

PERCEIVED RACIAL DISCRIMINATION AND PSYCHIATRIC OUTCOMES
AMONG ASIAN AMERICANS

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The present study related generational status, family dynamics, and perceptions of racial discrimination (PRD) to acute psychiatric outcomes among a nationally representative Asian American sample ($N = 2095$), using data from the National Latino and Asian American Study (NLAAS). High self-reports of PRD were correlated with endorsement of clinical depression and suicidality as predicted. Regression analyses suggested that high PRD, low family cohesion, and high family conflict served as significant predictors of poor mental health independently, but moderator hypotheses predicting the interaction of these factors were not supported. Clinical and research implications are provided.

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CHAPTER 1

INTRODUCTION

Racial discrimination serves as an identified stressor and social risk factor for mental illness among racial/ethnic minorities in the United States (Clark, Anderson, Clark, & Williams, 1999; US Department of Health and Human Services, 2001). A large body of research links perceptions of racial discrimination to poor physical and mental health outcomes across racial/ethnic minority groups in the U.S. Continued research is needed to further understand the possible factors that predict and influence this relationship. This is particularly true among the Asian American population since issues of racial discrimination and mental health tend to be understudied for this group. The present study examines the associations between perceived racial discrimination and acute psychological outcomes in a nationally representative Asian American immigrant sample, using data from The National Latino and Asian American Study (NLAAS) (Alegria et al., 2004). Sociodemographic and family factors that may influence this relationship will also be tested.

Definition of Terms

Sue (2003) defines racism as “any attitude, action, institutional structure, or social policy that subordinates persons or groups because of their color” (p. 31). The term “prejudice” is commonly defined as a bias expressed through opinions, feelings, or attitudes towards a group and its members, while the term “discrimination” refers to unfair behavior towards a group and its members (Allport, 1954). Since it is difficult to capture objective measures of discrimination in the real world, researchers have often relied on an individual’s subjective evaluation of an event as either being discriminatory

or not, and have referred to this evaluation as “perceived racism,” “perceived prejudice,” or “perceived discrimination” (Phinney, Madden, & Santos, 1998). The current study will use the term perceived racial discrimination (PRD), which will refer to an individual’s perceptions of unfair behavior of individuals or institutions that are based on race/ethnicity.

Asian Americans and Racism

Asian/Pacific Islander Americans (APIA) constitute one of the largest, most diverse, and fastest growing racial groups in the United States (U.S. Bureau of Census, 2000). There are four major groups to represent those classified as APAI: East Asians (persons of Chinese, Japanese, and Korean descent), Southeast Asians (persons of Vietnamese, Cambodian, Laotian, Thai, and Burman descent), South Asians (persons of Asian Indian, Pakistani, Bangladeshi, Sri Lankan, Nepalese, and Bhutanese descent), and Pacific Islanders (descendants from Philippines, Malaysia, Indonesia, Samoa, Fiji, Hawaii, Tahiti, Guam, and other island nations) (Mio, Nagata, Tsai, and Tewari, 2007).

Individuals of Chinese, Filipino, Asian Indian, Korean, and Vietnamese descent make up the largest Asian American ethnic groups in the U.S., respectively (U.S. Bureau of Census, 2000). The sample from the present study is largely made up of participants from Chinese, Filipino, and Vietnamese ethnicities, with a relatively smaller proportion of participants of Japanese, Asian Indian, and Korean backgrounds (Alegria et al., 2004) Thus, the literature review will pay special attention to the histories and experiences from these ethnic groups.

Barriers to Racism-Related Research among Asian Americans

The topic of racism is generally understudied among Asian Americans for two main reasons (Liang, Li, & Kim, 2004). First, racism is traditionally viewed as a “Black and White” issue in the United States. Consequently, a majority of the research on the psychological consequences of racism focuses on African Americans (Williams, Neighbors, & Jackson, 2003). Since Asian Americans’ experiences of racism are qualitatively different than those of other racial groups (Sue, Bucceri, Lin, Nadal, & Torino, 2007), it is questionable to generalize findings from African Americans or other racial groups and apply them to Asian Americans. Racism research focusing specifically on Asian Americans is needed to identify ethnic-specific factors and to understand what aspects of current theories on racism established with other racial/ethnic groups may be applicable to Asian Americans.

Another possible reason for the lack of research within the area of racism among Asian Americans is the impact of the model minority myth (Liang, Li, & Kim, 2004). Asian American immigrants in the United States tend to be collectively portrayed as the “model minority.” The “model minority” myth asserts that Asian Americans experience socioeconomic and academic success, exemption from legal and mental health problems, and immunity to racism, prejudice, and discrimination (Peterson, 1966). Numerous authors agree that the depiction of Asian Americans as the modern day American success story disguises the various problems experienced by this heterogeneous population, including those of racism, discrimination and prejudice (Chou & Feagin, 2008; Sue et al., 2007; Wong & Halgin, 2006; Wu, 2002).

Research demonstrates that the general public holds a misperception that Asian Americans do not face racial discrimination (Aguirre & Turner, 2004; Goto, Gee, & Takeuchi, 2002). A qualitative study conducted by Delucchi and Do (1996) also suggests that perceptions of the “model minority” myth can lead to indifference towards Asian Americans when they are victims of racial prejudice and discrimination. Consequently, researchers and clinicians may also give little attention to the psychological consequences of racial discrimination on Asian Americans’ mental health.

Despite the assertions of the model minority myth, history provides evidence that Asian Americans have experienced racism in the United States, including lynching and mass murders of early Asian migrant workers, imprisonment of Japanese Americans during World War II, and a history of denied rights to U.S. citizenship, land ownership, and civil liberties (Young & Takeuchi, 1998). Recent data also shows that both overt and covert forms of racism directed towards Asian Americans continue to persist (National Asian Pacific Legal Consortium, 2002; Sue et al., 2007).

Overview of Immigration and Racism Histories among Asian Groups

According to Sue (2003), racism can occur on institutional, societal, and individual levels. The levels and degrees of racism experienced by Asian Americans varied throughout history depending on factors, such as the political and economic climate of the U.S and the context of migration for each ethnic group. Furthermore, Mio et al., (2007) note that the general population typically do not make distinctions among the different Asian groups. Therefore, racism against one Asian ethnic group tends to generalize across Asian ethnic groups, especially on a societal and individual level.

Chinese. The first wave of Chinese immigrants entered the United States between 1849-1882 as a result of the Gold Rush in California (Mio et al., 2007; Young and Takeuchi, 1998). Since women were not allowed to immigrate, this group was made of men who served as laborers to help build railroads. The growing perception that Chinese immigrants were a threat to the economy resulted in riots and racially motivated violence, which included Chinese immigrants as targets of robberies, lynchings, murders, and forced relocations. Furthermore, laws were passed to prevent Chinese from obtaining citizenship, owning property, and marrying Caucasian women. In 1882, the Chinese Exclusion Act legally barred immigration from China, making the Chinese the first ethnic group to be barred from immigrating to the United States (Young and Takeuchi, 1998).

The second wave of immigration came in 1943, when laws that excluded immigration from China were repealed through the Magnuson Act as a result of China and the United States becoming allies during World War II (Mio et al., 2007; Young and Takeuchi, 1998). This act allowed for Chinese immigrants to be eligible for naturalization, set a quota for 105 immigrants per year, and allowed for wives and family members to enter the United States through family reunification provisions. During the 1950's and 1960's, greater changes in immigration and refugee policies resulted in the Chinese American population quadrupling in the U.S. (Mio et al., 2007; Young and Takeuchi, 1998).

Filipinos. The Philippine Islands became U.S. territory in 1898 after the Spanish-American War. As a result, Filipinos were considered American nationals and allowed to enter the United States without restrictions (Mio et al., 2007; Young and Takeuchi,

1998). The first wave of immigrants came through government-sponsored programs between 1903-1910 in order to attend U.S. universities. The second wave of immigrants entered the United States after World War I to work as agricultural laborers in Hawaii (Mio et al., 2007; Young and Takeuchi, 1998). The second wave of Filipino immigrants faced racial discrimination since they were viewed as an economic threat and due to debates questioning whether they should be included in antimiscegenation laws. In 1934, the Tydings-McDuffie Act set a quota on Filipino immigration (50 immigrants per year) and denied eligibility for citizenship. During this time, Filipinos living in the United States were encouraged to return to the Philippines and were even provided free one-way passage to the Philippines, with the condition that they would not return to the U.S. (Mio et al., 2007; Young and Takeuchi, 1998).

Attitudes towards Filipinos changed upon the third-wave of Filipino immigration during World War II, when those born in the Philippines joined the U.S. Navy to fight against the Japanese (Min, 2005; Young and Takeuchi, 1998). These immigrants were allowed to join the U.S. Navy since they were still considered U.S. nationals. By the end of the war, those who had joined the military were given the opportunity to gain U.S. citizenship. The fourth wave of immigration began after the Immigration Act of 1965 was passed and mainly consisted of highly educated professionals.

Japanese. Japanese immigrants first came to the U.S. in the late 1800's as contract workers to Hawaii to work on sugar plantations and moved to California around the 1920's to work as laborers (Mio et al., 2007). Immigration of Japanese women (known as "picture brides" were allowed between 1908-1924 in order to balance the sex ratio of Japanese immigrants in the U.S., which resulted in the second wave of

Japanese immigrants to the U.S. (Min, 2005). The number of U.S. born Japanese Americans also increased during this time.

Although Japanese individuals were never formally banned from immigrating to the U.S., in 1907 President Roosevelt negotiated with Japanese leaders to limit the number of immigrants entering the U.S. from Japan (This was known as the Gentlemen's Agreement; Mio et al., 2007; Young and Takechi, 1998). In 1941, Japan's attack on Pearl Harbor led to increasing anti-Japanese sentiment in the U.S. and set the stage for one of the most traumatic examples of racism directed towards Asians in the U.S. A government-sanctioned act forced more than 120,000 Japanese Americans to relocate and be confined to concentration camps.

The third wave of immigration consisted of Japanese brides of American military personnel and civilian staff in Japan during and after World War II. Unlike other Asian groups, Japanese immigration following the Immigration Act of 1965 did not lead to an influx of migrants from Japan (Min, 2005). The volume of migration from Japan continued to be low until 2000, when there was a sudden increase in Japanese immigration to the U.S., specifically from Japanese women. Min (2005) states that Japanese women's reasons for migration may have been to escape the traditional patriarchic system in Japan and gain economical and educational opportunities in the U.S. A large number of Japanese women also seem to be arriving to the U.S. as wives of American citizens (Min, 2005).

Koreans. There are three major immigration waves from Korean immigrants to the United States (Min, 2005; Young & Takeuchi, 1998). The first wave consisted of male laborers to Hawaii during the late 1800s and early 1900s. Immigrants continued to

enter to the U.S., including Korean “picture brides” up until the Immigration Act of 1924, which prohibited immigration from Asia. The second immigration wave was between 1951-1964 and consisted of Korean wives of Americans who served in Korea during the Korean War, Korean children orphaned by the Korean War and adopted by American families, and students. The third and largest wave of Korean immigrants came after the Immigration Act of 1965 and primarily consisted of immigrants with professional and highly educated backgrounds (Min, 2005; Young & Takeuchi, 1998).

Korean immigrants throughout U.S. history are noted to maintain high levels of ethnic attachment and solidarity, perhaps the highest levels compared to other Asian groups (Min, 2005). The strong levels of ethnic attachment and solidarity are theorized to be a result of Korean immigrants’ group homogeneity, affiliation and frequent participant in Korean immigrant churches (75% of Korean immigrants are affiliated with Christianity), high job concentration in small businesses, and isolation from the larger society (Min, 2005; Young & Takeuchi, 1998). These factors likely served and continue to be protective buffers for the Korean immigrant community against racial and discriminatory experiences.

Asian Indians. Asian Indians entered the U.S. in three major immigration waves. The first wave of Asian Indian immigrants consisted of male migrant workers who settled in California from the Indian state of Punjab between the late 1890s and the early 1900s (Leonard, 1992). The growth of the Punjabi community was cut short due to the 1917 Immigration Act, which prohibited further immigration specifically from India. Attempts were also made through this law to deport all Asian Indian immigrants (Mio et al., 2007). Asian Indians faced intense discrimination since they were seen as an

economic threat. Additional laws were passed to prohibit Asian Indian immigrants from owning property, becoming U.S. citizens, and entering interracial unions and marriages (Mio et al., 2007).

In 1946, the ban on Indian immigration was lifted, providing Asian Indians the opportunity to be eligible for U.S. citizenship. At the time, the opportunity for naturalization was also given to Filipino immigrants but no other Asian immigrant group. The Immigration Act of 1965 led to the second major immigration wave for Asian Indians (Min, 2005; Young & Takeuchi, 1998). These immigrants consisted primarily of highly skilled and educated professionals. Through family reunification visas, these settled immigrants brought family members such as spouses, parents, or siblings to the United States (Min, 2005). This led to a third wave of new arrivals, which included both professionals and a working and lower middle class population.

Since the 1980s, anti-Indian attitudes remain prevalent in the U.S. because Asian Indians are viewed as an economic threat (Mio et al., 2007). These attitudes have worsened more recently as outsourcing and globalization grow increasingly popular. Another stimulus for Anti-Indian sentiments is the aftermath of the terrorist attacks on September 11th, 2001 (Mio et al., 2007), where Asian Indians, as well as other South Asian groups, faced tremendous backlash and direct acts of racism. As a result of 9/11, immigration to the U.S. from South Asia and granting of U.S. citizenship is under careful examination (Mio et al., 2007).

Southeast Asians. Southeast Asians represent the newest Asian ethnic group in the U.S. Unlike other Asian groups, many Southeast Asians entered the United States as refugees rather than immigrants in order to escape their home countries due to wars

and political repression (Min, 2005). The first wave of immigrants consisted of evacuees from South Vietnam in 1975. The passing of the Refugee Act of 1980 led to the next massive influx of refugees who resettled to the U.S. from Vietnam, Cambodia, and Laos (Min, 2005). Arrival to the U.S. continued for refugees throughout the decade but by the 1990's the number of voluntary immigrants from Vietnam began to increase.

In contrast to other Asian groups, Southeast Asian groups do not share a history marked by discrimination from the government (Min, 2005). Furthermore, their entrance to the U.S. as refugees qualifies them for a range of public assistance programs to which other Asian immigrants were not entitled. Compared to other Asian immigrant groups and other refugee groups, Southeast Asians arrived to the U.S. at a younger age with little education, knowledge of English, and occupational skills (Min, 2005). As noted earlier, Southeast Asian groups were not targets of racism through governmental policies; however, racial tensions between refugees and the White majority population were well-documented and could have resulted from attitudes of xenophobia, nativism, and "compassion fatigue" that were prevalent at the time (Min, 2005; Young & Takeuchi, 1998).

Perceived Racial Discrimination among Asian Americans

Although there are few studies to show the type of discriminatory experiences faced by Asian Americans, evidence suggests that in spite of the model minority myth, Asian Americans are targets of both overt and covert form of racism. For instance, Asian Americans are noted to experience discrimination, which limits their opportunities within areas such as the housing market, higher education institutions, and employment (particularly management positions; Chou & Feagin, 2008; Wong & Halgin, 2006; Young

& Takeuchi, 1998). Asian American college and high school students also report greater perceptions of discrimination and disrespect from both faculty and peers (Ancis, Sedlacek, Mohr, 2000; Fisher, Wallace, & Fenton, 2000). More concerning data from the latest published report from the National Asian Pacific Legal Consortium (2002) indicates an increase in racially motivated hate crimes directed towards Asian Americans. Incidents of harassment, vandalism, arson, theft, physical assault, and homicide were reported, with assault and battery as the most common hate crime against Asian Americans.

Overt forms of racism directed towards Asian Americans are evident; however, Asian Americans are more likely to experience more subtle and elusive form of discrimination (Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Sue et al., 2007). Sue et al. (2007) shed light on how Asian Americans may experience subtle forms of racism unique to their group. Their qualitative study identified specific themes of racism experienced by Asian Americans such as: feeling like a foreigner in their own land, ascription of intelligence, denial of racial reality, exoticization of Asian American women, invalidation of interethnic differences, pathologizing cultural values and communication styles, second class citizenship, and invisibility (Sue et al., 2007). These findings were parallel to previous theories that indicated Asian Americans may experience subtle forms of racism on a societal and individual level as a result of the model minority myth and perceptions of Asian Americans as “perpetual foreigners” (Alvarez, Juang, & Liang, 2006; Chou & Feagin, 2008; Delucchi and Do, 1996; Wong & Halgin, 2006).

Regarding demographic differences among Asian Americans, studies have shown that older individuals (Alvarez et al., 2006; Romero & Roberts, 1998), women

(Alvarez et al., 2006; Greene, Way, & Pahl, 2006; Kohatsu et al., 2000) and those of lower educational and socioeconomic backgrounds (Alvarez et al., 2006; Goto et al., 2002) tend to report lower levels of PRD compared to their counterparts. Differences have also been noted in terms of ethnicity in one study consisting of undergraduate students, with Filipino participants reporting greater levels of PRD than Chinese and those classified as “Other Asians” (Alvarez et al., 2006). Further research is needed to identify which of these demographic correlates of PRD among Asian Americans are consistent across samples.

Additionally, it is unclear whether reports of PRD diminish or increase with each immigrant generation. Samples consisting of Chinese American and diverse Asian college students have shown first-generation immigrants to report greater accounts of PRD compared to U.S. born Asians (Sodowsky, Lai, & Plake, 1991; Ying, Lee, Tsai, 2000). First generation immigrants may be at risk for experiencing greater discrimination due to limited English language proficiency and less familiarity with the social rules of American culture. However, U.S. born Asian immigrants have also been observed to report greater PRD than first-generation Asian immigrants (Kuo, 1995). Since U.S born Asian Americans are socialized in a racially and ethnically diverse country, racial hierarchies may be more salient for them. This may increase awareness of discrimination for this group. Further, U.S. born Asian Americans may have greater contact with the majority population, which places them at risk for more opportunities to experience discrimination. Continued research is needed to clarify generational differences in reports of PRD.

As the literature reviewed in this section indicates, Asian Americans in the United States have a long history of experiencing overt and covert forms of racism on institutional, societal, and individual levels. Although institutional and overt forms of racism have diminished over the years, Asian Americans continue to be targets of subtle forms of racism, despite society's misperceptions that they are immune to these experiences. Asian Americans' perceptions of racial discrimination are likely to have an impact on their psychological adjustment.

Perceived Racial Discrimination and Mental Health

Influential findings by Clark et al. (1999) demonstrate the impact PRD has on physical and psychological outcomes such as hypertension, cardiovascular disease, depression, anxiety, disruptive behavior disorders, and substance abuse and dependence in African Americans. Additional research provides replications for these findings among other African American samples, as well as Latin American groups (Araujo & Borrell, 2006; Klonoff, Landrine, & Ullman, 1999). A growing body of research links PRD to mental health outcomes among Asian Americans across age and ethnicity.

A majority of the research regarding the relation between PRD and mental health among Asian Americans examines symptoms of and risk factors for depression. For instance, college students of varying Asian ethnic groups who reported high levels of PRD were also likely to report low levels of positive affect and life satisfaction (Yoo & Lee, 2005), as well as low social connectedness (Lee, 2003). Furthermore, higher levels of PRD are observed to relate to lower reports of self-esteem among Asian American high school (Greene et al., 2006) and college students (Asamen & Berry, 1987; Lee, 2003).

Positive associations between PRD and depressive symptomology were observed in samples of adult Korean immigrants and Southeast refugees in Canada (Noh et al., 1999; Noh & Kasper, 2003), as well as adult Asian Indian and Filipino immigrants in the United States (Mehta, 1998; Mossakowski, 2003). Samples consisting of diverse Asian American college and high school students also reveal associations between PRD and depressive symptoms (Fisher et al., 2000; Greene et al., 2006; Lee, 2003; Phinney et al., 1998; Shrake & Rhee, 2004). These findings suggest that like other racial/ethnic groups, PRD is related to poor mental health outcomes among Asian Americans. Studies are beginning to identify possible moderating and mediating factors to this relationship.

Moderators and Mediators of PRD and Mental Health

Researchers have made efforts to identify variables that moderate and mediate the associations between PRD and mental health for Asian Americans; the role of ethnic identity and coping styles among Asian Americans has received the most attention in the literature. Research examining ethnic identity as a moderator has resulted in mixed findings. A large-scale study with Filipino immigrants revealed that high levels of ethnic identity served as a buffer for depressive symptoms, particularly among first-generation immigrants (Mossakowski, 2003). Although high ethnic identification did not attenuate the effects of PRD on depressive symptoms in Greene et al.'s (2006) sample of diverse Asian adolescents, high ethnic identity served as a protective factor for self-esteem. In contrast, Lee's (2003) study with a diverse sample of Asian American college students did not reveal ethnic identity to moderate or mediate the relationship of PRD to depressive symptoms.

There is evidence to suggest that ethnic identity in combination with coping style influences the associations between PRD and psychological outcomes. For instance, a study with Southeast Asian refugees in Canada revealed that high levels of ethnic identity combined with a culture-specific coping style of forbearance diminished the impact of PRD on depressive symptoms (Noh et al., 1999). Additionally, Yoo and Lee (2005) found that Asian American college students who reported high ethnic identification and engaged in active coping styles involving cognitive restructuring and problem solving also reported higher levels of psychological well being compared to their counterparts; however, this finding was only true among participants who reported low levels of PRD.

Coping style has also been shown to mediate the relationships between PRD and racism-related stress, as evidenced by Liang, Alvarez, Juang, & Liang (2007) study with a diverse group of Asian American college students. Gender was found to moderate this mediating relationship. Specifically, for women, an active coping style mediated the relationship between PRD and racism-related stress, while for men, seeking emotional social support explained the relationship between PRD and racism-related stress. These findings appear to be counterintuitive, but may reflect the quality of social support men in the study sought.

Social Relationships, PRD, and Mental Health

Social relationships such as peer and family relations have generally been understudied as buffers of discrimination among Asian American immigrants. Social support is established to be positive for Asian immigrant populations' well-being and adjustment (Lin, Ye, & Ensel, 1999; Shen & Takeuchi, 2001) and is theorized to be a

general buffer for individuals experiencing environmental stressors (Cohen & Wills, 1985). Since racism has been identified as a social stressor for ethnic minorities (Clark et al. 1999), the impact of social support should be further examined among Asian Americans. Thus far, two empirical studies were published, which investigated social relationships as buffers of PRD among Asian Americans.

Ghee et al. (2006) found that high levels of emotional social support were associated with better physical health outcomes in a large sample of Filipino adults; however, neither emotional nor instrumental levels of social support buffered the effect of discrimination on medical outcomes, such as hypertension, high blood pressure, stroke, heart failure, high blood sugar, etc. Measures of psychological health were not included in this study. Yoo and Lee (2005) found use of social support to cope with PRD did not serve as a buffer for PRD effects on positive affect and life satisfaction outcomes in a sample of diverse Asian American college students. However, the type and quality of social support were not assessed in this study. Quality of social support networks is an important variable of interest that may bring further insights into the PRD and mental health relationship.

Models of Social Support Effects. Several models of social support have been developed to provide understanding regarding its influence on stressors, and empirically tested with perceived racial discrimination. The social support deterioration model (Barrera, 1988), predicts that certain negative life events (e.g. traumatizing or stigmatizing ones) lead to changes in social networks, which increases distress. Prellow et al. (2006) demonstrated that social support decreased for African American college students exposed to discrimination, which led to poorer psychological adjustment.

Additional research with Mexican American adults who perceived high levels of PRD found that PRD was only associated with poorer physical health among those who reported lower levels of social support (Finch & Vega, 2003). Parallel findings by Oppedal, Roysamb, and Sam (2004) indicated the possibility that experiences of PRD are exacerbated when individuals have limited support networks. For example, in Oppedal and colleagues' (2004) study with Asian immigrant adolescents in Norway, strong negative effects on psychological distress and self-esteem were observed when discrimination co-occurred with decreased family and peer support. However, this pattern was not observed for Asian adolescents reporting higher family and peer support. Unsupportive social relationships have been shown to intensify the relationship between PRD and depressive symptoms in a diverse sample of university international students in the U.S. (Jung, Hecht, & Wadsworth, 2007). These findings offer the implication that reduced social support may explain the relationship between PRD and psychological adjustment.

A social support model specific to PRD was proposed by Dion (2001). According to Dion's stress model, perceived prejudice and perceived discrimination are stressors that will result in consequences known to follow stress, such as psychological symptoms. Dion further theorizes that outgroup threat leads to increased identification and greater cohesion with one's own heritage group, which is a type of support that results in stress reduction. Reductions in stress then occur as a result of support received from one's own heritage group. Laboratory studies conducted by Dion (2001) with various ethnic minority groups in Canada verify that PRD is a stressful event that leads to increased feelings of distress but increased identification with one's heritage

group and positive feelings towards one's heritage group as well. These laboratory studies do not appear to have tested the latter portion of Dion's model, in which he proposes that stress reduction will occur as a result of support received from one's heritage group. A limitation of Dion's model is found in cases where an individual does not have members of their heritage group within geographic proximity, which means social support networks are not readily available.

Dion's stress model of PRD seems to be similar to a general model of social support proposed by Barrera (1988) known as the social mobilization model. The social mobilization model predicts that social support will suppress the effect of stressors, thereby leading to decreased distress. The social mobilization model has received limited attention in the literature. However, one study conducted with African American college students did not confirm that social support suppressed the effect of PRD on depression and life satisfaction (Prelow et al., 2006)

The stress buffering model proposes that adequate social support may lessen the impact of stress by shaping stress appraisal, by reducing the stress reaction, and/or by facilitating adaptive coping responses (Cohen & Willis, 1985). Buffering effects of social support on PRD have been observed for physical outcomes in African American college women (Clark, 2006). Likewise, buffering effects of support networks from an immigrant's host country and support networks abroad were confirmed to be positive for mental well-being for immigrant populations in Finland (Jasinskaja-Lahti, Liebkind, & Jaakkola, 2006). Although these studies provide direct evidence for a buffering model, other research with African American college samples does not (Prelow, Mosher, & Bowman, 2006; Zimmerman, Ramirez-Valles, Zapert & Maton, 2000). Though several

theoretical models of social support exist, none have been empirically tested with an Asian American adult sample. Thus, the present study sought to apply the stress buffering model with an Asian American adult population since it has received the most attention in the literature and since it has been previously supported with an immigrant population (Cohen & Willis, 1985; Jasinskaja-Lahti, Liebkind, & Jaakkola, 2006).

Future Directions

Although the literature thus far examining PRD and mental health among Asian Americans yields useful findings, several gaps remain in the literature. First, researchers have primarily focused on the effects of PRD on general measures of well being and depressive symptoms. Racial discrimination has been identified by the Surgeon General of the United States as a key risk factor for mental disorders (U.S. Department of Health and Human Services, 2001). Thus, it is important to understand how PRD may relate to acute psychological outcomes such as diagnosis of a mental disorder and suicidality.

Recently, Gee, Spencer, Chen, Yip, and Takeuchi (2007) examined the association of PRD and mental disorders defined by the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* defined mental disorders using data from The National Latino and Asian American Study (NLAAS), which consisted of a nationally representative sample of Asian American immigrants. Gee et al. revealed PRD was associated with greater odds of having a *DSM-IV* depressive or anxiety disorder within the past 12 months, even after controlling for sociodemographic characteristics, physical health, social desirability, and social stressors. This study grouped all anxiety disorders (i.e., panic disorder, agoraphobia without panic, social phobia, generalized

anxiety disorder, post-traumatic stress disorder) and all depressive disorders (major depressive disorder and dysthymia) together rather than examining disorders individually.

Studies have linked PRD to depressive symptoms and depressive disorders among Asian Americans, yet there is scarce data to examine the relationship patterns between PRD and suicidality. This is critical since depression serves as an important precursor to suicidal ideation and behavior (Kovacs, Goldston, & Gatsonis, 1993) and since the association between PRD and suicidality has been established among ethnic minority groups, such as Native Americans (Freedenthal & Stiffman, 2004; Walls, Chapple, & Johnson, 2007; Yoder, Whitbeck, Hoyt, & LaFromboise, 2006). A recent study with a diverse group of Asian American college students revealed PRD was a significant predictor of clinical depression and suicidal ideation (Hwang & Goto, 2009). The research that has been conducted indicates PRD can have a strong impact on Asian Americans' psychological functioning; thus, it is important to understand what factors can alleviate and prevent the effects of PRD to provide clinical implications.

The literature has also shed light on the roles ethnic identity and coping styles play in moderating and mediating the relationship of PRD and mental health; however, only a few studies have examined the importance of social support and no published studies have considered the quality of social support. Aspects examining familial relationships have also been neglected in the research. In theory, Asian Americans may have large support networks and strong attachment within their families, given the collectivistic nature of Asian culture (Dana, 2001). However, traditional social and family systems may be disrupted due to acculturative processes and greater family

obligations, which could lead to familial conflict that may result in feelings of isolation and loneliness. Experiencing rejection from the family as well as society through discrimination could interact to worsen outcomes for psychological health. Family variables as a potential moderator between PRD and mental health should be further explored among Asian immigrant populations, given the importance of family in traditional Asian culture.

Suicidality

Rates of Suicidality

Data shows that suicide ranks as the eleventh leading cause of death in the United States for the overall population (Centers for Disease Control and Prevention, 2007). Among Asian Americans, suicide ranked as the eighth leading cause of death for all ages (Centers for Disease Control and Prevention). More specific numbers indicate suicide was the second leading cause of death for Asian Americans between the ages of 15-34 and continues to be a leading cause of death across the lifespan. Although suicide rates among Asian Americans (5.4 per 100,000) are lower compared to the overall U.S population (11 per 100,000), Asian American women over the age of 65 have the highest suicide rate of all women over the age of 65 in the United States (Centers for Disease Control and Prevention). Campus studies also show suicides account for larger proportions of death in Japanese and Chinese Americans than their European American counterparts (Leong, Leach, Yeh, & Chou, 2007).

Results from the National Comorbidity Survey revealed that 13.5% of participants ages 15-54 experienced thoughts of suicide, with 3.9% of individuals reporting they made a specific plan of suicide, and 4.6% reporting a history of suicide attempt

(Kessler, Borges, & Walters, 1999). Although this was a national, epidemiological survey the racial/ethnic composition of the sample was identified as “White, Black, Hispanic, and Other.” Therefore, detailed information regarding suicidal ideation among Asian Americans was not provided. Published research regarding suicidal ideation among a nationally representative sample of Asian Americans does not appear to exist currently.

General Risk Factors

Numerous demographic, psychosocial, and psychiatric risk factors for suicidality have been identified (Jacobs, Brewer, & Klein-Benheim, 1999). Identified risk factors for suicidal ideation are being female, divorced, widowed, below the age of 25, and having low education levels and a mental disorder (Kessler et al., 1999). These risk factors for suicidal ideation however were not strongly related to further progression towards a suicide plan or suicide attempt.

For adults in the United States, risk factors for completed suicide include being male, over the age of 60, unemployed, and being either single, divorced, or widowed. Historical factors such as previous suicide attempts and family history of suicide are also strong predictors of completed suicides. Jacobs et al. (1999) also notes that about 90% of all completed suicides are associated with a mental disorder diagnosis, with major depressive disorder (MDD) and substance abuse related disorders being the most common. In addition, completed suicide has been found to be more common among those who have chronic life stressors and lack social support (Jacobs et al.; 1999). Related to social support are family factors, which has received considerable attention as a risk factor for suicidality.

Familial Risk Factors

Substantial research has been conducted verifying that family dynamics play an important role in mental health and suicidality. Strong degrees of family cohesiveness have been shown to be predictive of lower levels of suicidal ideation in samples of adults in Norway and adolescents in Hong Kong (Chioqueta & Stiles, 2007; Lee, Wong, Chow, & McBride-Chang, 2006). A study with a sample of Turkish university students found that family cohesion emerged as a significant predictor of lower suicidality, even after controlling for demographic and mood related variables. Similar findings have been noted in studies in the United States. For instance, lower levels of family adaptability and family cohesion increased the likelihood of suicide attempts among African American adults (Compton, Thompson, & Kaslow, 2005). Additional evidence with a sample of European American adolescents indicates that youth who perceive their families as less supportive were more likely to be depressed than individuals who perceived high levels of family support (Cole & McPherson, 1993).

Along with family support and cohesion, familial conflict emerges as an important predictor of depression and suicide risk. For example, intrafamilial conflict has been associated with depression among European American children and adolescents (Dadds, Sanders, Morrison, & Rebgetz, 1992). Furthermore, self-reports of family conflict, family support satisfaction, and available family support were among the strongest predictors of suicide behaviors in Randell, Wang, Hertin, & Eggert's (2006) study with adolescents in the United States.

Cross Cultural Suicide Risk Factors

Despite the available knowledge concerning suicide risk, evidence shows that suicide assessment often results in overidentification of cases, and more importantly—a high number of false negatives or undetected cases (Jacobs et al. 1999). Complete accuracy in prediction of suicide is impossible. Current research points out that suicide does not appear to occur as a result of single, isolated causes but rather a combination of known biological, sociocultural, psychological, and cognitive factors. Where understanding seems to be lacking is what specific features of a culture might influence suicidality. Cross cultural studies have found universal suicide risk factors such as youth or old age, low socioeconomic status, substance abuse, previous suicide attempts, and lack of social support (Domino, Su, & Lee, 2002; Vijayakumar, John, Pirkis, & Harvey, 2005).

At the same time, support for cross-cultural differences also appears to exist (Lester, 1997; Vijayakumar et al., 2005). For instance, in developing countries, being female, living in a rural area, and holding religious beliefs that permit suicide appear to play a stronger role in predicting suicide than factors like being single and having a history of mental illness (Vijayakumar et al.). Furthermore, although significant gender differences in completed suicides exist for a number of countries, these gender differences are narrower among Asian countries (Maris, Berman, & Silverman, 2000). Gender suicide rates among Asian Americans indicate that the male-female ratio of suicide is narrower than for their European American counterparts and more similar to patterns of Asian countries (Shiang, Blinn, & Bongar, 1997). Additionally, acute life stressors, rather than mental illness, appear to be more strongly related to suicidality

among Asian groups (Beautrais, 2006). Although negative life stressors are typically considered as universal precipitators of suicidal behavior, cultural factors such as pressure to succeed, strict adherence to traditional gender roles, and loss of face may be explain how life stressors can lead to suicidal behavior more often for Asian groups (Leong et al., 2007).

Suicide Risk among Asians

Much of what is known about suicide in the United States is based on the dominant group (European Americans). A majority of the research on suicide risk appears to have excluded the Asian American population (Leong et al., 2007). Aspects specific to Asian American culture and immigration related issues are likely to be associated with risk factors for suicide among Asian Americans. Religious and philosophical views, ethnicity, gender, age, acculturation, and family variables all interact with one another to provide important culture-specific information regarding Asian Americans and suicide. The traditional philosophy of Asian cultures stems from multiple influences including Buddhism, Taoism, Confucianism, Hinduism, and Catholicism (Leach, 2006; Leong et al., 2007). In general, suicide is discouraged across these philosophies and religions since it is seen as either disrupting a natural part of the larger cycle, offending one's ancestors, hurting others (including oneself), circumventing one's karma, or violating the sixth commandment in the Bible. Although suicide is commonly not accepted across Asian ethnic groups, Japanese views on suicide appear to be more flexible and nonjudgmental compared to other ethnic groups due to Buddhist influences (Braun & Nichols, 1997; Leong et al., 2007).

Cultural beliefs about the afterlife also appear to affect methods of suicide. In certain Asian cultures, there is a belief that after an individual completes suicide by means of hanging themselves, their spirit can return to trouble the living (Leach, 2006). In traditional Asian culture, hanging oneself implied anger and was viewed as an act of revenge. This tradition may continue to influence methods of suicide as cross cultural studies indicate Asians and Asian Americans, particularly those of Chinese descent, are much more likely to hang themselves than to use other suicidal methods (Lester, 1997; Shiang et al., 1997). In addition, in some instances, suicide is seen as appropriate and honorable among the Chinese; specifically, when it is perceived as a means to save the family and community from further shame (Leach, 2006).

Little attention has been placed on examining generational differences in suicidality among Asian immigrants in the United States. Immigrant studies in the United States show first generation immigrants evidence better mental health than subsequent immigrant generations and are theorized to be more resilient than their counterparts (Hernandez & Charney, 1998; Takeuchi, Zane, Hong, Chae, Gong, & Gee, 2007). However, Kushner (1991) points out since immigration is a strategy of risk taking, this could increase the likelihood of first generation immigrants completing suicides, since they are more likely to take risks compared to others in the population. A study with Asian Canadian immigrants did not find generational differences for suicidal ideation (Kennedy, Parhar, & Samra, 2005). Studies examining completed suicides point out that suicide risk is higher for recent first generation immigrants in the United Kingdom than their native-born, White counterparts (Bhugra, Baldwin, Desai, and Jacob, 1999; Neeleman, Mak, & Wessely, 1997). Analyses of generational differences were not

conducted in these samples. More studies need to be conducted in the United States to shed light on generational and acculturation patterns and vulnerability to suicidality.

Asian cultures are typically considered to be collectivistic, meaning they emphasize a stronger attachment to the family and community rather than the individual (Triandis, 1995). This emphasis on interconnectedness may theoretically provide Asian Americans with extensive social networks and support. Social support can serve as a barrier to suicidality since it can provide one with meaning and a sense of feeling needed by others (Heikkinen, Aro, & Lonqvist, 1993). Although lack of social support does not seem to predict suicidal behavior directly, it has been found to interact with negative life stressors when predicting suicidal ideation and behavior in samples of college students, including international Asian American students (Rudd, 1990; Yang & Clum, 1994). Additional evidence with a diverse college sample demonstrated that individuals from intact families were less likely to have suicidal ideations (Rudd, 1989). This provides an important consideration for the issue of Asian American suicide since divorce and separation are highly stigmatized in Asian culture.

A more pertinent concern is how acculturation processes influence family structures among Asian immigrant families. The contrasting value systems of Western culture, which is conceptualized as more individualistic, and Eastern culture, which is seen as more collectivistic in nature, can lead to acculturation gaps between foreign born parents and their children who have been primarily socialized in both Western and Eastern culture (Saran & Eames, 1980; Triandis, 1995). Family conflict centering on cultural differences has been shown to be prevalent among Asian immigrant families (Lee, Choe, & Kim, 2000), particularly when there are acculturative gaps between

children and their parents (Farver, Barang, & Bhadha, 2002; Maris, Berman, & Silverman, 2000). As children become more acculturated, they may disregard traditional values of filial piety. The resulting change in family systems can lead to poor adjustment and social isolation. High degrees of familial conflict are associated with poorer psychological adjustment among Asian Americans (Lee & Liu, 2001; Lee, Su, & Yoshida, 2005). Additionally, intergenerational conflict has been associated with suicidal attempts by Asian American adolescents (Lau, Jernewall, & Myers, 2002), but research examining this relationship in adults has yet to be studied.

PRD and Suicidality

For Asian Americans who value a collectivistic orientation, social acceptance and social harmony is important. Experiences of discrimination and rejection from the dominant group may bring disruption to these collectivistic values, which may be distressing for Asian Americans. Furthermore, theories on ethnic minority identity development point out that ethnic minorities may internalize experiences of racism and discrimination experienced from the dominant culture (Atkinson, Morton, & Sue, 1993; Helms, 1995), which could result in low self-esteem and feelings of sadness and isolation. As mentioned previously, experiences of PRD are connected with depression and place an individual at risk for feeling rejected and isolated (Livengood & Stodolska, 2004; Ying, 1996). Both depression and social isolation are connected with risk factors for suicidality.

The role of PRD in suicidality has yet to be studied with Asian Americans. PRD has been shown to relate to suicidal ideation and attempts among Native American youth on a bivariate and multivariate level (Freedenthal & Stiffman, 2004; Walls,

Chapple, & Johnson, 2007; Yoder, Whitbeck, & Hoyt, 2006). A preliminary finding among Asian American college students indicated PRD to be a significant predictor of both depression and suicidal ideation (Hwang & Goto, 2009). These findings indicate the detrimental role PRD that can play in mental health, highlighting the necessity of looking at this relationship among the Asian American population. The interaction of factors such as PRD, social support, depression, and suicidality warrant further investigation, particularly within an Asian American cultural context.

The Present Study

The primary objective of this study is to provide a clearer understanding of the role of PRD among Asian American immigrants using a large, nationally representative sample. The National Latino and Asian American Study (NLAAS) is a comprehensive, epidemiological study with a diverse ethnic sample of Asian American immigrant adults, which provides data regarding prevalence of *DSM-IV* disorders and additional factors associated with mental health and help-seeking (Alegria et al., 2004). Using the NLAAS data-set, the present study examined immigrant generational differences and patterns of family dynamics associated with PRD and psychiatric outcomes that have previously been understudied with this population.

There appear to be gaps and contradictions in the literature concerning generational differences in reports of PRD, as well as gaps in data regarding acute mental health outcomes. Generational status could possibly serve as a moderating variable for discrimination and mental health. According to Ying et al. (2000), discrimination may have a lower cost to first-generation immigrants. First-generation immigrants may have lower attachment to U.S. society than their children and

grandchildren. If first-generation immigrants' sense of belongingness is tied to their home country, they may have less at stake than U.S. born Asians, who may value acceptance and membership in U.S. society in order to shape their cultural identities and self-esteem.

Along with highlighting generational differences, the present study aims to examine the relationship of PRD to acute psychiatric outcomes, such as clinical depression and suicidality. PRD is associated with social isolation and depressive symptoms and is shown to be a risk factor for suicidal ideation among Asian American college students (Hwang & Goto, 2009). Empirical research examining suicide risk factors among Asian Americans is generally lacking (Leong et al., 2007), thus, the current study will examine PRD as a potential risk factor for clinical depression and suicide in a national sample of Asian American adults.

The focus of this study is to identify possible buffering and exacerbating factors to the PRD and mental health link. Though social relationships have been studied as possible mediators and moderators of PRD and mental health, findings remain unclear regarding the role of social support in Asian Americans' mental health. Furthermore, most of the previously mentioned studies have looked at perceptions of the availability of social support, rather than quality of social support networks, which is important to distinguish (Komproe, Rijken, Ros, Winnubst, & Hart, 1997). In addition, family variables, such as family cohesion and family conflict, were not previously examined as moderators between PRD and mental health.

Based on the stress buffering model (Cohen & Willis, 1985) and empirical studies, high levels of family cohesion are beneficial for mental well-being and can

serve as a protective factor from the negative impact of PRD. On the other hand, family conflict may exacerbate the negative experiences of PRD. Although Asian cultures emphasize strong attachment to one's family, intergenerational conflicts between immigrant parents and their children can lead to increased levels of family conflict and disrupt traditional beliefs related to family harmony and piety. The present study will measure aspects of family dynamics among Asian Americans and identify how family variables could serve as moderators of the associations between PRD and mental health outcomes.

Research Questions and Hypotheses

The present study tests the following propositions:

1. Are generational differences present on reports of family functioning among Asian Americans?

It is hypothesized that later generations will report lower levels of family cohesion and higher levels of family conflict than first generation immigrants.

2. Do generational differences exist between first generation immigrants and their successors regarding perceptions of racial discrimination?

It is hypothesized that second and third generation immigrants will report higher levels of PRD than first generation immigrants.

3. Are there generational differences among Asian Americans on self-reports of psychiatric outcomes?

Compared to first generation immigrants, later generations are predicted to be more likely to meet criteria for a diagnosis of major depressive disorder (MDD) as well as endorse greater reports of suicidality.

4a- 4b. Do reports of family functioning (i.e., family cohesion and family conflict) relate to mental health outcomes, as measured by a *DSM-IV* diagnosis of MDD and self-reports of suicidality among Asian Americans?

4a. Individuals with low self-reports of family cohesion are expected to be more likely to meet *DSM-IV* criteria for MDD and report greater suicidal behaviors in comparison to those who report high family cohesion.

4b. Participants who indicate experiences of high family conflict are predicted to be more likely to meet *DSM-IV* criteria for MDD and report greater suicidality than those who report lower experiences of family conflict.

5. Is there a significant, positive relationship between PRD and acute psychiatric outcomes such as *DSM-IV* diagnosis of major depressive disorder (MDD) and self-reports of suicidality?

It is hypothesized that individuals who report greater levels of PRD will be more likely to have a diagnosis of major depressive disorder (MDD) and endorse more experiences of suicidality compared to those who report lower levels of PRD. The current study differs from Gee et al.'s (2007) study in that it used past year diagnosis of MDD diagnosis specifically, rather than combining past year *DSM-IV* depressive disorders together.

6. Does generational status interact with the relationships between PRD and a MDD diagnosis and PRD and suicidality?

Generational status is predicted to influence the relationships between PRD and psychiatric outcomes. Second and third generation immigrants will show stronger

relationships between PRD and psychiatric outcomes than will first generation immigrants.

7. Do reports of family cohesion play a buffering role in the association of PRD with measures of depression and suicidality?

Family cohesion is hypothesized to moderate the relationship of PRD and depression, as well as PRD and suicidality. Specifically, individuals with high levels of family cohesion will show weaker relations of PRD with depression and PRD with suicidality; individuals reporting low levels of family cohesion are predicted to show stronger associations.

8. Do reports of family conflict exacerbate the relationship of PRD and measures of depression and suicidality?

Individuals reporting high levels of family conflict will show stronger relationships for PRD with depression and PRD with suicidality. Relations of PRD with depression and suicidality are not expected to be strong among individuals reporting low levels of family conflict.

CHAPTER 2

METHOD

Participants

Data for this study came from the National Latino and Asian American Study (NLAAS), which is one of the three national surveys that comprise the Collaborative Psychiatric Epidemiological Surveys (Heeringa, Wagner, Torres, Duan, Adams, & Berglund, 2004). The NLAAS is a nationally representative, community based household survey with adult 4,864 individuals of Latino and Asian ancestry and/or national origin (Algeria et al., 2004). The current study only analyzed information from the 2,095 Asian American respondents.

Table 1 represents demographic characteristics of participants used in this study. The sample consisted of 1,097 women (52.4%) and 998 men (47.6%), with respondents' average age being 41 ($SD = 14.77$, range 18-95). A majority of the participants reported being married (70.2%), while 21.1% were never married and 8.7% reported being either divorced, separated, or widowed. Geographically, 81.5% of the sample was from the Western portion of the United States, with 7.3% from the Northeast, 6.9% from the South, and 4.3% from the Midwest.

In terms of education, participants' years of education were classified into four categories: 0-11 years (15.1%), 12 years (17.8%), 13-15 years (25.3%), and greater than or equal to 16 years (41.9%). About 66% of the sample reported being employed, while a third of the sample was unemployed. The survey design allowed for individuals with limited English fluency to be included in the sample (Algeria et al., 2004) A majority of the participants preferred and were interviewed in English (64.2 %), while the

remainder of the sample was interviewed in either Mandarin, Cantonese, Tagalog, and Vietnamese.

Participants were of Asian descent and of varying subethnicities including Chinese (28.6 percent), Vietnamese (24.8%), Filipino (24.2%), and “Other Asians” (22.3%). Participants in the “Other Asian” category included those of Japanese, Asian Indian, Korean, and Pacific Islander backgrounds (Algeria et al., 2004); however, due to limitations in coding, it was not possible to obtain a breakdown of subethnicities within the “Other Asians” category.

About 78% of the sample consisted of first-generation immigrants (i.e., individuals born outside of the U.S), 13% of participants were second-generation immigrants (i.e., individuals born in the U.S. with at least one parent who immigrated), and a small percentage (9.2%) of the sample were categorized to be at least third generation immigrants (i.e., individuals who were born in the U.S. and whose parents were both born in the U.S.). There was not sufficient data (i.e., birthplace of great-grandparents) present to determine additional generational statuses of participants.

Of the first-generation immigrants, 18.4% reported being in the United States for less than five years, 18.3% have resided in the U.S between 5-10 years, 32.5% reported being in the United States for 11-20 years, and 30.8% for more than twenty years. Age of immigration varied for participants: 14.5% of first-generation immigrants in the sample came to the U.S before age 12, 7.9% between the ages of 13-17, a large percentage came as adults between the ages of 18-34 (54.1%), and 23.5% of the sample immigrated after age 35.

Measures

The NLAAS utilized a variety of measures to obtain information regarding prevalence of psychiatric disorders and use of mental health service among participants (Alegria et al., 2004). The current study used data from the following domains:

Sociodemographics

Demographic information obtained from respondents regarding their age, gender, ethnicity, marital status, geographic location, educational level, and employment and occupational statuses were used in this study. Although participants were not directly asked about their generational status, information regarding birth country and number of U.S. born parents, arrival age to the U.S., and number of years residing in the U.S. were collected and used for the present study.

Perceived Discrimination

The 9-item scale measuring perceptions of discrimination was derived from the Detroit Area Study (Williams, Yu, Jackson, & Anderson, 1997). Sample items include “You are treated with less courtesy than other people,” “You receive poorer service than other people at restaurants or stores,” “People act as if they are afraid of you,” and “You are called names or insulted.” Questions measured frequency (almost every day; at least once a week; few times a month; a few times a year; less than once a year; never) of perceived experiences of unfair treatment. Response values range from 1 (never) to 6 (everyday experiences), with items being summed then averaged. Higher scores indicate greater perceptions of discrimination. A Cronbach’s α of .91 was obtained for this measure among NLAAS Asian American respondents.

Family Cohesion

The Circumplex Model of Marital and Family Systems was used to derive items for the family cohesion scale (Olson, 1986). Examples of items include “Family members respect one another,” “We are proud of our family,” and “We can express our feelings with our family.” Participants responded to items using a Likert-type scale (1 = *strongly disagree* to 4 = *strongly agree*). Items were then summed to compute a total score with higher scores indicative of greater levels of family cohesion. Instructions were not provided to participants to base their ratings to questions on current or retrospective experiences with family or if ratings should be based on their current family unit or family of origin. A Cronbach’s α of .92 was obtained for the Asian sample of the NLAAS.

Family conflict

A 5-item scale drawn from the Family Cultural Stress subscale of the Hispanic Stress Inventory (Cervantes, Padilla, & Salgado de Snyder, 1991) provided a measure of family conflict. Items include family’s interference with participant’s goals, isolation due to lack of family unity, and frequency of cultural conflicts. Responses were based on a Likert-type scale, with 1 being *never* to 3 being *often*. Items were summed with higher scores indicating higher degrees of family conflict. Participants were not given specific instructions regarding if ratings should be based on their current family household or family of origin. A Cronbach’s α of .74 was observed for the participants used in this study.

Psychiatric Outcomes

The psychiatric diagnostic instrument utilized for the NLAAS is largely based on the World Health Organization Composite International Diagnostic Interview (CIDI), which was developed for the World Mental Health (WHM) Survey Initiative (Kessler & Ustun, 2004). The WHM-CIDI is a cross-cultural epidemiological structured interview designed to be administered by trained lay interviewers, in order to assess both lifetime prevalence and 12-month occurrence of psychiatric disorders based on the criteria from the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*. Participants' responses to the questionnaire were used to determine if they met criteria for a mental disorder or not. For the purposes of this study, questions pertaining to suicidality and endorsement of major depressive disorder (MDD) diagnoses were used.

With respect to suicidality questions, participants were asked about lifetime and past year occurrence of suicidal ideation, plans for committing suicide, suicide attempts, methods of suicide attempts, intention of suicide attempt, and ages at the time of these experiences. Questions regarding lifetime, past year, and past month occurrence of major depressive disorder were modeled after *DSM-IV* criteria. In general, the survey was designed to obtain binary "yes-no" responses pertaining to suicidality and depressive symptoms, with some questions addressed severity of symptoms.

Reliability studies indicate the WHM-CIDI demonstrates good to excellent test-retest reliability (Andrews & Peters, 1998; Kurdyak & Gnam, 2005); however, validity studies among community samples for the WHM-CIDI have yet to be published. Validity studies for the CIDI have been difficult to perform due to lack of a gold standard

(Kurdyak & Gnam, 2005). Clinical reappraisal studies using the CIDI and the Structured Clinical Interview for DSM-IV (SCID) indicate moderate to good CIDI-SCID agreement for most *DSM-IV* diagnoses (Haro et al., 2006). The CIDI lifetime prevalence rates were shown to be conservative compared to estimates from the SCID in this study.

Procedure

The principal investigators of the NLAAS are Margarita Alergria, Ph.D. and David Takeuchi, Ph.D. Funding for the NLAAS was provided by grants from the National Institute of Mental Health, Substance Abuse and Mental Health Services Administration for Mental Health Services (SAMHSA/CMHS) and the Office of Behavioral and Social Sciences Research (OBSSR). The NLAAS dataset is available for public use via the Interuniversity Consortium for Political and Social Research (ICPSR).

The study's primary objective was to describe prevalence rates of psychiatric disorders and mental health service use among Latino and Asian Americans. The NLAAS is based on a multiframe stratified probability sampling design. The selection of the probability sample required a four-step sampling process—a primary stage sampling of U.S. metropolitan statistical areas (MSA's) and counties, a second stage sampling of area segments, a third stage sampling of housing units that were within the selected area segments, and finally a random selection of eligible respondents from the sample housing units (Heeringa et al., 2004).

The Asian American survey population was divided by four strata of interest: Chinese, Filipino, Vietnamese, and all other Asians. This stratification relied on self-reports made by adult household members at the time of household screening. Overall, the Asian sample showed a weighted response rate of 66% (Heeringa et al.).

Data collection for the NLAAS was conducted between May 2002 and December 2003. The mode of data collection was via computer assisted personal interviewing. Respondents were interviewed face-to-face in their homes, but could request a telephone interview. Trained interviewers with similar cultural and linguistic backgrounds administered the survey in the participant's preferred language. Translation and back-translation techniques were used to translate the survey from English into other Asian languages, including Cantonese, Mandarin, Tagalog, and Vietnamese. Algeria et al. (2004) provides further detail regarding the extensive translation procedures. The average length of interviews was approximately 161 minutes.

For the current study, analysis was conducted on participants of Asian origin. Participants with Latino ancestry were excluded. Portions of the questionnaire that measured sociodemographic variables, depression, suicidality, family cohesion, family conflict, and perceived discrimination were analyzed.

Data Analysis Plan

Descriptive analyses were conducted to check for normality and to find the means and standard deviations of scalar sociodemographic variables. Frequencies were computed for categorical sociodemographic and dependent variables. One-way ANOVAs were conducted to examine differences among sociodemographic, independent, and dependent variables based on marital status and ethnicity. Bivariate correlations were used to examine the relationships between scalar sociodemographic, independent, and dependent variables. Results from these analyses determined appropriate controls needed for moderator models in hypotheses testing.

Due to the large sample size, effect sizes were taken into consideration to determine the practical significance of findings identified to be statistically significant. The following guidelines were applied to measures of association, including Pearson's r for bivariate and point-biserial correlations, phi for chi-square statistics (Φ), and eta squared (η^2) for ANOVA statistics: coefficients of .05, .10, .30, and .50, irrespective of sign, were interpreted as having very small, small, medium, and large coefficients, respectively (Cohen, 1992).

Low frequencies were observed for number of participants meeting criteria for a diagnosis of major depressive disorder (MDD) within the past year and participants endorsing past year suicidality. Since the dependent variables were highly skewed, a randomly selected sample matched for age (3:1 ratio) was selected and combined with those who met criteria for the dependent variables. This sample was used in the hypotheses testing measuring depression and suicide to correct for errors in variance.

Hypotheses 1, 2, and 3 were tested by computing one-way ANCOVAs using age, educational level, and gender as covariates and generational status as the independent variable. For Hypothesis 1, two separate ANCOVAs were conducted with the total scores from the family cohesion and family conflict scales as the dependent variables, respectively. The total score from the Detroit Area Study scale measuring PRD was the dependent variable for Hypothesis 2. For Hypothesis 3, two separate ANCOVAs were also computed: an MDD diagnosis during the past year served as the dependent variable in the first analysis and past year suicidality was used as the dependent variable for the second analysis. Past year measures of depression and suicidality were used rather than lifetime and 30-day measures of these outcomes to reduce error

variance. Eta squared was examined to determine effect sizes for Hypothesis 1-3 using the guidelines mentioned above.

Hypothesis 4a, 4b, and 5 were tested using point-biserial correlations when past year major depressive disorder (MDD) diagnosis was the dependent variable and bivariate correlations when past year suicidality was the dependent variable. The total scores from the Family Cohesion scale, Family Conflict scale, and the Detroit Area Study scale measuring perceived racial discrimination (PRD) were used as independent variables for Hypothesis 4a, 4b, and 5, respectively. Effect sizes were determined by examining the bivariate correlation and point-biserial correlation (which is interpretable in the same metric as Pearson correlation) coefficients. Hypothesis 6 was tested using techniques suggested by Baron and Kenny (1986) for categorical moderating variables (i.e., generational status). Moderator models predicting suicidality in Hypothesis 7 and 8 were analyzed using Baron and Kenny's (1986) product variable approach for continuous moderating variables, while models predicting a diagnosis of MDD were tested via binary, sequential logistic regressions.

CHAPTER 3

RESULTS

Descriptive Analyses

The dataset was checked for missing data with respect to the main study variables. No cases were noted to have more than 20% of data missing, thus eliminating need for cases to be deleted. Histograms and tests of normality revealed normal distributions for all relevant demographic and independent variables included in statistical analyses, with the exception of the family cohesion variable. A strong ceiling effect was observed for this variable, indicating participants endorsed high levels of family cohesion. Low frequencies were observed for dependent variables, but this was expected given the prevalence rates of mental disorders and suicidality in the general population. Table 2 presents means and standard deviations of continuous independent and dependent variables and Table 5 presents frequencies for the past year occurrence of dependent variables.

Regarding dependent variables, 97 participants (4.6%) of participants met criteria for Diagnostic and Statistical Manual of Mental Disorders (*DSM-IV*) diagnosis of major depressive episode in the last twelve months, 23 (1.1%) of participants within the last thirty days, and 189 (9%) within the their lifetime.

Frequencies computing year-long suicidality revealed 33 (1.6%) of the participants reported experiencing suicidal ideation, 11 (0.5%) endorsed having a suicidal plan, and 7 (0.3%) participants made a suicide attempt within the last year. A continuous variable to provide a succinct measure of year-long suicidality was computed by summing these variables, which were coded 0 = absent and 1 = present.

Data concerning lifetime suicidality indicated that 191 (9.1%) participants reported lifetime suicidal ideation, 62 (3%) made a plan for suicide, and 56 (2.7%) attempted suicide within their lifetime. A lifetime suicidality variable was created by summing these three variables, which were coded 0 = absent, 1 = present. Table 2 presents the means and standard deviations for the year-long and lifetime suicidality variables.

Cross tabulations were conducted between nominal demographic variables. A significant relationship was noted between gender and marital status (never married, married, and divorced/separated/widowed), with more women than men in the sample being either divorced, separated, or widowed, $\chi^2 (2, N = 2095) = 3.58, p < .000$.

Cross tabulations also indicate a large proportion of Vietnamese participants were first-generation immigrants (97%), while the percentage of first-generation immigrants ranged between 69-79% for Filipino, Chinese, and Other Asian participants, $\chi^2 (3, N = 2093) = 1.62, p < .000$.

Preliminary Analyses

Associations among Demographic Groups

A series of bivariate correlations and one-way ANOVAs were conducted to examine associations among demographic groups, with consideration given to the effect size guidelines mentioned previously in the data analysis plan. Effect sizes ranged from .05 (interpreted as a very small effect) to .60 (interpreted as a very large effect). Most demographic variables were noted to be associated with age, educational level, and generational status. Table 6 represents intercorrelations among demographic variables.

Generational status was negatively correlated with age ($r = -.12, p < .000$), indicating older participants were more likely to be first generation immigrants. Age was further associated with marital status $F(2, 2092) = 368, p < .000, \eta^2 = .26$, education ($r = -.21, p < .000$), employment status ($r = -.15, p < .000$), and occupational status ($r = .06, p < .01$). These findings indicate younger participants were more likely to have never been married, hold higher educational levels, be employed, and have higher occupational statuses than older participants in the sample.

Ethnic differences were also noted for educational level $F(3, 2091) = 64.22, p < .000, \eta^2 = .08$ and occupational status $F(3, 1996) = 39.33, p < .000, \eta^2 = .06$.

Participants who were in the “Other” Asian category were more educated compared to the Filipino, Chinese, and Vietnamese participants. Vietnamese participants had the lowest levels of education and occupational status compared to other ethnic groups.

Other associations based on gender revealed men in the sample were more educated ($r_{pb} = .08, p < .000$) and more likely to be employed ($r_{pb} = .16, p < .000$) than women.

Associations among predictors and outcome variables based on demographics

A series of bivariate correlations and one-way ANOVAs were conducted to examine associations with independent and dependent variables that indicate spurious or confounded associations of demographic variables so controls could be identified for hypotheses testing. Effect sizes ranged from .05 (very small) to .23 (small). Age, education level, generational status, and gender were related to a number of the predictor and outcome variables. Table 7 and Table 8 depict the associations of continuous demographic variables with independent and dependent variables,

respectively. Table 9 represents correlations among independent and dependent variables for the entire sample.

Concerning predictor variables, older, less educated participants were noted to report higher levels of family cohesion and lower levels of family conflict and perceived racial discrimination compared to their counterparts (See Table 7). Additionally, first generation immigrants reported higher levels of family cohesion ($r = -.15, p < .000$) than later generations. In comparison to women, men indicated lower reports of family conflict ($r_{pb} = -.05, p < .05$) and higher degrees of perceived racial discrimination ($r_{pb} = .12, p < .000$).

Ethnic differences were found for reports of perceived racial discrimination, $F(3, 2085) = 58.81, p < .000, \eta^2 = .08$. Specifically, Vietnamese participants reported the lowest levels of perceived racial discrimination compared to the other three ethnic groups. Filipino participants reported higher levels of discrimination than Vietnamese and Chinese participants. Differences based on marital status were noted for family cohesion $F(2, 2073) = 66.59, p < .000, \eta^2 = .06$, with married participants reporting higher levels of family cohesion compared to participants who were either never or currently married.

Several demographic variables were related to outcome variables measuring depression. Compared to their counterparts, a lifetime *DSM-IV* diagnosis of Major Depressive Disorder was more likely to be endorsed among participants who were women, younger, educated, and either second or at least third generation immigrants (See Table 8). Furthermore, a *DSM-IV* diagnosis of Major Depressive Disorder within

the past year was more likely to occur among participants who were younger and who were descendants of U.S. immigrants.

Age and gender emerged as having the most relationships with measures of lifetime suicidality; younger participants and women were more likely to report a lifetime occurrence of suicidal ideation, suicidal plan, and suicide attempt than their older and male counterparts (See Table 8). Age was further related to measures of suicidal ideation ($r_{pb} = -.09, p < .000$) and overall suicidality ($r = -.07, p < .01$) within the last year, with younger participants reported greater degrees of suicidal behavior than older participants.

Among first generation participants, the demographic variables measuring number of years residing in the United States and arrival age to the United States were found to be correlated with several of the independent and dependent variables (See Table 7 and Table 8). Since age was found to have a relatively strong correlation with number of years in the United States and arrival age to the United States ($r = .34$ and $r = .60$, respectively), partial correlations using age as a control variable were computed to measure the association of these variables with the predictor and outcome variables. Both variables lost significant associations with outcome variables measuring depression and suicide when controlling for age. Partial correlations for number of years in the U.S. and predictor variables became stronger when controlling for age: family cohesion, ($r = -.15, p < .000$), family conflict, ($r = .12, p < .000$), and perceived racial discrimination ($r = .18, p < .000$). Relationships between arrival age and predictors decreased slightly, with small effect sizes ranging from .12 to .19. These variables will

not be used as controls in hypothesis testing since they only include first generation immigrants.

Datasets for Hypotheses Testing

As Table 5 notes, only a small percentage of the sample endorsed a past year MDD diagnosis and past year suicidality. The skewed dependent variables suggested a need to create a matched sample in order to correct for disproportionate cell frequencies in hypotheses testing. Preliminary analyses indicate differences in age between individuals who endorsed depression and suicidality and those who did not (Table 8). Thus, the samples created were matched for age.

For the depression dataset, all 97 participants who met criteria for MDD were included in the sample. Descriptive analyses indicated the mean age of participants with a MDD diagnosis was 35.02 ($SD = 13.59$, range 21 to 49 years old). Of the 1,998 participants who were not diagnosed with clinical depression, participants over age 50 and under 21 were removed from the sample, in order to match for age to the MDD sample. Of the 1,298 participants who remained, 22% were randomly selected to create a 3:1 ratio of those without and with an MDD diagnosis. The final dataset consisted of 392 individuals and was used in hypotheses testing with MDD diagnosis as the dependent variable. Descriptive analyses are depicted in Table 3 for this dataset.

For the suicidality dataset, all participants who had values between 1-3 for past year suicidality were included in the sample ($n = 33$). Descriptive analyses for age revealed participants endorsing suicidality had a mean age of 31.18 ($SD = 7.40$, range 23 to 40 years old). Participants below age 23 and above 40 were deleted from the 2,060 participants who did not endorse suicidality. Thirteen percent of the 790

participants who remained were randomly selected in order to create a 3:1 ratio of those who did not endorse suicidality and those that did. The final dataset consisting of 138 individuals was used in hypotheses testing examining suicidality. Table 4 provides descriptive analyses for this dataset.

Hypotheses Testing

Hypothesis 1

It is hypothesized that later generations will report lower levels of family cohesion and higher levels of family conflict than first generation immigrants. Two separate one-way ANCOVAs controlling for age, educational level, and gender provided partial support for this hypothesis. The ANCOVA measuring generational differences on reports of family cohesion provided support for the hypothesis that second generation ($M = 35.11$, $SD = 5.48$, $n = 271$) and third or higher generations ($M = 35.77$, $SD = 5.46$, $n = 192$) would report lower levels of family cohesion than first generation immigrants ($M = 37.28$, $SD = 4.25$, $n = 1611$), $F(2, 2071) = 24.90$, $p < .000$. The strength of this finding, as assessed by η^2 , was not meaningful, with generational status accounting for 2% of the variance on reports of family cohesion. Predictions for generational differences on reports of family conflict were not supported, $F(2, 2063) = .55$, $p = ns$.

Hypothesis 2

It is hypothesized that later generation immigrants will report higher levels of PRD than first generation immigrants. A one-way ANCOVA controlling for age, educational level, and gender provided support for this hypothesis, indicating first generation immigrants ($M = 1.68$, $SD = .69$, $n = 1624$) reported the lowest levels of PRD in comparison to their counterparts (second generation: $M = 2.08$, $SD = .77$, $n = 271$;

third generation: $M = 2.06$, $SD = .76$, $n = 192$), $F(2, 2084) = 38$, $p < .000$. Generational status accounted for a very small portion of the variance (4%), as measured by η^2 .

Hypothesis 3

Compared to first generation immigrants, latter generations are predicted to be more likely to meet criteria for a diagnosis of MDD as well as endorse greater reports of suicidality. Two separate one-way ANCOVAs were conducted using the selected subsamples for MDD and suicidality to examine generational differences for depression and suicidality, with generational status as the independent variable and age, educational level, and gender as covariates. The ANCOVAs yielded statistically significant findings for past year MDD diagnosis, $F(2, 389) = 8.90$, $p < .000$, $\eta^2 = .04$ but not for past year suicidality, $F(2, 135) = 1.18$, $p = ns$. None of the covariates accounted for significant portions of the variance on reports of suicidality.

Generational status accounted for 4% of the variance for an MDD diagnosis, which is a very small effect. Third-generation immigrants ($M = .42$, $SD = .50$, $n = 38$) were most likely to endorse a past year MDD diagnosis, followed by second-generation immigrants ($M = .40$, $SD = .49$, $n = 53$), and fewer first-generation immigrants ($M = .20$, $SD = .40$, $n = 301$) endorsing past year clinical depression. Hypothesis 3 was partially supported.

Hypothesis 4a

Individuals with low self-reports of family cohesion are expected to be more likely to meet DSM-IV criteria for MDD and report greater suicidal behaviors in comparison to those who report high family cohesion. Using the selected subsamples, a point-biserial correlation provided support for the hypothesis that participants who report lower levels

of family cohesion would be more likely to meet criteria for a MDD diagnosis within the past year, $r_{pb} = -.33, p < .000, n = 386$. A Pearson bivariate correlation also provided support for the hypothesis that participants' reports of lower levels of family cohesion would be negatively related to past-year suicidality, $r = -.32, p < .000, n = 138$. Effect sizes for both of these findings were medium.

Hypothesis 4b

Participants who indicate experiences of high family conflict are predicted to be more likely to meet DSM-IV criteria for MDD and report greater suicidality than those who report lower experiences of family conflict. Support was provided for this prediction based on a point-biserial correlation indicating reports of family conflict were related to a past year MDD diagnosis among participants, $r_{pb} = .36, p < .001, n = 385$ and a Pearson bivariate correlation evidencing a positive relationship between family conflict and past year suicidality, $r = .27, p < .01, n = 137$. Both findings yielded medium effect sizes.

Hypothesis 5

It is hypothesized that individuals who report greater levels of PRD will be more likely to have a diagnosis of Major Depressive Disorder and endorse more experiences of suicidality compared to those who report lower levels of PRD. A point-biserial correlation provided support for the hypothesis that individuals' reports of PRD would be related to past year MDD diagnosis, $r_{pb} = .27, p < .000, N = 389$. Support was also provided for the prediction that PRD would be positively related to past year suicidality, $r = .31, p < .000, N = 138$. Effect sizes for both of these analyses proved to be medium.

Hypothesis 6

Generational status is predicted to influence the relationships between PRD and psychiatric outcomes. *Second and third generation immigrants will show stronger relationships between PRD and psychiatric outcomes than will first generation immigrants.* This moderator model hypothesis was tested in three parts using the randomly selected samples. Initial frequency analyses indicated small sample sizes for second and third generation participants, which would be inappropriate for regression analyses. Thus, second and third generation immigrants were combined into one category to improve the sample size ($n = 88$ for MDD; $n = 45$ for suicidality). The first set of analyses used past year diagnosis of MDD as the outcome variable by running separate hierarchical regression analyses for the two levels of the proposed moderating variable, generational status. The second set of analyses used past year suicidality as the outcome variable, with separate hierarchical regressions for each level of generational status. Finally, differences between the unstandardized regression coefficients were tested using Fisher's z to determine if generational status moderated the relationship between PRD and MDD diagnosis and past year suicidality, respectively.

For analyses predicting depression, two separate hierarchical regressions were run for first generation immigrants and U.S. born Asian Americans. For each of the two equations, age, education level, and gender were entered as controls into Step 1 and PRD was entered into Step 2. The overall model proved to be statistically significant for first generation immigrants, $F(4, 295) = 7.36, p < .000$, accounting for 8% of the variance. PRD accounted for a significant portion of unique variance among first

generation immigrants in explaining depression ($\beta = .29, p < .000$) with education level ($\beta = -.12, p < .001$) also accounting for a significant portion of unique variance among first-generation immigrants. The overall model was also significant for later generations, $F(4, 88) = 2.75, p < .01$, accounting for 7% of the variance. PRD did not account for significant portions of unique variance in predicting clinical depression for latter generations but gender did ($\beta = -.25, p < .01$).

Analyses predicting suicidality were conducted in a similar fashion with two separate equations using age, education level, and gender as controls in Step 1 and PRD as the predictor in Step 2. The overall model was not shown to be statistically significant for both first generation immigrants, $F(4,91) = 2.23, p < .07$ and later generations, $F(4,45) = 2.34, p < .07$ since the control variables were uncorrelated with suicidality, but used up degrees of freedom. PRD alone emerged as a significant predictor of past year suicidality for both first generation immigrants ($\beta = .28, p < .01$) and later generations ($\beta = .38, p < .05$).

A Fisher's z was computed using the unstandardized regression coefficients to determine differences between the generational levels on associations between PRD and mental health. Significant differences were not found, indicating Hypothesis 6 was not supported.

Hypothesis 7

Family cohesion is hypothesized to moderate the relationship of PRD and depression, as well as PRD and suicidality. *Specifically, individuals with high levels of family cohesion will show weaker relations of PRD with depression and PRD with suicidality; individuals reporting low levels of family cohesion are predicted to show*

stronger associations. Two separate analyses were conducted for models predicting depression and suicidality. The items on the PRD scale were recoded so that low scores meant higher levels of PRD. This would mean that low scores on both family cohesion and PRD would theoretically reflect poor mental health outcomes. The variables PRD and family cohesion were transformed to z-scores and ten was added to these scores to avoid negative values. The interaction variable was created by multiplying the standardized PRD and family cohesion scores.

A binary, sequential logistic regression was conducted to predict diagnosis of MDD with age, education level, and gender entered in the first block as controls, PRD and family cohesion in the second block, and the standardized interaction term in the final block. The logistic regression indicated that education level ($OR = .72, p < .05$), PRD ($OR = .55, p < .000$), and family cohesion ($OR = .63, p < .000$) alone predicted a MDD diagnosis above the contribution of age and gender in block 3. However, when the interaction term was entered in the final block, only education level ($OR = .72, p < .01$) remained a significant predictor of depression (See Table 10). The Hosmer and Lemeshow goodness-of-fit statistic was 13.96 ($p = .08$), indicating the model was an adequate fit for the data. Overall findings suggest reports of family cohesion did not moderate the relationship of PRD and depression.

Using Baron and Kenny's (1986) product variable approach, a hierarchical multiple regression controlling for age, educational level, and gender in Step 1 was conducted to test the moderator model predicting suicidality. PRD and family cohesion served as the predictor variables and entered into Step 2 and the standardized interaction variable was entered into Step 3.

The overall model proved to be a significant predictor of past-year suicidality, $F(6, 131) = 4.87, p < .000$ and accounted for 15% of the variance. Results indicate in Step 3, PRD and family cohesion each accounted for significant portions of the variance in predicting suicidality (PRD: $\beta = -.24, p < .01$; Family Cohesion: $\beta = -.27, p < .01$); however, when the standardized interaction variable was entered into the final step, all predictors lost significance (See Table 11). Thus, Hypothesis 7 was not supported.

Hypothesis 8

Individuals reporting high levels of family conflict will show stronger relationships for PRD with depression and PRD with suicidality. Relations of PRD with depression and suicidality are not expected to be strong among individuals reporting low levels of family conflict.

A binary, sequential logistic regression was used to test the moderator model predicting depression. Age, education level, and gender were used as controls in the first block, the standardized scores of PRD and family conflict were entered in the second block, and the standardized interaction term was entered in the final block. The Hosmer and Lemeshow goodness-of-fit statistic was 9.15 ($p = .33$), which reveals the model was a good fit. Block 3 reveals education level ($OR = .76, p < .05$), PRD ($OR = 1.56, p < .001$), and family conflict ($OR = 1.7, p < .000$) alone were significant predictors of a MDD diagnosis. This indicates participants who reported higher levels of PRD and/or family conflict were about one and a half times as likely to meet criteria for MDD compared to their counterparts. When the standardized interaction term was entered in the final block, only education level ($OR = .76, p < .05$) served to be a significant

predictor of MDD (See Table 12). Thus, family conflict did not moderate the relationship of PRD and depression as hypothesized.

Baron and Kenny's (1986) product variable approach was also used to test the continuous moderator hypothesis predicting suicidality. Age, educational level, and gender were entered in the first step as controls, the standardized coefficients for PRD and family conflict were entered in the second step, and the standardized interaction term in the final step.

The overall model predicting suicidality proved to be significant, $F(6, 127) = 3.73$, $p < .01$ and accounted for 11% of the variance. Similar to previous findings, PRD ($\beta = .23$, $p < .01$) and family conflict ($\beta = .21$, $p < .01$) contributed to unique variance in Step 3, but lost significance once the standardized interaction variable was entered in Step 4. This variance explained by the interaction variable was not significantly different than zero; thus, family conflict did not moderate the relationship between PRD and suicidality. Hypothesis 8 was not supported (See Table 13).

Exploratory Analyses

Since the Stress-Buffering Model (Cohen & Willis, 1985) did not hold well for this sample, exploratory analyses were conducted using the Social Mobilization and Social Deterioration models described earlier (Barrera, 1988). These models suggest social support serves as a mediating factor to PRD and mental health. Thus, family cohesion would theoretically mediate the associations between PRD and mental health based on the social mobilization model, while family conflict would mediate these relations based on the social deterioration model (Barrera, 1988).

Exploratory hierarchical multiple regression models using techniques suggested by Baron and Kenny (1986) were tested to determine if either of these models would fit with the current sample. Examination of correlation matrices indicate family cohesion and family conflict are significantly related to PRD ($r = -.24, p < .000, N = 2075$; $r = .33, p < .000, N = 2067$), past year depression ($r = -.33, p < .000, n = 386$; $r = .36, p < .000, n = 385$), and past year suicidality ($r = -.32, p < .000, n = 138$; $r = .28, p < .01, n = 137$). Since the initial criteria suggested by Baron and Kenny (1986) for mediation were met, these mediator models were further explored.

Four separate hierarchical multiple regression models were conducted with age, educational level, and gender entered into Step 1 as the controls and PRD entered into Step 2 as the independent variable. The first two analyses testing the mediating effect of family cohesion (which was entered into Step 3) on depression and suicidality yielded insignificant findings. The final two analyses measuring the mediating effect of family conflict (which was entered into Step 3) on depression and suicidality also did not yield significant findings. The current sample did not provide support for the social mobilization or the social deterioration model.

CHAPTER 4

DISCUSSION

The primary objective of the present study was to examine the associations between sociodemographic factors, perceptions of racial discrimination, family dynamics, and acute psychiatric outcomes in a nationally representative Asian American sample. Results provided support for four hypotheses and partial support for one hypothesis, while three of the moderator model hypotheses were not supported. Overall findings suggest that PRD and family dynamics play a key role in adult Asian Americans' psychological functioning independently, but do not significantly interact with each other in explaining experiences of depression and suicidality.

Despite perceptions of the model minority myth, participants in the present study endorsed experiences of PRD. On average, respondents reported experiences of discrimination to occur about once a year ($M = 1.77$ on a scale of 1 (never) to 6 (everyday)). This finding is parallel to reports of PRD from other samples of Asian American adults (Gee et al., 2006; Goto et al., 2002; Lee, 2003; Yoo & Lee, 2005) and is somewhat lower than reports from samples of African American participants ($M = 2.30$, using the same scale) (Williams et al., 1997).

Women and older, less educated participants in the sample reported lower levels of PRD. These results appear to be a consistent finding in racism-related research among Asian Americans (Alvarez et al., 2006; Goto et al., 2002; Greene et al., 2006; Romero & Roberts, 1998). Perhaps men and younger, educated individuals have more opportunities to experience racism since they may be more likely and willing to interact

with the majority population in the work force and at educational institutions, for example.

In terms of immigrant generational differences, the hypothesis predicting first-generation immigrants would report lower levels of PRD in comparison to their counterparts was supported statistically, yet this difference was not meaningful when accounting for factors such as age, educational status, and gender. Although previous studies yielded contradicting findings in reports of PRD across Asian immigrant generations (Kuo, 1995; Sodowsky et al., 1991; Ying et al., 2000), these samples consisted of college students. Current findings indicate generational status does not account for meaningful differences in reports of PRD within a national, community-based sample of Asian American adults.

More clinically significant results reveal that the hypothesized relationships between PRD and psychiatric outcomes, as measured by past year diagnosis of MDD and suicidality, were supported. Previous research with Asian Americans across age and ethnicity has linked PRD to depressive symptoms and general measures of mental well being (Lee, 2003; Mehta, 1998; Noh et al., 1999; Shrake & Rhee, 2004; Yoo & Lee, 2005). Results from the current study however demonstrate that higher reports of PRD were related to more serious psychiatric outcomes such as, greater likelihood of a MDD diagnosis and suicidality. It is important to note that a causal relationship between PRD and psychiatric outcomes is not being implied from this finding, but these results point out that PRD may be within the repertoire of stressors experienced by Asian Americans coping with clinical depression and suicidality.

The primary goal for the current study was to identify possible alleviating and exacerbating factors that influence the relationship between PRD and mental health for Asian Americans. This included examining both sociodemographic and social support variables relevant for this group. Psychiatric outcomes were predicted to vary as a function of immigrant generational status and generational status was further theorized to interact with the association between discrimination and mental health.

In general, immigrant studies, including large-scale studies, show first generation U.S. immigrants (across racial groups) evidence better mental health outcomes than subsequent immigrant generations (Hernandez & Charney, 1998; Takeuchi et al., 2007). The current study revealed first generation immigrants were less likely to have a past year diagnosis of clinical depression compared to U.S. born Asian Americans; however, the size of this finding was very small when accounting for confounding variables such as age, educational level, and gender. Moreover, generational status did not account for differences in experiences of past-year suicidality for participants in the sample. This finding is parallel to Kennedy et al.'s (2005) study, in which generational differences were not observed for reports of suicidal ideation. It is likely that other constructs associated with generational status, such as acculturation, may play a mediating role in predicting mental health (Cho, 2003; Kennedy et al., 2005; Lau et al., 2002).

Generational status was theorized to moderate the relation between experiences of discrimination and psychiatric outcomes. PRD was predicted to be more harmful for U.S. born Asian Americans based on Ying et al.'s (2000) theory that discrimination is less detrimental for first generation immigrants. Current results did not provide support

for this hypothesis, and overall findings suggest that the relationship between PRD and mental health appears to be similar across immigrant generations.

It is important to note that in comparison to their counterparts, first-generation immigrants, particularly those who were less educated, were more likely to respond to PRD through depression. The size of this finding was small and in contrast to other studies using college samples to reveal that discrimination had stronger effects on second-generation immigrants' mental well-being compared to first-generation immigrants (Ying et al., 2000; Yoo & Lee, 2009). First-generation immigrants who are less educated may also be less acculturated and hold strong collectivistic orientations. Experiences of discrimination lead to disruption in collectivistic values that emphasize social harmony and interdependence; this may be a stressor for first-generation immigrants who have a traditional acculturation style.

Due to the collectivistic nature and the strong attachment and ties to family that are emphasized in Asian American culture (Dana, 2001), factors such as family cohesion and family conflict were considered to be cultural specific factors that could play a role in either attenuating or worsening the effects of PRD on psychological health for this population. Participants' perceptions of family cohesion and family conflict were theorized to: a) vary depending on generational status b) relate to mental health outcomes and c) serve as possible moderators to PRD and mental health for this population.

Results did not support hypotheses that generational differences would exist on reports of family cohesion and family conflict. It was theorized acculturative processes would impact the traditionally collectivistic structure of Asian families, which may lead to

lower levels of family cohesion and higher levels of family conflict among descendants of Asian immigrants. However, findings from the present study reflect responses similar to what would be expected given the collectivistic nature of Asian culture (i.e., high levels of family cohesion). Previous studies have indicated family conflict centering on cultural differences is prevalent among Asian immigrant families (Farver et al., 2002; Lee et al., 2000; Maris et al., 2000). The items on the family conflict scale for the current study however were reflective of more general areas of conflict, rather than culture specific conflict, which could have accounted for the present finding that there were no significant differences across immigrant generations on reports of family conflict.

Hypotheses relating higher reports of family cohesion to greater likelihood of an MDD diagnosis and suicidality, and associating higher levels of family conflict with increased experiences of clinical depression and suicidality proved to be supported. This supports previous patterns in research with Asian American adolescents, which reveal family dynamics are associated with and significant predictors of depression and suicidality (Lee & Liu, 2001; Lee et al., 2005; Lau et al., 2002). There is a lack of research linking family-related variables to suicidality in Asian American adults particularly. Thus, the current study provides preliminary findings to a much-needed area of research. Perhaps future studies could focus on underlying factors (i.e., acculturation) that contribute to high levels of family conflict and cohesion in Asian immigrant families.

Participants' reports of PRD, family cohesion, and family conflict emerged as significant predictors of both past year clinical depression and suicidality. These findings are consistent with a previous study using the NLAAS sample in which PRD predicted

past year *DSM-IV* depressive disorders (in combination; Gee et al., 2007). The present study indicated that less educated individuals in particular were more likely to respond to the combination of low degrees of family cohesion and high degrees of family conflict and PRD by meeting criteria for MDD, in comparison to individuals with higher education levels. Individuals with high educational levels perhaps have greater internal resources and resources outside of the family (i.e., employment), which could buffer depressive symptoms.

Despite the individual contributions that experiences of PRD, family cohesion, and family conflict bring to explaining depression and suicidality, moderator models theorizing the interacting effects of these variables on mental health outcomes were not supported. Exploratory analyses to identify possible mediating effects of family cohesion and family conflict were also nonsignificant. These findings reveal that social support models such as the Stress Buffering Model (Cohen & Willis, 1985), Social Mobilization Model, and the Social Deterioration Model (Barrera, 1988) may not be applicable to Asian Americans as explanations of the role of social support for a stressor such as PRD and towards mental health outcomes like clinical depression and suicidality.

These findings appear to be counterintuitive and contrary to what was hypothesized but are similar to several other studies across racial groups that have found social support does not mediate and/or moderate the association between stress and mental health (Gee et al., 2006; Liang et al., 2007; Prelow et al., 2006; Yoo & Lee, 2005; Zimmerman et al., 2000). Often these previous findings may have been due to inadequate sample sizes, as well as lack of or poor measurements assessing quality of

social support. Therefore, the present study sought to capture quality of social support by including the variables of family cohesion and family conflict.

The issue of valid measurement of the constructs of interest for the current study may explain why moderator models were not supported. For instance, the scale measuring PRD in the current study was developed for African Americans (Williams et al., 1997) and at least five of the nine items were measures of overt discrimination (i.e., “You are called names or insulted”; “You are threatened or harassed”; “You receive poorer service than other people at restaurants or stores”). As previous research indicates, Asian Americans’ experiences of racism are qualitatively different than other racial groups and tend to be expressed in covert and subtle, rather than overt and direct, forms (Noh et al., 1999; Sue et al., 2007). Thus, the validity of applying to Asian Americans a scale developed for a different racial group to assess for different forms of racism is questionable and could have led to inaccurate findings. An ethnicity specific measure of racism would have likely provided a clearer picture of PRD for this sample.

Similarly, there were limitations in the scales assessing quality of family dynamics, which could have impacted moderator analyses. It appears participants were not provided with instructions regarding whether items should be rated based on their family of origin or current family unit. Thus, it is difficult to determine whether reports are based on retrospective or current accounts of family cohesion and conflict. This issue is problematic since other variables in the model are based on current experiences of PRD and mental health. It is also possible that the items on the family dynamics scales are not specifically appropriate to match the needs elicited by overt discrimination.

Perhaps family cohesion and family conflict would moderate the relationship of subtle forms of discrimination and mental health.

An additional issue that could have impacted findings is the severity of the mental health outcomes measured, which led to a low frequency of those endorsing a past year MDD diagnosis and reports of suicidality. Although steps were taken to correct the disproportionate frequencies of the afflicted and nonafflicted groups through matched sampling, only 33 participants out of 138 in the matched sample endorsed past year suicidality. This low frequency may have made it difficult to detect moderating effects.

Limitations and Directions for Future Research

Although the data used in the current sample is unique in that the NLAAS is the first psychiatric epidemiological survey of Asian Americans in the United States, there are several limitations to the current study that must be appropriately addressed. As mentioned earlier, the measure of PRD used in the study may not have been suitable as the best way to capture Asian Americans' specific experience of racism. Future studies within this area should focus on more ethnicity specific measures of racism, such as the Asian American Racism-Related Stress Inventory (Liang, Li, & Kim, 2004).

The issue of measurement also applies to the scales of family dynamics used in the current study, which failed to instruct participants on how to answer items (i.e., based on retrospective or current family experiences). Moreover, items pertaining to culture specific family conflicts, rather than general areas of family conflict, may be more appropriate in identifying moderating and mediating effects that family dynamics have in Asian American mental health.

The current study is important in that it sheds light on acute psychiatric outcomes such as clinical depression and suicidality in the Asian American population. However, due to the severity of the outcomes and the low base rates of these experiences in the general and Asian American population, the absolute number of those endorsing clinical depression and suicidality was very low. It is also likely that experiences of suicidality in particular may have been underreported, especially given that participants were interviewed in their homes with other family members likely present. Future studies may consider ensuring a greater sense of confidentiality and privacy so participants will be more willing to disclose clinical symptoms. Overall, the low percentage of participants that endorsed these experiences of depression and suicide likely affected statistical procedures in terms of effect size and power and it is possible that some effects were undetected.

The study examined patterns in functioning for a general population of Asian Americans, but it is important to acknowledge the tremendous within group differences among Asian Americans (Dana, 2001). As described earlier, the racism and immigration histories for each Asian ethnic subgroup are different. The current study provided preliminary findings that indicated differences on reports of PRD based on ethnic groups. For instance, Vietnamese participants reported the lowest levels of PRD compared to other ethnic groups. From a historical point of view, this finding could be reflective of the Vietnamese American population not sharing a history of discrimination from the government like other Asian groups (Min, 2005). Future directions for research should focus on identifying specific patterns pertaining to the interaction of PRD, family dynamics, and mental health outcomes unique to Asian subgroups.

The cross-sectional design of the study also limits the conclusions that can be drawn from findings. For instance, a clear causal assumption between PRD and mental health outcomes cannot be made. Longitudinal studies could provide a clearer picture of causal directions between discrimination and mental health. Longitudinal studies would also provide a better understanding of factors that underlie generational status—such as acculturation and ethnic identity processes—that may impact the strength of associations between PRD and psychiatric outcomes across generational groups. As the United States continues to have an increasing number of Asian American immigrants (U.S. Bureau of Census, 2000), it is important to understand whether and how traditional cultural values and mental health patterns change across immigrant generations to provide implications for researchers and practitioners.

Clinical Implications

The results provided from the current study give suggestions for practitioners working with Asian Americans. In spite of the “model minority” myth, racial discrimination is a reality for Asian Americans and is associated with detrimental psychiatric outcomes, such as diagnosis of MDD and suicidality. Generational status appears to influence the strength and outcome of how Asian Americans respond to discrimination. Though family cohesion and family conflict do not appear to buffer or exacerbate the relation of PRD to mental health, based on the findings of this study, they remain strong predictors of both clinical depression and suicidality for Asian Americans. Therefore, it is important for clinicians to consider the generational status, perceptions of racial discrimination, and family dynamics of their Asian American clients

when formulating case conceptualizations, preparing treatment plans, and assessing suicide risk.

Table 1

Frequencies for Demographic Variables

Variables	<i>n</i>	Percentage
Gender		
Male	1097	52.4%
Female	998	47.6%
Marital Status		
Never Married	443	21.1%
Married	1470	70.2%
Divorced/Separated/Widowed	182	8.7%
Region		
Northeast	152	7.3%
Midwest	91	4.3%
South	145	6.9%
West	1707	81.5%
Education Level		
0-11 years	316	15.1%
12 years	372	17.8%
13-15 years	529	25.3%
16 years or more	878	41.9%
Employment Status		
Unemployed/Not Working	710	33.9%
Employed	1385	66.1%
Job Status		
Corp/General Managers	127	6.4%
Professional (Univ. Degree)	449	22.4%

(table continues)

Table 1 (*continued*)

Variable	<i>n</i>	Percentage
Assoc Professional	224	11.2%
Office Clerk	129	6.4%
Customer Service Clerk	160	8.0%
Service Workers	132	6.6%
Trades Workers	115	5.8%
Operators	140	7.0%
Performs Routine Tasks	123	6.2%
Other	401	20.0%
Ethnicity		
Vietnamese	520	24.8%
Filipino	508	24.2%
Chinese	600	28.6%
All other Asian	467	22.3%
Generational Status		
First generation	1628	77.8%
Second generation	272	13.0%
Third generation and above	193	9.2%
Arrival Age to the U.S. (1 st gen.)		
Less than 12 years	237	14.5%
13-17 years	130	7.9%
18-34 years	886	54.1%
35 years and older	385	23.5%
# of years in the U.S. (1 st gen.)		
Less than 5 years	302	18.4%

(table continues)

Table 1 (*continued*)

Variable	<i>n</i>	Percentage
5-10 years	300	18.3%
11-20 years	532	32.5%
20 years and above	504	30.8%

Table 2

Descriptive Statistics for Continuous Variables (Entire Sample, N = 2095)

Variables	<i>M</i>	<i>SD</i>	Observed Range
Age	41	14.77	18-95
Family Cohesion ^a	36.85	4.62	10-40
Family Conflict ^b	6.43	1.81	5-15
Perceived Racial Discrimination ^c	1.77	.72	1-6
Past year Suicidality ^d	.02	.22	0-3
Lifetime Suicidality ^d	.15	.52	0-3

Note: ^a Sum of 10 items on 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*). ^b Sum of 5 items on 3-point Likert scale (1 = *never* to 3 = *often*). ^c Mean of 9 reverse coded items on 6-point Likert scale (1 = *never* to 6 = *almost everyday*; Original items coded: 1 = *almost everyday* to 6 = *never*). ^d Sum of 3 items (0 = absent, 1 = present).

Table 3

Descriptive Statistics for Continuous Variables (Depression sample, n = 392)

Variables	<i>M</i>	<i>SD</i>	Observed Range
Age	34.93	9.42	18-82
Family Cohesion ^a	35.65	6.28	10-40
Family Conflict ^b	6.99	2.27	5-15
Perceived Racial Discrimination ^c	1.89	.73	1-5
Past year Suicidality ^d	.09	.42	0-3
Lifetime Suicidality ^d	.32	.76	0-3

Note: ^a Sum of 10 items on 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*). ^b Sum of 5 items on 3-point Likert scale (1 = *never* to 3 = *often*). ^c Mean of 9 reverse coded items on 6-point Likert scale (1 = *never* to 6 = *almost everyday*; Original items coded: 1 = *almost everyday* to 6 = *never*). ^d Sum of 3 items (0 = absent, 1 = present).

Table 4

Descriptive Statistics for Continuous Variables (Suicidality sample, n = 138)

Variables	<i>M</i>	<i>SD</i>	Observed Range
Age	31.71	5.28	18-47
Family Cohesion ^a	35.32	5.97	11-40
Family Conflict ^b	7.09	2.03	5-14
Perceived Racial Discrimination ^c	2.00	.79	1-6
Past year Suicidality ^d	.37	.77	0-3
Lifetime Suicidality ^d	.56	.97	0-3

Note: ^a Sum of 10 items on 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*). ^b Sum of 5 items on 3-point Likert scale (1 = *never* to 3 = *often*). ^c Mean of 9 reverse coded items on 6-point Likert scale (1 = *never* to 6 = *almost everyday*; Original items coded: 1 = *almost everyday* to 6 = *never*). ^d Sum of 3 items (0 = absent, 1 = present).

Table 5

Frequencies for Past Year Outcome Variables

Variables	N	Percentage
<i>DSM-IV Major Depressive Disorder Diagnosis (1 year)</i>		
Present	97	4.6%
Absent	1998	95.4%
Suicidal ideation (1 year)		
Present	33	1.6%
Absent	2060	98.3%
Suicide Plan (1 year)		
Present	11	0.5%
Absent	1953	93.2%
Suicide Attempt (1 year)		
Present	7	0.3%
Absent	1951	93.1%

Table 6

Intercorrelations among Demographic Variables

Variables	1	2	3	4	5	6	7	8
1. Age	-							
2. Gender ^a	.02	-						
3. Education ^b	-.21***	.08***	-					
4. Employed ^c	-.15***	.16***	.13***	-				
5. Job Status ^d	.06**	-.04	-.44***	-.41***	-			
6. Genstat ^e	-.12***	.03	.07**	.03	-.06**	-		
7. # Yrs. US ^f	.34***	.04	.02**	.07**	-.13***	.05	-	
8. Arr. Age ^g	.60***	-.05*	-.22***	-.10***	.12***	-.08**	.32***	-

Note. ^a Coded 0 = Female, 1 = Male. ^b Higher values equal higher education levels. ^c Coded 0 = Unemployed or Not Working, 1 = Employed. ^d Higher values equal lower job status. ^e Generational Status Coded 1 = First generation, 2 = Second generation, 3 = Third generation and higher. ^f Number of Years Residing in the United States, Higher values equal greater number of years. ^g Arrival age to the United States, Higher values equal later arrival age. * $p < .05$, ** $p < .01$, *** $p < .000$. Range of cell $ns = 1568-2095$.

Table 7

Correlations among Demographic and Predictor Variables

Variables	Family Cohesion	Family Conflict	Perceived Racial Discrimination
1. Age	.14 ^{***}	-.10 ^{***}	-.23 ^{***}
2. Gender ^a	.02	-.05 [*]	.12 ^{***}
3. Education ^b	-.06 ^{**}	.10 ^{***}	.16 ^{***}
4. Employed ^c	.00	-.03	.06 ^{**}
5. Job Status ^d	.04	-.06 ^{**}	-.13 ^{***}
6. Generational status ^e	-.15 ^{***}	-.01	.21 ^{***}
7. # Yrs. US ^f	-.09 ^{***}	.07 ^{**}	.10 ^{***}
8. Arr. Age ^g	.22 ^{***}	-.17 ^{***}	-.26 ^{***}

Note. ^a Coded 0 = Female, 1 = Male. ^b Higher values equal higher education levels. ^c Coded 0 = Unemployed or Not Working, 1 = Employed. ^d Higher values equal lower job status. ^e Generational Status Coded 1 = First generation, 2 = Second generation, 3 = Third generation and higher. ^f Number of Years Residing in the United States, Higher values equal greater number of years. ^g Arrival age to the United States, Higher values equal later arrival age. * $p < .05$, ** $p < .01$, *** $p < .000$. Range of cell $ns = 1615-2095$.

Table 8

Correlations among Demographic and Outcome Variables

Variables	MDD Life	MDD Yr	MDD 1mo	Life SI	Life SP	Life SA	Life Sd	Yr SI	Yr SP	Yr SA	Yr Sd
Age	-.07**	-.09***	-.03	-.11***	-.06**	-.05*	-.09***	-.09***	-.04	-.04	-.07**
Gender	-.05*	-.02	.00	-.06**	-.03	-.07**	-.07**	-.02	.01	.01	-.01
Education	.05*	.01	-.03	.05*	.04*	.03	.02	.04	-.01	-.02	.00
Employed	-.02	-.04**	-.01	-.02	-.02	-.04	-.02	-.02	-.01	-.01	-.02
Job Status	-.01	-.01	-.02	-.02	.00	.01	-.01	.00	.01	.01	.01
Generational Stat.	.11***	.08***	.11***	.09***	.06**	.04*	.08***	.10***	.04	-.02	.07**
Number Yrs. in US	.02	.01	.04	.06*	.03	.05	.06*	-.03	-.02	-.02	-.03
Arrival Age	-.13***	-.11***	-.02	-.16***	-.10***	-.09***	-.15***	-.07**	-.03	-.03	-.05*

Note. * $p < .05$, ** $p < .01$, *** $p < .000$. Range of cell $ns = 1549-2095$. MDD Life = Diagnosis of Major Depressive Disorder within Lifetime. MDD Yr = Diagnosis of Major Depressive Disorder within last year. MDD 1 mo = Diagnosis of Major Depressive Disorder within last month. Life SI = Lifetime suicidal ideation. Life SP = Lifetime suicide plan. Life SA = Lifetime suicidal attempt. Life SD = Overall lifetime suicidality. Yr SI = Suicidal ideation within last year. Yr SP = Suicide plan within last year. Yr SA = Suicide attempt within last year. Yr Sd = Overall suicidality within last year.

Table 9

Associations among Predictor and Outcome Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Family Cohesion	-												
2. Family Conflict	-.50***	-											
3. Perceived Racial Discrim.	-.24***	.33***	-										
4. MDD Diagnosis (Lifetime)	-.20***	.19***	.12***	-									
5. MDD Diagnosis (1 year)	-.23***	.24***	.14***	.65***	-								
6. MDD Diagnosis (30 day)	-.12***	.11***	.11***	.27***	.48***	-							
7. Lifetime Suicidal Ideation	-.26***	.24***	.17***	.30***	.26***	.09***	-						
8. Lifetime Suicidal Plan	-.20***	.16***	.10***	.28***	.27***	.12***	.55***	-					
9. Lifetime Suicidal Attempt	-.21***	.19***	.08***	.22***	.23***	.12***	.52***	.61***	-				
10. Lifetime Overall Suicidality	-.28***	.25***	.15***	.32***	.31***	.13***	.89***	.81***	.79***	-			
11. Year Suicidal Ideation	-.16***	.13***	.12***	.24***	.32***	.10***	.40***	.34***	.22***	.40***	-		
12. Year Suicide Plan	-.10***	.09***	.10***	.21***	.31***	.13***	.42***	.42***	.40***	.43***	.83***	-	
13. Year Suicide Attempt	.07**	.06**	.06**	.15***	.21***	.08***	.35***	.44***	.35***	.39***	.84***	.94***	-
14. Year Overall Suicidality	-.14***	.11***	.11***	.23***	.32***	.11***	.35***	.42***	.32***	.43***	.88***	.95***	.96***

Note. * $p < .05$, ** $p < .01$, *** $p < .000$. Range of cells $ns = 1933-2095$.

Table 10

Summary of Logistic Regression Analysis for Family Cohesion as Moderator for Predicting MDD (n = 372)

Predictors	Exp (B)	<i>p</i>	95% Confidence Interval (Lower)	95% Confidence Interval (Lower)
Block 1				
Age	1.00	.74	.97	1.02
Education	.82	.07	.65	1.02
Gender	.78	.31	.49	1.25
Block 2				
Age	1.01	.62	.98	1.03
Education	.74	.02	.57	.95
Gender	.81	.44	.48	1.37
PRD ^a	.55	.00	.43	.72
Family Cohesion	.63	.00	.53	.75
Block 3				
Age	1.01	.66	.98	1.03
Education	.72	.01	.56	.93
Gender	.79	.39	.47	1.34
PRD ^a	1.31	.74	.27	6.41
Family Cohesion	1.58	.59	.29	8.47
PRD*Family Cohesion	.91	.28	.77	1.08

Note: ^a Reverse coded, lower scores indicating higher PRD

Table 11

Summary of Hierarchical Regression Analysis for Family Cohesion as Moderator for Predicting Suicidality (n = 134)

Variable	Zero order <i>r</i>	β	Adjusted R^2	R^2 change
Step 1			-.00	.01
Age	.01	.00		
Education	-.09	-.09		
Gender	-.01	-.01		
F (3,134)	.38			
Step 2			.14	.07**
Age	.01	.02		
Education	-.09	-.10		
Gender	-.01	.01		
PRD ^a	-.31	-.24*		
Family Cohesion	-.32	-.27**		
F (5,132)	5.48***			
Step 3			.15	.01
Age	-.00	.01		
Education	-.10	-.10		
Gender	-.01	.00		
PRD	-.31	-.87		
Family Cohesion	-.32	1.15		
PRD*Family Cohesion	-.39	1.21		
F (6, 131)	4.87***			

Note: *p < .05, **p < .01, ***p < .000. ^a Reverse coded, lower scores indicating higher PRD

Table 12

Summary of Logistical Regression Analysis for Family Conflict as Moderator for Predicting MDD (n = 384)

Predictors	Exp (B)	<i>p</i>	95% Confidence Interval (Lower)	95% Confidence Interval (Upper)
Block 1				
Age	1.00	.71	.97	1.02
Education	.83	.09	.66	1.03
Gender	.80	.35	.50	1.28
Block 2				
Age	1.00	.89	.97	1.03
Education	.76	.03	.60	.98
Gender	.87	.59	.51	1.46
PRD	1.55	.00	1.19	2.03
Family Conflict	1.70	.00	1.38	2.10
Block 3				
Age	1.00	.89	.97	1.03
Education	.76	.03	.59	.98
Gender	.87	.59	.51	1.46
PRD	1.84	.58	.21	16.01
Family Conflict	2.02	.52	.23	17.71
PRD*Family Conflict	.98	.88	.80	1.21

Table 13

Summary of Hierarchical Regression Analysis for Family Conflict as Moderator for Predicting Suicidality (n = 136)

Variables	Zero order <i>r</i>	β	Adjusted R^2
Step 1			.00
Age	.01	.01	
Education	-.10	-.10	
Gender	-.02	-.02	
<i>F</i> (3,133)	.44		
Step 2			.11
Age	.01	.02	
Education	-.10	-.10	
Gender	-.02	-.01	
PRD	.30	.24**	
Family Conflict	.28	.20*	
<i>F</i> (5,131)	4.21**		
Step 3			.11
Age	.01	-.00	
Education	-.10	-.10	
Gender	-.02	-.01	
PRD	.30	-.66	
Family Conflict	.28	-.71	
PRD*Family Conflict	.36	1.48	
<i>F</i> (6, 136)	3.75**		

Note: * $p < .05$, $p < .01$, *** $p < .000$

REFERENCES

- Aguirre, A. & Turner, J.H. (2004). *American ethnicity: The dynamics and consequences of discrimination*. San Francisco: McGraw-Hill.
- Alegria, M., Takeuchi, D.T., Canino, G. Duan, N., Shrout, P., & Meng, X. (2004). Considering context, place, and culture: The National Latino and Asian American study. *International Journal of Methods in Psychiatric Research*, 13, 208-220.
- Allport, G. (1954). *The nature of prejudice*. New York: Doubleday Anchor.
- Alvarez, A.N, Juang, L., Liang, C.T. (2006). Asian Americans and racism: When bad things happen to "model minorities." *Cultural Diversity and Ethnic Minority Psychology*, 12, 477-492.
- Andrews, G. & Peters, L. (1998). The psychometric properties of the Composite International Diagnostic Interview. *Social Psychiatry and Psychiatric Epidemiology*, 33, 80-88.
- Ancis, J.R., Sedlacek, W.E., & Mohr, J.J. (2000). Student perceptions of the campus cultural climate by race. *Journal of Counseling and Development*, 78, 180-185.
- Araujo, B & Borrell, L. (2006). Understanding the link between discrimination, life chances, and mental health outcomes among Latino/as. *Hispanic Journal of Behavioral Sciences*, 28, 245-266.
- Asamen, J.K., & Berry, G.L. (1987). Self-concept, alienation, and perceived prejudice: Implications for counseling with Asian Americans. *Journal of Multicultural Counseling and Development*, 15, 146-160.
- Atkinson, D.R., Morten, G., Sue, D.W. (1993). *Counseling American minorities: A cross-cultural perspective*. Madison, WI: W.C. Brown & Benchmark.

- Baron, R.M. & Kenny, D.A. (1986). A moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Barrera, M., Jr. (1988). Models of social support and life stress: Beyond the buffering hypothesis. In L.H. Cohen (Ed.), *Life events and psychological functioning: Theoretical and methodological issues* (pp. 211-236). Newbury Park, CA: Sage.
- Beautrais, A.L. (2006). Suicide in Asia. *Crisis: The Journal of Crisis Intervention and Suicide, 22*, 55-57.
- Bhugra, D., Baldwin, D.S., Desai, M., & Jacob, K. (1999). Attempted suicide in West London: Inter-group comparisons. *Psychological Medicine, 29*, 1131-1139.
- Braun, K. L. & Nichols, R. (1997). Death and dying in four Asian American cultures: A descriptive study. *Death Studies, 21*, 327-359.
- Centers for Disease Control and Prevention. (2007). National suicide prevention week. *Morbidity and Mortality Weekly Report, 43*, 1-18.
- Cervantes, R. C., Padilla, A.M., & Salgado de Snyder, N. (1991). Reliability and validity of the Hispanic Stress Inventory. *Hispanic Journal of Behavioral Sciences, 12*, 76-82.
- Chioqueta, A.P. & Stiles, T.C. The relationship between psychological buffers, hopelessness, and suicidal ideation: Identification of protective factors. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 28*, 67-73.
- Chou, R.S. & Feagin, J.R. (2008). *The myth of the model minority: Asian Americans facing racism*. Boulder, CO: Paradigm Publishers.

- Clark, R. (2006). Perceived racism and vascular reactivity in black college women: Moderating effects of seeking social support. *Health Psychology, 25*, 20-25.
- Clark, R., Anderson, A., & Clark, V.R., & Williams, D.R. (1999). Racism as a stressor for African Americans. *American Psychologist, 54*, 805-816.
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159.
- Cohen, S. & Wills, T.A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*, 310-357.
- Cole, D.A. & McPherson, A.E. (1993). Relation of family subsystems to adolescent depression: Implementing a new family assessment strategy. *Journal of Family Psychology, 7*, 119-133.
- Compton, M.T., Thompson, N.J., Kaslow, N.J. (2005). Social environment factors associated with suicide attempt among low-income African Americans: The protective role of family relationships and social support. *Social Psychiatry and Psychiatric Epidemiology, 40*, 175-185.
- Dadds, M.R., Sanders, M.R., Morrison, M., & Rebgetz, M. (1992). Childhood depression and conduct disorder: An analysis of family interaction patterns in the home. *Journal of Abnormal Psychology, 101*, 505-513.
- Dana, R.H. (2001). *Understanding cultural identity in intervention and assessment*. Thousand Oaks, CA: Sage Publications.
- Delucchi, M. & Do, H.D. (1996). The model minority myth and perceptions of Asian-Americans as victims of racial harassment. *College Student Journal, 30*, 411-414.

- Dion, K.L. (2001). The social psychology of perceived prejudice and discrimination. *Canadian Psychology, 43*, 1-10.
- Domino, G., Su, A., & Lee, S. (2001-2002). Psychosocial correlates of suicide ideation: A comparison of Chinese and U.S. rural women. *Omega: Journal of Death and Dying, 44*, 371-389.
- Farver, J.M., Narang, S.K., & Bhadha, B.R. (2002). East meets west: Ethnic identity, acculturation, and conflict in Asian Indian families. *Journal of Family Psychology, 16*, 338-350.
- Finch, B., & Vega, W.A. (2003). Acculturation stress, social support, and self-rated health among Latinos in California. *Journal of Immigrant Health, 5*, 109-117.
- Fisher, C.B., Wallace, S.A., & Fenton, R.E. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence, 29*, 679-695.
- Freedenthal, S. & Stiffman, A.R. (2004). Suicidal behavior in urban American Indian adolescents: A comparison with reservation youth in a southwestern state. *Suicide and Life-Threatening Behavior, 34*, 160-171.
- Gee, G.C., Chen, J., Spencer, M.S., See, S., Kuester, O.A., Tran, D., Takeuchi, D. (2006). Social support as a buffer for perceived unfair treatment among Filipino Americans: Differences between San Francisco and Honolulu. *American Journal of Public Health, 96*, 677-684.
- Gee, G.C., Spencer, M., Chen, J., Yip, T., & Takeuchi, D.T. (2007). The association between self-reported racial discrimination and 12-month DSM-IV mental disorders among Asian Americans nationwide. *Social Science and Medicine, 64*, 1984-1996.

- Goto, S.G., Gee, G.C., & Takeuchi, D.T. (2002) Strangers still? The experience of discrimination among Chinese Americans. *Journal of Community Psychology*, 31, 469-488.
- Greene, M.L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology*, 42, 218-238.
- Haro, J.M., Arbabzadeh-Bouchez, S., Brugha, T.S., DeGirolamo, G., Guyer, M. E., Jin, R., Lepine, J.P., Mazzi, F., Reneses, B., Vilagut, G., Sampson, N.A., Kessler, R.C. (2006). Concordance of the Composite International Diagnostic Interview Version 3.0 (CIDI 3.0) with standardized clinical assessments in the World Health Organization World Mental Health Surveys. *International Journal of Methods in Psychiatric Research*, 15, 167–180.
- Hannah, T.E. (1974). The behavioral consequences of arbitrary discrimination. *Journal of Social Psychology*, 93, 107-118.
- Helms, J.E. (1995). An update of Helm's White and people of color racial identity models. In J.G. Ponterotto, M. J. Casas, L.A. Suzuki, & C.M. Alexander (Eds.), *Handbook of multicultural counseling* (pp. 181-198). Thousand Oaks, CA: Sage Publications.
- Heeringa, S., Wagner, J., Torres, M., Duan, N., Adams, T., & Berglund, P. (2004). Sample designs and sampling methods for the Collaborative Psychiatric Epidemiology Studies (CPES). *International Journal of Methods in Psychiatric Research*, 13, 221-240.

- Heikkinen, M., Aro, H.M., & Lonnqvist, J.K. (1993). Life events and social support in suicide. *Suicide and Life-Threatening Behavior*, 23, 343-358.
- Hernandez, D.J. & Chaney, E. (1998). *From generation to generation: The health and well-being of children in immigrant families*. Washington D.C.: National Academy Press.
- Hwang, W. & Goto, S. (2009). The impact of perceived racial discrimination on the mental health of Asian American and Latino college students. *Asian American Journal of Psychology*, 5, 15-28.
- Jacobs, D.G., Brewer, M., & Klein-Benheim, M. (1999). Suicide assessment: An overview and recommended protocol. In D.G. Jacobs (Ed.), *The Harvard Medical School guide to suicide assessment and intervention* (pp. 3-39). San Francisco, CA: Jossey-Bass.
- Jasinskaja-Lahti, I., Liebkind, K., Jaakkola, M., & Reuter, A. (2006). Perceived discrimination, social support networks, and psychological well-being among three immigrant groups. *Journal of Cross-Cultural Psychology*, 37, 1-19.
- Jung, E., Hecht, M.L., & Wadsworth, B.C. (2007). The role of identity in international students' psychological well-being in the United States: A model of depression level, identity gaps, discrimination, and acculturation. *International Journal of Intercultural Relations*, 31, 605-624.
- Kennedy, M.A., Parhar, K.K., & Samra, J. (2005). Suicide ideation in different generations of immigrants. *Canadian Journal of Psychiatry*, 50, 353-356.

- Kessler, R.C., Borges, G., & Walters, E.E. (1999). Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. *Archives of General Psychiatry, 56*, 617-626.
- Kessler, R.C. & Ustun, T.B. The World Mental Health (WHM) survey initiative version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). *International Journal of Methods in Psychiatric Research, 13*, 93-121.
- Kisch, J., Leino, E.V., & Silverman, M.M. (2005). Aspects of suicidal behavior, depression, and treatment in college students: Results from the Spring 2000 National College Health Assessment Survey. *Suicidal and Life Threatening Behavior, 35*, 3-13.
- Klonoff, E.A., Landrine, H., & Ullman, J.B. (1999). Racial discrimination and psychiatric symptoms among Blacks. *Cultural Diversity and Ethnic Minority Psychology, 4*, 329-339.
- Kohatsu, E.L., Dulay, M., Lam, C., Concepcion, W., Perez, P., Lopez, C., & Euler, J. (2000). Using racial identity theory to explore racial mistrust and interracial contact among Asian Americans. *Journal of Counseling and Development, 78*, 334-342.
- Komproe, I.H., Rijken, M., & Ros, W.J.G., Winnubst, J.A.M., & Hart, H. (1997). Available support and received support: Different effects under stressful circumstances. *Journal of Social and Personal Relationships, 14*, 59-77.

- Kovacs, M., Goldston, D., & Gatsonis, C. (1993). Suicidal behaviors and childhood-onset depressive disorders: A longitudinal investigation. *Journal of American Academy Child Adolescent Psychiatry, 32*, 8-20.
- Kurdyak, P., Gnam, W.H. (2005). Small signal, big noise: Performance of the CIDI Depression Module. *Canadian Journal of Psychiatry, 50*, 851-856.
- Kushner, H.I. (1991). American suicide: A psychocultural exploration. Rutgers: The State University.
- Lam, B.T. (2007). Impact of perceived racial discrimination and collective self-esteem on psychological distress among Vietnamese-American college students: Sense of coherence as a mediator. *American Journal of Orthopsychiatry, 77*, 37-376.
- Lau, A.S., Jernewall, N.M., Zane, N., & Myers, H.F. (2002). Correlates of suicidal behaviors among Asian American outpatient youths. *Cultural Diversity and Ethnic Minority Psychology, 8*, 199-213.
- Leach, M.M. (2006). *Cultural diversity and suicide: Ethnic, religious, gender, and sexual orientation perspectives*. New York, NY: Haworth Press.
- Lee, M.T., Wong, B.P., Chow, B.W., & McBride-Chang, C. (2006). Predictors of suicide ideation and depression in Hong Kong adolescents: Perceptions of academic and family climates. *Suicide and Life-Threatening Behavior, 36*, 82-96.
- Lee, R.M. (2003). Do ethnic identity and other-group orientation protect against discrimination for Asian Americans? *Journal of Counseling Psychology, 50*, 133-141.
- Lee, R.M., Choe, J., Kim, G., & Ngo, V. (2000). Construction of the Asian American Family Conflicts Scale. *Journal of Counseling Psychology, 47*, 211-222.

- Lee, R.M. & Liu, H.T. (2001). Coping with intergenerational family conflict: Comparison of Asian American, Hispanic, and European American college students. *Journal of Counseling Psychology, 48*, 410-419.
- Lee, R.M., Su, J., Yoshida, E. (2005). Coping with intergenerational family conflict among Asian American college students. *Journal of Counseling Psychology, 52*, 389-399.
- Leonard, K. (1992). *Making ethnic choices: California's Punjabi Mexican Americans*. Philadelphia: Temple University.
- Leong, F.T.L, Leach, M.M, Yeh, C., & Chou, E. (2007). Suicide among Asian Americans: What do we know? What do we need to know? *Death Studies, 31*, 417-434.
- Lester, D. (1997). Suicide in an international perspective. *Suicide and Life-Threatening Behavior, 27*, 104-111.
- Liang, C.T., Li, L., Kim, B.S. (2004). The Asian American Racism-Related Stress Inventory: Development, factor analysis, reliability, and validity. *Journal of Counseling Psychology, 51*, 103-114.
- Liang, C.T., Alvarez, A.N., Juang, L.P., and Liang, M.X. (2007). The role of coping in the relationship between perceived racism and racism-related stress for Asian Americans: Gender Differences. *Journal of Counseling Psychology, 54*, 132-141.
- Lin, N., Yie, X., & Ensel, W.M. (1999). Social support and depressed mood: A structural analysis. *Journal of Health and Social Behavior, 40*, 344-359.

- Livengood, J.S. & Stodolska, M. (2004). The effects of discrimination and constraints negotiation on leisure behavior of American Muslims in the Post-September 11 America. *Journal of Leisure Research*, 36, 183-208.
- Maris, R.W., Berman, A.L., & Silverman, M.M. (2000). *Comprehensive textbook of suicidology*. New York, NY: Guilford Press.
- Mehta, S. (1998). Relationship between acculturation and mental health for Asian Indian immigrants in the United States. *Genetic, Social, & General Psychology Monographs*, 124, 61-79.
- Min, P.G. (2005). *Asian Americans: Contemporary trends and issues*. Thousand Oaks, California: Sage Publications.
- Mio, J.S., Nagata, D.K., Tsai, A.H., Tewari, N. (2007). Racism against Asian/Pacific Island Americans. In F.T.L Leong, A.G. Inman, A. Ebreo, L.H. Yang, L. Kinoshita, & M. Fu (Eds.), *Handbook of Asian American Psychology* (2nd Edition) (pp. 341-361). Thousand Oaks, CA: Sage Publications.
- Mossakowski, K.N. (2003). Coping with perceived discrimination: Does ethnic identity protect mental health. *Journal of Health and Social Behavior*, 44, 318-331.
- National Asian Pacific American Legal Consortium. (2002). *Backlash: When America turned on its own*. Washington, DC: Author.
- Neeleman, J., Mak, V., & Wessely, S. (1997). Suicide by age, ethnic group, coroners' verdicts and country of birth. *British Journal of Psychiatry*, 171, 463-467.
- Noh, S., Beiser, M., Kaspar, V., Hou, F., & Rummens, J. (1999). Perceived racial discrimination, depression, and coping: A study of Southeast Asian refugees in Canada. *Journal of Health and Social Behavior*, 40, 193-207.

- Noh, S. & Kaspar, V. (2003). Perceived discrimination and depression: Moderating effects of coping, acculturation, and ethnic support. *American Journal of Public Health, 93*, 232-238.
- Olson, D.H. (1986). Circumplex Model VII: Validation studies and FACES III. *Family Process, 25*, 337-351.
- Oppedal, B., Roysamb, E., and Sam, D. L. (2004). The effect of acculturation and social support on change in mental health among young immigrants. *International Journal of Behavioral Development, 28*, 481-494.
- Peterson, W. (1966, January 6th). Success story: Japanese American style. *New York Times Magazine*, p.11.
- Phinney, J.S., Madden, T., & Santos, I.J. (1998). Psychological variables as predictors of perceived ethnic discrimination among minority and immigrant adolescents. *Journal of Applied Social Psychology, 28*, 937-953.
- Prelow, H.M., Mosher, C.E., and Bowman, M.A. (2006). Perceived racial discrimination, social support, and psychological adjustment among African American college students. *Journal of Black Psychology, 32*, 442-456.
- Randell, B.P., Wang, W., Herting, J.R. (2006). Family factors predicting categories of suicide risk. *Journal of Child and Family Studies, 15*, 255-270.
- Romero, A.J. & Roberts, R.E. (1998). Perceptions of discrimination and ethnocultural variables in a diverse group of adolescents. *Journal of Adolescence, 21*, 641-656.
- Rudd, D.M. (1990). An integrative model of suicidal ideation. *Suicide and Life-Threatening Behavior, 20*, 16-30.

- Rudd, D.M. (1989). The prevalence of suicidal ideation among college students. *Suicide and Life-Threatening Behavior*, 19, 173-183.
- Saran, P & Eames, E. (1980). *The new ethnics: Asian Indians in the United States*. New York: Praeger.
- Shen, B-J. & Takeuchi, D.T. (2001). A structural model of acculturation and mental health status among Chinese Americans. *American Journal of Community Psychology*, 29, 387-418.
- Shiang, J., Blinn, R., & Bongar, B. (1997). Suicide in San Francisco, CA: A comparison of Caucasian and Asian groups, 1987-1994. *Suicide and Life Threatening Behavior*, 27, 80-91.
- Shrake, E.K. and Rhee, S. (2004). Ethnic identity as a predictor of problem behaviors among Korean Americans adolescents. *Adolescence*, 39, 601-622.
- Sodowsky, G. R., Lai, E. W. M., & Plake, B. (1991). Moderating effects of sociocultural variables on acculturation attitudes of Hispanics and Asian Americans. *Journal of Counseling and Development*, 70, 194-204.
- Sue, D.W. (2003). *Overcoming our racism: The journey to liberation*. CA: Jossey-Bass.
- Sue, D.W., Bucceri, J., Lin, A.I., Nadal, K.L., and Torino, G.C. (2007). Racial microaggressions and the Asian American experience. *Cultural Diversity and Ethnic Minority Psychology*, 13, 72-81.
- Takahashi, Y. (1989). Suicidal Asian Patients: Recommendations for treatment. *Suicide and Life-Threatening Behavior*, 19, 305-313.

- Takeuchi, D., Zane, N., Hong, S., Chae, D., Gong, F., & Gee, G. (2007). Immigration-related factors and mental disorders among Asian Americans. *American Journal of Public Health, 97*, 84-90.
- Triandis, H. (1995). *Individualism and collectivism*. Boulder: Westview Press.
- U.S. Bureau of Census. (2000, February). *Asian population: 2000*. Retrieved September 9th, 2009, From <http://www.census.gov/prod/2002pubs/c2kbr01-16.pdf>.
- US Department of Health and Human Services. (2001). *Mental health: Culture, race, and ethnicity—A supplement to mental health: A report of the Surgeon General*. Rockville: MD: US Department of Health and Human Services, Substance Abuse and Mental Health Administration, Center for Mental Health Services.
- Vijayakumar, L., John, S., Pirkis, J., & Harvey, W. (2005). Suicide in developing countries: Risk factors. *Crisis: The Journal of Crisis Intervention and Suicide Prevention, 26*, 112-119.
- Walls, M.L., Chapple, C.L., & Johnson, K.D., (2007). Strain, emotion, and suicide among American Indian youth. *Deviant Behavior, 28*, 219-246.
- Williams, D.R., Yu, Y., Jackson, J.S., & Anderson, N.B. (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology, 2*, 335-351.
- Williams, D.R., Neighbors, H.W., & Jackson, J.S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health, 93*, 200-208.
- Wong, F. & Halgin, R. (2006). The “Model Minority”, bane or blessing for Asian Americans? *Journal of Multicultural Counseling and Development, 34*, 38-49.

- Wu, F.H. (2002). *Yellow: Race in American beyond Black and White*. New York: Basic Books.
- Yang, B. & Clum, G.A. (1994). Life stress, social support, and problem-solving skills predictive of depressive symptoms, hopelessness, and suicide ideation in an Asian student population: A test of a model. *Suicide and Life-Threatening Behavior, 24*, 127-139.
- Ying, Y., Lee, P., Tsai, J.L. (2000). Cultural orientation and racial discrimination: Predictors of coherence in Chinese American young adults. *Journal of Community Psychology, 28*, 427-442.
- Ying, Y. (1996). Immigration satisfaction of Chinese Americans: An empirical examination. *Journal of Community Psychology, 24*, 3-16.
- Yoder, K., Whitbeck, L.B., & Hoyt, D.R. (2006). Suicide ideation among American Indian Youths. *Archives of Suicide Research, 10*, 177-190.
- Yoo, H.C. & Lee, R.M. (2009). Does ethnic identity buffer or exacerbate the effects of frequent racial discrimination on situational well-being of Asian Americans. *Asian American Journal of Psychology, 5*, 70-87.
- Yoo, H.C. & Lee, R.M. (2005). Ethnic identity and approach-type coping as moderators of the racial discrimination/well-being relation in Asian Americans. *Journal of Counseling Psychology, 52*, 497-506.
- Young, K. & Takeuchi, D.R. (1998). Racism. In L.C. Lee & N. W.S. Zane (Eds.), *Handbook of Asian American Psychology* (pp.401-432). Thousand Oaks: Sage.
- Zimmerman, M.C., Ramirez-Valles, J., Zapert, K.M., & Maton, K.I. (2000). A longitudinal study of stress-buffering effects for urban African-American male adolescent

problem behaviors and mental health. *Journal of Community Psychology*, 28, 17-33.