The Internalization of the Model Minority Stereotype, Acculturative Stress, and Ethnic Identity on Academic Stress, Academic Performance, and Mental Health Among Asian American College Students

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LOYOLA UNIVERSITY CHICAGO

THE INTERNALIZATION OF THE MODEL MINORITY STEREOTYPE, ACCULTURATIVE STRESS, AND ETHNIC IDENTITY ON ACADEMIC STRESS, ACADEMIC PERFORMANCE, AND MENTAL HEALTH AMONG ASIAN AMERICAN COLLEGE STUDENTS

A DISSERTATION SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL IN CANDIDACY FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

PROGRAM IN COUNSELING PSYCHOLOGY

BY

HANNA Y. CHANG

CHICAGO, IL

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ABSTRACT

Previous studies in Asian American psychology literature on cultural factors of acculturation and ethnic identity have yielded mixed findings in its relation to psychological outcomes. Furthermore, there is a gap in the knowledge base regarding the internalization of the model minority stereotype and its impact on Asian Americans. Due to Asian Americans' tendency to value academic excellence as a result of socialization by cultural values and family upbringings, this study examined the effects acculturative stress, ethnic identity, and the internalization of model minority on academic stress, academic performance, and mental health.

Results of this study indicated that acculturative stress significantly predicted academic stress and depression, and academic stress partially mediated the relationship between acculturative stress and depression. Additionally, results revealed that ethnic identity did not moderate the relationship between acculturative stress and academic stress. Results also indicated the internalization of the model minority stereotype was not related to academic stress, however, it was negatively related to depression from path analysis. None of the variables were related to academic performance. Clinical implications, limitations, and directions for future research are discussed.
CHAPTER ONE
INTRODUCTION

In 2015, there are an estimated 21 million Asians or Asian Americans residing in the United States, which is approximately 6.5% of the total population (United States Census Bureau, 2017). Additionally, the United States Census Bureau estimated that by the year 2060, more than 39 million Asian Americans, which comprises of 9.3% of the entire U.S. population, will live in the United States (United States Census Bureau, 2015). This is a projected increase of 128% from 2014. Additionally, Asian Americans have been projected to be the second fastest growing group of ethnic minorities living in the U.S., after Latinx Americans (United States Census Bureau, 2015).

Valuing academic success is often considered a cultural norm among Asian Americans. In fact, research has suggested that Asian American youth are consistently socialized to value academics and pursue educational success more than their non-Asian peers (Sue & Okazaki, 1990; Kao & Tienda, 1998). The pursuit of academic excellence is often perceived in Confucian teachings as crucial in achieving perfection and moral vitality of the self (Li, 2006). Thus, it is not surprising that East Asian immigrant parents living in the U.S. continue to socialize their children in upholding traditional Asian values of seeking self-perfection through academic achievement (Li, 2006).

Asian American children have also perceived academic success to be the best way to repay their parents for the sacrifices they have made, such as bringing the family to the United
States (Kim, Li, & Ng, 2005). Academic success from children can be another form of bringing recognition, or "honor", to the family as well. Therefore, Asian American parents are typically heavily involved in their children's academic pursuits (Sue & Okazaki, 1990). Due to Asian American parents’ tendency to prioritize academic excellence above most other Western values, Asian Americans have been shown to become academically more successful than children of other races/ethnicities as a result of attitudes, expectations, and beliefs from both parents and children (Suinn, 2010). For example, Asian Americans have scored higher averages than all other students in the Scholastic Aptitude Test (SAT) (College Board, 2008). However, the belief that Asian Americans are the “model minority” group in comparison to other racial or ethnic minority groups due to their perceived academic achievement and career/financial success is not only hurtful but is systemically oppressive to Asian Americans (Hartlep, 2013). This study seeks to further explore the influence of this myth.

In addition to academic stress, which may be experienced differently by Asian Americans due to Asians strongly valuing academic excellence, acculturating to the United States may also be a difficult process for Asian Americans. Racial minorities often face experiences of racism and racial stratification while adapting to the new (dominant) culture, leading to worse adjustment and deleterious psychological outcomes (Alamilla, Kim, Walker, & Sisson, 2016). Acculturative stress among Asian Americans involves difficulty navigating between two different cultures with conflicting values or beliefs, typically between the Western culture and the individual’s ethnic culture, which can be taxing (Berry & Kim, 1988). Since the majority of Asian Americans undergo the process of acculturation and experience some level of
acculturative stress, it is important for helping professionals to gain further insight and increase cultural competency in order to provide services for Asian American clients.

Ethnic identity, which is the individual's sense of self as a member of their ethnic group, has been referred to as the most commonly studied dimension of acculturation in relation to an individual's psychological well-being (Smith & Silvia, 2011). Social identity theory suggests that a strong attachment to one's own ethnic group may protect minorities from experiences of discrimination or psychological distress (Tajfel & Forbas, 2000). In theory, strong ethnic identity should protect ethnic minorities from difficulties with adjustment to the dominant culture. A meta-analysis by Smith and Silvia (2011) on ethnic identity and psychological well-being has supported this relationship, demonstrating that ethnic identity is more likely to be associated with positive psychological well-being. In this study, the impact of ethnic identity, acculturative stress, and the internalization of the model minority stereotype have on Asian Americans are examined.

**Problem Statement**

It is apparent there are a number of cultural factors that play into the value of academic excellence among Asian Americans. The internalization of the model minority stereotype, acculturative stress, and ethnic identity are frequently popular topics in Asian American psychology literature. However, research based on the link from these cultural factors to academic stress is limited. Despite the recent surge of literature in the past decade on the association between acculturation and mental health, there is still a gap in the knowledge base regarding its mediating factors. Thus, the current study aims to further examine how certain cultural factors among Asian Americans influence their level of academic stress, which as a
result may influence their academic performance and mental health. Furthermore, this study will examine the potential buffering effect of ethnic identity pertaining to academic and mental health outcomes.

**Model Minority Stereotype**

The pursuit of higher education has been shown to be much more of a norm for Asian Americans compared to other racial/ethnic groups. Asian Americans have been demonstrated to be the fastest growing minority population in attaining college degrees (Samura, 2010). Data has shown that Asian Americans are often over-represented at the highly prestigious colleges in the United States. For example, University of California Berkeley’s Fall enrollment data revealed 42.9% of the incoming freshmen class for Fall of 2016 identified as Asian Americans, excluding international students (UC Berkeley Fall Enrollment Data, 2016). Therefore, it is apparent that Asian American children continue to value academic success after childhood and adolescence. As a result, Asian Americans are often perceived as the "model minority" compared to other minority groups, in that Asian Americans are regarded as more capable of attaining educational success in the U.S.

However, research has suggested this "model minority" stereotype can in fact be detrimental to Asian Americans. The model minority stereotype portrays Asian Americans as a hardworking, intelligent, and successful group (Oyserman & Sakamoto, 1997). Due to the greater likelihood that Asian American children are socialized by Asian parents who adhere to traditional Asian cultural values, Asian Americans may be more likely to place education and hard work as greater priority compared to their non-Asian peers, which has led to other racial/ethnic groups stereotyping Asian Americans with these traits. Unfortunately, while the
model minority stereotype has been associated with positive adjustment (Thompson & Kiang, 2010), the model minority stereotype has also been shown to negatively impact Asian Americans as a result of the immense pressure placed onto them and the fear of failure to meet unattainable standards (Wong & Halgin, 2006).

Asian Americans have described the model minority stereotype as inaccurate, restrictive, and damaging (Rosenbloom & Way, 2004). Asian American adolescents have reported negative emotional reactions regarding the stereotype, with almost all adolescents (99.4%) in one study having had encounters with the stereotype at some point (Thompson & Kiang, 2010). Not only does this suggest how pervasive the model minority stereotype is, it also suggests that Asian Americans may be most susceptible to internalizing the model minority stereotype in an educational setting, where Asian Americans are more likely to experience being stereotyped by others. Moreover, educators may engage in model minority stereotyping, leading to inaccurate assumptions that this group of students do not need as much help or be given as much attention as students of other races.

**Acculturative Stress**

The model minority stereotype also discounts other contextual factors which can play a role in Asian Americans' educational pursuits. Another cultural factor, acculturative stress, may heavily impact Asian Americans’ experience in the academic world.

Asian Americans are likely to experience a variety of acculturation conflicts as they encounter more social values, norms, and customs of the dominant society. As they navigate whether to adapt to the new culture, they are likely to be faced with challenges related to the two groups' (dominant and ethnic) differing worldviews. Acculturation, which is the level to which
an individual adapts to the norms of the new or dominant culture, has been shown to be an important contextual factor to consider when examining behavioral outcomes in Asian Americans, especially pertaining to educational motivations.

Acculturation has been defined as "the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members." (Berry, 2005). It is no surprise that almost all Asian Americans engage in some level of acculturation living in the U.S., often having to navigate between their ethnic culture and the dominant (in this case, American) culture.

While there is an abundance amount of research on the association between acculturation and mental health (Yoon et al., 2013), acculturative stress has been demonstrated to be a stronger predictor of psychological well-being (Hwang & Ting, 2008). The degree of stress associated with the process of acculturation is markedly different from an individual's level of acculturation. A person who is highly acculturated may still endorse high acculturative stress. On the other hand, a person who is less acculturated may still experience the same degree of acculturative stress. Therefore, in this study we measure acculturative stress as a variable rather than acculturation.

Acculturative stress is produced when Asian Americans struggle to navigate the dominant culture and their ethnic culture as a result of differences in values or norms. According to Berry and colleagues, acculturative stress is defined as the stress response to the process of acculturation experienced by individuals of minority groups (Berry, 1997, 2006; Berry & Kim, 1988; Berry & Anis, 1974). This response typically leads to some form of psychological distress.
Additionally, it also encompasses the psychosocial stressors that result from unfamiliarity and adjustment to new social norms and customs (Lin & Yi, 1997).

Interestingly, there are mixed findings regarding the influence of acculturative stress on mental health. Some studies have indicated a positive relationship between acculturative stress and poor mental health outcomes (Thomas & Choi, 2006; Constantine, Okazaki, and Utsey, 2004; Wei et al., 2007; Ying & Han, 2006; Park, 2009; Hamamura & Laird, 2014). On the other hand, Kim and Omizo (2005) have found no relationship between acculturative stress and mental health among Asian American college students, which gives reason to examine the relationship further in this study.

**Ethnic Identity**

Ethnic identity reflects an aspect of an individual's self-concept that stems from his or her awareness, knowledge, and connectedness with an ethnic minority group (Phinney, 1990). Typically, when an individual has high ethnic identity, he or she is more connected to values and cultural norms of the ethnic group, and engages in behavior consistent with group practices. More importantly, an individual's level of ethnic identity is associated with his or her sense of belonging with their ethnic group (Phinney & Ong, 2007). Through greater sense of belonging and likely having greater support from the ethnic community, ethnic identity is theorized to be beneficial for an individual's mental health.

Ethnic identity has been demonstrated to potentially have buffering effects against racial discrimination among ethnic minorities (Greene, Way, & Pahl, 2006; Yoo & Lee, 2008). However, prior to Smith and Silvia’s (2011) meta-analysis, there were mixed findings on its effectiveness as a protective factor, as various research had also found ethnic identity to
exacerbate Asian Americans' mental health (Lee, 2005; Yip, Gee, & Takeuchi, 2008; Yoo & Lee, 2005, 2008). For example, Mossakowski (2003) found that when people experience high racial discrimination, those who had a higher level of ethnic identity were more likely to have better psychological adjustment than those with a lower level of ethnic identity. On the other hand, some studies have either found no significant effects or suggested that high ethnic identity negatively impacts psychological adjustment among Asian Americans (Greene et al., 2006). Smith and Silvia’s (2011) meta-analysis concluded that the studies demonstrating a positive relationship between ethnic identity and psychological well-being had much greater effect sizes than studies showing a negative relationship. Based on this finding, ethnic identity will be incorporated to determine whether it is a protective factor in the face of academic stress.

**Academic Stress**

With high expectations and pressure to perform well from their parents, Asian American students often have to deal with greater academic stress. As the model minority stereotype emphasize academic prowess (Oyserman & Sakamoto, 1997), the persistent need to excel in academics may become especially burdensome on Asian Americans if they greatly internalized this stereotype. Additionally, the internalization of the model minority stereotype may also lead students to feel that their academic role is exceptionally salient to their identity, and that they not only desire to be academically successful, they may feel that they *should* be academically successful. As a result, Asian American students may have a greater sense of academic entitlement in an educational setting, which may make them more susceptible to poor performance when their personal expectations are unattainable.
It is crucial to pay attention to Asian American college students given that the substantial proportion of the college student population continues to struggle with mental health, often as a result of academic stress (Cheng, Leong, & Geist, 1993; Hamamura & Laird, 2014). Furthermore, Asian American college students have been found to endorse more suicidal ideation and suicidal attempts compared to their White counterparts (Kisch, Leino, & Silverman, 2005). Due to academic achievement normally being of the highest priority among college students, the study aims to focus on this particular population.

**Purpose**

Presently, there is a lack of understanding regarding the interplay between the internalization of the model minority stereotype and acculturative stress on academic stress and mental health outcomes among Asian American college students. Thus, this study aims to examine the degree to which both factors influence these outcomes. Because research has suggested that ethnic identity may serve to buffer worse mental health outcomes, this study will also incorporate ethnic identity as a factor that may moderate the relationship between acculturative stress and academic stress. Figure 1 shows the mediation model used to test the research questions 1 and 2 below. Figure 2 shows the moderation model for question 3.

**Research Hypotheses**

The following hypotheses were generated for this study.

1. (a) Academic stress will mediate the relationship between the internalization of the model minority stereotype and academic performance. Higher level of internalization of the model minority stereotype will result in higher level of academic stress, leading to worse academic performance.
(b) Academic stress will mediate the relationship between the internalization of the model minority stereotype and depression. Higher level of internalization of the model minority stereotype will result in higher level of academic stress, leading to increased depressive symptoms.

2. (a) Academic stress will mediate the relationship between acculturative stress and academic performance. Higher level of acculturative stress will result in higher level of academic stress, leading to worse academic performance.

  (b) Academic stress will mediate the relationship between acculturative stress and depression. Higher level of acculturative stress will result in higher level of academic stress, leading to increased depressive symptoms.

3. Ethnic identity will moderate the relationship between acculturative stress and academic stress. When ethnic identity is low, acculturative stress will strongly predict academic stress. On the other hand, when ethnic identity is high, acculturative stress will present a significantly weaker relationship or no relationship with academic stress.
Figure 1. Mediation Model

Model Minority Stereotype → Academic Stress → Academic Performance

Acculturative Stress → Depression

Figure 2. Moderation Model

Acculturative Stress → Ethnic Identity → Academic Stress

Definition of Terms

Academic Performance: The student’s academic ability to successfully adapt to an academic environment using grade point average as a single indicator (Pizzolato et al., 2008).
Acculturative Stress: A stress reaction in response to life events that are rooted in the experiences of acculturation (Berry, 2006), the psychological difficulties in adapting to a new culture (Smart & Smart, 1995), or psychosocial stressors as a result of unfamiliarity with new customs and social norms (Lin & Yi, 1997; Wei et al., 2007).

Ethnic Identity: The identification with a segment of a larger society whose members are thought, by themselves or others, to have a common origin and to share segments of a common culture and who, in addition, participate in shared activities in which the common origin and culture are significant ingredients (Yinger, 1976, p. 200).

Internalized Model Minority Stereotype: The belief in the comparative success of Asian Americans and attributes it to hard work and lack of obstacles for moving up socially (Yoo et al., 2010; Kim & Lee, 2014).
CHAPTER TWO

LITERATURE REVIEW

Acculturation and Acculturative Stress

The acculturation experience among racial or ethnic minority populations in the United States has received significant attention among researchers in the past decade. Studies on acculturation in particular pertaining to the Asian American population have suggested that adherence or adaptation to Western or European values in the United States are connected to Asian Americans' psychological functioning and well-being. Individuals who experience the process of acculturation are likely to experience acculturative stress from cultural conflict (i.e., navigating between two different cultures with conflicting values or beliefs), as well as from cultural distance (i.e., navigating perceived differences between the two cultural identities) (Haritatos & Benet-Martinez, 2002). Therefore, it is important to understand the process of acculturation, the development of acculturative stress, and the impact acculturative stress has on Asian Americans.

Acculturation is defined as the state or the process in which an individual adopts the norms of a new (typically dominant) culture (Kim & Abreu, 2001). The term acculturation was first created by anthropologists to describe group-level phenomena that occur when "groups of individuals sharing different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups" (Redfield, Linton, & Herskovitz, 1936, p. 149). Acculturation can occur at the basic group level where intercultural
contact elicits changes in either or both groups, or acculturation can also occur at the individual level when an individual is directly impacted by the interaction with the new culture (Berry, 2003). More recently, the term has shifted to being used to describe an individual-level variable in psychology (Graves, 1967). When the term is defined as a state, it refers to the amount of values, beliefs, affects, customs, and behaviors associated with the dominant culture adapted or endorsed by a minority individual (Ward, 1996). In addition to being a state, acculturation can be defined as a process, in which potential environmental and individual variables are changing over time as a result of a minority adapting to a majority culture (Ward, 1996).

While the definition of acculturation may imply that the people who experience acculturation are people who are immigrants or foreign-born individuals, in actuality, the size of the population which undergoes the acculturation process is much larger (Porter & Rumbaut, 2001). Not only do individuals who are foreign-born experience acculturation, those who are raised by foreign-born parents yet born in the United States are also likely to experience some levels of acculturation or acculturative stress (Porter & Rumbaut, 2001; Schwartz et al., 2013). Researchers have even suggested that the term "immigrants" be applied to not only those who are first-generation immigrants but also children of first-generation immigrants ("second-generation immigrants") (Porter & Rumbaut, 2001).

The reason for “second-generation immigrants” to also experience process of acculturation is, albeit born in the United States, second-generation immigrants are likely to be raised in family environments in which the ethnic culture of origin is present (e.g., foods, customs; Portes & Rumbaut, 2006). Additionally, being raised by parents who may be more likely to adhere to traditional values or norms of ethnic culture may result in those values or
norms being passed down and endorsed by their children. Moreover, second-generation immigrants may continue to be connected to their countries of ethnic origin through extended family relationships, vacations, and narratives by family members (Kasinitz, Mollenkopf, Waters, & Holdaway, 2008). As a result, second-generation immigrants also have acculturative experiences and may have difficulty navigating between their ethnic culture and mainstream "American" or Western culture (Schwartz, Unger, Zamboanga, & Szapocznik, 2010; Schwartz et al., 2013).

According to John Berry, a pioneer in the study of acculturation, individuals may experience acculturation differently depending on various factors; he and his colleagues proposed that the process of adaptation can be categorized into four different acculturative attitudes: assimilation, integration, separation, and marginalization (Berry & Kim, 1988; Berry, Kim, Power, Young, & Kajaki, 1989; Berry, 1991). Assimilation is the process when an individual strongly acculturates or prefers to acculturate to the dominant (mainstream) culture (e.g., adheres to new values or beliefs, changes attitudes or behaviors), and rejects their ethnic culture. Integration involves an individual becoming highly acculturated to the dominant culture, and at the same time, maintains adherence to their own ethnic culture (i.e., enculturation) and continues to incorporate aspects of both cultures into their lives (also known as biculturalism). Separation occurs when the individual strongly identifies with their ethnic culture and rejects the values and practices of the dominant culture. Lastly, marginalization is the process when the individual rejects both cultures. Integration is believed to be the most psychologically healthy for Asian Americans, as it gives room for individuals to adhere to both cultures' values and norms.
without having to reject one or the other. Additionally, it also allows Asian Americans to respond successfully to difficult demands of both cultural systems (Kim & Omizo, 2005).

When Asian Americans have difficulty navigating the dominant culture and their ethnic culture due to incompatible or opposing values or norms, acculturative stress is generated. Acculturative stress, according to Berry and his colleagues, is the stress reaction in response to the acculturation process experienced by minority individuals that results in some form of psychological distress, or any psychological stresses existing as a function of acculturative influences (Berry, 2006; Berry & Kim, 1988; Berry & Anis, 1974). Nwadiora and McAdoo (1996) refers to acculturative stress as "the psychocultural stress due to cultural differences found between a host culture and an incoming culture marked by reduction in the physical and mental health status of individuals or groups undergoing acculturation" (p. 477). It has also been defined as psychosocial stressors resulting from unfamiliarity with new social norms and customs (Lin & Yi, 1997).

While acculturation has been extensively examined in its relation to mental health, research has consistently demonstrated that acculturative stress is more indicative of psychological distress among ethnic minorities than acculturation (Hwang & Ting, 2008; Wu & Mak, 2012). Acculturative stress can be expressed psychologically, emotionally, socially, physically, and can result in worse health conditions for ethnic minorities (Berry, 1998, 2003). Present views of acculturative stress suggest that the psychological distress can be influenced by a wide range of factors, such as acculturation attitudes, immigration status, personality and cognitive factors, demographic variables, and cultural pluralism (Berry, 1997). More specifically, acculturative stress may include difficulties with communication or language, loss
of social supports and difficulty forming new social relationships or community, disruptions in family dynamics, difficulty with finding employment, discrimination, and rejection by the dominant culture (Berry, 1998, 2003).

By itself, acculturative stress is perceived as a moderate level stressor; however, when acculturative stress interacts with an individual's overall stress, it can heighten the acuity and longevity of its impact on the person (Berry, Kim, Minde, & Mok, 1987; Myers & Hwang, 2004). The impact of acculturative stress on ethnic minorities can be moderated by numerous factors, such as the context of the host environment, the psychosocial characteristics of the person, the nature of the dominant group the individual is acculturating to, and the previously mentioned four methods of acculturation (i.e., assimilation, integration, separation, or marginalization) (Berry et al., 1987; Hwang & Ting, 2008).

Acculturation, Acculturative Stress, and Mental Health

There are presently mixed findings regarding the association between level of acculturation and psychological well-being. Due to additional transition and adaptation, as well as other acculturative stressors, less acculturated individuals are perceived to be at a higher risk for psychological distress and maladjustment (Yoon et al., 2013; Abe & Zane, 1990; Kuo, 1984; Yeh, 2003; Ying, 1988; Hwang & Ting, 2008). Because acculturative stress can be influenced by a wide range of factors, it is likely to continue to impact ethnic minorities negatively throughout their lifespan, even when they become more acculturated to the dominant culture. Additionally, acculturative stress can also be passed down from generation to generation as a result of added acculturative stressors within and outside of the family, which may explain why some studies have suggested that more acculturated individuals in actuality experience higher levels of
maladjustment (Berry, 1998; Hwang & Ting, 2008; Hwang, Chun, Takeuchi, Myers, & Siddarth, 2005).

It is critical to note the distinction between acculturation and acculturative stress when exploring their relations to mental health. While there is an abundance of research on the association between level of acculturation and mental health (Yoon et al., 2013; Koneru, Weisman de Mamani, Flynn, & Betancourt, 2007), there is significantly less research on the relation between acculturative stress and mental health. It is likely that acculturative stress may be already expected as a predictor of increased psychological distress. First, it is important to review findings of the link between acculturation and mental health in order to better understand how the acculturation experience can impact mental health.

Based on Yoon et al.’s (2013) meta-analysis, acculturation revealed overall positive effects on the entire spectrum of mental health, including both positive mental health variables such as self-esteem, satisfaction with life, and positive affect, and negative mental health variables, such as depression, anxiety, psychological distress, and negative affect. This study, consistent with many previous studies, suggests that individuals who have higher degrees of acculturation are more likely to have more positive mental health outcomes.

There are many potential reasons as to why highly acculturated individuals have been shown to have better mental health outcomes. For example, being more acculturated to the mainstream culture can foster a sense of increased social acceptance into a dominant group with greater systemic power. Additionally, those who are less acculturated may have a more difficult time building a social network and finding social support.
While acculturation has been frequently found to suggest better mental health outcomes, a large number of studies have also revealed either worse outcomes or no relationship at all (e.g., Birman & Tran, 2008; Jang & Chiriboga, 2010; Juang & Cookston, 2009; Bratter & Eschback, 2005; Mak, Chen, Wong, & Zane, 2005; Lee, Koeske, & Sales, 2004; Mak & Zane, 2004). There are also various potential reasons explaining why more acculturated individuals may have worse mental health outcomes. For example, Escobar (1998) proposed that as immigrants increase their level of acculturation, there may be higher risk for psychological maladjustment due to being more exposed to acculturative stressors, living in a new environment that may have greater risk for psychopathology than their countries of ethnic origin, and/or losing protective social resources (e.g., family networks, cultural values). Other studies have suggested that the more acculturated individual may experience increased distress at home with other family members as a result of cultural conflicts, clashing of values or behaviors, or reduced familial support (e.g., Chung, Bemak, & Wong, 2000; Oh, Koeske, Sales, 2002; Ying & Han, 2007). It is evident that it is not definitively clear the impact acculturation has on mental health, and it is more likely that there are various other factors moderating its effect.

Acculturative stress continues to be experienced by individuals who are highly acculturated, in addition to individuals who are less acculturated. While acculturation has been shown to be associated with more positive outcomes among ethnic minorities, it is possible for those who are highly acculturated to still experience a high level of acculturative stress. In a study by Hwang and Ting (2008) examining the relationships between acculturation, acculturative stress, and mental health, the authors found that regardless of an individual’s level of acculturation, acculturative stress is still a stronger predictor of psychological well-being,
suggesting that the level of acculturation should be perceived as a more distal identifier of group risk instead of a mechanism of risk. Moreover, acculturative stress has been shown to be associated with mental health outcomes beyond the effects of general perceived stress (Hwang & Ting, 2008).

Interestingly, there are mixed findings regarding impact of acculturative stress on mental health. Most studies on acculturative stress have suggested a positive relationship between acculturative stress and poor mental health outcomes. In a study by Thomas and Choi (2006), the authors examined the relationship between acculturative stress and social support among Korean and Indian adolescents in immigrant families in the United States, and results suggested that acculturative stress is negatively correlated with social support and that the challenges associated with managing acculturative stress have led to increased familial conflicts between adolescents and their parents. Constantine, Okazaki, and Utsey (2004) found that higher acculturative stress predicted increased symptoms of depression among African, Asian, and Latin American international students. In another study by Wei and colleagues (2007), Chinese international college students in the United States who experience greater acculturative stress were more depressed than students with less acculturative stress, regardless of duration living in the United States. Ying and Han (2006) also found similar results among Taiwanese international students.

On the other hand, there are also studies which have shown nonsignificant relationships between acculturative stress and mental health. For example, Kim and Omizo (2005) found no relationship between acculturative stress and mental-health-related variables among Asian American college students. This result contradicted their initial hypothesis of acculturative stress being a significant predictor of psychological maladjustment. It is important to note that the
authors speculated that the nonsignificant result may be due to sampling, as they suspected that individuals who are successful academically to be enrolled in a university may have less acculturative stress, thus limiting the range of scores. Furthermore, Kim and Omizo (2005) also found no relationship between acculturative stress and adherence to cultural values, which again supports the notion that degree of acculturative stress is not dependent on level of acculturation.

It is evident that the level of acculturation among immigrants or ethnic minorities can have significant impact on an individual's mental health. The acculturation process is often expected to be difficult, and research has indicated that acculturative stress can be a strong predictor of psychological maladjustment (Hwang & Ting, 2008). Therefore, this study has continued to examine the relationship between acculturative stress and mental health to further understand its impact.

**Ethnic Identity**

Ethnic identity has been suggested to be the most commonly studied dimension of acculturation in relation to psychological well-being (Smith & Silva, 2011). Ethnic identity is defined as an individual's sense of self as a member of their ethnic group (Phinney, 2003). Most studies on ethnic identity are based on Phinney's ethnic identity model (Phinney, 1992), which describes ethnic identity as a construct that largely consists of the sense of belonging and desire for exploration of one's ethnic group. A sense of belonging relates to an individual's sense of attachment and investment to their ethnic group, and can include individual feelings as well as a sense of connection to the group (Phinney & Ong, 2007; R. M. Lee, 2005). In addition, more recent researchers have conceptualized ethnic identity as a construct that consists of clarity and
resolution regarding an individual's ethnic background, affect and regard toward their ethnic group, and behavioral engagement with their ethnic heritage (Umaña-Taylor et al., 2014).

Classic identity theories suggest that there is subjective continuity and similarity from the identity development stage during adolescence that provide a structure for adult personality development (Erikson, 1968). However, this conceptualization of identity formation may not fully apply to ethnic minorities (in particular, Asian Americans). Asian Americans have an added dimension to their identity development; as adolescents, they are often faced with cultural conflicts in having to integrate their ethnic identity with their identity as an American (Chae, 2001). Rather than primarily experiencing identity exploration or confusion regarding their role in life, Asian Americans are likely to also face difficulties navigating two cultural identities that may conflict with one another, while still not having full understanding of either cultures (K. Park, 1997).

Sodowsky, Kwan, & Pannu (1995) theorized a model illuminating the complexity of ethnic identity among Asian Americans; rather than ethnic identity development being a linear process, it is bidirectional, where the individual's ethnic identity orientation can shift throughout time and across different contexts. Based on Sodowsky et al.'s model, ethnic identity takes into the cultural consideration of the Asian's concept of self (Chae, 2001). Asian Americans are more likely to be high self-monitors, and can be heavily impacted by social factors such as expectations and judgments dependent of social contexts. This is likely to contribute to increased internal struggle in having to navigate between pressures of adherence to Asian cultural values at home and expectations from society to adapt to Western cultural norms.
Theoretically, having more clarity and connection to one's ethnic background should suggest better psychological well-being. Social identity theory suggests that ethnic identity acts as a moderating mechanism, in that a strong attachment to one's ethnicity or ethnic group may protect ethnic minorities from experiences of racial or ethnic discrimination (Tajfel & Forbas, 2000). A greater sense of belonging to a community can indicate a higher feeling of social acceptance, a more positive sense of self, and a greater internal sense of social support. Another reason that ethnic identity can serve as a buffer against psychological maladjustment could be that it promotes spending time in structured activities with other members of the same ethnic community, and therefore gaining greater social support and fostering feelings of solidarity (Stein, Kiang, Supple, & Gonzalez, 2014). However, results in the literature have been unclear whether this protective role of ethnic identity holds true for Asian Americans (and other ethnic minorities), as having a stronger attachment to ethnic culture can potentially signify increased cultural conflicts or weaker attachment to the dominant culture.

While ethnic identity, by nature, should suggest protective effects from psychological maladjustment, there is inconsistency in findings examining its relationship to mental health. Many researchers have found ethnic identity to be associated with positive psychological adjustment. For example, Mossakowski (2003) examined whether ethnic identity predicted better mental health and protected against the stress of racial discrimination among Filipino Americans. Results of the study suggested that the more an individual identified with their ethnic group, they are more likely to exhibit fewer depressive symptoms, and that ethnic identity did indeed serve as a buffer against the stress of racial/ethnic discrimination (Mossakowski, 2003).
In another study by Rivas-Drake, Hughes, and Way (2008), greater positive affect toward their ethnic group (i.e., higher ethnic identity) was positively linked with higher self-esteem among urban Chinese American sixth grade students. Iwamoto and Liu (2010) also examined the effect of ethnic identity on psychological well-being among Asian American and Asian international college students. Results of the study were again consistent with Phinney's ethnic identity theory (Phinney, 1992) and demonstrated that higher ethnic identity was associated with positive psychological well-being. Asian American college students who exhibited stronger ethnic pride and attachment with their ethnic group had greater sense of acceptance and more positive relationships with others (Iwanmoto & Liu, 2010). The authors suggest that students who exhibited higher ethnic identity and have more positive relationships with others are likely to feel validated by others, and as a result, be more accepting of themselves.

In addition to mental health, ethnic identity has been associated with other positive outcomes, such as academic achievement. For example, Costigan, Koryzma, Hua, and Chance (2010) examined the effects of ethnic identity on academic achievement, self-esteem, and depressive symptoms among Chinese youth in Canada. Results suggested that higher ethnic identity was linked to higher academic achievement, higher self-esteem, and less depressive symptoms. Furthermore, the study demonstrated that ethnic identity also served as a buffer against the stress of poor academic achievement. The authors suggest that having greater sense of self and belonging to one's ethnic group may provide youth with higher motivation to work harder academically and increased sense of meaning in academic goals (Costigan et al., 2010). Similarly, Fuligni, Witkow, and Garcia (2005) also examined the association between ethnic identity and academic achievement among Mexican and Chinese adolescents, and found that
higher ethnic identity was related to more positive academic attitudes compared to students with European backgrounds.

While there are studies consistent with social identity theory demonstrating protective effects of ethnic identity, some studies have indicated otherwise. R. M. Lee (2005) examined ethnic identity as a protective factor for Korean American college students, and found that ethnic identity may in actuality exacerbate experiences of racial or ethnic discrimination, and therefore result in individuals having worse mental health outcomes. Another study by Stein et al. (2014) examined the buffering effects of ethnic identity among Asian American adolescents residing in an emerging immigrant community. Results of this study indicated that ethnic identity did not serve to protect or exacerbate Asian American youth against discrimination, while it did exacerbate depressive symptoms for participants who reported high levels of economic stress. However, this study also found that adolescents who were experiencing high economic stress and who felt greater attachment to their ethnic group had higher self-esteem than adolescents who were experiencing high economic stress but were not as attached to their ethnic group (Stein et al., 2014).

It is possible that ethnic identity may serve different roles depending on the community of the individual. Rumbaut (1994) suggested that ethnic exploration and attachment to one's ethnic group can operate differently for individuals residing in different geographical locations (e.g., emerging immigrant communities compared to areas with larger ethnic populations). One study by Juang, Nguyen, & Lin (2006) found that ethnic identity was connected to more positive psychological outcomes (i.e., less depressive symptoms, greater connectedness to parents) for only Asian American college students living in ethnically-concentrated areas and not those living
in ethnically-dispersed, primarily White areas. Results from another study by Umaña-Taylor & Shin (2007) were also consistent. Results of this study suggested that ethnic identity was only associated positively with self-esteem among Asian American college students in the Midwest, but not for Asian American college students in California.

Smith and Silvia (2011) conducted a meta-analysis study examining the relationship between ethnic identity and well-being among people of color in North America. Results suggested that ethnic identity had a positive relationship with well-being, even when taking into consideration characteristics such as race, gender, education level, and socioeconomic status. Results of this study emphasizes the potential for ethnic identity to protect minorities against experiences of discrimination, feelings related to distress, or negative psychological symptoms. Based on Smith and Silvia’s findings, the present study seeks to reaffirm the positive relationship between ethnic identity and mental health, showing that ethnic identity can serve as a protective factor against acculturative stress and academic stress.

**Internalization of Model Minority Stereotype**

Asian Americans have been categorized as the "model minority" in the United States as a result of their perceived academic, socioeconomic, and other professional successes in comparison to other racial/ethnic minorities (Lowe, 2015). This model minority stereotype romanticizes Asian Americans as the minority group to have achieved (and continuously achieve) the ultimate "American Dream", which claims that every person in the United States can achieve success and prosperity through primarily hard work and determination. Academic achievement among Asian American youth and socioeconomic success among Asian American adults have continued to perpetuate this narrative. Based on perceived successes of Asian
Americans in comparison with other racial/ethnic minority groups, Asian Americans have become the "model" minority group that other minority groups are expected to follow.

The term “model minority” was first popularized in the 1960s around the time of the Civil Rights Movement and at the peak of Black-led protests across the country, when African Americans were fighting for equal rights and calling for an end to discrimination and segregation. The term was first coined by sociologist William Petersen in an article published by the New York Times commending Japanese Americans as model citizens, who are peaceful, hardworking, law-abiding, academically driven, and had strong family values (Petersen, 1966). This article, along with other media at that time portraying Asian Americans as model citizens, contributed to a significant shift in the poor treatment towards Asians in the United States. Prior to the popularization of this stereotype, policies such as the Chinese Exclusion Act of 1882, the California Alien Land Law of 1913, and the internment of Japanese Americans during World War II caused Asian Americans to be treated as second-class citizens (Kana'iaupuni, 2005; Pang, Han, & Pang, 2011; Wing, 2007; Lowe, 2015).

The model minority stereotype has been perceived by both Asians and non-Asians to be harmless, and even positive or advantageous for this population. The stereotype attaches positive traits to this group, such as hardworking, intelligent, and successful (Oyserman & Sakamoto, 1997). This is unique compared to other ethnic/racial groups because stereotyped traits attached to other groups are typically negative. Although the model minority stereotype appears to be harmless, studies have demonstrated that this myth is a false generalization and that it has heavily contributed to systemic and individual issues among Asian Americans as well as other minority populations (Lowe, 2015; Hartlep, 2013).
This romanticized myth homogenizes Asian Americans. It makes the assumption that all
Asian Americans are successful and doing well (Hartlep, 2013). The problem with homogenizing
a group is it tends to mask the heterogeneity of the group. For example, even though Asian
American families have been shown to be more likely to have a household income of $75,000
compared to their White American counterparts, they are also more likely to have an income of
less than $25,000 (Gupta & Ritoper, 2007). Furthermore, the statistic does not take into account
that most Asian American families reside metropolitan areas with costs of living that are higher
than average (Takaki, 1998). In addition, Asian American elderly and children are in fact more
likely to be live in poverty than their counterparts from other racial groups in the United States
(Gupta & Ritoper, 2007).

The perceived success among Asian Americans also undercuts claims of systemic
oppression made by other racially marginalized groups, particularly African Americans
(Osajima, 2000). Through praising another racial minority group for their ability to achieve
success, people are then able to argue that race is not a handicap for all minorities and the
"American Dream" is possible (Chae, 2001). According to Chao, Chiu, and Lee (2010), the
model minority stereotype is a socially constructed myth that was invented by the American
ruling class to legitimize the “American Dream” narrative and the “bedrock values” of America,
to disunite African Americans and Asian Americans during the Civil Rights Movement, to
justify social inequalities by holding African Americans and other marginalized groups to the
model minority standard, and to erase the multiculturalism ideology.

Critical Race Theory examines how White supremacy and racial power are maintained
throughout time, and researchers have claimed that the model minority stereotype aligns with the
concept of the *middleman minority* (Poon et al., 2015). Middleman minorities are described as "buffer groups or as pawns in the power struggle between the two major classes - elite and peasant" (Jain, 1990, p. 28). While the middleman minority group may gain some economic privileges, it nevertheless lacks social power and is used to produce hostility from both classes in the host community (Bonacich, 1973).

In order for this oppressive system to function well, it becomes necessary for the middleman minority to be perceived as foreigners that are distinctly different from the dominant group (Bonacich, 1973). Some examples of the middleman minority group throughout history are Jews in Europe, Armenians in Turkey, and Indians in Uganda (Bonacich, 1973; Jain, 1990). Interestingly, in addition to the model minority stereotype, the other most powerful and persistent stereotype for Asian Americans is the "perpetual foreigner" (Lee, 2003). The perpetual foreigner describes Asian Americans as being "unassimilable into U.S. culture and as nonresidents regardless of their years in the United States" (Lee, Wong, & Alvarez, 2009, p. 82). The stereotype of being the perpetual foreigner is congruent with the exploitation of Asian Americans as the middleman minority in the United States.

If people believe that the American Dream is possible to attain for every person, they may be more likely to blame the victim. For example, Chao, Chiu, and Lee (2010) found that the participants of their study who believed in the model minority stereotype were more likely to be unsupportive of government redistributive policies that help Asian American vs. African American communities. According to Woo (1997), the stereotype “programs us to ignore structural barriers and inequities and insist that any problems are simply due to cultural values or failure of individual effort” (p. 214). Essentially, the stereotype contributes to the promotion of a
color-blind racist ideology and agenda (Bonilla-Silva, 2006). The model minority stereotype is described as the embodiment of cultural racism, where Asian Americans are exploited as the exemplary group used to discipline other minority groups, which then ultimately distracts people from assessing and condemning systems of White supremacy (Leonardo, 2009).

From many Asian Americans' perspective, the model minority stereotype has been criticized to be inaccurate, restrictive, and damaging (Rosenbloom & Way, 2004; Thompson & Kiang, 2010; Yoon et al., 2017). Oyserman & Sakamoto (1997) found that 52% Asian American college students felt negatively toward the stereotype, while 16% reported ambivalence and 26% had positive reactions. The model minority stereotype perpetuates the erroneous belief that Asian American students are always good at what they do and can fulfill societal expectations with no problems (Shih, 1988). According to Shih (1988), “Racial stereotypes, even those that are meant to be complementary, tend to dehumanize individuals” (p. 359). Additionally, positive stereotypes are more likely to be freely expressed compared to negative stereotypes because people assume they are less offensive (Chang & Demyan, 2007).

Given the prevalence of the model minority stereotype, researchers have suggested that Asian American students are likely to internalize pressures and expectations that are associated with the stereotype (Toupin & Son, 1991; S. J. Lee, 1994; Chae, 2001). If an individual were to internalize the stereotype and choose to uphold the expectations of the stereotype, they may feel a greater sense of adherence to their Asian or ethnic identity. However, this may lead to greater stress due to internalized pressure to live up to expectations that are likely to be unrealistic.

Furthermore, internalizing the model minority stereotype may clash with an individual's desire to acculturate to mainstream culture. As discussed in the previous section regarding
acculturative stress, strong attachment to one’s ethnic culture may result in greater difficulty adapting to the dominant culture if both cultures conflict with one another (Yoon et al., 2017). Especially among Asian American adolescents, if the model minority stereotype is internalized, they may feel an obligation to reject mainstream culture, regardless of whether they want to or not.

Moreover, the stereotype can prevent Asian Americans from normal processes of identity exploration (especially during adolescence), while continuing to reinforce the stereotypical images of Asian Americans (Lee, 1994). Lee (1994) studied a group of Asian American high school students who appeared to fit under the acculturation strategy of separation, in which individuals reject the dominant culture in favor of preserving their ethnic culture or culture of origin. These students discussed pressure from parents and society to excel academically in order to obtain future careers as engineers or doctors. Additionally, they felt pressure to live up to the expectations of the model minority stereotype from teachers and peers.

Likewise, a recent study by Yoon et al. (2017) interviewed Asian American high school students who also shared similar sentiments. Most of the students expressed difficulty in having to live up to traits associated with the stereotype, such as intelligence, academics, or career-related. Additionally, they claimed that the stereotyping came from almost everyone, including friends, classmates, teachers, parents, and society in general (Yoon et al., 2017). One student felt that they could not meet the standards of the stereotype, and was therefore chastised by others and called a "dumb Asian". Another student also felt that people were attributing their academic success based on their intelligence rather than effort, stating "because of the stereotype that Asians are really good at math and science-led subjects, that has kind of led people to assume
that I am really good at those things. And when I do get good or decent grades, people just assume that it's really easy when actually, no, I studied and worked really hard for this and that's why" (Yoon et al., 2017, p. 73). It was evident that the model minority stereotype had continued to be pervasive and was highly prevalent and heavily engrained in various aspects of the students’ lives, including racial/ethnic identity development, cultural socialization messages from mainstream culture, racial discrimination, and academic pressures caused by parents, peers, society, and themselves (Yoon et al., 2017).

Since it is widely acknowledged that academic success is commonly an important value among Asians, it is critical to examine how the model minority stereotype shapes Asian Americans’ academic experience. Based on the literature on classic stereotype threat, it suggests that the model minority stereotype may negatively impact academic achievement through distraction, pressure, and fear of failing to meet expectations (Shih, Ambady, Richeson, Fujita, & Gray, 2002; Thompson & Kiang, 2010). Research has indicated that Asian American college students experience more academic achievement-related problems compared to their non-Asian peers, which may be partially due to the added pressure imposed onto them as a result of the stereotype (Toupin & Son, 1991; Ngo & Lee, 2007).

Data indicate that high academic achievement and high graduation rates have consistently held true for Asian American as a whole compared to other racial groups. Asian American students have continued to outperform their non-Asian peers on overall grade point average in high school (Jose & Huntsinger, 2005). For public high schools in the United States, Asian Americans and Pacific Islanders also have consistently held the highest graduation rate (93%) compared to European-Americans (85%), Latin-Americans (76%), and African Americans...
(68%) (National Center for Education Statistics, 2013). In regards to graduation rates on first-time, full-time bachelor's degree-seeking students at 4-year postsecondary institutions in the United States, Asian Americans lead with 48.7%, followed by White Americans (44.2%), Latino Americans (30.5), and Black Americans (20.6%) (National Center for Education Statistics, 2016).

At many of the most prestigious universities in the United States, Asian Americans commonly comprise one of the largest racial groups on campus. For example, as of Fall 2016 enrollment data, Asians make up 32.5% of the student population at the University of California, Berkeley (UC Berkeley Fall Enrollment Data, 2016), 22.9% at Stanford University (Stanford Diversity and Access Office, 2016), and 22.2% of the student at Harvard University (Harvard College Admissions and Financial Aid, 2016). Statistics such as these often give the impression that Asian Americans do exceedingly well in academic settings. Due to the ignorance of the variability in this group, Asian Americans find themselves excluded out of important policies that benefit minorities such as affirmative action (Suzuki, 2002).

However, upon further examination, Asian Americans vary greatly in regards to academic achievement rates, and that the perceived academic success among this group is an exaggeration and generalization. While a high percentage of East Asian (Chinese, Japanese, and Korean) and South Asian (Indian) students graduate high school and postsecondary institutions, a significant amount of Southeast Asian students drop out of high school and do not graduate. For example, among 281,000 Hmong in the United States, 38% drop out of high school, and only 14% have a postsecondary degree (Center for American Progress, 2015). Another example is a study by Pang, Han, and Pang (2011) that demonstrated aggregated Asian Americans' SAT test
scores were higher than Whites only in mathematics and science, but scores in reading were lower, which argues against the notion that Asians perform well across the board. Additionally, the authors found that academic performances in reading and math differed significantly across the 13 Asian American and Pacific Islander ethnic groups (Pang et al., 2011). The assumed homogeneity among Asian Americans is harmful as it hides the complexities and heterogeneity among this large group of people, and those who struggle can be neglected by the system.

A study by Park and Lee (2010) investigated institutionalized racism for Asian Americans, in how the model minority stereotype affected the ability of Asian American adolescents in their access to academic and social capital. Participants in the study were Korean immigrant students who attended an inner city high school in the Midwest, and they found that the stereotype not only masked the difficulties that the students faced, but more importantly it denied much needed attention and assistance to the underachieving students; the teachers were not able to recognize the differences in the Asian students’ academic needs based on the homogenizing effect (Park & Lee, 2010). Prejudgment from teachers’ racial biases toward Asian American students inevitably results in less interaction and support, which is essentially discrimination (Thoreson, 2011).

Furthermore, the study by Park and Lee (2010) revealed that the model minority stereotype contributed to the students’ self-silencing, which is a phenomenon that is highly problematic in the Asian American community. In a book chapter by Shrake (2006) on Asian women’s experience in higher education, the author states that the model minority stereotype “paints a misleading portrait of Asian Americans as polite, docile, and nonthreatening people” (p.184). Passivity and obedience have consistently been part of the model minority stereotype, in
that Asian Americans are less likely to engage in confrontations in the face of conflict and are more likely to "do as they're told" (Kobayashi, 2009).

Asian Americans typically are socialized in homes with collectivistic values from their country of origin, which emphasizes harmony and are more likely to engage in indirect (vs. direct) confrontation for conflict resolution. Additionally, Asians are more likely to be socialized under values of filial piety, which is respect for one’s elders, and are commonly taught to respect and obey authority figures. In turn, this can lead to Asian Americans behaving in compliance in order to not “rock the boat” and to conform to the role that systemic racism places onto them (Shrake, 2006; Kim, Atkinson, & Yang, 1999).

Model Minority Stereotype and Mental Health

Psychological distress has been demonstrated to be a consequence of the model minority stereotype (Yoon et al., 2017; Cho & Blair, 2016). First, constant external pressure from parents to excel in academics can lead to increased distress, and at the same time, leave no room for alternative outlets that are acceptable to their parents (Cho & Blair, 2016). Second, internal pressure to uphold the expectations from the model minority stereotype can add to existing intrapersonal distress. In addition to pressures from themselves, family, peers, teachers, and society to succeed academically, they may also be experiencing acculturative stress (as discussed earlier) and increased stress as a result of peer discrimination (Yoon et al., 2017; Fisher, Wallace, & Fenton, 2000).

The model minority stereotype has led to people assuming Asian Americans have few mental and/or behavioral problems (J. J. Park, 2010), and that cannot be further from the truth. In fact, research has suggested that Asian Americans are likely to experience worse psychological
distress in various contexts compared to other racial or ethnic groups. According to Fisher, Wallace, and Fenton (2000), Korean American and Chinese American students reported higher levels of distress as a result of peer discrimination (e.g., being called derogatory names, being excluded from social activities) compared to their non-Asian counterparts. Another study by Lorenzo, Pakiz, Renhertz, and Frost (1995) found that Asian American adolescents reported higher intrapersonal distress, including symptoms of depression and socially withdrawn behavior, compared to their non-Asian counterparts.

Statistics on mental health and suicide-related outcomes among Asian Americans are alarming. Asian American adolescent girls are estimated to have the highest rate of depression across race and gender (Centers for Disease Control and Prevention, 2011; Calvan, 2008). Moreover, Asian American women between the ages of 15-24 have the highest suicide rate in comparison to peers in other racial groups (Calvan, 2008). A study by Noh (2008) revealed that the high prevalence of depression among Asian American adolescents have led to increased suicide attempts. The suicide attempts have been suggested to be largely caused by pressure to conform to the model minority stereotype, especially pressure from family members to excel academically.

Asian American college students have also been found to have more suicidal thoughts and suicide attempts compared to their White counterparts (Kisch, Leino, & Silverman, 2005). Asian Americans who are between the age of 20 and 24 are found to have had the highest suicide rate among this population (Xu, Kochanek, Murphy, & Tejada-Vera, 2010). Based on a report by the College Board in 2008, 13 out of 21 student suicide victims since 1996 at an elite private university were Asian (College Board, 2008). Additionally, at an elite public university, deaths
of Asian American students increased from 13% of all student deaths between 1990 and 1995 to 46% in 2000 (College Board, 2008; Ramanujan, 2006).

The image of the model minority also presumes that Asian Americans are self-reliant and resilient against any obstacle. Many studies have found that Asian Americans are less likely to seek help for mental health concerns as a result of difficulties with acculturation, cultural barriers, and stigma attached to mental health help-seeking (Abe-Kim et al., 2007; Kim & Park, 2009; Lee, Wong, & Alvarez, 2009; Nguyen & Anderson, 2005; Umemoto, 2004; S. J. Lee, 1996). According to Lee et al. (2009), stigma and shame are strong deterrents for any mental health treatment-seeking behavior among Asian American young adults, regardless of generation and subethnicity. What is even more concerning is that there is often an underreporting of mental health concerns among Asian Americans as a result of feelings of shame and stigma attached to mental health help seeking (Sue & Sue, 2008). This essentially places Asian Americans at greater risk for worse mental health outcomes. Additionally, Asian Americans have been found to be more likely to prefer self-help and self-control methods for coping with psychological distress (Han & Pong, 2015; Umemoto, 2004), and use problem avoidance and social withdrawal as their main methods of coping with distress.

It is critical to address the existence of the model minority stereotype and its impact on Asian Americans. The lack of understanding on its relation to academic stress and psychological well-being suggests that the stereotype may be often overlooked, and perhaps assumed that it is not a topic of concern for Asian Americans. This belief essentially perpetuates the stereotype and the narrative that Asian Americans are all capable of managing obstacles and are problem-free. Therefore, the study aims to expand and bring further attention to this area of study.
CHAPTER THREE

METHODOLOGY

Participants and Procedure

Participants were recruited from universities nationwide. In order to participate, all participants needed to identify as Asian or Asian American (including those who identify as biracial or multiracial) residing in the United States, age 18 and older. Participants were also required to be a part-time or full-time student attending university. Participants were also asked their gender, age, year in school, overall GPA, social class, family income, immigration/generation status, and their parents' immigration/generation status in addition to study measures (i.e., acculturative stress, internalization of model minority stereotype, ethnic identity, academic stress, depression).

Recruitment was done through an online survey via Opinio, which was the primary method for data collection. The survey was distributed in a variety of ways: advertising on social media (e.g., Facebook), e-mailing specific interest groups, listservs, or student organizations in a number of college campuses seeking participation in the survey or assistance with forwarding the survey to those who may fit the criteria (snowball method), and passing the survey through word-of-mouth. Recruitment e-mails consisted of a link to the survey which took the individual to a page describing the purpose and intent of the study. After the individual read the informed consent, they were required to click “Agree” if they wished to continue with the study.
Participants were eligible to be entered into a raffle to win one of five $20 Amazon gift cards upon completion of the survey.

The sample for this study consisted of a total of 239 participants after excluding cases that were unfit for data analysis. There were 116 cases that were excluded in the study as a result of not meeting the inclusion criteria (i.e., Asian or Asian American college student living in the United States, age 18 and older), for answering less than 80% of any of the measures, or for responding incorrectly to the validity check question on the survey. Participants were distributed relatively evenly across their year in school. Twenty-nine participants (12.1%) identified as freshmen, 50 (21.9%) identified as sophomores, 64 (26.8%) identified as juniors, 56 (23.4%) identified as seniors, and 40 (16.7%) identified as others. Nineteen participants (7.9%) were international students, and 5 (2.1%) identified as biracial/multiracial. There were 173 (72.4%) participants who were born in the United States, while 63 (26.4%) were born in a foreign country; 3 (1.3%) participants did not specify their country of birth. Furthermore, the majority of the participants identified as women (217; 90.8%). The majority of the participants also identified as heterosexual (216; 90.4%). Participants ranged widely in their ethnic background. Seventy-five (31.4%) participants identified as Chinese, 35 (14.6%) as Vietnamese, 30 (12.6%) as Filipino, 18 (7.5%) as Korean, 15 (6.3%) as Taiwanese, 9 (3.8%) as Indian, 20 (8.4%) as multi-ethnic, and the remaining (n=37, 15.5%) included Japanese, Laotian, Hmong, Cambodian, Indonesian, Bengali, Native Hawaiian, and unspecified. The mean age of the participants was 20.59 (SD=2.32).

Participants were relatively evenly distributed across regions in the United States. Sixty-one (25.5%) participants were students from institutions in the Northeast region, 55 (23.0%)
were from the Midwest, 43 (18.0%) were from the South, and 69 (28.9%) were from the West. The remaining 11 (4.6%) participants did not specify the location of their institution.

Instruments

Internalization of Model Minority Stereotype

The Internalization of the Model Minority Myth Measure (IM-4; Yoo, Burrola, & Steger, 2010) is a 15-item self-report measure. Initial exploratory analysis of the IM-4 suggested a two-factor model, each factor representing one subscale. The first subscale assesses the individual's Achievement Orientation (10 items), while the second subscale assesses one's Unrestricted Mobility (5 items). Examples of Achievement Orientation items are, "Asian Americans have stronger work ethics", and "Asian Americans generally perform better on standardized exams (i.e., SAT) because of their values in academic achievement". Examples of Unrestricted Mobility items are, "Asian Americans are less likely to encounter racial prejudice and discrimination", and "It is easier for Asian Americans to climb the corporate ladder". All items begin with, "In comparison to other racial minorities (e.g., African American, Hispanics, Native Americans)."

Responses to these items are based on a 7-point Likert-type scale format, ranging from 1 (strongly disagree) to 7 (strongly agree), and higher scores indicate higher endorsement of model minority myth. The IM-4 has been validated in a sample of Asian American college students (Yoo et al., 2010) and Asian American high school adolescents (Yoo, Miller, & Yip, 2015). Internal consistency for IM-4 total score in this study's sample is .856.

Acculturative Stress

The Index of Life Stress for Asian Students (ILS; Yang & Clum, 1995) is a 31-item scale that includes five subscales: cultural adjustment, language difficulties, academic pressure,
interpersonal stress, and concern about finances. The development of the ILS was intended to measure the stress experienced by Asian students living in the United States. Responses are based on a 4-point Likert-type scale ranging from 0 (never) to 3 (often), and higher scores indicate higher level of acculturative stress. Examples of items are: My English embarrasses me when I talk to people, "People treat me badly just because I am Asian", and "I do not enjoy American holidays". Yang and Clum (1995) found the ILS to be highly reliable for Asian college students. Internal consistencies of previous samples have ranged from .85 and .87 among Asian college students (Yang & Clum, 1995; Kim & Ra, 2015). The scale was validated on a sample of Asian international students in the United States (Yang & Clum, 1995) and a sample of Korean college students (Kim & Ra, 2015). Internal consistency for ILS in this study's sample is .809.

Ethnic Identity

The Multigroup Ethnic Identity Measure - Revised (MEIM-R; Phinney & Ong, 2007) is a revised version of the widely used self-report measure (MEIM; Phinney, 1992) which assesses an individual's degree of ethnic identity. The original scale has consistently shown good reliability across various ethnic groups and ages. Recently, Phinney and Ong (2007) published a revise version with six items, suggesting a bifactor model through confirmatory factor analyses, with factor 1 being Exploration (3 items) and factor 2 being Commitment (3 items). An example of a Commitment item is, "I feel a strong attachment towards my own ethnic group". Responses to these items are based on a 5-point scale format, ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate higher level of ethnic identity. Reliability estimates of the two subscales from a previous sample were found to be .76 and .78 for Exploration and Commitment respectively (Phinney & Ong, 2007). The MEIM-R has been validated across
various samples, such as European American and minority university students in California (Yoon, 2011), African American and European American adults in Alabama (Chakawa, Butler, & Shapiro, 2015), and women from a wide range of racial/ethnic backgrounds in California (Brown et al., 2014). Due to the nature of the study examining whether the presence of ethnic identity moderates the relationship between acculturative stress and academic stress, the Commitment subscale is used. Internal consistency for MEIM-R in this study's sample is .822 for the Commitment subscale.

**Academic Stress**

The Academic Expectations Stress Inventory (AESI; Ang & Huan, 2006) is a 9-item self-report scale measuring level of academic stress among students. Because the scale was originally developed to assess level of stress among middle and high school Asian students, it appears to be more relevant compared to other academic stress scales based on the population examined in this study. The scale uses a two-factor model; Factor 1 is Expectations of Parents/Teachers (5 items), and factor 2 is Expectations of Self (4 items). Examples of the first factor are: "I blame myself when I cannot live up to my parents' expectations of me", "I feel I have disappointed my teacher when I do badly in school". Examples of the second factor are: "I feel stressed when I do not live up to my own standards", "When I do not do as well as I could have in an examination or test, I feel stressed". Responses ranged from 1 (*never true*) to 5 (*almost always true*). Higher scores indicate greater amount of academic stress. Internal consistency suggested a Cronbach's alpha of .89 and .87 for total items from two samples (Ang & Huan, 2006). AESI has been validated across numerous adolescent samples in various countries (Ang & Huan, 2006; Ang, Huan, &
Branman, 2007; Huan, See, Ang, & Har, 2008; Yoo et al., 2015). Internal consistency for AESI in this study's sample is .807.

**Mental Health Outcome (Depression)**

The Center for Epidemiologic Studies Depression Scale - R (CES-D-R; Eaton et al., 2004) is a revised version of the widely used CESD self-report scale (CES-D; Radloff, 1977) measuring symptoms associated with depression. Participants report frequency of these symptoms occurring within the past week. Items include: "My sleep was restless", and "I lost interest in my usual activities". Responses range from 0 to 4: 0 (*Not at all or Less than 1 day*), 1 (*1-2 days*), 3 (*3-4 days*), 4 (*5-7 days*), and 5 (*Nearly every day for 2 weeks*). Responses of 0 to 3 depicts frequency from the past week. Higher scores indicate greater symptoms of depression. The original CES-D has demonstrated to be a highly reliable measure across numerous studies, with internal consistency ranging from .85 to .90 (Radloff, 1977). Internal consistency for CES-D-R in this study's sample is .943.

**Preliminary Analyses**

Descriptive statistics were examined for demographic variables and study variables. First, frequencies and proportions were examined for all categorical demographic variables (i.e., gender, sexual orientation, race, ethnicity, country of birth, social class, income, international student status, and year in school). Second, the mean and standard deviation were examined for continuous demographic variable (i.e., age). Following demographic variables, the mean, standard deviation, skewness, kurtosis, and internal consistency were examined for continuous study variables.
Bivariate correlations for all continuous variables were examined to determine significant relationships among all continuous study variables.

Main Analyses

Path Analysis

The analysis for this study used path analysis, a subset of Structural Equation Modeling (SEM), using the maximum likelihood procedure in the LISREL 9.30 software package (Joreskog & Sorbom, 1996). The hypothetical model involved two predictor variables (Internalization of Model Minority Stereotype, Acculturative Stress), one mediator variable (Academic Stress), one moderator variable (Ethnic Identity), and two outcome variables (Depression, GPA) (see Figure 1). Compared to multiple regressions for this analysis, path analysis with LISREL was more efficient due to its ability to yield the same results in one run of analysis.

Similar to multiple regressions, LISREL computes standardized or nonstandardized estimates for each estimated parameter, in addition to p-values, which reveals statistical significance. This allowed to determine whether the hypothesized paths are indeed significant, revealing any mediation effects. Through examining the model using path analysis, results were able to determine whether the expected relationships exist among our variables.

Hierarchical Multiple Regression

In order to determine whether ethnic identity enacted as a moderator between acculturative stress and academic stress, hierarchical multiple regression was used with SPSS as the primary tool. Although path analysis can also yield moderating effects, ethnic identity will need to be dichotomized to test path coefficient invariance. Thus, hierarchical multiple
regression is superior as it can be analyzed as its original continuous variable and information would not be lost through dichotomization.

To determine whether moderation exists, the interaction effect between acculturative stress and ethnic identity was examined, and whether the interaction effect can significantly predict level of academic stress. If an interaction effect existed, the nature of the relationship between acculturative stress and academic stress should change as values of ethnic identity changed. To assess this moderation effect in SPSS, a regression model in predicting academic stress from both acculturative stress and ethnic identity was first examined. Next, the interaction effect was added to the previous model, with the newly created interaction term (i.e. product term of predictor and moderator variables); if $R^2$ increase in this last step were significant, then moderation existed.

**Power Analysis and Sample Size**

At this time, there is no standard procedure to estimate the power needed to detect best overall model fit. There is currently no consensus among researchers regarding what constitutes as the best number of sample size for path analysis, however, some guidelines have been proposed. A 100-participant sample has been suggested by psychologists and statisticians to be considered moderate in sufficiency, while a 200-participant sample is considered large (Kline, 1998). Another approach to determine adequate sample size is to use Kline's (2011) suggestion for a 10:1 ratio, in that 10 participants are needed for every estimated parameter in the most complex model examined. A ratio less than 5:1 has been suggested to lead to inaccurate results. Another suggestion is to always test a sample size of 200, as 200 has been considered the “critical sample size” (Hair, Anderson, Tatham, & Black, 1999). The sample for this study was
sufficient as it consisted of 239 cases given that the number of parameters for the estimated model was 14.
CHAPTER FOUR

RESULTS

Preliminary Analyses

Descriptive Statistics

A total sample of 239 participants were used to analyze data in this study. Table 1 presents the frequency and proportion for all categorical demographic variables. All participants identified as Asian or Asian American students living in the United States who are 18 years old or older and are currently enrolled in a university. There were more women (\( N = 217, 90.8\% \)) than men (\( N = 21, 8.8\% \)), and 1 participant (0.4%) identified as others. Five participants (2.1%) identified as biracial or multiracial, and 19 participants (7.9%) identified as international students. The mean age for this sample was 20.59 (\( SD = 2.32 \)). Table 2 presents the skewness, kurtosis, and internal consistency of all continuous study variables. All five variables showed minimal skew (skewness < 2.0) and kurtosis (kurtosis < 7.0; Kim, 2013).

Table 1. Frequencies and Percentages for Categorical Demographic Variables

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman</td>
<td>217</td>
<td>90.8%</td>
</tr>
<tr>
<td>Man</td>
<td>21</td>
<td>8.8%</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>0.4%</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>Frequency</td>
<td>Proportion</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>216</td>
<td>90.4%</td>
</tr>
<tr>
<td>Gay/Lesbian</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td>Bisexual</td>
<td>14</td>
<td>5.9%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Asian American</td>
<td>234</td>
<td>97.9%</td>
</tr>
<tr>
<td>Biracial/Multiracial</td>
<td>5</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>75</td>
<td>31.4%</td>
</tr>
<tr>
<td>Korean</td>
<td>18</td>
<td>7.5%</td>
</tr>
<tr>
<td>Vietnamese</td>
<td>35</td>
<td>14.6%</td>
</tr>
<tr>
<td>Filipino</td>
<td>30</td>
<td>12.6%</td>
</tr>
<tr>
<td>Taiwanese</td>
<td>15</td>
<td>6.3%</td>
</tr>
<tr>
<td>Japanese</td>
<td>8</td>
<td>3.3%</td>
</tr>
<tr>
<td>Indian</td>
<td>9</td>
<td>3.8%</td>
</tr>
<tr>
<td>Laotian</td>
<td>2</td>
<td>0.8%</td>
</tr>
<tr>
<td>Hmong</td>
<td>5</td>
<td>2.1%</td>
</tr>
<tr>
<td>Cambodian</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td>Indonesian</td>
<td>3</td>
<td>1.3%</td>
</tr>
<tr>
<td>Language</td>
<td>Frequency</td>
<td>Proportion</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Bengali</td>
<td>2</td>
<td>0.8%</td>
</tr>
<tr>
<td>Native Hawaiian</td>
<td>1</td>
<td>0.4%</td>
</tr>
<tr>
<td>Multiethnic</td>
<td>20</td>
<td>8.4%</td>
</tr>
<tr>
<td>Unspecified</td>
<td>12</td>
<td>5.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country of Birth</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>173</td>
<td>72.4%</td>
</tr>
<tr>
<td>Foreign Country</td>
<td>63</td>
<td>26.4%</td>
</tr>
<tr>
<td>Unspecified</td>
<td>3</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Class</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Class</td>
<td>22</td>
<td>9.2%</td>
</tr>
<tr>
<td>Lower-middle Class</td>
<td>65</td>
<td>27.2%</td>
</tr>
<tr>
<td>Middle Class</td>
<td>91</td>
<td>38.1%</td>
</tr>
<tr>
<td>Middle-upper Class</td>
<td>56</td>
<td>23.4%</td>
</tr>
<tr>
<td>Upper Class</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td>Unspecified</td>
<td>1</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Household Income</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $20,000</td>
<td>26</td>
<td>10.9%</td>
</tr>
<tr>
<td>$20,000-$40,000</td>
<td>40</td>
<td>16.7%</td>
</tr>
<tr>
<td>$40,000-$60,000</td>
<td>31</td>
<td>13.0%</td>
</tr>
<tr>
<td>$60,000-$80,000</td>
<td>31</td>
<td>13.0%</td>
</tr>
<tr>
<td>Income Range</td>
<td>Frequency</td>
<td>Proportion</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>$80,000-$100,000</td>
<td>26</td>
<td>10.9%</td>
</tr>
<tr>
<td>$100,000-$120,000</td>
<td>32</td>
<td>13.4%</td>
</tr>
<tr>
<td>$120,000-$140,000</td>
<td>10</td>
<td>4.2%</td>
</tr>
<tr>
<td>$140,000-$160,000</td>
<td>10</td>
<td>4.2%</td>
</tr>
<tr>
<td>$160,000-$180,000</td>
<td>6</td>
<td>2.5%</td>
</tr>
<tr>
<td>$180,000-$200,000</td>
<td>3</td>
<td>1.3%</td>
</tr>
<tr>
<td>$200,000 and more</td>
<td>17</td>
<td>7.1%</td>
</tr>
<tr>
<td>Unspecified</td>
<td>7</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>International Student Status</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>219</td>
<td>91.6%</td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year in School</th>
<th>Frequency</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>29</td>
<td>12.1%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>50</td>
<td>21.9%</td>
</tr>
<tr>
<td>Junior</td>
<td>64</td>
<td>26.8%</td>
</tr>
<tr>
<td>Senior</td>
<td>56</td>
<td>23.4%</td>
</tr>
<tr>
<td>Other</td>
<td>40</td>
<td>16.7%</td>
</tr>
</tbody>
</table>

*Note. N = 239*
Table 2. Means, Standard Deviations, Skewness, Kurtosis, and Internal Consistency for Continuous Study Variables

<table>
<thead>
<tr>
<th></th>
<th>ILS</th>
<th>IM-4</th>
<th>MEIM-R</th>
<th>AESI</th>
<th>CES-D-R</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>51.49</td>
<td>66.04</td>
<td>11.39</td>
<td>36.09</td>
<td>37.82</td>
<td>3.395</td>
</tr>
<tr>
<td><strong>SD</strong></td>
<td>7.606</td>
<td>12.599</td>
<td>2.342</td>
<td>5.306</td>
<td>15.562</td>
<td>0.419</td>
</tr>
<tr>
<td><strong>Skewness</strong></td>
<td>0.358</td>
<td>-0.624</td>
<td>-0.507</td>
<td>-0.343</td>
<td>1.216</td>
<td>-0.648</td>
</tr>
<tr>
<td><strong>Kurtosis</strong></td>
<td>0.396</td>
<td>0.970</td>
<td>-0.047</td>
<td>-0.235</td>
<td>1.062</td>
<td>0.045</td>
</tr>
<tr>
<td><strong>Chronbach’s alpha</strong></td>
<td>0.809</td>
<td>0.856</td>
<td>0.822</td>
<td>0.807</td>
<td>0.943</td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 239 for all study variables. ILS= Index of Life Scale; IM-4= Internalization of the Model Minority Myth Measure; MEIM-R= Multigroup Ethnic Identity Measure – Revised (Commitment Subscale); AESI= Academic Expectations Stress Inventory; CES-D-R= Center for Epidemiologic Studies Depression Scale – Revised.*

Table 3 presents bivariate correlations for all continuous study variables. Results indicated statistically significant ($p < .05$) relationships included: acculturative stress (ILS) and ethnic identity (MEIM-R), ILS and academic stress (AESI), ILS and depression (CES-D-R), MEIM-R and AESI, and AESI and CES-D-R. Other relationships were found to be non-significant. Internalization of model minority stereotype (IM-4) did not have any significant relationships with any other variables. Additionally, academic performance (GPA) did not have any significant relationships with any other variables. All significant relationships were significant at $p < .001$, except for the relationship between acculturative stress (ILS) and ethnic identity (MEIM-R), which was significant at $p < .01$. Significant correlations ranged from .191 (ILS with MEIM-R) to .447 (AESI with CES-D-R) in magnitude. These results indicated the following: acculturative stress was positively related to ethnic identity, positively related to
academic stress, and positively related to depression; and academic stress was positively related to depression.

Table 3. Bivariate Correlations for Continuous Study Variables

<table>
<thead>
<tr>
<th></th>
<th>ILS</th>
<th>IM-4</th>
<th>MEIM-R</th>
<th>AESI</th>
<th>CES-D-R</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILS</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IM-4</td>
<td>-.110</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEIM-R</td>
<td>.146*</td>
<td>-.012</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AESI</td>
<td>.422**</td>
<td>.032</td>
<td>.167*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CES-D-R</td>
<td>.361**</td>
<td>-.125</td>
<td>-.121</td>
<td>.447**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>.004</td>
<td>-.027</td>
<td>.002</td>
<td>.066</td>
<td>-.114</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. N = 239 for all study variables. ILS= Index of Life Scale; IM-4= Internalization of the Model Minority Myth Measure; MEIM-R= Multigroup Ethnic Identity Measure – Revised (Commitment Subscale); AESI= Academic Expectations Stress Inventory; CES-D-R= Center for Epidemiologic Studies Depression Scale – Revised; GPA= Grade Point Average. * p < .01, two-tailed. ** p < .001, two-tailed.

Main Analyses

The mediation effects of academic stress between acculturative stress and depression, acculturative stress and academic performance, internalization of model minority stereotype and depression, and internalization of model minority stereotype and academic performance were examined by using path analysis from structural equation modeling (SEM). The moderation effects of ethnic identity between acculturative stress and academic stress were examined by using hierarchical multiple regression analyses.
Path Analysis

The study used LISREL 9.30 (Joreskog & Sorbom, 1996) to test the proposed model in Figure 3. LISREL 9.30 uses a number of fit indices to assess how well the proposed model fits the sample data. The indices used to measure fit were: chi-square statistic, Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), and Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), and the Root Mean Square of Approximation (RMSEA). For the chi-square statistic, which is a measure of fit between sample covariance and fitted covariance matrices, if the test statistic has a higher probability associated with chi-square distribution, then the proposed model is closer to a perfect fit. However, many researchers have ignored the chi-square if the sample size is greater than 200 and other fit indices indicate that the model is acceptable.

One criticism of the chi-square test is that the chi-square statistic has been found to be highly sensitive to sample size (Schermelleh-Engel, Moosbrugger, & Müller, 2003). As sample size increases, there is greater likelihood for the chi-square test to show significant differences for equivalent models (Stamatis, 2002). When the sample size exceeds 200, significant differences will be shown for any specified model. When the sample size is 100 or less, the chi-square test will indicate acceptable fit even when none of the relationships is statistically significant (Stamatis, 2002). Therefore, the chi-square test is no longer relied upon as a basis for acceptance or rejection of model fit (Schermelleh-Engel, Moosbrugger, & Müller, 2003).

A model is considered acceptable if the NFI exceeds .90, the NFI exceeds .90, and the CFI exceeds .93 (Byrne, 1994; Schumaker & Lomax, 1996). For SRMR, a value of less than .08 is typically considered a good fit (Hu & Bentler, 1999). RMSEA takes into consideration the
error of approximation in the population (Byrne, 1998). If RMSEA is less than .08 (Browne & Cudeck, 1993) it is considered a good fit, with an ideal value of less than .05 (Byrne, 1998). Values between .08 and .10 suggest mediocre fit, while values above .10 suggest poor fit (MacCullum, Browne, & Sugawara, 1996).

Figure 3. Path Diagram of Proposed Model

![Path Diagram](image)

For the proposed model tested with four direct paths, the fit indices showed that this model was not the best fitting model for the sample data ($\chi^2 = 6.603$, df = 1, $p = 0.01$). The value for SRMR was .037, which can indicate acceptable fit. However, values for NFI, NNFI, and CFI were .948, .525, and .952, respectively; NNFI value from this analysis suggested poor fit. Furthermore, the RMSEA was .153, indicating a poor fit. Post hoc analyses using modification indices in LISREL were further conducted to find a better fitting model through
examining path significances and modification indices, and freeing parameters (i.e., adding paths) that will reduce our chi-square.

A second model shown in Figure 4 was produced with 9 parameters, which was a modified version of the first model. The variable for academic performance (GPA) was excluded due to the relationship between academic stress and academic performance being unclear. Individuals who experience high academic stress may perform poorly due to worse mental health. On the other hand, individuals who experience high academic stress may perform better as a result of increased effort. Level of stress may not be indicative of actual performance, thus, this variable was excluded in our second modified model.

Furthermore, the path from model minority stereotype to academic stress was removed. The exclusion of this path was done in consideration of the relationship between these two variables lacking strong support. There is only one study that has examined the link between model minority stereotype and academic stress (Yoo, Miller, & Yip, 2015). Using the same measures, results of this study found that the two subscales of the model minority stereotype measure (IM-4) yielded different results. The achievement orientation subscale was positively related to academic stress, while the unrestricted mobility subscale was negatively related to academic stress. Due to the unclear nature of this relationship, the path between these two variables was removed from the second model. Additionally, the modification indices in the results from the first model indicated that the relationship between these two variables was insignificant, supporting the removal of this path. This model demonstrated to be the best fitting model for this sample data ($\chi^2 = 1.812$, df = 1, $p = 0.178$). Values for NFI, NNFI, and CFI were
.985, .957, and .993, respectively. Value for SRMR was .027, and the RMSEA was .058, indicating this model was a good fit.

Figure 4. Path Diagram of Modified Model

Contrary to our first hypothesis, academic stress did not mediate the relationship between the internalization of the model minority stereotype and academic performance, nor did it mediate the relationship between internalization of the stereotype and academic stress. Moreover, the internalization of the model minority stereotype was negatively related to depression. Consistent with our second hypothesis, acculturative stress was positively associated with academic stress and depression. Additionally, academic stress was positively associated with depression. Furthermore, the direct path between acculturative stress and depression continued to be significant when accounting for the indirect path through academic stress, this suggests that there is a partial mediation rather than a full. In other words, the association between acculturative stress and depression was only partially mediated by academic stress.

Note. *p < .05, two-tailed.
Moderation Using Hierarchical Multiple Regression

The last hypothesis of this study was to look at buffer effects of ethnic identity through examining whether the association between acculturative stress and academic stress was moderated by ethnic identity. In other words, if moderation exists, acculturative stress is less correlated with academic stress when individuals have high ethnic identity. The analysis used academic stress as the dependent variable, and centered scores of acculturative stress and ethnic identity were entered as Step 1. The product term of the centered scores was entered as Step 2. Results shown in Table 4 indicate there was no significant moderating (interaction) effect of ethnic identity in the relationship between acculturative stress and academic stress: $F$ change (1, 235) = .130, $p = .718$.

Table 4. Testing Moderator Effect of Ethnic Identity Using Hierarchical Multiple Regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>$R^2$ Change</th>
<th>df</th>
<th>$F$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILS</td>
<td>.180</td>
<td>.173</td>
<td>.180</td>
<td>2, 236</td>
<td>25.919</td>
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<tr>
<td>MEIM-R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>.181</td>
<td>.170</td>
<td>.000</td>
<td>1, 235</td>
<td>.130</td>
</tr>
<tr>
<td>ILS*MEIM-R</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Note. ILS= Index of Life Scale; MEIM= Multigroup Ethnic Identity Measure – Revised (Commitment Subscale).

Summary

The data were collected and analyzed via this study assisted in answering the exploratory questions that were proposed, which included whether acculturative stress and/or internalization
of model minority stereotype were related to academic stress, academic performance, and depression, as well as whether ethnic identity provided a buffering effect against academic stress from acculturative stress. When examining the first hypothesis, results indicated that academic stress did not mediate the relationship between internalization of model minority stereotype and academic performance. Additionally, academic stress did not mediate the relationship between internalization of model minority stereotype and depression. In looking at our second hypothesis, academic stress did not mediate the relationship between acculturative stress and academic performance. However, academic stress did partially mediate the relationship between acculturative stress and depression. In regards to our third hypothesis, ethnic identity did not prove to moderate the relationship between acculturative stress and academic stress.
CHAPTER FIVE
DISCUSSION

This chapter will summarize the results presented in Chapter 4 and discuss the implications from these results. First, findings from preliminary analyses and main analyses will be discussed in relation to their convergence or divergence with previous studies in the literature. This section will be followed by a discussion on clinical and research implications. Lastly, limitations of the study will be reviewed and discussed, and future directions will be considered.

The goal of this study was to examine the influence of acculturative stress and internalization of model minority stereotype on academic stress and mental health among Asian American college students. Additionally, ethnic identity was examined to determine whether it had protective effects against academic stress that resulted from acculturative stress. This research is able to contribute to the field of counseling psychology in several ways. This study takes into account both acculturative stress and internalization of model minority stereotype on academic stress and mental health, in comparison to other studies where either element is studied individually.

It was important to examine all of the variables together in the same study for various reasons. The internalization of the model minority stereotype and acculturative stress had been demonstrated to be unique cultural experiences among Asian Americans. Due to academic excellence being an important cultural value for Asian Americans (Sue & Okazaki, 1990; Kao & Tienda, 1998), it was critical to examine how these cultural factors shaped the academic
experience for this particular population. Furthermore, it was valuable to examine how these cultural factors affect psychological adjustment in relation to Asian Americans’ academic experience, rather than examining how these cultural factors impact psychological adjustment alone. The results of the study add to the field of counseling psychology by highlighting the importance of cultural awareness and sensitivity around issues that are pertinent to Asian Americans and their psychological well-being.

**Preliminary Analyses Discussion**

**Bivariate Correlations**

Bivariate correlations for continuous study variables highlighted various relationships in our study. Results indicated that the more acculturative stress an individual had, the more likely they are to have higher academic stress and increased depressive symptoms. This is consistent with previous literature, where acculturative stress has been found to be related to negative psychological and academic outcomes in academic settings (Andrade, 2006; Mori, 2000). The positive relationship between acculturative stress and academic stress may be because of increased difficulties navigating cultural values within an academic setting, with one of the cultural values being academic excellence. When individuals experience acculturative stress, it is possible they become overwhelmed and doubt their ability to succeed academically.

Increased acculturative stress was related to greater ethnic identity. This finding is inconsistent with Smith and Silvia’s (2011) meta-analysis that suggests ethnic identity is related to positive psychological adjustment. However, this result is consistent with R. M. Lee’s (2005) finding that suggests ethnic identity may be related to negative mental health outcomes. Social identity theory (Tajfel & Turner, 1986) assumes that a group uses ethnic identity as a coping
strategy in the face of discrimination. However, minorities in the United States who do not reside within or close to a strong supportive ethnic community may seek to assimilate and perceive ethnic identity as detrimental to their success living in the dominant culture. Higher levels of ethnic identity may increase difficulties in the acculturation process.

Academic stress was also demonstrated to be significantly associated with ethnic identity and depression, suggesting that an individual with greater academic stress is also likely to have higher ethnic identity, as well as higher levels of depression. It is surprising to find that higher ethnic identity was associated with higher levels of academic stress, which is inconsistent with the literature suggesting ethnic identity as a protective factor against negative psychological outcomes (Smith & Silvia, 2011). One possible explanation is that stronger ethnic identity for Asian American college students may increase pressure to adhere to cultural values that push for academic excellence. Therefore, students may feel increased stress to excel academically. The positive relationship between academic stress and depression is consistent with previous literature linking academic stress among Asian Americans to depression (Wei et al., 2007). Academic stress can increase general symptoms of anxiety, which may contribute to increase in other negative mental health symptoms.

It is also important to note the non-significant relationships in bivariate correlations. The internalization of the model minority stereotype did not significantly relate to any of the continuous study variables (i.e., acculturative stress, ethnic identity, academic stress, depression, or GPA). This finding was not consistent with previous literature suggesting that the high achieving model minority image contributes to increased pressure for Asian Americans to attain academic success (Hartlep, 2013). One possible explanation for this result may be that the
internalization of the stereotype does not indicate one’s behavioral adherence to the stereotype. An individual may endorse conscious or unconscious beliefs that align with stereotypes of the model minority, however, these beliefs may not be translated into action within their daily lifestyle. Another possible explanation may be that an individual may have high internalization of the model minority stereotype, however, they may not identify as strongly as an Asian American, and therefore having strong internalization of the stereotype has no bearing on their academic experience or well-being. One more possible explanation may be that the internalization of this stereotype has no impact on academic stress because Asian Americans already feel strongly pressured to achieve academic excellence through family members, and therefore pressure from social forces has less impact. Implications of these results will be further discussed later in the chapter.

Academic performance also did not have any significant relationships with any of these variables. Contrary to Andrade’s (2006) finding, which indicated that greater acculturative stress had been found to be significantly related to worse academic performance, the current study did not find the two to be significantly related. The finding was also inconsistent with previous literature, which has suggested that the model minority stereotype may impair achievement through distraction, pressure, and fear of failing to meet expectations (Shih et al., 2002; Wong & Halgin, 2006). It is possible that solely using overall grade point average (GPA) may not have been the best indicator for academic performance in our sample. Participants ranged from undergraduate to graduate students, and GPA as a freshman may differ greatly in comparison to GPA as a senior (who has had a cumulative GPA of three years as a student already), which may also differ greatly in comparison to a graduate student. Graduate students grading scale differs
slightly from undergraduate, where any grade below a B- is considered a fail. Therefore, graduate students’ GPAs may be more inflated compared to undergraduates. Additionally, ethnic identity was not significantly related to depression. The lack of relationship between these variables will be further discussed in clinical implications.

**Main Analyses Discussion**

**Path Analysis**

Results from the path analysis indicated that the second modified model shown in Figure 4 best fit the sample data. The model consisted of various significant paths between the study variables, with academic performance being excluded. Significant paths that were revealed were: acculturative stress and academic stress, academic stress and depression, acculturative stress and depression, and the internalization of model minority stereotype and depression.

The model was partly consistent with original hypotheses and preliminary analyses, indicating significant relationships among acculturative stress, academic stress, and depression. The model demonstrated that academic stress partially mediated the relationship between acculturative stress and depression. In other words, academic stress is likely to be partly influenced by acculturative stress, and in turn be related to increased depressive symptoms. This finding was consistent with previous literature demonstrating the positive relationship between acculturative stress and psychological maladjustment (Hwang & Ting, 2008; Thomas & Choi, 2006; Constantine, Okazaki, & Utsey, 2004; Wei et al., 2007; Ying & Han, 2006; Park, 2009; Hamamura & Laird, 2014).

Interestingly, the model revealed a significant negative relationship between the internalization of the model minority stereotype and depression when other variables are taken
into account, which was not shown in our preliminary analyses. Greater internalization of the model minority stereotype may be related to less depressive symptoms, highlighting its potential to have a protective effect. This is contradictory to the original hypothesis of the study, which states that higher internalization of the model minority stereotype will exacerbate psychological outcomes. In theory, internalization of the model minority stereotype should lead to worse psychological outcomes as a result of placing more pressure and expectations onto individuals (Shin et al, 2002; Wong & Halgin, 2006). However, the finding in this study suggests that the stereotype may act as a buffer against depression. This finding is consistent with a previous finding by Thompson and Kiang (2010), who found the model minority stereotype to be linked to positive outcomes. One possible explanation is that Asian Americans who strongly internalize the stereotype perceive themselves to be “better” than other minorities, in that they obtain the desired traits (e.g., hardworking, intelligent, successful) other minorities should aspire to have. This may give them a greater sense of worthiness or feel more validated or valued by Whites in comparison to other minorities. Another possible explanation for this result is through internalizing the model minority stereotype, Asian American students may feel increased sense of purpose in their academic pursuits and feel rewarded by achieving academic goals, also increasing their sense of self-esteem. Implications of these results will be discussed in the next section of this chapter.

**Moderation Using Hierarchical Multiple Regression**

Results from using hierarchical multiple regression to determine whether ethnic identity moderated the relationship between acculturative stress and academic stress indicated that the moderation did not exist. In other words, ethnic identity did not serve as a buffer to protect the
impact of acculturative stress on academic stress. While this finding is consistent with some of the studies that have demonstrated the lack of relationship between ethnic identity and mental health related outcomes (e.g., Stein et al., 2014; Umaña-Taylor & Shin, 2007), this finding is inconsistent with Smith and Silvia’s (2011) meta-analysis that showed ethnic identity to be a protective factor against psychological maladjustment.

Higher level of ethnic identity indicates that an individual has more identification and connection to their ethnic background. In theory, a higher level of ethnic identity should suggest better psychological well-being due to the strong attachment to a person's ethnicity or ethnic group (Tajfel & Forbas, 2000). A stronger connection to one's ethnic community typically suggests greater sense of social acceptance and support, which protects from experiences of discrimination. However, the finding in this study suggests that ethnic identity had no impact on the relationship between acculturative stress and academic stress. One possible explanation may be that college students typically live away from their family or ethnic community, and having strong ethnic identity may not be as helpful or protective when primary support system is farther away.

While ethnic identity did not demonstrate to protect against academic stress as hypothesized, results of this study showed that it nevertheless was significantly connected to acculturative stress and academic stress. This suggests that individuals who have higher ethnic identity are more likely to also experience greater acculturative stress and greater academic stress. This is consistent with R. M. Lee's (2005) findings, which indicated that ethnic identity can serve to exacerbate negative experiences and worsen mental health outcomes. This is also contradictory to many other findings on ethnic identity, which suggest that it may serve to
protect Asian Americans from poor outcomes (Smith & Silvia, 2011; Mossakowski, 2003; Wong, Eccles, & Sameroff, 2003; Rivas-Drake, Hughes, & Way, 2008). This highlights the importance of further examining the relationship between ethnic identity and psychological outcomes in future research.

**Clinical Implications**

The present study demonstrates the importance of increasing cultural awareness and sensitivity, as well as addressing some of these issues among Asian American college students, even when their issues may not initially appear to be mental-health-related. First, this study highlights the impact that acculturative stress may have on Asian American college students. Difficulties in navigating between two conflicting cultures, typically between the Western dominant culture and the individual's ethnic culture, may lead to increased academic stress and increased psychological distress that individuals may not be aware of. Asian Americans on college campuses have been shown to underreport or be less aware of psychological distress that stems from difficulty adjusting to college due to potential shame or tendency to suppress negative emotions (Kim, Atkinson, & Umemoto, 2001). Thus, it is important for university officials, staff, or counselors to recognize that this is an area they should address in order to further assist students of this population who are more vulnerable to experiences of psychological distress.

Findings of this study also highlight the importance of addressing academic stress among Asian Americans, as it consistently has shown to be highly associated with depression and other maladjustment or mental health concerns. Difficulties with academic work may be experienced differently among Asian Americans in comparison to individuals of other races or ethnic
backgrounds due to Asians' tendency to strongly value academic excellence (Kim, Atkinson, & Umemoto, 2001; Sue & Okazaki, 1990; Kao & Tienda, 1998). Asian Americans' self-concept may be heavily impacted if they are not performing up to their own standards or expectations, which may lead to increased psychological distress.

Furthermore, the study demonstrates the potential for the model minority stereotype to have a positive impact on mental health among Asian American college students and challenges the notion that stereotypes are all bad. One possible explanation for its link to better outcomes is internalized beliefs of positive stereotypes may provide an individual a sense of pride for having these “desired traits” that other minority groups do not have, thus resulting in increase of positive self-concept and higher self-esteem. While the model minority stereotype is shown in this study to be beneficial under certain conditions, I argue that positive stereotypes are still stereotypes, which have greater potential to be harmful than good. Stereotypes exacerbate an individual’s psychological well-being because they are objectifying and depersonalizing. The model minority stereotype invalidates and dismisses the narratives of Asian Americans that highlight experiences of discrimination and prejudice (Sue et al., 2007). Connections made between the model minority stereotype and positive outcomes should be looked at with caution, as it can minimize or discount the experiences of oppression and marginalization Asian Americans face.

Mental health professionals and educators working with Asian American college students should consider the protective role that the model minority stereotype may serve before automatically working to reduce the level of internalization of the stereotype. Additionally, mental health professionals and educators should assist students in understanding and reflecting
on how the stereotype may positively or negatively affect them, both individually and as a whole community.

**Research Implications**

Based on the findings of this study, the relationship between culture-related stress and ethnic identity should be further examined. Results indicated ethnic identity was positively related to both acculturative stress and academic stress among Asian American students in college settings, which was inconsistent with previous literature. High ethnic identity may increase academic stress as a result of increased pressure to succeed academically. Moreover, high ethnic identity may increase acculturative stress as a result of increased difficulty in acculturating to dominant culture. Given the mixed findings in ethnic identity research, it may be important for future researchers to determine which contexts or cultural variables are likely to have positive or negative relationships with ethnic identity.

Given the inconsistency of the findings of this study and previous studies on the model minority stereotype, it is important for researchers to further expand this area of research to obtain greater clarity on the relationship between the model minority stereotype and mental health. The study raises the question whether positive stereotypes can serve as protective roles against psychological maladjustment. It is important to examine how positive stereotypes may benefit individuals, and at the same time how they can be harmful.

Furthermore, future research should examine the relationship between academic performance and Asian cultural factors. While findings in this study did not reveal any significant relationships between academic performance and examined cultural factors, there may be stronger links with other cultural factors that are pertinent to Asian Americans.
Moreover, future researchers may need to use other measures to determine academic performance rather than solely depending on self-reported GPAs, which participants may not be fully honest about due to fear of being judged negatively.

Limitations

There are several limitations to this study. First, self-report methods are used to acquire data from participants. Thus, it is likely that some participants may not be fully honest in their responses in fear of being judged negatively. For example, academic performance was solely determined by self-reported GPAs, and due to importance of academic excellence among Asian communities, participants may not be honest with their disclosure. Furthermore, participants may be unaware of how they feel towards certain questions, which may lead to inaccurate assumptions being made while taking the measures. Limitations of self-reported measures are listed by Mayfield (1999) and should be taken into consideration.

Second, both undergraduate and graduate college students were included in one sample because there was no sufficient rationale to limit to only undergraduate students, and the purpose of this study did not include examining age or developmental differences among the study variables. The sample had 16.7% of the participants who did not identify as either Freshman, Sophomore, Junior, or Senior standing. Future research should consider the potential differences between undergraduate and graduate students.

Third, the sample largely consisted of women (90.8%), with only 8.8% identifying as men and 0.4% identifying as other genders. While the study did not aim to examine gender effects, it would have had greater external validity in relation to university campus settings had
the proportions been more equivalent. Future research should also consider examining gender effects with sufficient sample.

Furthermore, one of the limitations of this study is that it included students from all types of colleges and universities, and participants can be either part-time or full-time students. While the sample appeared to range widely in regards to geographic locations, which may assist external validity in generalizing to the Asian American college student population, it also disregarded the differences that may exist based on differences in types of universities and differences in student full-time/part-time status. Differences may include: four-year university vs. community colleges, public or private, size of school, religious affiliation, etc. Previous research has indicated that geographic region does in fact impact ethnic identity and psychological outcomes (Rumbaut, 1994; Juang, Nguyen, & Lin, 2006; Umaña-Taylor & Shin, 2007). Thus, differences among geographic regions among Asian American college students should be further explored in future research.
APPENDIX A

IRB APPROVAL LETTER
Project Application
to the IRB for Human Subjects Research
Project#/Application#: 2000/3907

Wednesday, May 18, 2016

Dear Hanna Chang,

On Monday, May 2, 2016 the Loyola University Chicago Institutional Review Board (IRB) reviewed your application for confirmation of exemption titled "Academic Stress as a Mediator between Cultural Factors and Mental Health and Academic Performance among Asian American College Students". Based on the information you provided, the IRB determined that this human subject research project is exempt from the IRB oversight requirements according to 45 CFR 46.101.

If you make changes to the research procedures that could affect the exempt status of this project, your proposal should be reevaluated by the IRB to confirm it is still exempt from the IRB oversight requirements. To modify this proposal, please submit an Amendment/Project Update Application using the online CAP program. Complete details about the application process and your responsibilities can be found on the Office for Research Services web site.

Please notify the IRB of completion of this research and/or departure from the Loyola University Chicago by submitting a Project Closure Application. In all correspondence with the IRB regarding this project, please refer to IRB project number #2000 or IRB application number #3907.

Best wishes for your research,

Raymond H. Dye, Jr., Ph.D.
Chairperson, Institutional Review Board
APPENDIX B

RECRUITMENT SCRIPT
Research Study: Cultural Factors and Mental Health among Asian American College Students

Dear [Person or Organization of Interest],

My name is Hanna Chang and I am a doctoral student in the Counseling Psychology program at Loyola University Chicago. I'm currently looking for Asian American college students to participate in my study. My dissertation consists of a survey study examining academic stress, cultural factors, and mental health among Asian American college students. I would very much appreciate it if you can help me by circulating the following survey. The survey will take approximately 10-15 minutes.

In order to participate in this study, you must:

• Identify as an Asian or Asian American college student
• Be 18 years old or older
• Live in the U.S.

At the end of the survey, you will be able to enter a raffle to win one of five $20 Amazon gift cards.

If you are interested in this research, please click the link here:

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Thank you so much!

Sincerely,
Hanna Chang, M.A.
Doctoral Candidate in Counseling Psychology
Loyola University Chicago
APPENDIX C

INFORMED CONSENT
CONSENT TO PARTICIPATE IN RESEARCH

**Project Title:** Cultural Factors, Academic Stress, and Mental Health among Asian American College Students  
**Researcher(s):** Hanna Chang, M.A.

You are being asked to take part in a research study being conducted by Hanna Chang, a doctoral candidate in Counseling Psychology at Loyola University Chicago. The study is sponsored by Dr. Eunju Yoon. You are being asked to participate because we would like to examine the relations among cultural factors, academic stress, and mental health among Asian American college students. Approximately 300-350 individuals will be asked to participate in this study. Please read this form carefully and ask any questions you may have before deciding whether to participate in the study.

**Purpose:** The purpose of this study is to examine the relations among cultural factors, academic stress, and mental health among Asian American college students.

**Procedures:** If you agree to participate in the study, you will be asked to answer a set of questions about your demographic information, cultural values and beliefs, academic stress, and your well-being. It should take you only 10-15 minutes to complete the survey. Your honest and complete response to the survey questions will be highly appreciated for valid research results.

**Risks/Benefits:** There are no foreseeable risks involved in participating in this research beyond those experienced in everyday life. Your participation in this online survey involves risks similar to a person’s everyday use of the Internet. There are no direct benefits to you from participation, but you may gain a greater understanding about your beliefs in women’s position and roles and cultural values. You will also be helping counseling/psychology professionals in their work with clients.

**Compensation:** As a token of our appreciation, you will be able to enter a raffle to win one of five $20 gift cards. You can find the direction to enter this raffle at the completion of the study.

**Confidentiality:** Confidentiality will be maintained to the degree permitted by the technology used. Please do not indicate your name on the questionnaire. Information obtained as a result of this survey will be kept confidential. There is no way an individual participant can be identified in this study. All data will be kept in a password protected file for five years after completion and publication of the study. Only the listed researchers will have access to the data.
Voluntary Participation: Participation in this study is voluntary. If you do not want to be in this study, you do not have to participate. Even if you decide to participate, you are free not to answer any question or to withdraw from participation at any time without penalty. If you complete an anonymous survey and then submit it to the researcher, the researcher will be unable to extract anonymous data from the database should you wish it withdrawn.

Contacts and Questions: If you have questions about this research study, please contact Hanna Chang at hchang2@luc.edu. If you have questions about your rights as a research participant, you may contact the Loyola University Office of Research Services at (773) 508-2689.

Statement of Consent: By completing the survey you are agreeing to participate in the research. Your completion of the survey will indicate consent for an informed participation. If you decide not to participate in this study, you may simply disregard this survey. Thank you very much for your time and effort.
APPENDIX D

STUDY QUESTIONNAIRE
Survey Questionnaire

Direction: Please answer how often you feel the way described in each of the statements below by circling the one number which most closely represents your own personal experience living in the U.S.


never rarely sometimes often

1. ___ My English embarrasses me when I talk to people.
2. ___ I don't like the religions in the U.S.A.
3. ___ I worry about my academic performance.
4. ___ I worry about my future career in my home country.
5. ___ I can feel racial discrimination toward me from other students.
6. ___ I'm not doing as good as I want to in school.
7. ___ My English makes it hard for me to read articles, books, etc.
8. ___ It's hard for me to develop opposite-sex relationships here.
9. ___ I don't like the ways people treat each other here.
10. ___ I don't like American food.
11. ___ People treat me badly just because I am Asian.
12. ___ I owe money to others.
13. ___ I think that people are very selfish here.
14. ___ I don’t like the things people do for their entertainment here.
15. ___ I can feel racial discrimination toward me in stores.
16. ___ I worry about whether I will have my future career in the U.S.A.
17. ___ Americans' way of being too direct is uncomfortable to me.
18. ___ I study very hard to in order not to disappoint my family.
19. ___ I can feel racial discrimination toward me from professors.
20. ___ I can't express myself well in English.
21. ___ It would be the biggest shame for me if I fail in school.
22. ___ I worry about my financial situation.
23. ___ I don't like American music.
24. ___ I can feel racial discrimination toward me in restaurants.
25. ___ My financial situation influences my academic study.
26. ___ I worry about my future: will I return to my home country or stay in the U.S.A.
27. ___ I haven’t become used to enjoying the American holidays.
28. ___ I don’t want to return to my home country, but, I may have to do so.
29. ___ My English makes it hard for me to understand lectures.
30. ___ I want to go back to my home country in the future, but I may not be able to do so.
31. ___ My financial situation makes my life here very hard.
**Please indicate your agreement with the following items using the 1-7 scale below. There are no right or wrong answers. Please be open and honest in your responding.**

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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>neither agree</td>
<td>slightly agree</td>
<td>agree</td>
<td>strongly agree</td>
<td></td>
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</table>

1. ___ Asian Americans have stronger work ethics.
2. ___ Asian Americans are harder workers.
3. ___ Despite experiences with racism, Asian Americans are more likely to achieve academic and economic success.
4. ___ Asian Americans are more motivated to be successful.
5. ___ Asian Americans generally have higher grade point averages in school because academic success is more important.
6. ___ Asian Americans get better grades in school because they study harder.
7. ___ Asian Americans generally perform better on standardized exams (i.e., SAT) because of their values in academic achievement.
8. ___ Asian Americans make more money because they work harder.
9. ___ Asian Americans are more likely to be good at math and science.
10. ___ Asian Americans are more likely to persist through tough situations.
11. ___ Asian Americans are less likely to face barriers at work.
12. ___ Asian Americans are less likely to encounter racial prejudice and discrimination.
13. ___ Asian Americans are less likely to experience racism in the United States.
14. ___ Asian Americans are more likely to be treated as equals to European Americans.
15. ___ It is easier for Asian Americans to climb the corporate ladder.
1. ___ I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.
2. ___ I have a strong sense of belonging to my own ethnic group.
3. ___ I understand pretty well what my ethnic group membership means to me.
4. ___ I have often done things that will help me understand my ethnic background better.
5. ___ I have often talked to other people in order to learn more about my ethnic group.
6. ___ I feel a strong attachment towards my own ethnic group.

1. ___ I blame myself when I cannot live up to my parents’ expectations of me.
2. ___ I feel I have disappointed my teacher when I do badly in school.
3. ___ I feel I have disappointed my parents when I do poorly in school.
4. ___ I feel stressed when I know my parents are disappointed in my exam grades.
5. ___ I feel lousy when I cannot live up to my teachers’ expectations.
6. ___ I feel stressed when I do not live up to my own standards.
7. ___ When I fail to live up to my own expectations, I feel I am not good enough.
8. ___ I usually cannot sleep and worry when I cannot meet the goals I set for myself.
9. ___ When I do not do as well as I could have in an examination or test, I feel stressed.
Below is a list of the ways you might have felt or behaved. Please check the boxes to tell me how often you have felt this way in the past week or so.

<table>
<thead>
<tr>
<th></th>
<th>Not at all or less than 1 day</th>
<th>1 - 2 days</th>
<th>3 - 4 days</th>
<th>5 - 7 days</th>
<th>Nearly every day for 2 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>My appetite was poor.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I could not shake off the blues.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I had trouble keeping my mind on what I was doing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt depressed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>My sleep was restless.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt sad.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I could not get going.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Nothing made me happy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt like a bad person.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I lost interest in my usual activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I slept much more than usual.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt like I was moving too slowly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I felt fidgety.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I wished I were dead.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I wanted to hurt myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I was tired all the time.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I did not like myself.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I lost a lot of weight without trying to.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I had a lot of trouble getting to sleep.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>I could not focus on the important things.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Demographics

1. Age: _______

2. Year in School: ___ Freshman ___ Sophomore
   ___ Junior ___ Senior ___ Other

3. Gender: _____ Male _____ Female _____ Other

4. Sexual Orientation: _____ Heterosexual _____ Gay/Lesbian
   _____ Bisexual _____ Other

5. University/College You Are Attending: __________

6. Are you an international student? ___ No ___ Yes

7. Current GPA (Grade Point Average): ______

8. Race:
   _____ Asian or Asian American
   _____ Biracial/Multiracial (please specify)
   _____ Other (please specify)
   _____ I do not identify as Asian or Asian American

9. What is your ethnicity: __________

10. What country were you born in? _____________________________

If you were born outside of the U.S. (e.g., China) and then moved to the U.S., how old were you when you moved to the U.S.? ______________________

11. How would you describe your social class?
   _____ lower class
   _____ lower-middle class
   _____ middle class
   _____ upper-middle class
   _____ upper class

12. What is your approximate household income before taxes?
    _____ Under $ 20,000
<table>
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<tr>
<th>Range</th>
<th>Code</th>
</tr>
</thead>
<tbody>
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<td>$20,000 to less than $40,000</td>
<td></td>
</tr>
<tr>
<td>$40,000 to less than $60,000</td>
<td></td>
</tr>
<tr>
<td>$60,000 to less than $80,000</td>
<td></td>
</tr>
<tr>
<td>$80,000 to less than $100,000</td>
<td></td>
</tr>
<tr>
<td>$100,000 to less than $120,000</td>
<td></td>
</tr>
<tr>
<td>$120,000 to less than $140,000</td>
<td></td>
</tr>
<tr>
<td>$140,000 to less than $160,000</td>
<td></td>
</tr>
<tr>
<td>$160,000 to less than $180,000</td>
<td></td>
</tr>
<tr>
<td>$180,000 to less than $200,000</td>
<td></td>
</tr>
<tr>
<td>$200,000 or more</td>
<td></td>
</tr>
</tbody>
</table>
REFERENCE LIST


VITA

Hanna Chang spent her childhood in Hsin-Chu, Taiwan, Vancouver, Canada, and San Jose, California. She obtained a BS in Psychology with a minor in Business from University of Illinois, Urbana-Champaign in 2011. She then obtained an MA in Mental Health Counseling at Boston College in 2013, and went on to enroll as a doctoral student in the Counseling Psychology Ph.D program at Loyola University Chicago. Her research experiences and interests include, but are not limited to: Asian American psychology, patriarchal beliefs/gender stereotypes, minority stereotypes, acculturation/acculturative stress, ethnic identity, cultural competence, and social justice and advocacy. Hanna's clinical experiences have been in settings such as a residential school for adolescents with brain injuries and other neurological challenges, substance abuse clinic, and university counseling centers. She recently completed her pre-doctoral psychology internship at University of Hawaiʻi at Mānoa’s Counseling and Student Development Center, and plans to complete her post-doctoral clinical hours at the same location.