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An Evaluation of Culture-specific Risk Factors and Emotion Regulation Strategies on Psychological Distress and Maladaptive Behaviors among Asian Americans

by

Joo-Hyun Lee

Thesis

Submitted to the Department of Psychology

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Abstract

Cultural context is fundamental in cross-cultural conceptualizations of risk factors for mental health status among ethnic minorities. Existing studies indicate that acculturation level predicts psychological adjustment, but findings remain inconclusive. This study, consisting of university students of Asian descent, evaluated the relationship between acculturation level and internalizing/externalizing problems via the incorporation of more proximal measures of risk factors associated with acculturation (e.g., acculturative dissonance and acculturative stress). In addition, the predictive values of non-culture specific risk factors, such as emotion dysregulation and experiential avoidance, were examined. Acculturation-related stressors and difficulties with emotion regulation increased risk for maladjustment within the study's sample. Furthermore, experiential avoidance and emotion dysregulation mediated and moderated the relationship between acculturative stress and psychological distress, respectively. The findings suggest that acculturation influences psychological adjustment through a number of factors, including acculturation-related stressors as well as emotion regulation difficulties.

Table of Contents

Abstract ii

Chapter 1: THE PROBLEM 1

Chapter 2: REVIEW OF THE LITERATURE 4

The Model Minority Myth 4

Acculturation 6

Acculturation of Asian Americans 7

Berry's Model of Acculturation 8

Acculturation and Mental Health 11

Acculturative Stress Theory 12

Acculturative Dissonance Theory 15

The Contributions of Acculturation to Problematic/Excessive Behaviors 17

Smoking and Asian Americans 18

Sexual Behavior among Asian Americans 20

Substance Abuse among Asian Americans 26

Emotion Regulation 31

Experiential Avoidance 33

Experiential Avoidance and Problematic Behaviors 36

Rationale of the Current Study and Hypotheses 38

Chapter 3: METHODS 44

Participants 45

Measures 46

Demographic Information 46

Acculturation Level 46
Acculturative Dissonance 47
Acculturative Stress 48
Emotion Regulation 49
Experiential Avoidance..50
Psychological Distress 50
Problematic/Maladaptive Behaviors..51
Chapter 4: RESULTS 53
Preliminary Analyses..53
Pearson Correlations 55
Non-parametric Bootstrapping Analyses..56
Hierarchical Regression Analyses 57
Chapter 5: DISCUSSION 61
Limitation..66
Implications and Future Research..68
Conclusion 70
REFERENCES 71
TABLES AND FIGURES 104
APPENDIXES
A. Informed Consent..112
B. Demographic Questionnaire 114
C. Acculturation Rating Scale-II (ARS-II)..117
D. Intergenerational Conflict Inventory (ICI)..120

E. Riverside Acculturation Stress Inventory (RASI) 123

F. Difficulties in Emotion Regulation Scale (DERS) 126

G. Acceptance and Action Questionnaire-II (AAQ-II) 130

H. General Health Questionnaire (GHQ-12) 132

I. Composite Measure of Problem Behaviors (CMPB)..135

List of Tables

Table

1 Means, Standard Deviations, and Internal Consistency Reliability for Study Variables 104

2 Skewness and Kurtosis Statistics for Study Variables....105

3 Pearson Bivariate Correlations Matrix of Study Variables....106

4 Summary of Hierarchical Regression Analyses for Variables Predicting Psychological Adjustment....107

5 Hierarchical Regression Analyses for Variables Predicting Psychological Distress.......108

List of Figures

Figure

1 Mediator Model: Effect of Acculturative Stress on Psychological Distress through Experiential Avoidance....109

2 Significant Two-way Interaction Effect of Acculturation Stress and Emotion Dysregulation on Psychological Distress....110

Chapter I: The Problem

In 2009, over 37 million foreign-born individuals were estimated to be living in the United States (U. S. Census Bureau, 2010). Of the 37 million individuals, over 1 million individuals identified Asia as their region of origin. This group is calculated to be the second largest in the United States. Despites its growing size, the Asian-American population has often been understudied in terms of mental health needs (Sue, Nakamura, Chung, & Yee-Bradbury, 1994), resulting in a significant gap within the mental health literature. Popular characterization of Asian Americans as a "model minority" (Peterson, 1966), which highlighted the group's academic and economic success despite disadvantages associated with their ethnic minority status, may have inadvertently contributed to the lack of research. However, a large body of literature indicates that Asian Americans are more distressed than expected (Herrick & Brown, 1998; Nguyen & Peterson, 1993; Okazaki, 1997; Sue et al., 1994). Both psychological and behavioral problems are thought to be amplified by traditional acculturation challenges that lead to increased psychological distress and rising indicators of problematic/risky behaviors (Oh, Koeske, & Sales, 2002; Shen & Takeuchi, 2001; Suinn, 2010; Williams & Berry, 1991). Although understanding culture-specific factors and their contribution to psychological adjustment can help researchers identify those at risk, results within this body of literature have been inconsistent and have prevented greater clarity about causal and maintaining factors.

To bridge the gap in the literature, the current study explored the relationships between previously studied culture-specific risk factors such as acculturation, acculturative stress, and acculturative dissonance and the manners in which these factors are related to vulnerability to psychological distress and maladaptive/problematic behaviors. However, as the notion of acculturation represents the processes of coping and adjustment (Shen & Takeuchi, 2001), it was

hypothesized that acculturation and related stressors may be related with other factors that impact mental health. Emotion regulation difficulties, including experiential avoidance, were conceptualized to be factors that may aid in understanding the above-noted variance in the acculturation literature. Indeed, there is a growing evidence base supporting experiential avoidance as a construct that mediates and/or moderates relationships between stressors and negative psychological outcomes (Kingston, Clarke, & Remington, 2010; Masuda, Price, & Latzman, 2011), with an emerging conceptualization of experiential avoidance as a generalized psychological vulnerability (Kashdan, Barrios, Forsyth, & Steger, 2006).

The purpose of this study was to better identify the cultural mechanisms associated with psychological distress and problematic behaviors, and to clarify the role of experiential avoidance in the process of acculturation as it relates to negative psychological outcomes. Stressors due to acculturation need to be investigated from multidimensional and multidisciplinary perspectives, focusing on the interrelatedness of risk parameters in real-life contexts (Berry & Kim, 1988). The current study explored the quality of the relationship between acculturation, acculturative dissonance, acculturative stress, emotion regulation, experiential avoidance, and their predictive strength for psychological distress and excessive/maladaptive behaviors among Asian American university students, by testing a tenable model based on theoretical considerations and previous research findings.

This review of the literature begins with an overview of the model minority myth and the resulting misconceptions. A brief history of acculturation outlining the progression of the construct follows. Acculturative dissonance was explored to lend clarity to how immigrant families and their members may differ in their levels of acculturation and how the differences relate to psychological adjustment and maladaptive behaviors among Asian Americans.

Literature pertaining to the relationship between acculturation level and psychological distress/problematic behaviors was also presented as the current study focused primarily on the aforementioned indicators of psychological maladjustment. Emotion dysregulation and its relationships to psychological distress and problematic behaviors were also explored.

Chapter Two: Review of the Literature

The Model Minority Myth

"Model minority" is a popular label and image used to portray Asian Americans. The term was coined in the 1960s (Peterson, 1966). It depicted Asian Americans as minorities who achieved greater success in various contexts than other racial minority groups. Indeed, according to aggregated data, it was found that Asian American households had the highest median income at $65,469 with Whites, Blacks, and Hispanics at $51,861, $32,584, and $38,039, respectively (U.S. Census Bureau, 2009). Moreover, Asian Americans were the most successful group, by percentage (U.S. Census Bureau, 2007), in attaining both a Bachelor's Degree (49.5%) and a Graduate Degree (19.6%) when compared to Whites (29.1%; 10.7%), Blacks (17.3%; 5.8%), and Hispanics (12.5%; 3.9%).

A cursory examination of these results paints Asian Americans as a group that is high-achieving, whose economic and academic success has often precluded them from being viewed as a disadvantaged minority group. Extremely low admission rates to state hospitals (Jew & Brody, 1967) and low utilization of outpatient mental health services (Cheung, 1980; Sue & Morishima, 1982) further augmented the belief that Asian Americans were a group that remained resilient and immune from emotional breakdown and behavioral problems despite discrimination and adversities generally associated with being immigrants (Lin & Cheung, 1999). However, an emerging body of literature consistently indicates that mental health issues such as depression and anxiety are growing increasingly salient among Asian Americans (Gee, 2004; Greenberger & Chen, 1996; Nguyen & Peterson, 1993; Okazaki, 1997). Indeed, a study examining a clinical sample of 1,166 college students from various universities found that Asian Americans reported the highest level of psychological distress among all surveyed racial groups (Kearney, Draper, &

Baron, 2005). Moreover, even when controlling for constructs typically associated, or confounded, with ethnicity (i.e., personality style), Abe and Zane (1990) reported that Asian-American students born overseas endorsed higher levels of interpersonal/intrapersonal distress than did their White American counterparts. Epidemiological studies have also raised concerns about problematic/risky (i.e., drinking, smoking, substance use, etc.) behaviors among Asian Americans. Although past studies have suggested that Asian Americans engage in fewer risky behaviors than their Caucasian counterparts (Austin, 1999; Sasao, 1994; Skager & Austin, 1993), recent research suggests these behaviors to be growing increasingly problematic within this population (Hahm, Wong, Huang, Ozonoff, & Lee, 2008; Haracchi, Catalano, Kim, & Choi, 2001; Lew & Tanjasiri, 2003).

Taken together, the findings suggest that public portrayals of Asian Americans as a well-adjusted ethnic minority group do not accurately reflect reality. However, despite the need, mental health is often overlooked among Asian Americans and researchers who study them. In fact, Choi (2002) commented that Asian Americans are one of the least studied groups when it comes to mental health issues. The current gap in the literature is surprising, considering the fact that Asian Americans are one of the fastest growing ethnic minority groups in the United States (U. S. Census Bureau, 2010) and that there are typically links between immigration and related factors to mental health and psychosocial functioning (Williams & Berry, 1991). Despite research replicating mainstream findings which confirm that mainstream risk factors (e.g., stress, social support, poor physical health, etc.) increase psychological vulnerability for Asian Americans (Hwang, Myers, & Takeuchi, 2000; Takeuchi et al., 1998), an understanding of how culture-related factors contribute to mental health difficulties remains limited.

Acculturation

Acculturation is the term used to describe the process in which immigrants may change their behaviors or values when in direct contact with a host culture that is different from their natal culture (Berry, 1980). In the United States, acculturation became a construct of significant interest toward the early part of the 20th century when rapid industrialization of the country and the need for laborers fueled the sharp influx of migrant workers into the country (Marin, Organista, & Chun, 2003). With the rise in the number of immigrants, social scientists were all the more compelled to try to explain how individuals adapted and changed to a new, foreign environment.

The definition of acculturation continues to evolve via continued research concerning the psychological underpinnings of immigration. In 1936, Redfield, Linton, and Herskovitz (as cited in Barry, 1990) stated, “Acculturation comprehends those phenomena which result when groups of individuals having different cultures come into continuous first hand contact, with subsequent changes in the original culture patterns of either or both groups” (p. 9). Graves’ (1967) theory of *psychological acculturation* helped transition this cultural-level, or group-level, focus associated with the concept of acculturation to a more individual level. Group level acculturation entails a variety of broad changes such as economic, technological, social, cultural, and political transformation whereas individual-level acculturation, or “psychological acculturation,” entails changes in the psychosocial characteristics (e.g., behavioral, cognitive, etc.) of the individual. Overall, the contemporary definition of acculturation implies that the environmental and individual characteristics and preferences are critical in understanding the process of acculturation as they shape attitudes, beliefs, values, and behaviors of an individual, and have implications on how an individual adapts to and functions in a mainstream or host society.

Acculturation of Asian Americans. To date, one of the most extensively researched culture-related risk factors in Asian Americans is level of acculturation. Much of the acculturation-health literature is focused on understanding the relationship between level of acculturation and health and psychosocial functioning. For example, significant relationships have been found between acculturation level and self-esteem (Tewari & Yanico, 1996), depression (Lam, Pacala, & Smith, 1997; Nguyen & Peterson, 1993), type and severity of presenting problems (Gim, Atkinson, & Whiteley, 1990), attitudes towards seeking professional psychological help (Atkinson & Gim, 1989), attitudes toward mental health services, and preferred sources of help (Ponterotto, Blauch, & Carielli, 1998).

In one of the earliest models of Asian American acculturation, Sue and Sue (1973) developed a model of personality development in Chinese Americans residing in the United States. Based on their case studies, Sue and Sue (1973) investigated how personality may be shared depending on the actions that individuals take toward traditional values while living in an American society. They identified three different personality types that may be adopted by an individual: the *traditionalist*, *marginal man*, and *Asian-American*. Sue and Sue (1973) believed that the personality type was determined by the decision to either conform or to rebel against parental values.

An individual with traditionalist personality was thought to adopt the separation strategy in which the person's primary allegiance is to his/her family. In other words, his/her self-worth is dependent on bringing honor and pride to the family name. In contrast to the traditionalist, the marginal man defines his/her self-worth on the acceptance of the major society, thereby rejecting both parental and Chinese values. Finally, the Asian American defines him- or herself through

the ability to create a new identity that involves the preservation of Chinese values while rejecting absolute parental authority.

Despite representing one of the first important steps in understanding the unique experiences of Asian Americans, Sue and Sue (1973)'s model has been criticized for reducing ethnic identity to static, over-simplified terms, without consideration for within-group differences in such variables as generation, age, and gender (Yeh & Huang, 1996). Moreover, it was argued that this model did not recognize the many identities or range of ways of expressing one's ethnic identity and contributed to stereotypes and overgeneralizations about Asian Americans in Western society.

Berry's model of acculturation. Acculturation was originally conceptualized as a unidimensional process in which retention of the heritage culture and acquisition of the receiving culture were cast as opposing ends of a single continuum (Gordon, 1964; Marin, Organista, & Chun., 2003). According to this model, the acculturation process was initially considered linear, where the individual either fully identified with the natal culture or the host culture, exempting the possibility of identifying with both cultures on different levels. The major criticism of this one-dimensional model of acculturation is that it assumed the mutual exclusion of the two cultural identities (Rogler, Cortes, & Malgady, 1991).

Modern theorists now believe the process of acculturation occurs on various dimensions (or levels), resulting in many different outcomes in addition to assimilation (Berry, 1980). The one-dimensional model of acculturation was further conceptualized as a bi-dimensional process, where the process of acculturation was seen as occurring along the two dimensions of the culture of origin and the host culture (Berry, 1980, 1990; Berry & Sam, 1997). The bi-dimensional model of acculturation is based on an independence assumption, where the maintenance of ethnic

identity is independent from the development of the mainstream cultural identity. That is, the two dimensions vary independently from each other, with the individual having a preference in maintaining the culture of origin while also adapting to the host culture.

The most widely used bi-dimensional model of acculturation is the model developed by Berry and colleagues (Berry, 1988; 2003; Berry, Kim, Minde, & Mok, 1987). Berry posited four different acculturation outcomes that may arise as a result of the interaction between two cultures: 1) *separation* is the term used to describe when a person avoids the host culture completely and maintains his or her natal culture; 2) *integration/biculturalism* occurs when a person maintains the natal culture while simultaneously engaging in the host culture; 3) *assimilation* is the term used to describe when a person actively engages in the host culture and discards the natal culture completely; 4) *marginalization* occurs when the person has no connection to either the natal or host culture.

Berry's acculturation categories model (1980), however, is not without its criticisms. First, creating the 2 x 2 matrix of acculturation categories requires classifying individuals as high or low on receiving-culture acquisition and on heritage-culture retention. The predominant method of classifying individuals as high or low in categories have involved using a priori values, such as the sample median (e.g., Giang & Wittig, 2006) as cut points. Schwartz and colleagues (2010) argued that the cut point between high and low is arbitrary and will differ across samples, making comparisons across studies difficult. Furthermore, the use of a priori classification rules assumes that all four categories exist and are equally valid (Rudmin, 2003). Recent research have suggested that more rigorous method of classifying individuals (e.g., cluster analysis, latent analysis, etc.) may not extract all of the categories or may extract multiple variants of one or more categories (Schwartz & Zamboanga, 2008), suggesting that not all of Berry's categories

may exist in a given sample or population, and that some categories may have multiple subtypes (Schwartz, Unger, Zamboanga, & Szapocznik, 2008).

Second, the validity of marginalization as a possible acculturation outcome has been questioned (Del Pilar & Udasco, 2004). It was hypothesized that the marginalization approach may be viable only for the small segment of migrants who reject (or feel rejected by) both their heritage and receiving cultures (Berry, 2006). Indeed, studies using empirically based clustering methods yielded small or nonexistent marginalization groups (Schwartz & Zamboanga, 2008; Szapocznik, Kurtines, & Fernandez, 1980; Unger et al., 2002). Moreover, scales that attempt to measure marginalization were reported to have poor reliability and validity when compared to scales for other categories (Cuellar, Arnold, & Maldonado, 1995; Unger et al., 2002).

Third, despite acculturation literature indicating that acculturative process tends to be largely consistent across receiving countries (Berry, Phinney, Sam, & Vedder, 2006), some exceptions and discrepancies have emerged (e.g., Jasinskaja-Lahti, Liebkind, Horencyzk, & Schmitz, 2003). As a result, Schwartz and colleagues (2010) suggested exercising caution when generalizing the patterns of acculturation observed in the United States to other countries of settlement. Indeed, one of the major criticisms of the acculturation categories (Berry, 1980) concerns its “one size fits all” approach (Rudmin, 2003) that categorizes and characterizes all migrants equally, neglecting to examine the countries of origin and the ethnic group in question.

In sum, acculturation is a complex process of cultural changes. Indeed, researchers have recognized that during the process of acculturation, changes in orientation towards one’s cultural group and the host society can occur in multiple domains (Berry, 2003). As acculturation can affect behaviors and attitudes (Kim & Abreu, 2005), much of the current acculturation-health

literature is focused on understanding the relationship between level of acculturation and risk of health and psychological problems (Escobar & Vega, 2000).

Acculturation and mental health. The difficulties in translating a complex construct (i.e., acculturation) into empirical research is often challenging (Shen & Takeuchi, 2001), and as a result, many studies have failed to go beyond a simple test of the direct relationship between level of acculturation and level of symptomatology. Three types of relationships have been speculated with respect to the relationship between acculturation and mental health: positive, negative, and curvilinear (Rogler, Cortes, & Malgady, 1991).

Empirical research on acculturation and mental health status among ethnic minority groups has often yielded mixed findings. Indeed, empirical studies often do not demonstrate an obvious or consistent pattern of findings that can be identified. For example, while some studies have demonstrated that acculturation was inversely associated with measures of depression and maladjustment (Lam, Pacala, & Smith, 1997; Lang, Munoz, Bernal, & Sorensen, 1982; Masten, Penland, & Nayni, 1994), other studies yielded a positive relationship between acculturation and psychological maladjustment (Burnam et al., 1987; Nguyen & Peterson, 1993). Moreover, some studies failed to detect any significant relationship between acculturation and mental health outcomes (Lee, Crittenden, & Yu, 1996; Streltzer et al., 1996) with a few studies demonstrating mixed findings. For example, in their study of Mexican-Americans, Golding and Burnam (1990) found that while acculturation had no effect on the level of depression when demographic and Socioeconomic Status (SES) variables were considered, immigrant status (being U. S. born) predicted higher depression scores even when controlling for demographic and SES factors. Kaplan and Marks (1990), in a large community survey of Mexican-American individuals, revealed that the relationship between acculturation and depression varied as a function of the

age group in question. That is, higher acculturation level was found to be associated with increased depression scores among younger adults while it was related to lower depression scores among the older adults.

Although a vast majority of the literature within this area indicates the salutary effect of acculturation, the two major opposing positions, indicating at either the detrimental or non-significant effects of acculturation, cannot be ignored. Shen and Takeuchi (2001) attributed the inconsistency found among the various camps to methodological limitations. In their study of 983 Chinese Americans, through the usage of structural equation modeling, it was revealed that no significant path between depressive symptom severity and acculturation existed. The effect of acculturation on mental health was found to be primarily indirect with other factors (e.g., SES, personality characteristics, etc.) revealed to contribute to psychological disturbance. The results indicated that a myriad of psychosocial processes are involved in the relationship between acculturation and mental health among Chinese Americans, and merely testing the direct relationship between acculturation and mental health outcome may not adequately recognize the complex role acculturation plays in psychological functioning. Indeed, it was argued that level of acculturation "in and of itself is a descriptive umbrella term that does not necessarily increase or decrease risk for difficulties" (Hwang & Ting, 2008; p. 148). In an attempt to address these seemingly opposing results, Escobar (1998) asserted that a more direct and proximal measure of the risk for maladjustment associated with the process of acculturation must be identified.

Acculturative Stress Theory

Acculturation is a complex process of cultural change through a series of phases that take place over time. Progression through these phases is typically nonlinear, repetitive, and stressful (Berry & Kim, 1988). As such, acculturation has often been used to identify the groups expected

to be at higher risk for psychological maladjustment, However, Escobar (1998) argued that a more direct and proximal measure of the risk for maladjustment associated with the process of adjusting to a new culture is acculturative stress.

Acculturative stress can be referred to as a reduction in mental health and well-being of ethnic minorities that occurs during the process of acculturation (Lueck & Wilson, 2010). It refers to a specific kind of stress, that in which the stressors are identified as having their sources in the process of acculturation. Acculturative stress can be psychological, social, or physical and includes such difficulties as linguistic challenges, difficulty finding a job in the new country, discrimination, and nonacceptance by the host culture (Berry, 1998).

Acculturative stress is often viewed as a promising variable that may explain the opposing results found within the broader acculturation literature. Indeed, a number of studies have confirmed the relationship between acculturative stress and poor mental health among Latino immigrants (Gil, Vega, & Dimas, 1994; Hovey, 2000; Hovey & King, 1996). However, few empirical studies have examined this relationship in Asian immigrants (Hwang & Ting, 2008). Furthermore, the few studies that have been conducted on Asian Americans have yielded mixed findings. For example, in a study of 165 Korean and Indian adolescents, Thomas and Choi (2006) found that acculturative stress was positively associated with maladjustment, while other studies failed to uncover a similar relationship (Kim & Omizo, 2005, 2006). Hwang and Ting (2008) remarked that these mixed findings may be partially due to participant characteristics, sampling techniques, assessment instruments, and analytic techniques, but there is a growing body of evidence that attributes this variability to certain factors that mitigate the effects of acculturative stress on psychological distress, such as social support (Crockett et al., 2007).

While early views were that acculturation inevitably resulted in psychological stress (Berry & Annis, 1974), current views are that stress is linked to acculturation in a probabilistic way, with the levels of stress dependent on a number of factors ranging from characteristics of the acculturating individual to the nature of mainstream/host society (Berry, 1991). The most widely studied variable thought to be implicated in the experience of acculturative stress is that of social support (Berry, 1991). This refers to the presence of social and cultural institutions for the support of the acculturating individual and includes such factors as ethnic associations, residential ethnic enclaves, extended families, and the availability of one's original group. Research suggests high levels of acculturative stress to be positively associated with lack of social support, with social support being found to mediate the relationship between acculturative stress/stress level and depressive symptomatology (Choi, 1997). The stress-buffering effects of social support have been documented in previous studies among various ethnic minority groups (Gore & Aseltine, 1995; Liang & Bogat, 1994; Vega, Hough, & Miranda, 1985) as well as the general population (Cohen & Wills, 1985). However, contrasting evidence against the social support hypothesis was provided by Snyder's study (1987) with Mexican immigrant women. Interestingly, the study revealed that the participants who obtained high scores in social support also demonstrated high acculturative stress and depressive symptomalogy. In addition, three other studies with predominantly Latino college students found no evidence that social support moderated the association between stress and measures of either college adjustment or psychological distress (Alvan, Belgrave, & Zea, 1996; Rodriguez, Mira, Myers, Monis, & Cardoza, 2003; Solberg, Valdez, & Villarreal, 1994).

The seemingly opposing results within the acculturative stress literature may be partially due to the construct encompassing too broad a domain. Indeed, first-and second-generation

individuals may encounter different acculturative stressors that impact their psychological adjustment in different ways. First-generation immigrants may have issues with language and the overall transition process to the majority culture that can increase the level of daily life stressors. Conversely, second-generation immigrants are born and educated in the United States and may therefore be less likely to encounter language or cultural barriers typically faced by their first-generation counterparts (Rumbaut, 1996). Instead, second-generation individuals may experience difficulties with feeling a part of their own ethnic group, or experience increased family conflict due to the marked intergenerational cultural differences (Ying, Coombs, & Lee, 1999). Such "acculturation gaps" have often been linked to family conflict and adjustment (Ho & Birman, 2010) and represent a new construct through which the differential impact of acculturative stress can be investigated.

Acculturative Dissonance Theory

There are marked differences in second-generation immigrants' experience of acculturation and overall psychological adjustment (Lay & Nguyen, 1998) when compared to their first-generation counterparts. Indeed, many immigrant families may face an added immigration stressor of reconciling the differences between the parents' natal culture and the culture of their children's dominant environment, the host culture (Ying, Coombs, & Lee, 1999). As such, family relationships between the first- and second-generation immigrant families may differ, and one factor implicated in the variability found in the acculturation literature is acculturative dissonance, often argued to be a defining experience of immigrant families (Rumbaut & Portes, 2002). Indeed, Berry and Kim (1988) asserted that while mental health problems may manifest during acculturation, these outcomes are not inevitable. They contended that acculturation may either be beneficial or a detriment to one's psychosocial functioning,

depending on a variety of group and individual characteristics that moderate the acculturation process. Acculturative dissonance theory (Rumbat & Portes, 2002) was an attempt to integrate individual and contextual factors in acculturation to better examine the association between the level of acculturation and mental health.

Acculturative dissonance highlights the differing rates of acculturation among parents and children, with the parents acculturating at a slower pace than their children. Buki, Ma, and Strom (2003) reported that when Chinese immigrant mothers were asked to rate their own acculturation level in addition to the perceived acculturation level of their children, it was shown that the mothers consistently viewed their children as more acculturated than themselves. Rumbaut and Portes (2002) contended that this acculturation gap may incite conflict in the family unit, propelling the youth to find support elsewhere, which may lead maladaptive behaviors.

There is currently a growing body of literature examining the link between acculturative dissonance and behavioral problems/mental health. For example, Le and colleagues (2009) examined the association among acculturative dissonance, acculturation, and substance use among Cambodian, Chinese, and Vietnamese youth. It was found that a higher level of acculturative dissonance was related to higher reported rates of substance use among the Asian American youth sample. In addition, a study examining the influence of different stressors on Asian American youths' self-reported violent behavior (Ngo & Le, 2007) found that acculturative dissonance moderated the relationship between the two variables by aggravating the impact of stressors on the youths' violent behaviors. Similarly, Le and Stockdale (2008) found a significant association between youth violence and greater acculturative dissonance among the surveyed Asian American youths. Finally, in a study of 5, 264 immigrant students

from San Diego and Miami, Rumbaut (1996) found that one of the strongest predictors of depression in adolescents was the parent-child conflict.

Despite the findings supporting an acculturation gap, researchers have yet to agree upon a comprehensive acculturative dissonance theory. Indeed, Lau and colleagues (2005) argued against the negative impact of cultural differences and suggested that empirical evidence in support of this theory was lacking. In their study of Mexican American adolescents and their parents, it was found that the acculturation gap had no significant relationship with conduct problems among the sampled adolescents. However, as conduct problems can be considered an extreme form of psychological maladjustment, this outcome variable may not account for adolescents who express their distress differently (e.g., high anxiety or other maladaptive behaviors). Nonetheless, this finding alludes to a lack of cohesive or consistent empirical evidence in support of the acculturative dissonance theory. Indeed, acculturative dissonance theory would not explain findings in which a low level of acculturation (implying low acculturative dissonance) is inversely associated with the presence of maladaptive behaviors (Ma et al., 2004; Tong et al., 2008).

The Contributions of Acculturation to Problematic Behaviors

As noted, much of the acculturation-health literature is focused on understanding the relationship between the level of acculturation and risk of health problems and maladaptive behaviors (Escobar & Vega, 2000; Hwang, Chun, Takeuchi, Myers, & Siddarth). In that vein, the present study will examine, in addition to the overall mental health, three of the more extensively studied behaviors among Asian Americans: smoking, substance use, and risky/deviant sexual behavior.

Smoking and Asian Americans. Tobacco use among Asian Americans continues to be a growing public health challenge (Lew & Tanjasiri, 2003). Although a national survey (Center for Disease Control and Prevention, 2001) in the United States indicated that Asian Americans have the lowest reported smoking prevalence among major racial/ethnic groups (17.8% for men and 4.8% for women), the finding may not depict the most accurate portrayal of smoking among Asian Americans. For example, regional studies using the participants' native language have indicated higher rates of tobacco use among Asian Americans. Indeed, Lew and Tanjasiri (2003) found that smoking rates in Asian American men ranged from 26% in South East Asian men to more than 70% in Cambodian and Laotian men. Among Asian American women, the smoking rate ranged from 1-7%, with the Cambodian sub-sample endorsing a substantially higher rate. Similarly, one survey revealed that Asian American men were smoking at much higher rates (31% of Vietnamese; 31% of Korean American) than previously reported by the federal government (20%; as cited in National Asian Women's Health Organization, 1998). Another national survey also revealed that cigarette smoking among US South East Asians to be between 35-70% (World Health Organization, 1997). The current underestimation of the smoking rate among Asian Americans also belies the results of past studies which indicate that while heart disease is the leading disease of death in all US racial/ethnic groups, Asian Americans were the only exception (National Center for Health Statistics, 2007). For this group, cancer was revealed to be the number one killer, with lung and bronchus cancer in the lead.

The disparity among the findings with respect to the smoking rate among Asian Americans may be attributed to methodological limitations. One such limitation concerns the lack of examination with respect to the heterogeneity among the studied Asian subgroups. As currently developed, most surveys/studies consider Asian Americans as one homogeneous group,

ignoring the unique within-group and individual differences. One such difference is the variable impact of acculturation on the different ethnic groups. Indeed, many studies of ethnic populations have suggested that acculturation plays a key role with respect to health outcomes (i.e., smoking) among ethnic minority individuals (Choi, Rankin, Stewart, & Oka, 2008).

Interest in the effects of acculturation on tobacco use among Asian Americans is increasing with reports of high prevalence and the recognition that smoking is a major health concern among this population (U. S. Department of Health and Human Services, 1998). In a meta-analysis of 9 studies examining the effect of acculturation on smoking behavior in Asian Americans, Choi and colleagues (2008) found an average effect size of 5.26 for women, indicating that acculturated women were 5 times more likely to smoke than traditional women. In adolescents, the average effect size was 1.92, suggesting that acculturated adolescents were 2 times more likely to smoke than traditional adolescents. In a study that analyzed the data from the 1990-1996 California Tobacco Survey and the California Youth Tobacco survey, it was revealed that among the 1810 Asian American respondents, acculturated individuals were more likely to be smokers than their less-acculturated counterparts (Chen, Unger, Cruz, & Johnson, 1999). Furthermore, a telephone interview conducted among 2,830 Korean-American adults in California and 500 Korean adults in Seoul revealed that among the Korean-American women, acculturation was positively associated with smoking (Ji et al., 2004). The findings were consistent and similar within the adolescent population as well. Studies have indicated that smoking rates among Asian-American adolescents were significantly associated with level of acculturation: the more acculturated youths were more likely to be smokers while their less-acculturated counterparts, non-smokers.

Sexual behavior among Asian Americans. Most studies of sexual activity among Asian Americans have used adolescent and college student populations (Okazaki, 2002). Research to date has shown that Asian Americans have significantly lower frequency of sexual activity, higher median age of first sex, and fewer partners than other ethnic groups (Grunbaum, Lowwry, Kann, & Pateman, 2000; McLaughlin, Chen, Greenberger, & Biermeier, 1997; Meston, & Ahrold, 2008; Meston, Trapnell, & Gorzalka, 1996). For example, in a survey of 2,026 Los Angeles County high school students, Schuster, Bell, and Kanose (1996) found that Asian Americans were more likely to be virgins (73%) than were African Americans (50%), Latinos (43%), and White Americans (50%). Upon further examination of the same data, it was found that the Asian American adolescents were less likely to have initiated a vaginal intercourse at an early age and were less likely to have endorsed the participation of other heterosexual genital sexual activities than their non-Asian counterparts (Schuster, Bell, Nakajima, & Kanouse, 1998). Moreover, it was revealed that non-virgin Asian-American adolescents reported the lowest number of lifetime partners for vaginal intercourse, despite not demonstrating a difference in the reported frequency of sexual of activity from other ethnic groups. Another study, examining sexual activity among 877 Los Angeles County youths, reported similar findings (Upchurch, Levy-Storms, Sucoff, & Aneshensel, 1998). Indeed, the study revealed that Asian American males had the highest median age of first sex (18.1). Finally, an analysis of the National Youth Risk Behavior Survey Data (N = 52, 985) also revealed that Asian American youths were significantly less likely than Blacks, Hispanics, or White students to report engaging in sexual intercourse.

The patterns observed within the Asian American adolescent population extend to college students as well. Indeed, an analysis of the 1987-1988 survey of 153 Asian American college

students in Southern California revealed that the percentage of Asian Americans who were sexually active (47%) was significantly lower than their cohorts in the other ethnic groups (Cochran, Mays, & Leung, 1991). Another study, involving 346 Asian and 356 non-Asian Canadian college students, reported a significant and substantial ethnic difference (Meston, Trapnell, & Gorzalka, 1996) in all measures of interpersonal sexual behavior (i.e., light petting, heavy petting, oral sex, and intercourse) and sociosexual restrictiveness measures (i.e., lifetime number of sexual partners, number of sexual partners in the past year, predicted number of sexual partners, and lifetime number of one-night stands). Finally, a survey of 148 White American and 202 Asian American college students in Southern California (McLaughlin et al., 1997) also found that Asian American men (over 55%) and women (60%) were significantly more likely than White American men (25%) and women (less than 30%) to be virgins. Among the participants who were sexually experienced, Asian American men ($M = 2.3$) and women ($M = 2.2$) reported fewer lifetime sexual partners than White American men ($M = 5.5$) and women ($M = 3.5$).

Upon consolidating the findings, it appears that Asians Americans adopt a more conservative stance with respect to sexuality than their non-Asian counterparts, as evidenced by the older age of sexual activity initiation and lower number of partners. In an attempt to account for these findings, many researchers hypothesized that the discrepancy may reflect differences in cultural norms (East, 1998; Tseng & Hsu, 1970). Ng and Lau (1990) demonstrated that, relative to North American standards, Chinese culture places a greater emphasis on propriety and the observance of strict moral and social codes. Researchers have suggested that this social conservatism has led to the suppression of sexual needs and expression among the Chinese people (Suen, 1983; Tseng & Hsu, 1970). An alternative explanation of these findings is that

Asian Americans do not differ from non-Asians in their expression of sexual behavior but, rather, differ in their willingness to report sexual experiences. Indeed, it may be more culturally acceptable for non-Asians to report and/or disclose sexual encounters more openly than their Asian counterparts. However, considering the anonymity offered to the participants in a majority of the published studies, Meston and colleagues (1996) posited that the results reflect an actual difference in sexual activity due to divergent cultural norms. Indeed, Markus and Kitayama (1991) reviewed evidence suggesting that cultural differences in conceptions of the self (i.e., independent versus interdependent) have important implications in dictating social behavior. It has been suggested that these differences in individualist versus collectivist value orientation may account for differences in sexual attitudes and behavior between Asian and North Americans (Triandis, 1987, 1994).

Based on these findings, it may be expected that a higher level of identification with an individualist value orientation (i.e., acculturation) may instigate more sexual behavior among Asian Americans, via the adoption of North American sexual values. Indeed, the National Longitudinal Study of adolescent health, with a sample of 323 Asian American female adolescents and 366 Asian American male adolescents, found that acculturation was associated with elevated odds of sexual intercourse for young Asian American women (Hahm, Lahiff, & Barreto, 2006). Similarly, Huang and Uba (1992) found, among the 114 Chinese-American respondents, a positive association between the level of acculturation and the experience of premarital sexual intercourse. Furthermore, they reported a negative relationship between acculturation and age of first coital experience.

Despite these findings, it would be misleading to assume that acculturation solely accounts for the variability found in sexual behaviors among Asian Americans. Indeed, a

limitation with this approach is its inability to account for contradictory within-group findings. For example, in a survey of sexuality among non-Asian and Asian Canadians (Meston et al., 1996), it was revealed that the length of residency in Canada had no influence on any measure of interpersonal sexual behavior (i.e., oral sex, intercourse) among the Asian Canadian participants. In another study, Hahm and colleagues (2006) reported a positive correlation between sexual intercourse and acculturation among Asian American female adolescents, but the same association was not found among Asian American male adolescents. In an attempt to explain these findings, the investigators examined the role of parental attachment. Drawing from the work of Padilla (1991), they hypothesized that family support declines the longer the immigrant families live in the United States. This decline in family support due to acculturation was theorized to affect adolescent males and females differently. Indeed, they found that parental attachment was associated with decreased odds of sexual experience for young women, and while the same association was found within young men, the association became insignificant after controlling for other covariates.

The scope of research with respect to unhealthy sexual behaviors in the Asian American community is limited, highlighting the need for additional research with this population. Little is known about ethnic differences in risky or deviant sexual behavior (Hall, Teten, DeGarmo, Sue, & Stephens, 2005; So, Wong, & DeLeon, 2005) despite research suggesting that recency of immigration and acculturation stress play a role in the development of sexual risk behavior (Gil, et al., 1994). In a 2000 study, Grunbaum and colleagues collated the results from five separate National Youth Risk Behavior Survey (1991, 1993, 1995, 1997) conducted among students in grades 9 through 12 (N = 55,985; Asian Americans = 1,854) to compare the prevalence of selected risk behavior among Asian Americans, Whites, Blacks, and Hispanic high school

students. Although the prevalence of sexual activity among Asian American students was comparably lower than the other subsamples, once sexually active, Asian American students were as likely as other race/ethnic groups to engage in risky sexual behavior (i.e., lack of condom use). A study of 248 Asian American college students, to determine HIV risks/unsafe sexual behavior, demonstrated similar results with respect to prevalence (So, Wong, & DeLeon, 2005). When compared to the data from the 1995 National College Health Risk Behavior Survey (NCHRBS), it was found that the study's Asian American sample had a lower lifetime prevalence of sexual activity (59.7%) when compared to those of the NCHRBS (79.5%). Moreover, compared to the other ethnic groups in the NCHRBS sample, the Asian American sample within the study was also likely to have the lowest prevalence of unprotected sex (lifetime = 37.1%; current = 16%). However, after examining for any possible influence of acculturation on HIV risk behaviors, it was revealed that acculturation was positively associated with the 30-day HIV Sexual Risk Index among the Asian American participants. Interestingly, this association was present despite acculturation's positive association with overall level of HIV knowledge. Additional studies revealed similar findings, suggesting that acculturated women show a tendency to be sexually permissive and experienced, and prefer partners in higher risk groups (Cochran, Mays, & Leung, 1991; Flaskerud & Nyamathi, 1988; Huang & Uba, 1992).

Taken together, there appears to be a positive relationship between acculturation and risky sexual behavior, suggesting the presence of a protective factor associated with the identification with one's natal culture. In one of the first investigations of the determinants of Asian American men's sexual aggression, Hall and colleagues (2005) provided preliminary evidence of ethnically based differences. They evaluated the cultural applicability of the confluence model (Malamuth, Linz, Heavey, Barnes, & Acker, 1995; Malamuth, Sockloskie,

Koss, & Tanaka, 1991), an explanatory model of men's sexual aggression. The model included two paths: hostile masculinity (e.g., insecure, defensive, hypersensitive, and hostile-distrustful orientation, particularly towards women) and impersonal sex (e.g. willingness to engage in sexual relations without closeness or commitment), that are associated with men's sexually aggressive behavior. In a study consisting of 748 men from five American Universities, of which 349 were Asian Americans, it was found that while the confluence model accounted for a significant portion of the variance in sexual aggression for the Asian American participants, the addition of culturally relevant variables to the confluence model more than doubled the amount of variance explained among the participants. Indeed, a major finding was that a "loss of face" was a culture-specific moderator of sexual aggression in the Asian American subsample. Loss of face, presumed to be a relevant cultural construct for many persons of East Asian ancestry, refers to the concern about failing to fulfill one's social role and was demonstrated to be a protective factor against sexual aggression in the Asian American sample.

Conversely, a study exploring the relationship between compulsive sexual behavior and unprotected anal intercourse (UAI) for men who have sex with men (total N = 2,716; Asian Americans = 445) did not demonstrate any significant ethnic difference with respect to risky sexual behaviors among Asian Americans (Coleman, Horvath, Milner, Ross, Oakes, & Rosser, 2010). Indeed, analysis of the data revealed that Asian Americans were no more or less likely to engage in UAI than the reference group (Caucasians). Furthermore, when looking at the predicted probability of UAI by the administered compulsive sexual behavior inventory (CSB) score, Asian Americans displayed the same trend as the other racial/ethnic groups (UAI is positively associated with the total CSB). Interestingly, higher CSB scores were associated with being a non-U. S. citizen, but due to the study's methodological limitations, it would be

inaccurate to assume a relationship between acculturation and compulsive sexual behavior among Asian Americans exists. For instance, all the recruited participants were required to speak English and were primarily recruited through mainstream English websites. The study also required participants to disclose if they had sex with another man at least once in their lifetime as a part of their eligibility process. Studies suggest that Asian Americans have difficulty discussing or addressing issues of homosexuality because sexuality is in and of itself a taboo topic (Aoki, Ngin, Mo, & Ja, 1989). As such, there may have been an inherent selection bias in the above-noted studies.

Substance abuse among Asian Americans. Recent alcohol research suggests that substance use among Asian Americans is a growing concern (Hahm, et al., 2008; Lee, Battle, Lipton, & Soller, 2009). Indeed, several studies revealed that binge drinking is a growing problem for Asian Americans (Hahm, Lahiff, & Guterman, 2004; Hahm et al., 2008). In a study conducted among 27,000 junior and senior high school students in New York City, Asian American students reported the lowest percentage of alcohol usage and heavy drinking (Zane & Kim, 1994). However, among the heavy drinkers, Asian Americans reported greater alcohol consumption per day than did their Caucasian counterparts (1.46 ounces versus 0.76 ounces). Similarly, Makimoto (1999) found that Asian American adolescents who are drinkers have the highest levels of alcohol consumption per day when compared to other ethnic groups. In addition, D'Avanzo, Frye, and Forman (1984) found that Asian American adolescents who use alcohol have drinking patterns that are similar to those of white adolescents who drink.

This growing concern appears to extend to the college population as well. A national survey of binge drinking among undergraduate students (total N = 15,103) revealed a binge drinking prevalence rate of 21.5% among the surveyed Asian Americans (Wechsler, Davenport,

Dowdall, Moeykens, & Castillo, 1994). In 1997, Wechsler and colleagues resurveyed the colleges that participated in the 1993 study and found that while the binge drinking rate of almost every student subgroup decreased by 1% to 6%, the only exceptions were African American and Asian American students. In fact, Asian American students displayed the highest *increase* in binge drinking rate (12%) compared to the 1993 study.

Despite these findings, a majority of the previous literature portrays Asian Americans as a group least susceptible to alcohol abuse. According to the 2004 National Survey on Drug Use and Health results, Asian American adults reported the lowest prevalence of past-month binge drinking (12.4%) among all racial/ethnic groups (Substance Abuse and Mental Health Services Administration, 2005). This pattern is evident across multiple surveys in which both the percentage of drinkers and the percentage of heavy drinkers were comparably lower among Asian American students than among Caucasian students (Zane & Kim, 1994). However, studies such as the ones described here may not present an accurate picture of alcohol consumption among Asian Americans, as large variations exist in the rates of alcohol use and alcoholism among Asian subgroups. For example, relatively high rates of alcohol consumption and alcoholism have been found among Koreans, whereas relatively low rates have been reported in Chinese (Helzer et al., 1990; Park et al., 1984). Indeed, a cross-national study revealed that the lifetime prevalence of alcohol abuse, dependence, or both was 23% for Koreans but only 7% for Chinese (Helzer et al., 1990). Given the heterogeneity among Asian Americans, some researchers have asserted that combining subgroups may lead to erroneous conclusions (Uehara, Takeuchi, & Smuckler, 1994).

Another limitation of current research is that combining the subgroups may obscure substance use differences among Asian American with differing acculturation levels. Indeed,

prior literatures have revealed that Asian Americans who are more acculturated to American norms tend to have a higher prevalence of substance abuse behaviors than their less acculturated counterparts (Gfroerer & Tan, 2003; Takeuchi et al., 2007). For example, in a study (Hahm, Lahiff, & Guterman, 2004) that employed data from the National Longitudinal Study of Adolescent Health, it was revealed that a higher level of acculturation was associated with higher levels of binge drinking among Asian American students (grades 7 to 12; $N = 714$). Another study involving 47 Asian and 77 Caucasian Americans found that degree of assimilation was positively related to drinking among the Asian American subsample (Sue, Zane, & Ito, 1979).

Recent research, with respect to drug use among Asian Americans, indicates a similar pattern to that of alcohol. Indeed, as an aggregate group, the lowest rates of drug use are often reported for Asian Americans. For example, in 2002, Asian Americans displayed the lowest rates of current illicit drug use (3.5%) when compared to other major racial/ethnic groups (Substance Abuse and Mental Health Services Administration, 2003). The 1999 National Household Survey on Drug Abuse (NHSDA) reported that rates for lifetime illicit drug use were 28%, 26%, 30%, 47%, and 19% among Whites, Blacks, Hispanics, American Indians, and Asians aged 12-17 years, respectively (Substance Abuse and Mental Health Services Administration, 2000). Asian Americans, as a group, also had the lowest lifetime, yearly, and monthly illicit drug rates among those aged 18-25 years and those aged 26 years and older in the 1999 NHSDA sample. Finally, a study examining the ethnic differences in legal and illegal drug use among American 8th, 10th, and 12th grade students revealed that drug use was highest among Native American girls and lowest among their Asian American counterparts.

Despite these findings, national epidemiologic findings on lower rates of illicit drug use among Asian Americans are inconsistent with other Asian American substance use statistics. For

example, Asian Americans were indicated to be among those responsible for local epidemics of methamphetamine use, particularly in San Francisco and Hawaii (Community Epidemiology Work Group, 1998; Wolkoff, 1997). Moreover, while overall substance use remains less prevalent among Asian American youths than Whites, studies have suggested that higher prevalence rates of use of some classes of illicit drugs exists at a local level (Kim & Shantzis, 1989). Indeed, some researchers have pointed to trends depicting increased drug use in this population (Austin, Prendergast, & Lee, 1989; James, Kim, & Moore, 1997; Sasao, 1992) with studies reporting that Asian Americans use a variety of substances such as cocaine (Castro, Proescholdbell, Abeita, & Rodriguez, 1999), marijuana, and other narcotics (Lee, Law, & Eo, 2003).

Similar to its relationship to alcohol, acculturation has been one of the factors linked to drug use among Asian Americans (Hahm et al., 2004; Hussey et al., 2007). For example, a study examining the data from the National Longitudinal Study of Adolescent Health (total N = 20, 745; Asian American N = 1, 248) revealed that acculturation was positively associated with marijuana usage (Thai, Connell, & Tebes, 2010). Moreover, studies of second-generation Chinese and Japanese adolescents have shown that their drug use is commensurate with White adolescents (Chi, Lubben, & Kitano, 1989; Kitano & Chi, 1990). Finally, a study of 329 Cambodians, Chinese, Laotian/Mien, and Vietnamese youth in California revealed that individualism is a potential acculturative risk factor for substance use among South East Asians (Le, Goebert, & Wallen, 2009). Collectivism was shown to be a protective factor for female's substance use.

In sum, extant studies show an inconsistent relationship between acculturation and problematic/maladaptive behaviors among Asian Americans. Available research appears to

suggest that level of acculturation is an unreliable risk factor for maladaptive behaviors among Asian Americans. One reason for this may be that individuals with varying acculturative levels are likely to be differentially exposed to risk factors that increase vulnerability to problem development (Escobar, 1998). Indeed, various researchers have argued that to understand acculturation, one must understand the interactional context in which it occurs (Crockett & Zamboanga, 2009; Rohmann, Piontkowski, & van Randenborgh, 2008). More proximal risk factors such as acculturative stress may drive the relationship between the level of acculturation and psychological maladjustment (Hwang & Ting, 2008).

Taken together, studies indicate that immigrants are at risk for psychological maladjustment from factors that arise during acculturation. As noted, acculturative stress encompasses a wide range of domains and can lead to a reduction in health status for ethnic minorities (Berry et al., 1987). Conflict arising from acculturation gaps within ethnic minority family members is thought to be a particularly salient stressor for young adults and is viewed to be a significant contributor to overall maladjustment within this population (Rumbat & Portes, 2002). However, seemingly inconsistent results found within this body of literature make it difficult to disaggregate the effects of acculturation and related factors on the mental health of Asian Americans.

Despite the lack of conclusive evidence attesting to the relationship between acculturation and other related factors to mental health among Asian Americans, one consistent finding appears to indicate that the negative effects of acculturative stress can be controlled, or their impact moderated (Berry, 1991). Indeed, as noted, social support appeared to serve as a buffer against acculturative for some ethnic minority individuals (Miranda, Estrada, & Firpo-Jimenez, 2000; Thomas & Choi, 2006; Xie, Xia, & Zhou, 2004). Another prominent variable

thought to be involved in dealing with acculturative stressors is that of coping (Taft, 1977). Berry (1991) argued that not all individuals deal with stressors the same way, which may lead to highly variable stress outcomes. As such, he believed that when confronted by two cultures, individuals may develop attitudes and coping strategies that lead to varying personal adaptations. Generally, active coping (e.g., problem is managed cognitively or through action) is thought to lessen the debilitating effects of stress, whereas avoidant coping (e.g., problem is ignored or repressed) is thought to be less effective (Compas, Connor-Smith, Saltzman, Harding-Thomsen, & Wadsworth, 2001). Empirical research has largely supported these predictions with one study finding that active coping methods are associated with better college adjustment in diverse ethnic groups (Zea, Jarama, & Trotta-Bianchi, 1995). These results prompted researchers to examine additional factors that may influence intercultural adjustment, such as emotion regulation. The inability to regulate emotions well is often linked to difficulties in interacting appropriately with others, in coping with daily stress, and many other psychological difficulties. Consequently, emotion regulation is often characterized to be the "psychological engine of adjustment" (Matsumoto et al., 2003).

Emotion Regulation

Emotions are an integral part of individual and social adaptation. Indeed, Frijda (1986) asserted that emotions serve as cues for readiness for actions that work to establish, maintain, or disrupt relationships with particular internal and external environments of importance to the person. Moreover, emotion serves an information function, alerting individuals of the relevance of their concerns, needs, or goals in a given moment. As such, a number of researchers (Greenberg & Safran, 1987; Safran, 1998; Samoilov & Goldfried, 2000) have argued for a greater focus on the role of emotions in psychopathology and treatment.

Emotion regulation is a relatively new, but growing, field of investigation because of its close connection to mental health and general adaptive functioning (Gross & Munoz, 1995). Because of the field's relative infancy, there is generally little consensus regarding the precise operationalization of the construct (Chambers, Gullone, & Allen, 2009). Emotion regulation generally refers to the process of modulating one or more aspects of an emotional experience or response (Gross, 1998), and is variously assumed to refer to both subjective experiences and emotion-related behavioral responses (Feldman-Barrett & Gross, 2001; Gross, 1998; Mauss, Evers, Wilhelm, & Gross, 2006), as well as associated changes in physiological, behavioral, and cognitive processes (Bridges, Denham, & Ganiban, 2004). Bell and Wolfe (2004) have also argued that emotion regulation encompasses bottom-up processes such as appraisal, and top-down processes like working memory and attention.

Emotion regulation problems have been found to interfere with socioemotional development (Shipman, Schneider, & Brown, 2004) and are a ubiquitous feature within the description and diagnostic criteria for many DSM-IV-TR disorders (American Psychological Association, 2000; Gross & Levenson, 1997; Gross & Munoz, 1995; Repetti, Taylor, & Seeman, 2002). Indeed, numerous psychiatric disorders are associated with affective instability and emotion dysregulation (Koenigsberg et al., 2002; Phillips, Drevets, Rauch, & Lane, 2003). Recent studies have found emotion regulation problems to be associated with a less favorable balance of negative and positive affect, less life satisfaction, self-esteem, and psychological well-being (Gross & John, 2003). In fact, there is growing empirical evidence linking emotional dysregulation with depression (Ochsner & Gross, 2007; Silk, Steinberg, & Morris, 2003; Strauman, 2002), anxiety disorders (Coan & Allen, 2004; Mennin, Heimberg, Turk, & Fresco, 2002), substance abuse (Axlerod, Perepletchikova, Holtzman, & Sinha, 2011), and risky sexual

behavior (Messman-Moore, Walsh, & DiLillo, 2010). As a response to its growing empirical base, researchers are increasingly conceptualizing and investigating other disorders from an emotion regulation perspective (Rottenberg & Gross, 2007).

Despite the construct's applicability and utility, a conceptual limitation within this field may be that emotion regulation may encompass too broad a range of response topographies (Cisler, Olatunji, Feldner, & Forsyth, 2010). Cisler and colleagues argued that if the construct were broadly defined as *any* attempt to alter the experience of emotion, it would be "difficult to see how anything a person does could *not* be indicative of emotion regulation" (p. 71). Indeed, there is some disagreement as to whether operationalizations of emotion regulation should be restricted to conscious, effortful processes (e.g., Eisenberg & Spinrad, 2004) or whether they should include both conscious and subconscious (automatic) processes (Gross, 1998). In an effort to address this shortcoming, recent emotion regulation literature has focused on different emotion regulatory strategies and processes (Aldao & Nolen-Hoeksema, 2010; Billings & Moos, 1981; Blanchard-Fields, Stein, & Watson, 2004; Cole, Martin, & Dennis, 2004; Gross, 2001, 2002; Wadlinger & Isaacowitz, 2011) to develop a cohesive framework that would organize the wide range of emotion regulation strategies.

Experiential Avoidance

One widely employed emotion regulation strategy that has been repeatedly linked to poor psychological and behavioral outcomes is experiential avoidance. Experiential avoidance is an emotion regulation process involving excessive negative evaluations of unwanted private thoughts, feelings, and sensations, an unwillingness to experience these private events, and deliberate efforts to control or escape from them (Hayes, 1994; Hayes, Strosahl, & Wilson, 1999). One source of confusion with this construct relates to its overlap with a number of vulnerability

factors and emotion regulation strategies such as thought suppression and avoidant coping. A study attempting to distinguish experiential avoidance from other strategies revealed that experiential avoidance mediated the effects of maladaptive coping, emotional response, and uncontrollability on daily mood, indicating that experiential avoidance can be considered as a broad vulnerability factor underlying coping and emotion regulation (Kashdan, Barrios, Forsyth, & Steger, 2006). Berrocal, Pennato, and Bernini (2009) further explored the mediating effect of experiential avoidance on other vulnerability factors (e.g., avoidance coping, fear of uncertainty, and alexithymia) related to psychological outcomes and found similar results.

As a whole, these studies suggest that experiential avoidance, and not specific coping strategies, yields functional impairment by serving as a "general diathesis" in the etiology and maintenance of psychological disorders. Indeed, experiential avoidance has been linked to various disorders such as anxiety and unipolar depressive disorders (Barlow, Allen, & Choate, 2004; Campbell-Sills, Barlow, Brown, & Hoffman, 2006), substance abuse (Cooper, Russell, Skinner, Frone & Mudar, 1992; Wanberg, Horn, & Foster, 1977), problematic sexual behavior (Crosby & Twohig, 2008; Twohig & Crosby, 2010), and smoking behavior (Brown, Lejuez, Kahler, Strong, & Zvolensky, 2008; Gifford et al., 2004). A meta-analysis (Hayes, Luoma, Bond, Masuda, & Lillis, 2006), involving thirty-two studies and 6,628 subjects, indicated that experiential avoidance is negatively associated with quality of life, perceived health, and positive emotional experiences, and positively associated with a wide range of psychopathological measures (e.g., depression, anxiety, somatization, social phobia, trauma symptoms, alcohol dependence, and dissociative experiences). In addition, a study that observed the relationship between experiential avoidance and induced emotional distress revealed that healthy individuals who endorse greater experiential avoidance report more panic symptoms and perceived

uncontrollability (Feldner, Zvolensky, Eifert, & Spira, 2003). This relationship was still present after accounting for other risk factors such as anxiety sensitivity (Karekla, Forsyth, & Kelly, 2004; Spira, Zvolensky, Eifert, & Feldner, 2004). Focus on experiential avoidance behaviors and attitudes has become increasingly important within a therapeutic context. In fact, third-wave behavior therapies such as Dialectical Behavior Therapy (DBT), Mindfulness-Based Cognitive Therapy (MBCT) and Acceptance and Commitment Therapy (ACT) consider emotion dysregulation as one of the core mechanisms to address when delivering therapy. Indeed, Barlow and colleagues (2004) contended that emotional/experiential avoidance should be one of three basic therapeutic principles to be addressed in a unified treatment for anxiety and unipolar depressive disorders.

Despite these findings, subtle avoidance or suppressed behavior can be viewed as a self-protective strategy in some contexts (i.e., trying not to show signs of anxiety during an interview) and may not necessarily be considered maladaptive. Kashdan and colleagues (2006) argued that, in these contexts, experiential avoidance may be considered a relatively "benign" (p. 1302) short-term strategy to manage emotional expression and the resulting negative consequences to be minimal. Furthermore, they asserted that attempts to control anxiety and fear can "work as long as an individual can live in a way that is coherent with their core sense of self" (p. 1302). They contend that experiential avoidance only becomes a disordered process when it is applied rigidly and inflexibly, such that an inordinate amount of time and energy is devoted to managing and controlling the unwanted private events. This struggle is thought to lead to diminished contact with present experiences, impeding the movement toward valued goals, and ultimately resulting in impairment of overall functioning. It has been argued that the unwillingness to remain in contact with negatively evaluated private events, and subsequent attempts to alter the

form of these events or contexts in which they arise, are a stronger contributor to psychopathology than the content of private psychological and emotional experiences (Forsyth, Eifert, & Barrios, 2007; Hayes et al., 1999).

The inherent paradoxical nature of disordered experiential avoidance is that attempting to hide or inhibit unpleasant feelings, thoughts, and bodily sensations sometime serves to *increase* the frequency and distress of these same experiences (Wegner, 1994). It has been argued that all human beings will have moments of distress and suffering. As such, the content and form of these events are part of being human and are not necessarily problematic or dysfunctional. What is problematic, however, is experiential inflexibility with respect to undesired psychological content (Kashdan et al., 2006). It is for these reasons experiential avoidance is defined as a core "toxic diathesis" (Kashdan et al., 2006; p. 1302). However, the findings should not be taken to suggest that *all* psychological and behavioral problems are experiential avoidance disorders. Rather, it should highlight the possibility that many topographically defined syndromes may include significant subgroups in which experiential avoidance contributes significantly to the development and maintenance of these behavior patterns (Hayes et al., 1996). Indeed, topographical characteristics of various behaviors and symptoms may belie a more functional and comprehensive explanation of the etiology and maintaining factors of psychological disorders and, as such, may serve as an effective cross-cultural research tool.

Experiential avoidance and problematic behaviors. It has been found that problematic, addictive, or risky behaviors commonly co-occur (Kingston, Clarke, & Remington, 2010). Indeed, individuals who abuse substances were reported to be seven times more likely than their non-abusing counterparts to develop a second addiction (Regier et al., 1990), with a quarter to a third of individuals with an eating disorder also abusing substances (Holderness, Brook-Gunn, &

Warren, 1994). Likewise, intense negative affect has been implicated in the prediction of self-harm (Klonsky, 2007), Borderline Personality Disorder symptomatology (Cheavens et al., 2005), substance abuse (Maltzman, 2000), smoking (Brown et al., 2005), and problematic sexual behaviors (Quayle, Vaughan, & Taylor, 2006). For example, a study based on their analysis of the pathways model of child sexual abuse (Ward & Siegert, 2002) examined the psychological profiles of Internet pornography users and found that of the 43 subjects convicted of Internet related offenses, 35% of the participants fell within the Emotional Dysregulation pathway (Middleton, Beech, & Mandevill-Norden, 2004). The sub-sample all reported high levels of difficulty in dealing with negative emotions and used sex as a coping mechanism. Another study found that psychological stressors were related to poorer alcohol outcomes only among drinkers high in use of emotional avoidance coping strategies (Cooper et al., 1992). Sanchez-Craig and colleagues (1984) reported that, among 297 drinking episodes described by 70 participants, nearly 80% of the episodes involved drinking aimed at manipulating various subjective experiences (e.g., social discomfort, attenuation of negative emotions, etc.). Similarly, Childress and colleagues (1986) revealed that emotions such as anxiety, anger, and depression served to trigger subjective experiences of craving and withdrawal among detoxified opiate addicts. Negative affect and emotional avoidance coping strategies were found to be potent predictors of smoking and smoking relapse as well (Brandon, Tiffany, Obremski, & Baker, 1990; Carmody, Vieten, & Astin, 2007). Likewise, negative affect was found to be strongly associated with smoking in epidemiological studies (Anda et al., 1990; Cinciripini, Hecht, Henningfield, Manley, & Kramer, 1997) and predictive of treatment failure (Hall, Munoz, Reus, & Sees, 1993). Additionally, a study of 632 smokers (Kenford et al., 2002) revealed post-cessation negative

affect to be the strongest predictor of relapse, more so than physiological dependence symptoms and history of drug exposure.

As a whole, these studies seem to suggest that despite their topographical dissimilarity, maladaptive/problem behaviors may sometimes share a common psychological function (Hayes et al., 1996). Indeed, this concept has been supported by research showing that a single common factor can adequately account for the variance these behaviors share (Cooper et al., 2003; Donovan & Jessor, 1985; McGee & Newcomb, 1992). Although there is currently a lack of conclusive research explaining the nature of this covariation, experiential avoidance offers one plausible theoretical account. That is, problem behaviors co-occur because they serve a common experiential avoidance function, providing short-term negative reinforcement through the reduction of aversive experience.

An overview of the literature indicates that studies adopting an ecological perspective of acculturation, in which the environment and psychosocial characteristics of the individual are taken into account when predicting individual adjustment, are limited but quickly garnering empirical support. As such, emotion regulation or, more specifically, experiential avoidance may serve as a powerful cross-cultural tool in explaining pathological behaviors among Asian Americans.

Rationale of the Current Study and Hypotheses

It is important for researchers to understand which factors might increase risk for poor mental health and problematic behaviors in Asian Americans. There is a need to clarify the relationship between acculturation and mental health status and to identify more proximal mechanisms of risk for maladjustment among Asian Americans. Non-culture specific risk factors, such as emotion regulation deficits, and specifically experiential avoidance, appear to be

promising candidates to predict poorer psychological adjustment for some individuals. Unfortunately, very few studies of Asian Americans have studied the simultaneous effects of cultural variables (acculturation level, acculturative dissonance, and acculturative stress) and emotion regulation strategies on the mental health of Asian Americans. Failing to integrate these variables in etiological models may yield an incomplete picture of the relationships among these variables and mental health outcomes.

The aim of the present study was to determine if psychological, familial, and social difficulties, which may accompany the acculturation process, mediated the association between acculturation level and indicators of psychological maladjustment (e.g., psychological distress and problematic behaviors). Furthermore, the study investigated whether manifest indicators of emotion regulation deficits moderated the relationship between acculturation level/acculturative stress/acculturative dissonance and psychological distress/problematic behaviors. In sum, the following hypotheses were investigated:

1) The associations among acculturation level, acculturative dissonance, acculturative stress, emotion dysregulation, experiential avoidance, psychological distress, and problematic behaviors were examined and evaluated. Specifically:

   a. Given that many nonepidemiological studies find that less acculturated Asian American students tend to have worse mental health (Abe & Zane, 1990; Kuo, 1984; Yeh, 2003) and studies demonstrating the salutary effects of acculturation outnumber the ones that prove otherwise (Shen & Takeuchi, 2001), it is hypothesized that lower level of acculturation will be associated with greater psychological distress.

b. Higher level of acculturation will be associated with greater endorsement of problematic behaviors.
c. Acculturation level will be positively associated with acculturative dissonance.
d. Acculturation level will be negatively associated with acculturative stress.
e. Acculturative dissonance will be positively associated with psychological distress.
f. Acculturative dissonance will be positively associated with problematic behaviors.
g. Acculturative stress will be positively associated with psychological distress.
h. Acculturative stress will be positively associated with problematic behaviors.
i. Acculturative dissonance will be positively associated with acculturative stress.
j. Emotion dysregulation will be positively associated with acculturative dissonance.
k. Emotion dysregulation will be positively associated with acculturative stress
l. Emotion dysregulation will be positively associated with psychological distress.
m. Emotion dysregulation will be positively associated with problematic behaviors.
n. Low psychological flexibility (i.e., high experiential avoidance) will be associated with higher levels of acculturative dissonance.
o. Low psychological flexibility (i.e., high experiential avoidance) will be associated with higher levels of acculturative stress.

p. Low psychological flexibility (i.e., high experiential avoidance) will be associated with higher levels of psychological distress.

q. Low psychological flexibility (i.e., high experiential avoidance) will be associated with greater endorsement of problematic behaviors.

r. Emotion dysregulation will be associated with more pronounced experiential avoidance.

s. Psychological distress will be positively associated with problematic behaviors.

2) It is hypothesized that stressors related to the acculturation process will mediate the association between acculturation level and indicators of psychological maladjustment. Specifically:

a. Acculturative dissonance will mediate the association between acculturation level and psychological distress.

b. Acculturative dissonance will mediate the association between acculturation level and problematic behaviors.

c. Acculturative stress will mediate the association between acculturation level and psychological distress.

d. Acculturative stress will mediate the association between acculturation level and problematic behaviors.

3) It is hypothesized that emotion dysregulation and experiential avoidance will moderate the association between acculturation level/acculturation-related stressors and the outcome variables. Specifically:

a. It is hypothesized that there will be a main effect of acculturation level on psychological distress and problematic behaviors.
b. It is hypothesized that there will be a significant, two-way interaction between acculturation level and emotion dysregulation. We predict that maladaptive emotion regulation strategies will moderate the association between acculturation and psychological distress/problematic behaviors.
c. It is hypothesized that there will be a significant, two-way interaction between acculturation level and experiential avoidance. We predict that experiential avoidance will moderate the association between acculturation level and psychological distress/problematic behaviors.
d. It is hypothesized that there will be a main effect of acculturative dissonance on psychological distress and problematic behaviors.
e. It is hypothesized that there will be a significant, two-way interaction between acculturative dissonance and emotion dysregulation. We predict that maladaptive emotion regulation strategies will moderate the association between acculturative dissonance and psychological distress/problematic behaviors.
f. It is hypothesized that there will be a significant, two-way interaction between acculturative dissonance and experiential avoidance. We predict that experiential avoidance will moderate the association between acculturative dissonance and psychological distress/problematic behaviors.
g. It is hypothesized that there will be a main effect of acculturative stress on psychological distress and problematic behaviors.

h. It is hypothesized that there will be a significant, two-way interaction between acculturative stress and emotion dysregulation. We predict that maladaptive emotion regulation strategies will moderate the association between acculturative stress and psychological distress/problematic behaviors.
i. It is hypothesized that there will be a significant, two-way interaction between acculturative stress and experiential avoidance. We predict that experiential avoidance will moderate the association between acculturative stress and psychological distress/problematic behaviors.

Chapter Three: Methods

Recruitment and Procedure

Participants were recruited from Midwestern institutes of higher education during the winter semester of the 2011 academic year through the fall semester of 2012. Participants were recruited from the Eastern Michigan University psychology department participant pool (i.e., *SONA*), instructor emails, university-affiliated cultural clubs, as well as fliers distributed around the university campus. Recruitment scripts invited participation from university students of Asian descent and briefly described the study. Participation was estimated to take less than 35 minutes, and participation incentives included participation or extra credit points. To facilitate data collection, the IRB was amended in June 2012 to allow for the inclusion of University of Michigan students. Recruitment processes were similar for University of Michigan students except for the noted exclusion of any participation incentives.

All surveys were completed online through an online research tool called SurveyMonkey. Using a link provided in the recruitment e-mail, flier, or the *SONA* listing, each participant logged on to the site and anonymously filled out the surveys. Upon completion of the study, the responses were downloaded from the website onto a secure personal computer.

The survey began with an informed consent to which the participants responded with, "I consent to participate," if they accepted the terms. Participants were told that the study investigated coping behaviors in response to stressful situations among Asian students in the United States. It was indicated that the study consisted of surveys with questions on drug use, sexual behavior, smoking, acculturation to American society, coping strategies, tendency to suppress unwanted internal experiences, and some information on their background. Participants were also informed that they do not have to respond to questions they find distressing and are

free to terminate the study at any time without penalty. Finally, the names and phone numbers of the principal investigator and faculty advisor were provided for future questions.

After signing the consent form, participants completed the questionnaires in the following order: Demographic Questionnaire, Acculturation Rating Scale, Riverside Acculturation Scale, Acculturative Dissonance Scale, General Health Questionnaire-12, Acceptance and Action Questionnaire II, Difficulties Emotion Regulation Questionnaire, and the Composite Measure of Problem Behaviors. Prior to the administration of the above-stated measures, participants were asked to generate a unique ID (consisting of the first and last initials of their name and the last two digits of their phone number) for data screening purposes.

Although 159 individuals participated in the study, 86 of these participants were of non-Asian descent and could not be included in the final data analysis. A total of 73 university students met the recruitment criteria. Data from six respondents were excluded due to incomplete surveys.

Participants

An a priori statistical power analysis, the GPower software package (Faul & Erdfelder, 1992) was used to calculate the total number of participants needed to achieve a statistical power of .80, a medium effect size, ($f^2 = 0.15$), with an overall $\alpha = .05$, and with a maximum of five predictor variables in any given multiple regression equation. The results yielded a total sample size of 92 indicating that a minimum of 92 participants was required for this study. The target sample size was not reached as recruitment was more difficult than expected, a limitation that will be addressed in the Discussion section in detail. However, a review of the literature revealed that with five or fewer predictors (applicable to either correlation or multiple regression analyses), Harris' (1985) formula can be used in lieu of a traditional power analysis. Harris

suggested that the number of participants should exceed the number of predictors by at least 50 (i.e., total number of participants equals the number of predictor variables plus 50). Under this assertion, a minimum of 55 participants was required for the study making the current sample size (N = 67) more than ample.

Measures

Demographic information. A demographic information questionnaire was developed for the study. It consisted of 12 items assessing the following variables: 1) participant's age; 2) ethnicity/race; 3) household income; 4) gender; 5) place of birth; 6) year of immigration (if applicable); 7) mother's country of origin; 8) father's country of origin; 9) current residence; 10) fluency in the English language; and 11) language spoken at home.

Acculturation level. Participants' acculturation level was measured using a modified version of the Acculturation Rating Scale for Mexican Americans-II (ARSMA-II; Cuellar, Arnold, & Maldonado, 1995). The ARSMA-II, initially developed to assess acculturation in Mexican Americans, has been modified for use with Asian Americans (ARS-II; Lee, Choe, Kim, & Ngo, 2000). The modified version of the ARSMA-II entailed rewording items to replace racially specific terms such as "Mexican" and "Mexican Americans" with "Asian" and "Asian American" but retaining all other features of the items (e.g. "I associate with Asian Americans" as opposed to "I associate with Mexican Americans").

The modified ARSMA-II for Asian Americans is a 30-item Likert-type scale that includes items about linguistic preferences, cultural ethnic identification, and social interactions. It is divided into two subscales: Asian orientation (AAOS; 17 items, for example "I associate with Asian and/or Asian Americans") and Anglo orientation (AOS; 13 items, for example "my thinking is done in the English language only"). Items are rated on a 5-point scale (1 = *not at all*,

5 = *extremely often)* with no intermediate ratings. Higher scores on either the AAOS or AOS represent greater identification with either Asian or Anglo culture, respectively.

The ARSMA-II was orthogonally developed and allows for the two scales to be used separately. A unidimensional score of acculturation may also be calculated by taking the difference between the AOS and AAOS scale means. The resulting score represents an individual's score on along a continuum from very Asian oriented to very Anglo oriented. That is, low scores indicate an Asian orientation while high scores indicate an Anglo orientation.

Validity and reliability information on the modified ARSMA-II for Asian Americans is somewhat limited. Lee and colleagues (2000) found strong internal reliability for each subscale and the total measure (AAOS = .84; AOS = .74; total score = .87). Other studies reported similar alpha coefficients as well (Miller, Kim, & Benet-Martinez, 2011: AOS = .82, AAOS = .75). Convergent and discriminant validity of the grouping of Asian Americans, according to their level of acculturation, were examined by Liem and colleagues (2000) using generations in the United States, length of stay in the United States, and age as criterion variables. As anticipated, age did not differentiate acculturation groups, whereas generation and length of residence were both significantly related to the acculturation groupings in the expected direction.

Acculturative dissonance. The Intergenerational Conflict Inventory (ICI; Chung, 2001) is a 24-item scale that measures the type and severity of intergenerational conflict in Asian-American adolescents/young adults and their parents. Participants were asked to rate the extent to which an item is a source of conflict between the individual and the parent. Responses are on a 6-point Likert scale (1 = *No conflict over this issue,* 6 = *A lot of conflict over this issue*), with higher scores representing conflict. There are no reverse scored items.

The scale content was based on the culturally relevant issues in immigrant adolescents when negotiating their independence with their parents. The scale is comprised of three subscales: family expectations (α = .84), education and career (α = .88), and dating and marriage (α = .84). Test-retest reliability was found to be between .81 and .87 (Chung, 2001).

Acculturative stress. The Riverside Acculturation Stress Inventory (RASI; Benet-Martinez & Haritatos, 2005) is a 15-item scale originally designed to measure the interpersonal, intellectual, professional, and structural pressures associated with acculturative stress among Hispanic Americans. Specifically, the 15 items represented culture-related challenges in the following five life domains: language skills (e.g., being misunderstood because of one's accent), work challenges (e.g., having to work harder than nonimmigrant or minority peers), intercultural relations (e.g., having disagreements with others for behaving in ways that are "too American" or "too ethnic"), discrimination (e.g., being mistreated because of one's ethnicity), and cultural/ethnic makeup of the community (e.g., living in an environment that is not culturally diverse). Items are rated on a 5-point scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*) with higher scores indicative of a higher level of acculturative stress. There are no reverse scored items.

Although designed for use among Hispanic Americans, Miller, Kim, and Benet-Martinez (2011) demonstrated that a modified RASI (i.e., replacing racially specific terms such as "Mexican" to "Asian") is reliable and valid among Asian Americans as well. In their study of 471 Asian Americans, the RASI yielded a total score internal consistency estimate of .84 and scores of .74, .80, .71, .84, and .72 for the Work Challenges, Language Skills, Intercultural Relations, Discrimination, and Cultural Isolation subscales, respectively. Concurrent validity was demonstrated by its theory-consistent relationship with the Mental Health Inventory (MHI; Veit

& Ware, 1983) Depression scores ($r = .20$, $p < .01$) and Anxiety scores ($r = .20$, $p < .01$). Furthermore, a significant relationship between RASI and Bicultural Identity Integration Scale subscales (BIIS-1; Benet-Martinez & Haritatos, 2005) ($r = .12 - .44$) was discovered in a way consistent with theory. Specifically, greater perceived distance between Asian and U.S. cultures (as measured by the BIIS-I) was associated with higher levels of acculturative stress. With respect to its factor structure, recent studies have confirmed that a five-factor model best represented the collected data (Benet-Martinez & Haritatos, 2005; Miller, Kim, Benet-Martinez, 2011).

Emotion Dysregulation. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a self-report measure developed to assess individuals' difficulties in emotion regulation. The scale consists of a 36 item Likert-type scale (1 = *almost never* to 5 = *almost always)* and includes 11 reverse scored items. Higher scores denote greater dysregulation. The scale includes six subscales: Lack of Acceptance of Emotional Responses (6 items), Inability to Engage in Goal-Directed Behaviors (5 items), Poor Impulse Control (6 items), Lack of Emotional Awareness (6 items), Lack of Accessibility to Effective Emotion Regulation Strategies (8 items), and Lack of Emotional Clarity (5 items). Exploratory factor analysis was consistent with this underlying six-factor structure (Weinberg & Klonsky, 2009).

The DERS was found to have high internal consistency. Indeed, Weinberg and Klonsky (2009) reported internal consistency of .93 with four of the DERS subscales (Nonacceptance, Goals, Impulses, and Strategies). The Awareness ($\alpha = .77$) and Clarity ($\alpha = .76$) subscales exhibited adequate internal consistency as well.

To test for the instrument's construct validity, Weinberg and Klonsky (2009) examined the relationships of DERS to symptoms of six psychological problems that are often

conceptualized as manifestations of emotion-regulation deficits: depression, suicidal ideation, anxiety, eating disorders, alcohol abuse, and drug abuse. The authors found the DERS to have significant correlations with all six at an alpha level of .001 (Depression = .65; Anxiety = .42; Suicidal ideation = .43; Eating Disorders = .38; Alcohol Use = .24; Drug Use = .19). However, the authors noted that the Awareness scale did not exhibit significant correlations (besides eating disorders) with any other pathology, and its correlations with clinical variables were the smallest of all the DERS subscales. The authors recommended further research to fully explore the utility and validity of this subscale.

Experiential avoidance. The Acceptance and Action Questionnaire-II (AAQ-II; Bond et al., 2011) is a self-report measure designed to assess for psychological flexibility. The measure consists of 10 item Likert-type scale (1 = *never true* to 7 = *always true*) that represents various aspects of avoidance (e.g., "I'm afraid of my feelings" and "I worry about not being able to control my worries and feelings"). Three out of the ten items are reverse scored with higher scores reflective of greater experiential avoidance and immobility.

Preliminary data on the AAQ-II revealed good psychometric properties (Bond et al., 2011). The mean alpha coefficient was .84 (.78 - .88) with the 3- and 12-month test-retest reliability at .81 and .79, respectively. A factor analysis indicated that a single factor accounted for 51% of the variance, with all but one item loading above 0.40. Validity was established through its strong relationship with other measures of psychological functioning: DASS (-.601); SCL-10R (-.673); BDI-II (-.75); BAI (-.59); General Health Questionnaire (-.31).

Psychological distress. The General Health Questionnaire (GHQ; Goldberg, 1972) is a self-report measure designed to measure psychological distress based on the respondents' assessment of their present state relative to their usual, or normal, state (Goldberg & Williams,

1988). The questionnaire was originally developed as a 60-item instrument but currently, a range of shortened versions, including the GHQ-30, the GHQ-28, the GHQ-20, and the GHQ-12, are available. Each item is rated on a four-point scale (less than usual, no more than usual, rather more than usual, or much more than usual) and asks whether the respondent has recently experienced a particular symptom or behavior. There are no reverse scored items. Lower score indicates better mental health.

The brevity of the GHQ-12 makes the measure an attractive alternative to its lengthier predecessors. The measure demonstrated good reliability and validity with a diverse population. Goldberg (1972) reported a split-half reliability coefficient of .83 and internal consistency ranging from .82 to .90 (Banks & Jackson, 1982; Banks et al., 1980; Hepworth, 1980; Stafford, Jackson, & Banks, 1980). Concurrent validity was established by comparing the GHQ total scores for general medical patients with their overall clinical assessment (.70 to .83) (Benjamin, Decalmer, & Haram, 1982; Goldberg, 1972). Furthermore, GHQ was found to be significantly associated with other measures of psychological adjustment including the Beck Depression Inventory ($r = .72$; von Ammon, 1983), Beck Hopelessness Scale ($r = .69$; Kalman, Wilson, & Kalman, 1983) and a Present Life Satisfaction Scale ($r = -.58$; Hepworth, 1980). Factor analysis involving the GHQ-12 revealed three factors identified as: anhedonia/sleep disturbance; social performance; and loss of confidence (Worsley & Gribbon, 1977). The authors cautioned that because of the limited number of items and the specific absence of suicide-related items, any factor interpretation of severe depression will be limited.

Problematic/Maladaptive behaviors. The Composite Measure of Problem Behaviors (CMPB; Kingston, Clarke, Ritchie, & Remington, 2011) is a 46-item measure of problematic behaviors ranging from sexual promiscuity, excessive exercise, restrictive eating, binge eating,

excessive internet/computer game use, nicotine use, excessive alcohol use, illicit drug use, to aggression. The items are rated on a 6-point scale (1 = *very unlike me* to 6 = *very like me*) and the subscales have shown good construct validity (Kingston, et al., 2011) when evaluated against well-validated scales such as the Alcohol Use Disorders Identification Test (r = .76), Impulsive Behavior Scale (r = .40), and the Satisfaction with Life Scale (r =. -.27). The scale showed demonstrated good internal reliability (range α = .73 to .91), and test-retest reliability over 2-week (range r = .73 to r = .98), 2-4 month (r =.69 to r = .91), and 8- to 14- month (r = .65 to r = .91) delay periods. An exploratory factor analysis revealed an underlying 10-Factor structure, with Factors 1-10 comprised of anticipated item clustering.

The CMPB was modified to better examine the study's variables of interest. As the study is primarily interested in studying four types of maladaptive behaviors (e.g., problematic/risky sexual behavior, smoking, alcohol use, and substance use), items in irrelevant behavior domains (e.g., Out of the Deliberate Self-Harm, Excessive Internet/Computer Game Use, Excessive Exercise, Binge Eating, and Aggression and Restrictive Eating) were removed. The modified CMPB consisted of 19 items (five reverse scored items) with higher scores indicative of greater rate of maladaptive behavioral engagement. The questionnaire was further edited to allow the participants to note how many times, within the past two weeks, they have engaged in an endorsed behavior(s).

Means, standard deviations, and Alpha reliabilities of the employed scales are presented in Table 1. All measures in the current study demonstrated a good internal consistency, with Cronbach's alpha coefficients ranging from .78 to .94.

Chapter Four: Results

This study was designed to evaluate the relationship between an individual's acculturation and internalizing/externalizing problems via the incorporation of more proximal measures of risk factors associated with acculturation (e.g., acculturative dissonance/stress). In addition, the predictive value of non culture-specific risk factors, such as emotion dysregulation more generally, and experiential avoidance particularly, were examined. This section presents the aggregate data of the participants in this study. The tests of linearity, normality, and homoscedasticity assumptions are presented first. Data analyses pertaining to the main aims of the study are then presented and summarized.

All statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS-PASW- Version 18.0.3). Preacher and Hayes' (2004) SPSS bootstrap macro was used to assess the hypothesized mediation models. The line graph figure was computed and drawn using the online statistical tool *Modgraph-I* (Jose, 2008) and the software program Microsoft Excel 2007™, respectively.

Participants were 67 Eastern Michigan University and University of Michigan students. The average age of the participants was 22.88 ($SD = 4.45$) with a range of 18 – 40 years of age. The gender composition of the sample was 62.7% ($N = 42$) female and 37.3% ($N = 25$) male. All participants identified their country of origin as being part of the Asia continent and thus, were of Asian descent. Ethnicity and cultural demographics included 50 Asian Americans (74.6%), four Indian Americans (6%), six Middle Eastern Americans (9%), and seven Multicultural (10.4%) participants.

Preliminary Analyses

Skewness and kurtosis, which are measures of normality, were evaluated for each of the manifest scales and are presented in Table 2. Absolute values of skewness and kurtosis between

-1 and +1 are considered a slightly non-normality, values between -1 and -2.3 and +1 and +2.3 are considered to be of moderate non-normality, and values above -2.3 and +2.3 are defined to in the severe non-normality range (Lei & Lomax, 2005). The experiential avoidance measure exhibited moderate non-normality, with skewness of 0.53 (*SE* = 0.29) and kurtosis of 1.32 (*SE* = 0.58). The remaining variables (e.g., acculturation level, acculturative dissonance, acculturative stress, emotion dysregulation, psychological distress, and problematic behaviors) exhibited only slight non-normality, with skewness ranging from -0.14 to 0.93 and kurtosis ranging from -0.73 to 0.27. While normality is assumed to be reached when the values of kurtosis and skewness are zero, an acceptable range occurs when values fall between absolute values of two (Heppner & Heppner, 2004). No violations in the current study were substantial enough to jeopardize the assumptions of normality.

To assess for the assumption of linearity when using regression analyses, probability and residual plots were graphed. The data on the probability plots for both dependent variables (e.g., psychological distress and problematic behaviors) fell into a straight, diagonal line, which indicates that the assumption of linearity was met (Mertler & Vannatta, 2002). Additionally, data on the residual plots were not curved, supporting the assumption of linearity. Assumptions of normality and homoscedasticity were met as well.

Means, standard deviations, and minimum and maximum scores for all measures are presented in Table 1. The unidimensional acculturation score (*M* = 0.28, *SD* = 1.35) as well as participants' ratings of Anglo orientation (*M* = 3.56, *SD* = 0.70) and Asian orientation (*M* = 3.18, *SD* = 0.92), indicated that, on average, participants held a bicultural orientation. In addition, the students in this sample endorsed moderate levels of acculturative dissonance (*M* = 64.64, *SD* = 25.06) and acculturative stress (*M* = 42.03, *SD* = 11.97). Participants, on average, reported

moderate difficulties with emotion dysregulation ($M = 91.88$, $SD = 21.90$) and experiential avoidance ($M = 34.97$, $SD = 9.20$). Mean scores for the two dependent measures of psychological health indicated low-to-moderate levels of both psychological distress (14.42, $SD = 7.77$) and problematic behaviors ($M = 41.73$, $SD = 19.02$).

Pearson Correlations

Pearson bivariate correlations were calculated to examine the relationships among the investigated measures (see Table 3). At the bivariate level, acculturation level produced a negative correlation with acculturative stress ($r = -.48$, $p < .01$), supporting hypothesis (1d). Hypothesis (1g) was also supported as acculturative stress was positively correlated with psychological distress ($r = .36$, $p < .01$). A significant relationship was also observed between acculturative dissonance and problematic behaviors ($r = .30$, $p < .05$), commensurate with hypothesis (1f). Furthermore, emotion dysregulation and experiential avoidance had a positive relationship with acculturative dissonance ($r = .45$, $p < .01$) and acculturative stress ($r = .35$, $p < .01$), respectively, supporting hypotheses (1j) and (1o). Finally, hypotheses (1l), (1m), (1p), (1q), (1r), and (1s) were all supported as: emotion dysregulation was significantly correlated with both psychological distress ($r = .45$, $p < .01$) and problematic behaviors ($r = .30$, $p < .05$); experiential avoidance was significantly correlated with psychological distress ($r = .53$, $p < .01$) and problematic behaviors ($r = .37$, $p < .01$); emotion dysregulation was significantly correlated with experiential avoidance ($r = .64$, $p < .01$); and psychological distress was significantly correlated with problematic behaviors ($r = .25$, $p < .05$).

Hypotheses (1a), (1b), (1c) were not supported as acculturation level was not significantly correlated with psychological distress, acculturative dissonance, and problematic behaviors. Additionally, hypotheses (1e), (1h), (1i), (1k), and (1n) were not supported as

acculturative dissonance shared no significant relationship with psychological distress; acculturative stress was not significantly associated with problematic behaviors; acculturative dissonance shared no significant relationship with acculturative stress; emotion dysregulation was not significantly associated with acculturative stress; and experiential avoidance shared no significant relationship with acculturative dissonance.

In sum, the correlations indicated that more acculturated individuals had lower acculturative stress. Participants who endorsed higher levels of acculturative stress were more likely to report experiential avoidance and had higher ratings of psychological distress. In addition, students who indicated acculturative dissonance difficulties were more likely to report emotion dysregulation and problematic behaviors. Individuals who reported emotion dysregulation were more likely to endorse experiential avoidance, and these difficulties were linked to greater psychological distress and problematic behaviors. Finally, psychologically distressed participants were more likely to report problematic behaviors.

Non-paramaetric Boostrapping Analyses

Bootstrapping single mediation models (Preacher & Hayes, 2008) were used to determine if different aspects of acculturation could account for the association between acculturation level and psychological distress/maladaptive behaviors. This approach to mediation was selected over Sobel's (1982, 1986) estimated standard error method and Baron and Kenny's (1986) causal steps method because bias-corrected and accelerated confidence (BCa) intervals has higher power to detect mediated effects, is preferable for small samples (Fritz & MacKinnon, 2007), does not assume normality of the sampling distribution (Hayes, 2009), and yields acceptable control over type I error (MacKinnon, Lockwood, & Williams, 2004). Preacher and Hayes' (2004) SPSS bootstrap macro was used to generate 1,000 bootstrap samples from which BCa

confidence intervals for the indirect effects were drawn. The confidence intervals must exclude zero if a significant mediation effect is to be supported.

Four single-mediator models analyses were evaluated with acculturation level as the independent variable, and the two acculturation-related stressors (e.g., acculturative dissonance or acculturative stress) as potential mediators. The dependent measures either included the participants' psychological symptoms or their rate of problematic behaviors. Hypotheses (2a), (2b), (2c), and (2d) were not supported as none of the proposed models were significant.

Based on results derived from the bivariate correlation analysis (Table 3), four additional single-mediator models were evaluated with either the acculturative dissonance or acculturative stress as the independent variables, and the two emotion regulation variables (e.g., emotion dysregulation or experiential avoidance) as potential mediators. The dependent measures remained the same. In the model with acculturative stress as the independent and psychological distress as the dependent measures (Figure 1), a significant indirect effect was noted for experiential avoidance, 95% BCa CI [.0480, .1927], highlighting the mediating role of experiential avoidance in the association between acculturative stress and psychological distress. Higher acculturative stress was associated with a higher level of experiential avoidance, which in turn was associated with a higher level of psychological distress. The direct effect of acculturative stress was not significant in the mediation model (Figure 1). Overall, the full model was significant, F (2, 64) = 14.56, $p < .01$, $R^2 = .31$, Adj.$R^2 = .29$.

Hierarchical Regression Analyses

Multiple regression analysis was first conducted to investigate for the presence of main effects of the independent variables. Hypothesis (3a) was not supported as main effect was not observed for acculturation level with respect to both dependent measures (e.g., psychological

distress and problematic behaviors). Consequently, hypotheses (3b) and (3c) were not tested. Hypothesis (3d) was partially supported as a main effect for acculturative dissonance on problematic behaviors ($\beta = .27$, $p < .05$) was observed, but not so for psychological distress. In a similar vein, a main effect was observed for acculturative stress on psychological distress ($\beta = .26$, $p < .05$), but not problematic behaviors, indicating partial support for hypothesis (3g).

A series of hierarchical multiple regression analyses for each dependent variable (i.e., psychological distress or problematic behaviors) were conducted in an effort to better examine the relationship between the aforementioned criterion variables and the study's predictor variables. The variables were inputted based on the proposed theoretical model. Since cultural identity was proposed to represent a developmental variable with links to psychological outcomes, acculturation level was entered into the model first. As acculturation related stressors were believed to represent proximal risk factors for psychological maladjustment, acculturative dissonance and acculturative stress were subsequently entered into the model. Finally, in light of research highlighting emotion regulation deficits to be central in the maintenance or exacerbation of unwanted affective states and problematic behaviors, measures of emotion dysregulation, including experiential avoidance, were entered in the third step of the model.

Findings from the hierarchical regression analysis for variables predicting the two adjustment variables are summarized in Table 4. In the first equation, with psychological distress serving as the criterion variable, acculturation level was entered into the model first, but was not significantly associated with psychological distress, $R^2 = .01$, F (1, 65) = 0.85, $p = .36$. In Step 2, acculturative dissonance and acculturative stress were entered into the equation and observed to contribute significant variance to the ratings of psychological distress, $R^2_{\Delta} = .14$, F (3, 63) change = 5.07, $p < .01$; however, only acculturative stress made a unique contribution to the

model ($\beta = .37$, $t = 2.78$, $p < .01$). In Step 3, after accounting for the previous variables, emotion dysregulation and experiential avoidance accounted for additional variance within the model, $R^2_\Delta = .20$, F (5, 61) change = 9.15, $p < .001$.In this case, only experiential avoidance ($\beta = .30$, $t = 2.04$, $p < .05$) made a unique contribution.

Hierarchical regression results for problematic behaviors are also shown in Table 4. In Step 1, acculturation level was not observed to be significantly related to problematic behaviors, $R^2 = .00$, F (1, 65) = 0.03, $p = .86$. Acculturative dissonance and acculturative stress accounted for additional variance in the subsequent block, $R^2_\Delta = .11$, F (3, 63) change = 3.75, $p < .05$, with acculturative dissonance highlighted as the only unique contributor ($\beta = .29$, $t = 2.38$, $p < .05$). Finally, emotion dysregulation and experiential avoidance were entered in Step 3 and made a significant additive contribution to the model; however, only experiential avoidance made a unique contribution ($\beta = .37$, $t = 2.27$, $p < .05$).

Eight separate hierarchical multiple regression analyses were computed to determine whether the emotion regulation variables (i.e., emotion dysregulation or experiential avoidance) moderated the relationships between acculturation variables (i.e., acculturative dissonance or acculturative stress) and manifest indicators of maladjustment (i.e., psychological distress or problematic behaviors). Specifically, psychological distress or problematic behaviors were predicted by sequential entry of: 1) acculturation-related variable (i.e., acculturative dissonance or acculturative stress); 2) emotion regulation variable (i.e., emotion regulation deficit or experiential avoidance); and 3) the two-way interaction effects of selected acculturation- and emotion regulation-related variables. Continuous variables were centered before computing interaction terms to reduce nonessential collinearity in the model (Aiken & West, 1991). Hypotheses (3e), (3f), and (3i) were not supported as the interaction effects were not significant.

Hypothesis (3h) was partially supported as the two-way interaction between acculturative stress and emotion regulation deficit was significant ($\beta = .24$, $p < .05$; $R^2_\Delta = .049$, $p < .05$) with respect to the association between acculturative stress and psychological distress (see Table 5 and Figure 2), but not the relationship between acculturative stress and problematic behaviors.

In sum, acculturation level was not significant in predicting psychological distress among Asian American university students. However, the addition of more complex acculturation variables, acculturative stress in particular, significantly increased the prediction of distress after controlling for acculturation level. The subsequent addition of two emotion regulation variables, particularly experiential avoidance, further increased the predictive power of the model. Turning to problematic behaviors, the coefficient for acculturation level was not significant. The addition of acculturative variables, notably acculturative dissonance, increased the prediction of problematic behaviors. Emotion regulation variables, particularly experiential avoidance, added a significant amount of variance in problematic behaviors beyond that explained by the aforementioned variables. The full regression model, consisting of acculturation level, acculturative dissonance, acculturative stress, emotion dysregulation, and experiential avoidance, accounted for 35% of the variance in ratings of psychological stress and 21% of the variance in endorsement of problematic behaviors. Lastly, the two-way interaction between acculturative stress and emotion dysregulation was significant. High levels of emotion dysregulation amplified the strength of the relation between acculturative stress and psychological distress.

Chapter Five: Discussion

The Asian-American community is one of the fastest growing ethnic minorities within the United States. Although the community has been the subject of increased academic interest in recent decades, it still remains a misunderstood racial/ethnic group. Indeed, a review of the extant literature reveals that Asian Americans are one of the least studied groups when it comes to mental health issues despite growing concerns about the impact of intercultural adjustment (i.e., acculturation) on psychological health. Due to increased focus on the relationship between the acculturation process and mental health (Gil, Vega, & Dimas, 1994; Hovey, 2000; Hovey & King, 1996), acculturative-stressors have been acknowledged as important risk factors for maladjustment. However, findings in this area remain mixed and inconclusive (Hwang & Ting, 2008). Drawing from the acculturative stress framework, the present study examined the relationship among acculturation level, acculturative-related stressors (i.e., acculturative dissonance and acculturative stress), and indicators of psychological adjustment (i.e., psychological distress and problematic behaviors). In light of mixed findings among the aforementioned variables, the study also provided a preliminary look at several non culture-specific risk factors (i.e., emotion dysregulation and experiential avoidance) and their potential roles as additional predictors of maladjustment in Asian-American individuals. In the overall model, acculturation level, acculturative dissonance, acculturative stress, emotion dysregulation, and experiential avoidance were hypothesized to predict greater psychological distress and problematic behaviors. In addition, acculturative dissonance and acculturative stress were expected to mediate the relationship between acculturation level and psychological distress/problematic behaviors. Finally, emotion dysregulation and experiential avoidance were

expected to moderate the relationship between acculturation level/acculturative dissonance/acculturative stress and psychological distress/problematic behaviors.

The study provided some support for the assertion that acculturation-related processes and emotion regulation difficulties can increase risk for maladjustment in Asian Americans. First, hypotheses (1d), (1f), (1g), (1j), (1k), (1l), (1m), (1n), and (1o) were all supported. Students who reported higher levels of acculturative dissonance and acculturative stress were more likely to report increased psychological distress and greater endorsement of problematic behavior, respectively. Emotion dysregulation and experiential avoidance were significantly associated with both indicators of psychological maladjustment and the aforementioned dependent variables were also positively correlated with each other. In addition, as expected, acculturation level produced a negative correlation with acculturative stress. Significant association was also observed between emotion dysregulation and experiential avoidance.

Hypotheses (1a), (1b), and (1c) were not supported as no significant link was found between acculturation level and acculturative dissonance, acculturation level and psychological distress, or acculturation level and problematic behaviors. The finding that being less identified with the U.S. culture was not related with either psychological distress or problematic behaviors was somewhat unexpected as acculturation level is often linked to various indicators of psychological health (Lam, Pacala, & Smith, 1997; Nguyen & Peterson, 1993; Tewari & Yanico, 1996). However, the non-relationship is consistent with previous research that characterized acculturation level as a distal identifier of group risk than as a mechanism of risk (Hwang & Ting, 2008). The non-significant association between acculturation level and acculturative dissonance is not entirely surprising due, in part, to the nature of the employed instrument. The scale content was based on the culturally relevant issues in immigrant adolescents when negotiating their

independence with their parents. Consequently, the aforementioned conflict may not have been as salient for the college-age population who frequently live away from their parents and endorse a wide-range of housing situations.

The current study also revealed the variable impact of acculturative dissonance and acculturative stress on indicators of psychological adjustment. Specifically, while acculturative dissonance and acculturative stress were positively associated with problematic behaviors and psychological distress, respectively, the same relationship was not observed between acculturative dissonance and psychological distress as well as between acculturative stress and problematic behaviors. It may be that acculturative stress and acculturative dissonance, despite both being related to the acculturation process, represent unique risk factors for different facets of functioning (i.e., internalizing versus externalizing problems). The lack of support for hypothesis (1i), indicative of an absence of significant relationship between acculturative dissonance and acculturative stress, further elaborates that acculturative dissonance and acculturative stress may represent two distinct forms of acculturation-related stressors. The aforementioned findings may also explain for the curious relationships observed among the emotion regulation variables and acculturation-related stressors (i.e., support for hypotheses (1j) and (1o) but not (1k) and (1n)). The findings suggest that endorsement and manifestation of acculturation-related stressors may depend on individual variability in vulnerability, either in general emotion dysregulation or more specific emotion regulation deficit, such as unwillingness to tolerate aversive private experiences (i.e., experiential avoidance).

Our findings also indicated that none of the assessed acculturation-related stressors mediated the relationship between acculturation level and psychological distress/problematic behaviors, disproving hypotheses (2a), (2b), (2c), and (2d). This was not surprising as no

significant bivariate association was found between acculturation and the mental health outcome variables. In response to other observed associations, additional mediation analyses incorporating the two acculturative variables (i.e., acculturative dissonance or acculturative stress) and the two emotion regulation variables (i.e., emotion dysregulation or experiential avoidance) were conducted. Acculturative stress appeared to be a significant predictor of psychological distress but this pathway was mediated by experiential avoidance. This suggests that previously reported positive relationship between acculturative stress and psychological maladjustment may be better explained by a non-culture specific construct that may be crucial in predicting successful intercultural adjustment. Indeed, Matsumoto and colleagues (2003) conceptualized emotion regulation skills to be integral in managing intercultural conflict and stress, above and beyond culture-specific knowledge or information.

Findings from the multiple regression analysis were in partial support of hypotheses (3d) and (3g) as main effect was observed for both acculturative dissonance on problematic behaviors (but not psychological distress) and acculturative stress on psychological distress (but not problematic behaviors). Follow-up hierarchical regression analysis was mostly consistent with the initial correlations. That is, the effects of acculturation-related stressors (i.e., acculturative dissonance and acculturative stress) were more robust for the criterion variables than acculturation level. Furthermore, the results indicated that a more differentiated picture of the effects of acculturation-related stressors can be obtained via the inclusion of different measures of maladjustment. Specifically, the distinction between psychological distress and problematic behaviors may prove important in understanding how different acculturation-related stressors may impact overall intercultural adjustment.

Upon being introduced into the model, experiential avoidance was also highlighted to contribute independently to psychological distress and problematic behaviors. This is consistent with previous research demonstrating experiential avoidance's link to negative psychological outcomes (Hayes et al., 1996) and highlights said construct as a useful cross-cultural predictor when assessing psychological adjustment among the Asian American university population.

An interaction effect was observed between acculturative stress and emotion dysregulation. However, this effect was only significant concerning the relationship between acculturative stress and psychological distress and not between acculturative stress and problematic behaviors, thus only partially supporting hypothesis (3h). Specifically, individuals with greater emotion dysregulation who were experiencing acculturative stress were more likely to exhibit psychological difficulties than other individuals. Contrary to hypotheses (3e) and (3f), neither emotion dysregulation nor experiential avoidance moderated the relationship between acculturative dissonance and psychological distress/problematic behaviors. Furthermore, experiential avoidance did not moderate the association between acculturative stress and psychological distress/problematic behaviors, thus failing to support hypothesis (3i). The aforementioned results suggest that acculturative dissonance include features that predict problematic behaviors that are not shared with emotion dysregulation or experiential avoidance. In similar vein, acculturative stress also appears to have a unique predictive validity, not shared with the emotion regulation predictors, for psychological distress.

It was interesting to note that while emotion dysregulation did not achieve the same level of significance as experiential avoidance when predicting psychological distress, it nonetheless demonstrated a moderating effect with regards to the aforementioned dependent variable. In conjunction with results highlighting experiential avoidance to be a mediating variable, this

suggests that the complex relations among the study variables cannot be subsumed within either simple mediation or moderation models. Indeed, mediation mechanism may differ among subgroups of participants and as such, this interrelation deserves further study.

Limitations

Although the current study offered some promising findings, certain methodological limitations warrant discussion. First, the collected data were based on self-report measures rather than objective assessments. Self-report measures are typically more susceptible to inaccurate perceptions of one's attitudes, feelings, or behaviors (Heppner, Kivilighan, & Wampold, 1999). Furthermore, the study utilized online data collection methods which may have further inflated the response distortions. Therefore, participants may have underreported or over-reported some of the symptoms described in the measures.

The generalizability of the results is further limited by the relatively small study sample and the recruitment method. Fist, Harris' (1985) formula was used to justify the smaller-than-expected sample size, it should be noted that this statistical "rule-of-thumb" does not apply to step-wise regression equations. Consequently, type II error may have been present during select analyses, threatening the study's external validity. Second, participants were recruited through convenience sampling from Introductory Psychology classes and university cultural clubs. This may have resulted in selection bias, with students whose perception of acculturative-stressors does not reflect Asian American students in general. For example, participation status within university cultural clubs may have served as a coping strategy, via increased social support, negating the impact of acculturative stressors. Conversely, said participation may have aggravated the impact of acculturation-related stressors by heightening awareness of ethnic minority issues. Finally, the use of a predominantly female university sample may have further

limited the generalizability of the results to more diverse populations, including those that are less educated, with low socioeconomic status, more clinical, and potentially more male.

The study supported several of the hypotheses while also failing to support others. One possible explanation of the non-findings concerns the diversity of the sample. The current study used a sample of convenience which consisted of Asian Americans originating from several different ethnic backgrounds. The study drew from the US census definition of “Asian,” and included people having their origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent (e.g., Pakistan, India, China, Japan, the Philippine Islands, etc.). The small sample size necessitated the examination of the varied ethnic groups as a whole, which may have obscured interethnic differences. Given the heterogeneity among Asian Americans, some researchers have asserted that combining subgroups may lead to erroneous conclusions (Uehara, Takeuchi, & Smuckler, 1994). For example, prior research suggests that the relationship between coping style (i.e., emotion-focused versus problem-focused coping) and mental health outcome variables differ across ethnic group and circumstances (Noh, Beiser, Kaspar, Hou, & Rummens, 1999).

The cross-sectional design of the present study is yet another limitation as the aforementioned design prevents one from differentiating cause and effect from simple association. Mediation models examine proposed mechanisms of causality (Preacher & Hayes, 2008) and as such, caution should be exercised when interpreting the results. Specifically, the current study’s findings should be interpreted as concomitants factors that affect the relationship between acculturation-related stressors and psychological maladjustment. However, replication in other samples of Asian college students is needed for further empiric validation of the observed relationships.

Implications and Future Research

The findings of the present study contribute to the gap within the acculturation-behavioral health literature in a number of ways. Findings suggest that acculturation-related stressors are more reliable risk factors for psychological maladjustment than level of acculturation. This underscores the need to develop therapeutic interventions that assist Asian Americans to cope with and reduce the amount of acculturative stress and dissonance. This may present a significant challenge as Asian Americans typically underutilize mental health services (Kuo, 1984) and are more likely to perceive their problems as academic or vocational in nature (Terence, Leong, & Glidden, 1986). Consequently, psychologists should take care to properly assess the difficulties associated with intercultural adjustment as they may be important in informing future research and treatment with Asian Americans.

The variable impact of acculturation-related stressors on indicators of psychological adjustment is also notable and provides some important guidance for prevention and intervention programs for Asian American individuals. For example, while intergenerational conflict and problematic behaviors were strongly correlated, the same relationship was not observed between acculturative stress and said dependent variable. As such, interventions for problematic behaviors among Asian Americans may consider examining the acculturation gap between the individual and his/her parents (as opposed to general acculturative stress) and explore how the disparity contributes to the patient's externalizing behavior problems.

An examination of the non-culture specific risk factors suggests emotion dysregulation and experiential avoidance to be elucidating factors that affect Asian American individuals' mental health status. These factors may be valuable to research in the future as they may help clarify the mixed findings within the acculturation-health literature. Furthermore, this finding is

consistent with the notion that emotion regulation skills and psychological flexibility are at the core of behavioral health (Brown et al., 2007; Hayes et al., 2006). The present study expands upon this literature by providing corroborating evidence with ethnic minority members. Interestingly, as the aforementioned psychological constructs do not focus on culture-specific knowledge or information, the predictive validity of emotion dysregulation and experiential avoidance theoretically may be expanded as important variables that impact intercultural adjustment for other ethnic minorities.

The results of the present study offer beneficial insight for future research and clinical practice with Asian Americans. However, the limitations outlined above encourage additional research and further exploration. First, the relationship among the psychological mechanism of acculturation, emotion regulation variables, and psychological adjustment needs to be addressed in a more systematic manner and in greater detail. The small sample size precluded the use of multiple mediation/moderation models in lieu of single mediation/moderation models. This may result in limited understanding of how the various factors interrelate in real-time to affect mental and behavioral health status. Future research should concentrate on developing and testing an integrated model (via the use of more sophisticated analytical techniques) that better outlines the underlying processes through which acculturation influences mental and behavioral health

Attempts should be made to broaden the participant pool and use multi-format and multi-method (i.e., face-to-face interviews, significant others, observational) reports to increase the validity and reliability of the collected data. Finally, the current research did not specifically look at the difference in the study variables between ethnicities, generations, or genders, which warrants further investigation.

Conclusion

The present study was a preliminary examination of the relationships among acculturation, acculturative dissonance, acculturative stress, emotion dysregulation, experiential avoidance, psychological distress, and problematic behaviors. Findings indicated that acculturation exerts its impact on mental health status through more proximal risk factors, such as acculturative stress and acculturative dissonance. Results highlighted experiential avoidance as a mediating variable with respect to the relationship between acculturative stress and psychological distress among Asian Americans. Furthermore, emotion dysregulation was found to moderate the association between acculturative stress and psychological distress. Continued research examining the simultaneous impact of the aforementioned study variables on psychological health outcomes will no doubt assist in developing effective clinical interventions for individuals who suffer from difficulties in intercultural adjustment.

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Table 1

Means, Standard Deviations, and Internal Consistency Reliability for Study Variables

Scale	*M* (*SD*)	Range	α
Acculturation Level	0.28 (1.35)	-3.46-3.71	-
AOS	3.56 (0.70)	1.31-5.00	.85
AAOS	3.18 (0.92)	1.00-4.82	.93
Acculturative Dissonance	64.63 (25.06)	26-144	.94
Acculturative Stress	42.03 (11.97)	15-69	.88
Emotion Dysregulation	91.88 (21.90)	45-157	.93
Experiential Avoidance	34.97 (9.20)	17-66	.78
Psychological Distress	14.42 (7.77)	0-33	.92
Problematic Behaviors	41.73 (19.02)	19-85	.92

Note. Acculturation level = unidimensional score representing difference between AOS and AAOS. Higher positive score indicate greater acculturation to western culture, higher n egative scores indicate greater acculturation to Asian culture; scores closer to zero indicate biculturalism. AOS = Anglo Orientation Scale, scores may range from 1 to 5. AAOS = Asian Orientation Scale, scores may range from 1 to 5.

Table 2

Skewness and Kurtosis Statistics for Study Variables

Scale	Skewness	Kurtosis
Acculturation Level	0.93	0.11
Acculturative Dissonance	0.66	0.19
Acculturative Stress	-0.14	-0.25
Emotion Dysregulation	0.21	0.27
Experiential Avoidance	0.53	1.32
Psychological Distress	0.48	-0.33
Problematic Behaviors	0.66	-0.73

Table 3

Pearson Bivariate Correlations Matrix of Study Variables

Scale	1	2	3	4	5	6	7
1. Acculturation Level	----						
2. Acculturative Dissonance	-.11	----	.	.			
3. Acculturative Stress	-.48**	.21	----				
4. Emotion Dysregulation	-.07	.45**	.16	----			
5. Experiential Avoidance	-.14	.19	.35**	.64**	----		
6. Psychological Distress	-.11	.19	.36**	.45**	.53**	----	
7. Problematic Behaviors	.02	.30*	.13	.30*	.37**	.25*	----

Note. $N = 67$
** $p < .01$, * $p < .05$

Table 4

Summary of Hierarchical Regression Analyses for Variables Predicting Psychosocial Adjustment

	Psychological Distress			Problematic Behaviors		
Variable	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3
Acculturation Level	-.11	.08	.07	.02	.11	.10
Acculturative Dissonance		.12	-.02		.29*	.27*
Acculturative Stress		.37**	.26*		.12	.00
Emotion Dysregulation			.24			-.05
Experiential Avoidance			.30*			.37*
R^2	.01	.15	.35	.00	.11	.21
F	0.85	3.69*	6.45***	0.03	2.51	3.16*
R^2 change	.01	.14*	1.96**	.000	.11*	.10*

Note. Standardized regression weights are reported. *$p < .05$, **$p < .01$, *** $p < .001$

Table 5

Hierarchical Regression Analyses for Variables Predicting Psychological Distress

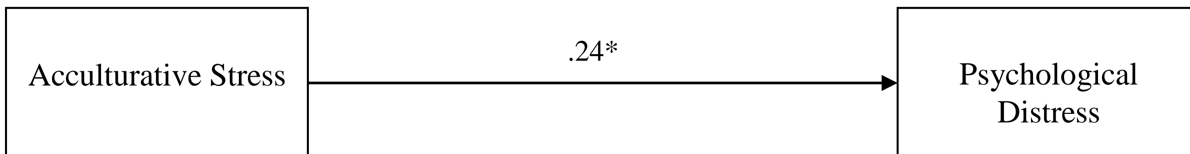
Variable	ΔR^2	*B*	*SE B*	Std. β	*t*
Step 1 Acculturative Stress	.131*	0.18	0.07	0.28	2.66*
Step 2 Emotion Dysregulation	.161***	0.18	0.04	0.51	4.46***
Step 3 Acculturative Stress x Emotion Dysregulation	.049*	0.01	0.003	0.24	2.16*

Note. Total $R^2 = .341$, $F(3, 63) = 10.88$, $p < .001$. $*p < .05$, $**p < .01$, $*** p < .001$

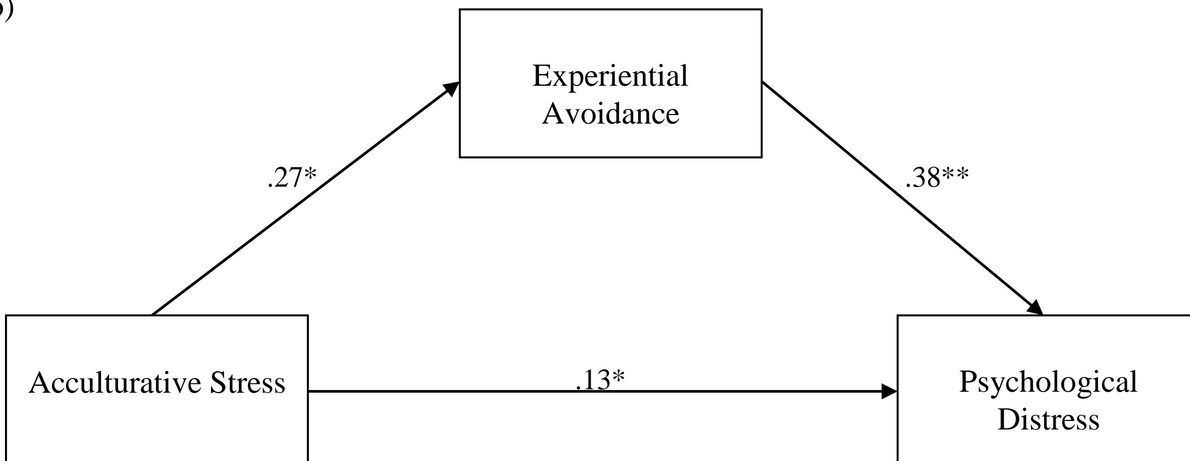
Figure 1

Mediator Models: Effect of Acculturative Stress on Psychological Distress through Experiential Avoidance

a)



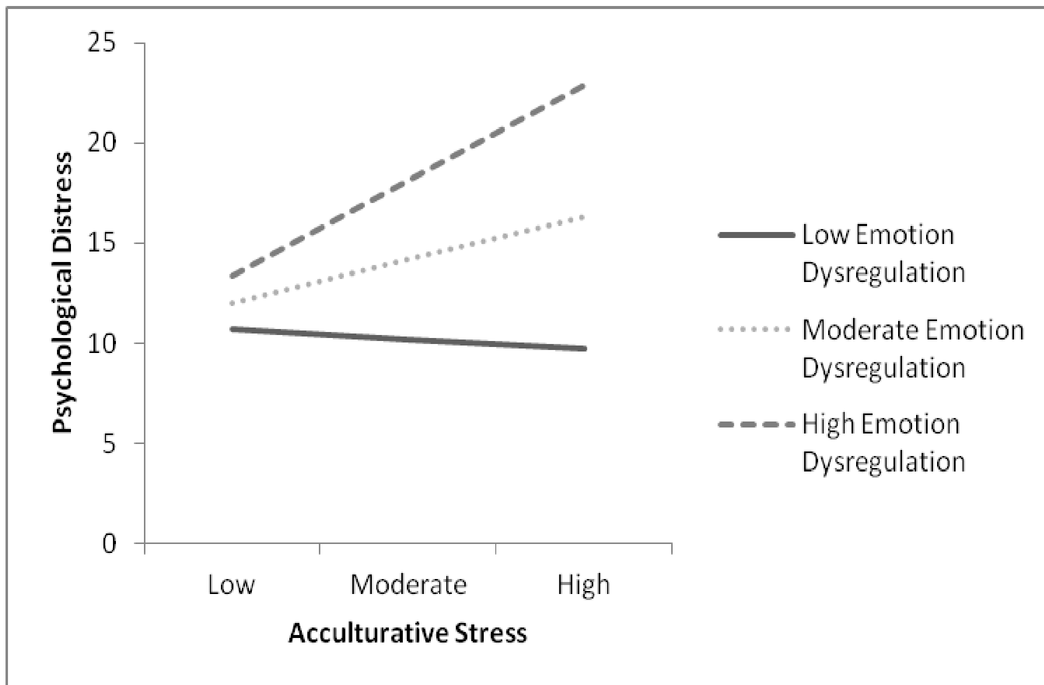
b)



Note. Path values represent unstandardized regression coefficients. **p* < .01, ***p* < .001.
(a) path estimates for the direct effects of acculturative stress on psychological distress
(b) path estimates for the indirect effects of acculturative stress on psychological distress.

Figure 2

Significant Two-Way Interaction Effect of Acculturative Stress and Emotion Dysregulation on Psychological Distress



APPENDIX A

INFORMED CONSENT

Dear Participant:

You are invited to participate in a research study that is investigating the experiences of college of students of Asian background. The purpose of this project is to better understand the Asian college population's family experience, how they cope with the stressors associated with immigration, and possible problems associated with the process of adjusting to the American culture. The results of this study will help mental health care providers and program planners improve services to meet the individual needs of the Asian college population living in the United States.

Your participation will involve completing seven surveys with questions on family experiences, stressful events, how you handle stressful situations in general, drug/alcohol use, smoking and sexual behavior. Each survey is expected to take between 5-10 minutes to complete. In addition, your participation will involve completing a short demographic survey that asks questions about your age, gender, country of birth, parent's country of birth, and how long you resided in the United States. In total, your participation will take approximately 35 minutes.

Participation in this study is voluntary. There are no foreseeable risks although some may experience psychological reactions to a few of the items on the measures. Should you wish to stop participating, or withdraw from participating, you may do so at any time without penalty. However, if you feel a need to talk to someone about how you feel, let us know and we will make arrangements for you to see a professional helper. If you need information about psychological support, contact the Eastern Michigan University Psychology Clinic, located at 611 West Cross Street, Telephone No.: 734-487-4987. Should you wish to speak to someone directly about the study, you may contact the principal investigator, Joo-Hyun Lee, at joohylee@gmail.com, or Dr. Tamara Loverich, at tpenix@emich.edu.

You are eligible to receive participation/extra credit for any applicable classes in exchange for your participation. You are unlikely to get any direct benefit from taking part in the study. However, the knowledge that we obtain from your participation will help us understand the possible difficulties associated with the process of immigration among Asian Americans. The results of the study, which will be de-identified so that no identifying information is provided, will be presented in relevant psychology journals and conferences. If you are interested in the results of the study, let us know, and we will send you a copy.

Your confidentiality while participating in this research study is very important. At no time will you be asked to provide your name or any other identifying information. That is, your name will not be on the survey form, and there will be not be any way for someone to know what answers you gave. However, for data screening purposes, you will be required to generate your own unique participation ID. The unique ID will consist of the first and last letters of your name and the last two digits of your phone number.

This research protocol and informed consent document has been reviewed and approved by the Eastern Michigan University Human Subjects Review Committee for use from _________ to _________ (date). If you have questions about the approval process, please contact Dr. Alissa Huth-Bocks (734-487-0112/ahuthboc@emich.edu).

______ Click here if you understand the terms and agree to participate in the study

APPENDIX B

DEMOGRAPHICS QUESTIONNAIRE

Demographics Questionnaire

Please provide the following information:

1. Your age: __________

2. Your ethnicity and/or race: ________

3. What is your total annual family income before taxes for all the adults in your household?

   If you are not sure about the amount, please estimate.

a. None	or	$0 per month
b. Less than 1,000	or	Less than $83 per month
c. $1,000 - $2,999	or	$83 - $249 per month
d. $3,000 - $4,999	or	$250 - $416 per month
e. $5,000 - $7,499	or	$417 - $624 per month
f. $7,500 - $9,999	or	$625 - $833 per month
g. $10,000 - $14,999	or	$834 - $1,249 per month
h. $15,000 - $19,999	or	$1,250 - $1,666 per month
i. $20,000 - $24,999	or	$1,667 - $2,083 per month
j. $25,000 - $34,999	or	$2,084 - $2,916 per month
k. $35,000 - $49,999	or	$2,917 - $4,167 per month
l. $50,000 – $74,999	or	$4,168 - $6,249 per month
m. $75,000 - $99,999	or	$6, 250 - $8,333 per month
n. $100,000 - $199,999	or	$8,334 - $16,666 per month
o. $200,000 or more	or	$16,667 or more per month

4. How well off would you say your family is?

   1) very poor (at times no money for food, clothing, and / or shelter)
   2) poor (limited money for anything more that the basics)
   3) lower middle class (able to afford necessities for modern life)
   4) middle class (own house, meet the bills with some extra)
   5) upper middle class (own nice home, many luxuries)

5. Your gender: _______Male ____________Female

6. In what country were you born? __________

7. If you were born outside the US, when did you move to the US? ________

8. Mother's country of origin? _______

9. Father's country of origin? ________

10. Where do you currently live? ______ In the dormitory ______With my parents

______ In an apartment separate from my parents

11. Is English your primary language? ________

12. If no, what language is used in your household? __________

APPENDIX C

ACCULTURATION RATING SCALE-II (ARS-II)

ARS-II

Please respond to the following questions.
(5) Almost Always/Extremely Often
(4) Much/Very Often
(3) Moderately
(2) Very Little/Not very Much
(1) Not at all

1. I speak my Asian language (e.g. Japanese)	(1)	(2)	(3)	(4)	(5)
2. I speak English	(1)	(2)	(3)	(4)	(5)
3. I enjoy speaking my Asian language	(1)	(2)	(3)	(4)	(5)
4. I associate with Anglos	(1)	(2)	(3)	(4)	(5)
5. I associate with Asians and/or Asian American	(1)	(2)	(3)	(4)	(5)
6. I enjoy Asian language music	(1)	(2)	(3)	(4)	(5)
7. I enjoy listening to English language music	(1)	(2)	(3)	(4)	(5)
8. I enjoy Asian language TV	(1)	(2)	(3)	(4)	(5)
9. I enjoy English language TV	(1)	(2)	(3)	(4)	(5)
10. I enjoy English language movies.	(1)	(2)	(3)	(4)	(5)
11. I enjoy Asian language movies	(1)	(2)	(3)	(4)	(5)
12. I enjoy reading books in Asian	(1)	(2)	(3)	(4)	(5)
13. I enjoy reading books in English	(1)	(2)	(3)	(4)	(5)
14. I write letters in Asian	(1)	(2)	(3)	(4)	(5)
15. I write letters in English	(1)	(2)	(3)	(4)	(5)
16. My thinking is done in the English language	(1)	(2)	(3)	(4)	(5)

ARS-II (continued)

(5) Almost Always/Extremely Often
(4) Much/Very Often
(3) Moderately
(2) Very Little/Not very Much
(1) Not at all

17. My thinking is done in my Asian language	(1)	(2)	(3)	(4)	(5)
18. My contact with my Asian country has been	(1)	(2)	(3)	(4)	(5)
19. My contact with the USA has been	(1)	(2)	(3)	(4)	(5)
20. My father identifies or identified himself as "Asian"	(1)	(2)	(3)	(4)	(5)
21. My mother identifies or identified herself as "Asian'	(1)	(2)	(3)	(4)	(5)
22. My friends while I was growing up were of Asian origin	(1)	(2)	(3)	(4)	(5)
23. My friends while I was growing up were of Anglo origin	(1)	(2)	(3)	(4)	(5)
24. My family cooks Asian foods	(1)	(2)	(3)	(4)	(5)
25. My friends now are of Anglo origin	(1)	(2)	(3)	(4)	(5)
26. My friends now are of Asian origin	(1)	(2)	(3)	(4)	(5)
27. I like to identify myself as an Anglo American	(1)	(2)	(3)	(4)	(5)
28. I like to identify myself as Asian American	(1)	(2)	(3)	(4)	(5)
29. I like to identify myself as Asian.	(1)	(2)	(3)	(4)	(5)
30. I like to identify myself as American	(1)	(2)	(3)	(4)	(5)

APPENDIX D

INTERGENERATIONAL CONFLICT INVENTORY (ICI)

Intergenerational Conflict Inventory

Directions: *For each of the items below, use the following scale to indicate how much conflict each item causes between you and your parents. If you have different level of conflict with each parent, answer according to the most conflict you experience regardless of which parent.*

No conflict over this issue		**Some conflict over this issue**		**A lot of conflict over this issue**	
1	**2**	**3**	**4**	**5**	**6**

Item						
1. Lack of communication with your parent	1	2	3	4	5	6
2. Your desire for greater independence and autonomy	1	2	3	4	5	6
3. Following cultural traditions	1	2	3	4	5	6
4. Pressure to learn one's own Asian language	1	2	3	4	5	6
5. Expectations based on being male or female	1	2	3	4	5	6
6. Expectations based on birth order	1	2	3	4	5	6
7. Family relationships being too close	1	2	3	4	5	6
8. Family relationships being too distance	1	2	3	4	5	6
9. How much time to spend with the family	1	2	3	4	5	6
10. How much to help around the house	1	2	3	4	5	6
11. How much time to help out in the family business	1	2	3	4	5	6
12. How much time to spend on studying	1	2	3	4	5	6
13. How much time to spend on recreation	1	2	3	4	5	6
14. How much time to spend on sports	1	2	3	4	5	6
15. How much time to spend on practicing music	1	2	3	4	5	6
16. Importance of academic achievement	1	2	3	4	5	6
17. Emphasis on success and materialism	1	2	3	4	5	6
18. Which school to attend	1	2	3	4	5	6

19. What to major in college	1	2	3	4	5	6
20. Which career to pursue	1	2	3	4	5	6
21. Being compared to others	1	2	3	4	5	6
22. Whom to date	1	2	3	4	5	6
23. When to marry	1	2	3	4	5	6
24. Whom to marry	1	2	3	4	5	6

APPENDIX E

RIVERSIDE ACCULTURATION INVENTORY

RASI

Sometimes negotiating more than one cultural orientation or identity can be difficult. How is it for you? Below are some statements that may or may not describe your own experience. Please, for each statement circle the appropriate number.

		Strongly disagree	**Somewhat disagree**	**Not sure**	**Somewhat agree**	**Strongly agree**
1.	Because of my Asian background, I have to work harder than most Americans.	1	2	3	4	5
2.	I feel the pressure that what "I" do will be seen as representative of Asian people's abilities.	1	2	3	4	5
3.	In looking for a job, I sometimes feel that my Asian background is a limitation.	1	2	3	4	5
4.	It's hard for me to perform well at work because of my English skills.	1	2	3	4	5
5.	I often feel misunderstood or limited in daily situations because of my English skills.	1	2	3	4	5
6.	It bothers me that I have an accent (in English or an Asian language).	1	2	3	4	5
7.	I have had disagreements with other Asians (e.g., friends or family) for liking American customs or ways of doing things.	1	2	3	4	5
8.	I have had disagreements with Americans for liking Asian customs or ways of doing things.	1	2	3	4	5
9.	I feel that my particular cultural practices (Asian or American) have caused conflict in my relationships.	1	2	3	4	5
10.	I have been treated rudely or unfairly because of my Asian background.	1	2	3	4	5
11.	I have felt discriminated against by Americans because of my Asian background.	1	2	3	4	5
12.	I feel that people very often interpret my behavior based on their stereotypes of what Asians are like.	1	2	3	4	5

13. I feel that there are not enough Asian people in my living environment.	1	2	3	4	5
14. When I am in a place or room where I am the only Asian person, I often feel different or isolated.	1	2	3	4	5
15. I feel that the environment where I live is not multicultural enough, it doesn't have enough cultural richness.	1	2	3	4	5

APPENDIX F

DIFFICULTIES IN EMOTION REGULATION SCALE (DERS)

Difficulties in Emotion Regulation Scale (DERS)

Directions: *Please indicate how often the following statements apply to you by selecting the appropriate number from the scale below in the spaces beside each item.*

Response categories:

1. Almost never (0-10%)
2. Sometimes (11-35%)
3. About half the time (36-65%)
4. Most of the time (66-90%)
5. Almost always (91-100%)

Item					
1. I am clear about my feelings.	1	2	3	4	5
2. I pay attention to how I feel.	1	2	3	4	5
3. I experience my emotions as overwhelming and out of control.	1	2	3	4	5
4. I have no idea how I am feeling.	1	2	3	4	5
5. I have difficulty making sense out of my feelings.	1	2	3	4	5
6. I am attentive to my feelings.	1	2	3	4	5
7. I know exactly how I am feeling.	1	2	3	4	5
8. I care about what I am feeling.	1	2	3	4	5
9. I am confused about how I feel.	1	2	3	4	5
10. When I'm upset, I acknowledge my emotions.	1	2	3	4	5
11. When I'm upset, I become angry with myself for feeling that way.	1	2	3	4	5
12. When I'm upset, I become embarrassed for feeling that way.	1	2	3	4	5
13. When I'm upset, I have difficulty getting work done.	1	2	3	4	5
14. When I'm upset, I become out of control.	1	2	3	4	5

15. When I'm upset, I believe that I will remain that way for a long time.	1	2	3	4	5
16. When I'm upset, I believe that I'll end up feeling very depressed.	1	2	3	4	5
17. When I'm upset, I believe that my feelings are valid and important.	1	2	3	4	5
18. When I'm upset, I have difficulty focusing on other things.	1	2	3	4	5
19. When I'm upset, I feel out of control..	1	2	3	4	5
20. When I'm upset, I can still get things done.	1	2	3	4	5
21. When I'm upset, I feel ashamed with myself for feeling that way.	1	2	3	4	5
22. When I'm upset, I know that I can find a way to eventually feel better.	1	2	3	4	5
23. When I'm upset, I feel like I am weak.	1	2	3	4	5
24. When I'm upset, I feel like I can remain in control of my behaviors.	1	2	3	4	5
25. When I'm upset, I feel guilty for feeling that way.	1	2	3	4	5
26. When I'm upset, I have difficulty concentrating.	1	2	3	4	5
27. When I'm upset, I have difficulty controlling my behaviors.	1	2	3	4	5
28. When I'm upset, I believe there is nothing I can do to make myself feel better.	1	2	3	4	5
29. When I'm upset, I become irritated with myself for feeling that way.	1	2	3	4	5
30. When I'm upset, I start to feel very bad about myself.	1	2	3	4	5
31. When I'm upset, I believe that wallowing in it is all I can do.	1	2	3	4	5

32. When I'm upset, I lose control over my behaviors.	1	2	3	4	5
33. When I'm upset, I have difficulty thinking about anything else.	1	2	3	4	5
34. When I'm upset, I take time to figure out what I'm really feeling.	1	2	3	4	5
35. When I'm upset, it takes me a long time to feel better.	1	2	3	4	5
36. When I'm upset, my emotions feel overwhelming	1	2	3	4	5

APPENDIX G

ACCEPTANCE AND ACTION QUESTIONNAIRE-II (AAQ-II)

Acceptance and Action Questionnaire-II (AAQ-II)

Directions: *Below you will find a list of statements. Please rate how true each statement is for you by selecting a number next to it. Use the scale below to make your choice.*

Response categories:

1. Never true
2. Very seldom true
3. Seldom true
4. Sometimes true
5. Frequently true
6. Almost always true
7. Always true

1. It's OK if I remember something unpleasant	1	2	3	4	5	6	7
2. My painful experiences and memories make it difficult for me to live a life that I would value	1	2	3	4	5	6	7
3. I'm afraid of my feelings	1	2	3	4	5	6	7
4. I worry about not being able to control my worries and feelings	1	2	3	4	5	6	7
5. My painful memories prevent me from having a fulfilling life	1	2	3	4	5	6	7
6. I am in control of my life	1	2	3	4	5	6	7
7. Emotions cause problems in my life	1	2	3	4	5	6	7
8. It seems like most people are handling their lives better than I am	1	2	3	4	5	6	7
9. Worries get in the way of my success	1	2	3	4	5	6	7
10. My thoughts and feelings do not get in the way of how I want to live my life.	1	2	3	4	5	6	7

APPENDIX H

GENERAL HEALTH QUESTIONNAIRE-12 (GHQ-12)

GENERAL HEALTH QUESTIONNAIRE GHQ 12

Please read this carefully:

We should like to know if you have had any medical complaints, and how your health has been in general, *over the past few weeks*. Please answer ALL the questions simply by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those you had in the past. It is important that you try to answer ALL the questions.

Thank you very much for your co-operation.

HAVE YOU RECENTLY:

1 -	**been able to concentrate on whatever you're doing?**	Better than usual	Same as usual	Less than usual	Much less than usual
2 -	**lost much sleep over worry?**	Not at all	No more than usual	Rather more than usual	Much more than usual
3 -	**felt that you are playing a useful part in things?**	More so than usual	Same as usual	Less useful than usual	Much less useful
4 -	**felt capable of making decisions about things?**	More so than usual	Same as usual	Less so than usual	Much less capable
5 -	**felt constantly under strain?**	Not at all	No more than usual	Rather more than usual	Much more than usual
6 -	**felt you couldn't overcome your difficulties?**	Not at all	No more than usual	Rather more than usual	Much more than usual
7 -	**been able to enjoy your normal day-to-day activities?**	More so than usual	Same as usual	Less so than usual	Much less than usual
8 -	**been able to face up to your problems?**	More so than usual	Same as usual	Less able than usual	Much less able

9 -	**been feeling unhappy and depressed?**	Not at all	No more than usual	Rather more than usual	Much more than usual
10 -	**been losing confidence in yourself?**	Not at all	No more than usual	Rather more than usual	Much more than usual
11 -	**been thinking of yourself as a worthless person?**	Not at all	No more than usual	Rather more than usual	Much more than usual
12 -	**been feeling reasonably happy, all things considered?**	More so than usual	About same as usual	Less so than usual	Much less than usual

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APPENDIX I

COMPOSITE MEASURE OF PROBLEM BEHAVIORS (CMPB)

CMPB

This questionnaire is designed to ask you about a range of behaviours that you may, or may not, engage in. It includes 21 statements and you are required to rate the extent to which each statement characterises you, using the scale below

1	2	3	4	5	6
Very unlike me	Quite unlike me	A little unlike me	A little like me	Quite like me	Very Like me

For example, if you read a statement and think "it's very unlike me to do X" you would write a "1" next to the statement. If you think "that's only very slightly like me" write '4', or if you think "it's very like me to do that", write '6'.

Before completing the questionnaire, please take note of the following points:

Where questions refer to sexual behaviours, this includes both foreplay and all forms of sexual intercourse. Where questions refer to drugs, this means the use of illegal drugs. This would include, for example, Cannabis, Cocaine, Ecstasy etc. Where questions refer to smoking, this means tobacco.

Please read each statement carefully and answer as honestly as possible. All answers are anonymous. Please do not leave any answers blank.

It's like me ....

1	to say no to drugs, including cannabis	1 2 3 4 5 6
2	to be pre-occupied by thoughts about smoking when smoking is prohibited	1 2 3 4 5 6
3	to sometimes consume more than 6 alcoholic drinks in one evening	1 2 3 4 5 6
4	to smoke tobacco	1 2 3 4 5 6
5	to generally have no interest in taking drugs, including cannabis	1 2 3 4 5 6
6	to sometimes engage in sexual activities with someone I have only just met.	1 2 3 4 5 6
7	to sometimes actively seek out drugs for personal use (this includes cannabis).	1 2 3 4 5 6
8	to feel irritation/frustration if I am in a non-smoking environment.	1 2 3 4 5 6
9	to drink a lot more alcohol than I initially intended.	1 2 3 4 5 6
10	to feel excitement and/or tension in anticipation of getting drunk.	1 2 3 4 5 6
11	to prefer being in places where smoking is prohibited.	1 2 3 4 5 6

12	to be excited by the opportunity of taking drugs (this includes cannabis)	1 2 3 4 5 6
13	to sometimes have more than one sexual partner.	1 2 3 4 5 6
14	to sometimes engage in sexual actives with someone when really I shouldn't	1 2 3 4 5 6
15	to feel the urge to have a cigarette.	1 2 3 4 5 6
16	to sometimes feel that I need to take drugs (this includes cannabis)	1 2 3 4 5 6
17	to go out with friends who are drinking, but opt to stay sober	1 2 3 4 5 6
18	to sometimes think that I might have a drugs problem (this includes cannabis).	1 2 3 4 5 6
19	to sometimes feel that I need an alcoholic drink	1 2 3 4 5 6

We consider a behavior to be excessive when you engage in it with a frequency and/or in a way that makes you and/or those around you unhappy, when you break your personal rules about and/or engage in the behavior when you didn't intend to. A sign of excessive

If applicable, please answer the next set of questions.
Given the above definition of excessive behavior...

1	Estimate how many times you had out of control or somehow excessive (for you) smoking during the last month.	
1a	Estimate how many times you have out of control or somehow excessive (for you) smoking during a typical month.	
2	Estimate how many times you had out of control or somehow excessive (for you) alcohol use during the last month.	
2a	Estimate how many times you have out of control or somehow excessive (for you) alcohol use during a typical month.	
3	Estimate how many times you had out of control or somehow excessive (for you) substance use (excluding alcohol) during the last month.	
3a	Estimate how many times you have out of control or somehow excessive (for you) substance use (excluding alcohol) during a typical month.	
4	Estimate how many times you had out of control or somehow excessive (for you) sex during the last month.	
4a	Estimate how many times you have out of control or somehow excessive (for you) sex during a typical month.	