United States. The results of this study may be helpful to counselors and college student personnel in assisting future international students in their cultural adjustment.

Procedures

This should require about 15-20 minutes of your time. The survey will ask you about your experiences in adjusting to life in the US. At the end of the survey, you will be asked if you are willing to be contacted for a follow up. If you agree to be contacted, you may receive an email in 8-10 weeks. The follow-up survey will feature questions similar in length and content to the survey you will complete today.

As a token of appreciation for your time today, you will be invited to enter your email address into a raffle to win 1 of 15 \$10.00 Amazon gift cards. If you are contacted to complete the Part 2 survey *and* you complete the survey, you will be given a complimentary Amazon MP3 gift card.

Potential Risks and Discomforts

You may experience some negative feelings in response to some of the survey questions about various stressors you may have experienced in the US. You may exit the survey at any point should any questions in the survey raise any negative feelings for you.

Potential Benefits

Although there are no direct benefits from your participation in this research study, the results of the study may help the investigators understand more about the factors that facilitate adjustment in the college environment for international college students. Through improved understanding of these factors, we hope to support the development of interventions that counselors and college student personnel could use to assist future international college students.

Confidentiality

You will not be required to provide any information that may link your identity to your survey responses. For those participants who submit their email addresses for Part 2 of the study or for the raffle, only the investigator will have access to it.

We will do our best to minimize any potential loss of confidentiality. The data will be collected via an online survey provider and stored in the survey provider's database, which is only accessible with a password. Once the information is downloaded from the online survey provider, it will be stored in a password-protected laptop computer.

Permission will only be given to the investigators to access the data. Any reports based on the survey information will only present the results in aggregate form (e.g., group averages). Individual survey responses will never be reported.

Right to Withdraw and Questions

Your participation in this research is completely voluntary. You may choose not to take part at all. If you are a student, your grades or standing with the university will not be positively or negatively affected by your decision to participate or not participate in this research project. If you decide to participate in this research, you may stop participating at any time by closing your web browser. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

If you have questions, concerns, or complaints, please feel free to contact the investigator(s): Ijeoma Ezeofor at ijeoma@umd.edu; 3214 Benjamin Building, University of Maryland, College Park, MD 20742 or Dr. Robert W. Lent at boblent@umd.edu; 3207 Benjamin Building, University of Maryland, College Park, MD 20742; (301) 405-2878

Participant Rights

If you have questions about your rights as a research participant, please contact:

**University of Maryland College Park
Institutional Review Board Office
1204 Marie Mount Hall
College Park, Maryland, 20742
E-mail: irb@umd.edu
Telephone: 301-405-0678**

This research has been reviewed and approved by the University of Maryland, College Park IRB according to procedures for research involving human subjects.

Statement of Consent

By selecting your choice below you are indicating your right to consent or not consent electronically. Selecting “Yes, I Consent” and clicking on the “Continue” button below indicates that you are at least 18 years old and have read and understand the terms of this study and thus voluntarily agree to participate. If you do NOT wish to participate in this study, please select “No, I DO NOT Consent” and click “CONTINUE” to decline participation

Appendix C: Screening Page



I am at least 18 years old.

- Yes
- No

I am an international student (e.g., F-1 visa holder).

- Yes
- No

Appendix D: English Competency Questions



Instructions: The following set of questions asks about your level of English language proficiency. Please select the answer choice that best describes you.


	Not Fluent	Somewhat Fluent	Mostly Fluent	Very Fluent
How fluent are you in speaking English?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not Good	Somewhat Good	Pretty Good	Very Good
How good are you at understanding spoken English?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not Often	Somewhat Often	Pretty Often	Very Often	All the Time
How often do you communicate in English?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not Comfortable	Somewhat Comfortable	Mostly Comfortable	Very Comfortable
How comfortable are you communicating in English?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix E: Demographic Questionnaire



UNIVERSITY OF
MARYLAND

Please answer all the demographic questions below. Your responses will be used to describe participants in general, and at no time will they be reported individually. Please do not omit any questions.

Age:

Gender:

Male

Female

Other, please specify:

Your country of origin (first you will select the continent and then you will select the country):

Please select your continent

Please select your country

Your country of birth (for some people their country of origin differs from their country of birth. Only answer this question if this is true for you):

Please select your continent

Please select your country

Racial identity (We understand that this question may not fit for you and invite you to select "Not Applicable". However, if any of the descriptors below do fit you, please select all that apply)

White/European Origin

Black/African Origin

Asian Origin

Latino/Hispanic

Bi-racial/Multi-racial

Other (Specify:)

Prefer not to say

Not Applicable

Number of MONTHS in the US (1 year = 12 months):

Are you the 1st in your family to go to college in the US?

- No, one or more of **my parents** went to college in the US
- No, one or more of **my siblings** went to/is in college in the US
- Yes, I am the 1st in my family to go to college in the US
- Other (*Please specify*):

Level in University:

- Freshman (1st Year)
- Sophomore (2nd Year)
- Junior (3rd Year)
- Senior (4th Year)
- Graduate Student
- Other (*Please specify*):


University Type:

- 4-Year
- 2-Year
- Other (*Please specify*):

University Region:

- | | |
|----------------------------------------------------|-------------------------------------------------------|
| <input type="radio"/> Northwest (e.g., OR, WY, MT) | <input type="radio"/> Southeast (e.g., FL, LA, NC) |
| <input type="radio"/> West (e.g., CA, AK, HI) | <input type="radio"/> Northeast (e.g., MA, CT, ME) |
| <input type="radio"/> Southwest (e.g., TX, OK, UT) | <input type="radio"/> Mid-Atlantic (e.g., VA, MD, NY) |
| <input type="radio"/> Midwest (e.g., KS, NE, IN) | |

Appendix F: Prior U.S. Cultural Exposure Questionnaire

 UNIVERSITY OF MARYLAND							
Prior to moving to the US as an international student, I...							
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;">True</th> <th style="width: 25%; text-align: center;">False</th> </tr> </thead> </table>		True	False			
	True	False					
...attended school in the US and earned a diploma or degree from a U.S. school.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> </tr> </table>		<input type="radio"/>	<input type="radio"/>			
	<input type="radio"/>	<input type="radio"/>					
...studied abroad in the US, but did not earn my diploma or degree from a U.S. school.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> </tr> </table>		<input type="radio"/>	<input type="radio"/>			
	<input type="radio"/>	<input type="radio"/>					
...traveled to the US as a tourist or visitor.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> </tr> </table>		<input type="radio"/>	<input type="radio"/>			
	<input type="radio"/>	<input type="radio"/>					
...had family or close friends living in the US with whom I have discussed their experiences.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> <td style="width: 25%; text-align: center;"><input type="radio"/></td> </tr> </table>		<input type="radio"/>	<input type="radio"/>			
	<input type="radio"/>	<input type="radio"/>					
Prior to moving to the US as an international student, I...							
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 15%; text-align: center;">Not Often</th> <th style="width: 15%; text-align: center;">Somewhat Often</th> <th style="width: 15%; text-align: center;">Pretty Often</th> <th style="width: 15%; text-align: center;">Very Often</th> <th style="width: 20%; text-align: center;">Every Day</th> </tr> </thead> </table>		Not Often	Somewhat Often	Pretty Often	Very Often	Every Day
	Not Often	Somewhat Often	Pretty Often	Very Often	Every Day		
...watched U.S. media (e.g., TV, films).	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 20%; text-align: center;"><input type="radio"/></td> </tr> </table>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
...listened to music from the US.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 15%; text-align: center;"><input type="radio"/></td> <td style="width: 20%; text-align: center;"><input type="radio"/></td> </tr> </table>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		

Appendix G: Riverside Acculturation Stress Inventory (RASI)

Instructions: We are interested in understanding your experience of adjusting to the US as an international student. Using the 1-5 scale below, please indicate your level of agreement with each of the statements below.

Scale Points

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

Items

1. It's hard for me to perform well at work because of my English skills.
2. I often feel misunderstood or limited in daily situations because of my English skills.
3. It bothers me that I have an accent.
4. I feel discriminated against by mainstream Americans because of my cultural/ethnic background.
5. I have been treated rudely or unfairly because of my cultural/ethnic background.
6. I feel that people very often interpret my behavior based on their stereotypes of what people of my cultural/ethnic background are like.
7. I have had disagreements with people of my own cultural/ethnic group (e.g., friends or family) for liking American ways of doing things.
8. I feel that my particular cultural/ethnic practices have caused conflict in my relationships.
9. I have had disagreements with Americans for having or preferring the costumes of my own ethnic/cultural group.
10. I feel that there are not enough people of my own ethnic/cultural group in my living environment.
11. I feel that the environment where I live is not multicultural enough; it doesn't have enough cultural richness.
12. When I am in a place or room where I am the only person of my ethnic/cultural group, I often feel different or isolated.
13. Because of my particular ethnic/cultural status, I have to work harder than most Americans.
14. I feel the pressure that what "I" do is representative of my ethnic/cultural group's abilities.
15. In looking for a job, I sometimes feel that my cultural/ethnic status is a limitation.

Appendix H: Index of Sojourner Social Support (ISSS)

Instructions: Read each item and consider if there are people in the US and/or outside the US with whom you maintain some form of regular contact who would perform the helpful behaviors described below. Using the 1-5 scale below, please indicate how many people would do these behaviors.

Scale Points

- 1 = No One Would Do This
- 2 = Someone Would Do This
- 3 = A Few Would Do This
- 4 = Several Would Do This
- 5 = Many Would Do This

Items

How many people would:

1. Comfort you whenever you feel homesick.
2. Listen and talk with you whenever you feel lonely or depressed.
3. Share your good and bad times.
4. Spend some quiet time with you whenever you do not feel like going out.
5. Spend time chatting with you whenever you are bored.
6. Accompany you to do things whenever you need someone for company.
7. Visit you to see how you are doing.
8. Accompany you somewhere even if he or she doesn't have to.
9. Reassure you that you are loved, supported, and cared for.
10. Provide necessary information to help orient you to your new surroundings.
11. Help you deal with some local institutions' official rules and regulations.
12. Show you how to do something that you didn't know how to do.
13. Explain things to make your situation clearer and easier to understand.
14. Tell you what can and cannot be done in Singapore.
15. Help you interpret things that you don't really understand.
16. Give you some tangible assistance in dealing with any communication or language problems that you might face.
17. Explain and help you understand the local culture and language.
18. Tell you about available choices and options.

Note: The first 9 items are from the socioemotional support subscale and the second 9 items are from the instrumental support subscale.

Appendix I: Vancouver Index of Acculturation (VIA)¹

Instructions: Moving to the US can require adjusting to a lot of new things. Using the 1-9 scale below, please tell us how well the following statements reflect the things you have done to adjust to the cultural differences and challenges you've experienced since moving to the US.

Scale Points

- 1 = Strongly Disagree
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9 = Strongly Agree

Items

The things that have helped me in coping with the challenges of living in the US are:

1. Participating in my heritage cultural traditions.
2. Participating in mainstream American cultural traditions.
3. Enjoying social activities with people from the same heritage culture as myself.
4. Enjoying social activities with typical American people.
5. Interacting with people of the same heritage culture as myself.
6. Interacting with typical American people.
7. Enjoying entertainment (e.g. movies, music) from my heritage culture.
8. Enjoying American entertainment (e.g. movies, music).
9. Behaving in ways that are typical of my heritage culture.
10. Behaving in ways that are typically American.
11. Maintaining or developing the practices of my heritage culture.
12. Maintaining or developing American cultural practices.
13. Retaining or adopting the values of my heritage culture.
14. Retaining or adopting mainstream American values.
15. Enjoying the jokes and humor of my heritage culture.
16. Enjoying American jokes and humor.
17. Making friends from my heritage culture.
18. Making American friends.

Note: The odd-numbered items represent the heritage subscale. The even-numbered items represent the mainstream subscale.

¹ This measure was modified for the present study.

Appendix J: International Student Coping Self-Efficacy Scale (ISCSES)²

Instructions: We are interested in understanding how well you believe you could cope with each of the following barriers, or problems, that an international student might face in adjusting to the US. Using the 1-5 scale below, please indicate your confidence in your ability to cope with, or solve, each of the following problem situations.

Scale Points

- 1 = Not at all Confident
- 2 = A Little Confident
- 3 = Moderately Confident
- 4 = Very Confident
- 5 = Extremely Confident

Items

How confident are you in your ability to:

1. Study in an educational system that is different from the educational system in your home country
2. Understand a professor who lectures in English
3. Communicate effectively with people in English based on your English language skills
4. Socialize effectively with Americans using the appropriate social customs
5. Cope with missing your family and friends back in your home country
6. Cope with having relatively few or no students from your country to socialize with
7. Find ways to maintain traditional cultural practices while in the US
8. Maintain your confidence in your academic skills, despite occasional disappointments
9. Locate items that you desire from your home country (e.g., food, movies, clothing)
10. Manage differences between what your family back home wants you to do after school and what you want
11. Cope with situations in which people mistake or stereotype your cultural background
12. Deal effectively with the requirements for international students to live and work in the US (e.g., OPT, CPT, visa status)
13. Cope with people discriminating against you because you are not from the US
14. Maintain contact with loved ones back home despite situational challenges, such as differences in time zones
15. Deal with financial pressures related to living in the US

² This measure was created for the present study.

Appendix K: Generalized Self-Efficacy Scale (GSES)

Instructions: Using the 0-3 scale provided, please rate how true the following statements are for you.

Scale Points

- 0 = Not at all True
- 1 = Hardly True
- 2 = Moderately True
- 3 = Exactly True

Items

1. I can always manage to solve difficult problems if I try hard enough.
2. If someone opposes me, I can find the means and ways to get what I want.
3. It is easy for me to stick to my aims and accomplish my goals.
4. I am confident that I could deal efficiently with unexpected events.
5. Thanks to my resourcefulness, I know how to handle unforeseen situations.
6. I can solve most problems if I invest the necessary effort.
7. I can remain calm when facing difficulties because I can rely on my coping abilities.
8. When I am confronted with a problem, I can usually find several solutions.
9. If I am in trouble, I can usually think of a solution.
10. I can usually handle whatever comes my way.

Appendix L: Satisfaction with Life Scale (SWLS)³

Instructions: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

Scale Points

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Slightly Disagree
- 4 = Neither Agree or Disagree
- 5 = Slightly Agree
- 6 = Agree
- 7 = Strongly Agree

Items

1. In most ways my life in the US is close to my ideal.
2. The conditions of my life in the US are excellent.
3. I am satisfied with life in the US.
4. So far I have gotten the important things I want in life in the US.
5. If I could start my life in the US over, I would change almost nothing.

³ This measure was modified for the present study.

Appendix M: Email Invitation to International Students

Hi!

Are you an international student? Are you currently experiencing or did you once experience challenges in adjusting to life in the US? If you answered “Yes!” to these questions, I’m curious to hear from you!

You are receiving this email because you may be eligible to participate in a research study I’m conducting. I’m a graduate student at the University of Maryland, College Park and I’m working on my dissertation, which explores the cultural adjustment of international students studying at U.S. universities.

Any international student attending a U.S. college or university and who is at least 18 years old is eligible to participate in this study. The survey is short (15-20 minutes), confidential, and anonymous. Here is the link for the survey:

https://umdsurvey.umd.edu/SE/?SID=SV_b47xgh45MQyzro1

Participation in this survey is completely voluntary. As a token of my appreciation for your participation, you will be invited to enter a raffle for **a chance to win 1 of 15 \$10 Amazon.com gift cards**. Your survey responses will not be connected to your raffle entry.

Your participation in this study is highly appreciated. The information you provide may help researchers and counselors better understand the cultural adjustment of international students studying in the U.S. colleges.

If you have any questions, please feel free to contact me at [intlstdntcopingstudy@umd.edu](mailto:intlstndntcopingstudy@umd.edu). Thanks in advance for your time!

Ijeoma

This project (663141-1) has been approved by the University of Maryland, College Park Institutional Review Board. This research is being conducted by Ijeoma Ezeofor, M.A., doctoral candidate in the Department of Counseling, Higher Education, and Special Education, under the supervision of Robert W. Lent, Ph.D., faculty advisor in the Department of Counseling, Higher Education, and Special Education at the University of Maryland, College Park. If you have any questions regarding your rights as a participant in this research, you can contact: University of Maryland College Park Institutional Review Board Office, 1204 Marie Mount, College Park, MD 20742 (301-405-0678; irb@umd.edu).

Appendix N: Campus Flyer

Research opportunity for **INTERNATIONAL STUDENTS!**

Complete a **15-20 minute** online study for a chance to earn a **\$10 Amazon gift card**

This study explores international students' experience of coping with stress.

<http://ter.ps/8oz>

Questions??

Contact International Student Coping Study at
intlstudentcopingstudy@umd.edu

International Student Coping Study

Chance to earn \$10

<http://ter.ps/8oz>

International Student Coping Study

Chance to earn \$10

<http://ter.ps/8oz>

International Student Coping Study

Chance to earn \$10

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International Student Coping Study

Chance to earn \$10

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Appendix O: Letter to Offices of International Affairs

Dear <<insert>>,

My name is Ijeoma Ezeofor and I am a doctoral candidate at the University of Maryland, College Park. I am contacting you in the hopes that the <<insert>> may be able to assist me with my research study.

Would you be willing to share my survey with your international student community? I am currently conducting my IRB-approved dissertation study on the cultural adjustment experiences of international students. The study is hosted online and asks participants to complete several measures related to their cultural adjustment experience. To better understand the factors that contribute to their adjustment, I would like to recruit several hundred participants. Hence, I have requested IRB approval from my university to recruit international students from other universities. I can provide the IRB letter of approval upon request.

If you would be willing to share my survey, I would truly appreciate it and have included the text to forward to your students along with the survey link in the section below the line. If not, I understand and thank you for your time. If you are unsure, I am happy to answer any questions you may have. Thank you!

Ijeoma

Email Invitation to International Students

Hi!

Are you an international student? Are you currently experiencing or did you once experience challenges in adjusting to life in the US? If you answered “Yes!” to these questions, I’m curious to hear from you!

You are receiving this email because you may be eligible to participate in a research study I’m conducting. I’m a graduate student at the University of Maryland, College Park and I’m working on my dissertation, which explores the cultural adjustment of international students studying at U.S. universities.

Any international student attending a U.S. college or university and who is at least 18 years old is eligible to participate in this study. The survey is short (15-20 minutes), confidential, and anonymous. Here is the link for the survey:

https://umdsurvey.umd.edu/SE/?SID=SV_b47xgh45MQyzro1

Participation in this survey is completely voluntary. As a token of my appreciation for your participation, you will be invited to enter a raffle for **a chance to win 1 of 15 \$10**

Amazon.com gift cards. Your survey responses will not be connected to your raffle entry.

Your participation in this study is highly appreciated. The information you provide may help researchers and counselors better understand the cultural adjustment of international students studying in the U.S. colleges.

If you have any questions, please feel free to contact me at intlstdntcopingstudy@umd.edu. Thanks in advance for your time!

Ijeoma

This project (663141-1) has been approved by the University of Maryland, College Park Institutional Review Board. This research is being conducted by Ijeoma Ezeofor, M.A., doctoral candidate in the Department of Counseling, Higher Education, and Special Education, under the supervision of Robert W. Lent, Ph.D., faculty advisor in the Department of Counseling, Higher Education, and Special Education at the University of Maryland, College Park. If you have any questions regarding your rights as a participant in this research, you can contact: University of Maryland College Park Institutional Review Board Office, 1204 Marie Mount, College Park, MD 20742 (301-405-0678; irb@umd.edu).

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