EFFECTS OF PERCEIVED DISCRIMINATION ON ASIAN AMERICANS:
A DAILY PROCESS STUDY

By
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To the Faculty of Washington State University:

The members of the Committee appointed to examine the dissertation of THU A. DANG find it satisfactory and recommend that it be accepted.

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EFFECTS OF PERCEIVED DISCRIMINATION ON ASIAN AMERICANS:

A DAILY PROCESS STUDY

Abstract

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The purpose of this study was to (a) examine the effects of daily perceived discrimination on the psychological functioning of Asian Americans, specifically their daily fear, hostility, sadness, serenity, and self-esteem, and (b) examine whether ethnic identity moderated the effects of daily perceived discrimination on daily affect and self-esteem ratings of Asian Americans. This study used a daily process method. By using this method, I was able to assess the immediate effects of perceived discrimination as well as examine both within and between individual differences.

Participants were 40 self-identified Asian American college students from Washington and California. Participants completed a one-time demographic questionnaire and ethnic identity measure (MEIM; Phinney, 1992). They also completed one daily diary entry each evening for 21 days. The daily diary entry consisted of 10 perceived discrimination items, 1 open-ended item, 13 affect items (PANAS-X; Watson & Clark, 1994) and 5 self-esteem items (R-SES; Rosenberg, 1965).

My hypotheses were: 1) increased experiences of perceived daily discrimination will predict (a) higher daily fear ratings, (b) higher daily hostility ratings, (c) higher daily sadness ratings, (d) lower daily serenity ratings, and (e) lower daily self-esteem ratings, and 2) ethnic identity will moderate, or buffer, the effects of daily perceived discrimination on (a) daily fear
ratings, (b) daily hostility ratings, (c) daily sadness ratings, (d) daily serenity ratings, and (e) daily self-esteem ratings. Multilevel analysis, with days nested within individuals, was the primary method of analysis.

Hypothesis I was partially supported. Perceived daily discrimination predicted daily hostility scores but not daily fear, sadness, serenity, or self-esteem scores. Hypothesis II was not supported. Ethnic identity did not moderate the effects of daily perceived discrimination on affect or self-esteem scores. This study demonstrated the benefits of using a daily process method and the importance of researching the effects of discrimination on psychological well-being among Asian Americans.
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Dedication

This dissertation is dedicated to my parents.

I would like to thank them for their support, care, and love.

I could not have accomplished anything great without them.
CHAPTER 1

Introduction

Racism is defined as “prejudicial attitudes and discriminatory behavior toward people of a given race” (Young & Takeuchi, 1998, p. 401). Due to the civil rights movement, people in the U.S. have become more aware of unfair treatment directed towards minorities, especially African Americans. This has led to psychological research evaluating the effects of racism on Blacks (Clark, 2006; Dovidio & Gaertner, 2000; Hodson, Dovidio, & Gaertner, 2002; Merritt et al., 2006). This has also led to the dichotomization of racial issues making it a White and Black issue. Non-African American minorities’ experiences with racism and its effects have been understudied. In particular, Asian Americans, who are viewed as model minorities because they are perceived as equivalent to Caucasians in academics and socioeconomic status (Chen, LePhuoc, Guzman, Rude, & Dodd, 2006; Paek & Shah, 2003), are even less studied. This may lead to the belief that Asian Americans do not experience racism and discrimination (Chen et al., 2006).

Additionally, few people have knowledge of the historical discrimination against Asian Americans because it is rarely discussed or presented in their education (Yang, 2004). Liang, Li, and Kim (2004) attributed this missing information to the dichotomization of racism and to the model minority myth. They explained that Asian Americans do not fit into the “Black” or “White” category and are viewed as successful minorities who have obtained the “American dream.”

Contrary to many Americans’ beliefs, Young and Takeuchi (1998) found that Asian Americans experience a tremendous amount of racism. For example, Asian Americans represent only 3% of Boston’s population but accounted for 33% of the racially motivated attacks. Hate
crimes against Asian Americans more than doubled from the first six months of 1989 to 1990. From 1995 to 2002, the Asian American Justice Center reported a nationwide total of 3,581 incidents of anti-Asian violence (Ancehta, 2006).

**Historical and Overt Racism against Asian Americans**

John Dovidio and Samuel Gaertner (2005) differentiated overt and aversive racism. They defined overt racism as the explicit dislike and hate of people of different races. Similarly, Ancehta (2006) defined racial subordination as “an expression of power based on race in which a dominant person, group, or institution acts to place another person, group, or institution in a lesser or subordinate position relative to the dominant entity” (p. 18). Overt racism is viewed as morally wrong by most people. Aversive racism, on the other hand, occurs on a daily basis and is usually carried out by well-intentioned people. The negative feelings that these individuals feel toward minorities are often diffused and expressed as anxiety and uneasiness. Most Caucasians endorse egalitarian values and will not discriminate directly and openly. Rather, they prejudge unintentionally, especially when their behaviors can be easily justified with alternative explanations (Dovidio & Gaertner, 2005).

Throughout U.S. history, there have been several instances of racial subordination, or overt racism, against Asian Americans. Twenty-one Chinese were shot, hanged, or burned in an anti-Chinese riot in Los Angeles, California in 1871 (Young & Takeuchi, 1998). Five years later, San Francisco passed an ordinance that mandated Chinese men get their pigtails cut off if they were arrested (Young & Takeuchi, 1998). According to Chinese culture, the pigtail demonstrated loyalty to their country. In 1882, Chinese individuals were banned from immigrating into the U.S. The Chinese Exclusion Act, initially a ten-year policy, was extended indefinitely, and was made permanent in 1902. In 1943, during World War II, when China
became an important ally to the U.S. against Japan, the Chinese Exclusion Act was repealed (Tsai, 1991). According to Mio, Nagata, Tsai, and Tewari (2007), during World War II Executive Order 9066 was passed interning over 100,000 Japanese Americans because they were deemed “sneaky, untrustworthy, and treacherous” (p. 349). Italy and Germany were also involved in the war and fought against the U.S., yet Italian and German Americans were not interned. Mio et al. (2007) summed up the Asians’ first experience with the U.S.—“when it was convenient or desirable for Asians to enter the United States, they were allowed to immigrate to this country. However, once their utility was over, laws were passed to prevent them from immigrating to, or staying in, the United States” (p. 345).

More recent experiences of Asian American discrimination occurred in the 1980’s. Asian Indians were targeted in Jersey City, New Jersey for allegedly stealing White American jobs. The “Jersey City Dot Busters,” referring to the bindi dot on female Asian Indians’ foreheads, was formed to harass the Asian Indian immigrants and community (Mio et al., 2007). The “Dot Busters” beat Navroze Mody to death while chanting “Hindu, Hindu!” (Dot Busters in New Jersey, 1987). A few days later, Dr. Kaushal Sharan was beaten by three Caucasian men using baseball bats. Dr. Sharan’s skull was fractured and he was in a coma for a week suffering permanent neurological damage (Dot Busters in New Jersey, 1987). A letter from the “Dot Busters” read, “we will go to any extreme to get Indians to move out of Jersey City…We use the phone books and look up the name Patel…They will never do anything. They are a [weak] race [p]hysically and mentally” (Dot Busters in New Jersey, 1987). Violent acts against Asian Americans continued. Vincent Chin was murdered in 1982 and Thien Ly in 1996. Vincent Chin, a Chinese American, lived in Detroit, Michigan and was celebrating his bachelor’s party when Ronald Ebens, a Caucasian autoworker, was witnessed saying, "It's because of you little
motherfuckers that we're out of work." Later that evening, Ebens and his step-son, Michael Nitz, beat Chin with a baseball bat, bashing his skull in. Chin slipped into a coma and died four days later (five days before his wedding). Ebens and Nitz were acquitted of manslaughter and did not serve a single day in jail (Yip, 1997). Similarly, Thien Ly, a Vietnamese American, was assumed to be Japanese. His killer, Gunner Jay Lindberg, wrote:

Oh, I killed a Jap a while ago. I stabbed him to death at Tustin High School. I walked up to him. Domenic was with me and I seen this guy Rollerblading and I had a knife….I walked right up to him and he was scared. I looked at him and said, “Oh, I thought I knew you,” and he got all happy that he wasn’t gonna get jumped. Then I hit him with one of my motherfuckers and he fell to the ground and he said in a very low voice, “What the fuck?” and “You can have whatever I got. I have nothing—only a key. You can have it.” Then I said, “You got a car.” Oh, I pulled the knife out—a butcher’s knife and he said, “No!” Then I put the knife to his throat and asked him, “Do you have a car?” And he grabbed my hand that I had the knife and looked at me, trying to get a description of me, so I stomped on his head three times and each times said, “Stop looking at me.” Then he was kinda knocked out. Dazzed. Then I stabbed him in the side about 7 or 8 times. He rolled over a little, so I stabbed his back about 18 or 19 times. Then he layed flat and I slit one side of his throat on his jugular vein. Oh, the sounds the guy was making were like “uhhhhh.” Then Domenic said, “Do it again,” and I said, “I already did, dude,” so I cut his other jugular vein and Domenic said, “Kill him? . . . Do it again.” I said, “He’s already dead.” Domenic said, “Stab him in the heart.” So I stabbed him about 20 to 21 times in the heart . . . He was dying just then, taking in some bloody gasps of air so I nudged his face with my shoe a few times. Then I told Domenic to kick him, so he kicked the fuck out of his face and he still has blood on his shoes all over [smiley face]. Then I ditched the knife after whipping it clean on to the side of the 5 freeway [smiley face]…[I’m] having a ball in Tustin. Wish you were here.

Although this crime occurred 16 years ago, the court has not ruled it a hate crime and Lindberg is eligible for parole in 2023 (Moxley, 2008). In 1989, Patrick Purdy murdered five Southeast Asian children and wounded over 20 others at Cleveland Elementary in Stockton, California (Ancheta, 2006). He blamed Asian Americans for taking away jobs from White Americans (Sue, 2005) and targeted the school because it was heavily populated by Southeast Asian children (Ancheta, 2006). Mio et al. (2007) reported that immediately after 9/11, the New York-
based Asian American Legal Defense and Education Fund (AALDEF) documented over 100 discrimination-related incidents, half of which were violent, toward South Asians.

The above are examples of overt or “traditional racism,” blatant, rather than covert, forms of discrimination (Rosenbloom & Way, 2004). However, hate crimes account for only a small fraction of the discrimination and harm that people of color experience (Sue, 2005). Furthermore, the “old fashioned” form of racism has morphed into a modern form that is subtle, indirect, and often disguised (Sue et al., 2007).

Covert Racism against Asian Americans

Hodson, Dovidio, and Gaertner (2002) defined modern day or aversive racism as discrimination against people of color in subtle and rationalizable ways by White Americans who believe and endorse egalitarian values and regard themselves as non-biased individuals. Similarly, Sue et al. (2007) described microaggressions as daily slights and insults that communicate hostility. Furthermore, microaggressions tend to occur when alternative explanations can be given for the mistreatment of people of color rather than racial or ethnic prejudice (Sue, 2005). Sue (2005) stated that modern racism is more harmful and damaging than overt racism to people of color.

Sue et al. (2007) described three forms of microaggressions — microassaults, microinsults, and microinvalidations. Microassaults are defined as conscious racial ridicules and assaults that are verbal, nonverbal, or environmental and aimed at hurting people of color. This may include racial slurs, behavioral bias, and offensive visual displays. Microinsults are unconscious and unintentional behaviors or verbal comments that communicate rudeness, insensitivity, or demean a person of color’s racial background. Finally, microinvalidations are actions that invalidate a person of color’s experiences with discrimination (Sue et al., 2007).
Sue et al. (2007) interviewed 10 Asian American students to solicit forms of microaggressions against Asian Americans. The researchers identified eight forms of microaggressions toward Asian Americans. The first, alien in own land, refers to White Americans’ assumption that all Asian Americans are foreign-born and foreigners; communicating the notion that Asian Americans are different and not “American.” An example includes the statement, “You speak English well” (Sue et al. 2007). Second, ascription of intelligence, is the assumption that Asian Americans have a certain degree of intelligence, especially in science and mathematics. This assumption negatively affects Asian Americans as they feel the need to conform to the stereotype. Next is denial of racial reality, the invalidation and dismissal of Asian Americans’ experiences with racism. These behaviors operate on the belief that Asian Americans are living the “American dream,” have overcome obstacles, and do not experience discrimination. The eroticization of Asian American women is the fourth form and is defined as the belief that Asian American women are exotic and submissive, subjugating them to “roles of sexual objects [and] domestic servants” (Sue et al., 2007, p. 76). Invalidation of interethnic differences is the minimization or denial of differences among Asian American groups. An example of this includes, “All Asians look alike” (Sue et al., 2007, p. 76). The definition of pathologizing cultural values and communication styles is the negative and inferior belief of Asian Americans’ cultural values and communication styles. The seventh, second class citizenship, is the treatment of Asian Americans as lesser beings or as second class citizens. The message that Asian Americans are receiving is that they are less than White Americans. Finally, invisibility is the unintentional neglect of Asian Americans. This conveys the message that Asians are not a minority group and experience little racism. An example of this includes Asian Americans being left out of discussions of racial discrimination (Sue et al. 2007). In fact, it is
argued that microaggressions are more harmful than traditional racism and may affect one’s well-being, self-esteem, and standard of living, while increasing racial anger and frustration (Sue et al., 2007).

Harrell (2000) defined racism-related stress as race-related interactions between an individual and his/her environment that “emerge from the dynamics of racism, and that are perceived to tax or exceed existing individual and collective resources or threaten well-being” (p. 44). She described six types of racism-related stress. The first, racism-related life events, is racism that exists in areas such as housing, education, and occupation. These events are “time-limited” (Harrell, 2000, p. 45) and occur infrequently. An example would be being harassed by the police. Vicarious racism is the second form and is experienced when a person of color becomes affected by witnessing another person of color’s experiences of racism. The third, daily racism microstressors, are slights, exclusions, and experiences of being looked over or ignored that occur daily. Microstressors are very similar to Sue et al.’s (2007) description of microaggressions. Chronic-contextual stress is defined as the chronically inadequate living conditions of people of color which result from uneven distribution of and access to resources. The fifth form of racism-related stress is collective experiences of racism. This refers to the effects of racism on one’s racial and/or ethnic group. An example of this is the awareness of the lack of political representation of one’s racial group. The final form of racism-related stress is transgenerational transmission of group traumas. This is defined as the awareness, socialization, beliefs and effects of historical oppression on one’s racial and/or ethnic group (Harrell, 2000).

Throughout the rest of my paper, I focus on covert racism. I chose to examine covert racism, or microaggressions, rather than overt racism in my research because it is the modern and current form of discrimination that has current and present day effects. Furthermore,
because microaggressions are constant and chronic (Sue, 2010), they may be as damaging to ethnic minorities as overt incidents of racism. Gee, Ro, Shariff-Marco, and Chae (2009) used an iceberg floating in the ocean analogy to describe different types of racism. They explained that hate crimes and overt acts of racism are just the tip of the iceberg and are less prevalent than the subtle and covert discrimination that lie beneath the water line. Gee et al. (2009) conclude that “although less dramatic, these mundane actions may be as damaging as more overt ones” (p. 131).

To summarize, Asian Americans do experience racism. In fact, Alvarez, Juang, and Liang (2006) reported that 99% of Asian American participants endorsed experiencing vicarious racism, 90% endorsed experiencing direct racism, and 85% reported experiencing collective racism. Furthermore, discrimination and microaggressions have been hypothesized to lead to racism-related stress (Alvarez, Juang, & Liang, 2006; Harrell, 2000; Liang, Li, & Kim, 2004), which in turn, may lead to distress or decrease in psychological functioning.

**Theoretical and Conceptual Frameworks**

**Stress and Coping Model and Microaggressions**

The primary theoretical and conceptual framework that will be guiding my research is the stress and coping model, particularly microaggressions and microaggressive stress. Brondolo, Brady ver Halen, Pencille, Beatty, and Contrada (2009) define overt and covert racism as a stressor and, furthermore, this stressor contributes to racial and ethnic mental and physical health disparities. More specifically, “the perception that one’s coping capacity is not adequate to meet the demands increases the likelihood that ethnicity-related maltreatment will be experienced as a chronic stressor” (p. 66). Similarly, Harrell (2000) defined racism-related stress as race-related interactions between an individual and his/her environment that “emerge from the dynamics of
racism, and that are perceived to tax or exceed existing individual and collective resources or threaten well-being” (p. 44).

Chen, Androsiglio, and Ng (2010) described the minority stress model specifically among lesbian, gay, bisexual (LBG) ethnic minorities. The authors emphasized that minority stress, similar to Sue’s (2005) microaggressions, is different than general stressors, which are experienced by all individuals. General stressors, such as loss of a job or the death of a loved one, are specific individual events and are time limited. In contrast, minority stress is chronic and socially based. The effects of minority stress, such as increased depression and anxiety and decreased self-esteem, depend on “individuals’ coping strategies [which] will vary depending on their appraisal of the nature of the stressor (chronic or situational) as well as the extent to which the stressor is believed to surpass their personal capabilities” (p. 534).

Similar to the minority stress model is Sue’s (2010) concept of microaggressive stress. Sue (2010) explained that, in addition to normal life stressors, people of color also experience race-related stress. Furthermore, he stated that microaggressions attack the self-esteem, belief systems, and racial identities of people of color. “The effects and severity of microaggressive stressors depend very much on the nature of the challenge posed by the threat and the perceived available resources of the person” (p. 96).

Based on the above stress and coping models, individuals of color experience discrimination and microaggressions as a constant and chronic stressor and the negative effects of these chronic stressors depend on these individuals’ abilities and capacities to cope. When discrimination and microaggressions exceed ethnic minorities’ abilities and resources to cope, they may experience negative symptoms such as depression, anxiety, post-traumatic stress disorder (PTSD), and decreased self-esteem (Barry & Grilo, 2003; Harrell, 2000; Hwang &
Goto, 2008). More specifically, Asian Americans may experience daily experiences of microaggressions or perceived discrimination and how these experiences affect their well-being depend on their coping resources such as social support, ethnic identity, and engagement in problem-focused and emotion-focused coping (Chen, Androsiglio, & Ng, 2010).

Discrimination has also been linked to physiological effects, including high blood pressure, respiratory problems, and chronic health conditions (Gee et al., 2006; Gee, Spencer, Chen, & Takeuchi, 2007). Additionally, it has been shown to be associated with higher levels of HIV risk behaviors (Wilson & Yoshikawa, 2004) as well as adverse psychological effects (Alvarez et al., 2006; Barry & Grilo, 2003; Boeckmann & Liew, 2002; Chae et al., 2008; Harrell, 2000; Gee et al., 2006; Gee, Spencer, Chen, Yip, & Takeuchi, 2007; Greene, Way, & Pahl, 2006; Hwang & Goto, 2008; Inman & Yeh, 2007; Lam, 2007; Liang & Fassinger, 2008; Loo et al., 2001; Loo, Fairbank, & Chemtob, 2005; Mio et al., 2007; Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Rosenbloom & Way, 2004; Samuel, 2004; Sue et al., 2007; Yip, Gee, Takeuchi, 2008; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Ying, Lee, & Tsai, 2000; Yoo & Lee, 2008; Young & Takeuchi, 1998). Furthermore, several studies have found that perceived racism correlates with lowered self-esteem and self-concept (Barry & Grilo, 2003; Greene, Way, & Pahl, 2006; Rosenbloom & Way, 2004; Yoo & Lee, 2008; Young & Takeuchi, 1998), depression (Gee et al., 2007; Greene et al., 2006; Hwang & Goto, 2008; Inman & Yeh, 2007; Lam, 2007; Noh et al., 1999; Rosenbloom & Way, 2004; Wei et al., 2008; Yoo & Lee, 2008), anxiety (Hwang & Goto, 2008; Lam, 2007; Yoo & Lee, 2008), and general distress (Alvarez et al., 2006; Yip, Gee, & Takeuchi, 2008). Based on these theoretical frameworks and findings, it is evident that Asian Americans experience microaggressions daily. Additionally, experiences of perceived discrimination may lead to decreased self-esteem,
increased depression and anxiety as well as increased engagement in high risk behaviors (e.g., unsafe sex). However, Asian Americans’ ability to cope with perceived discrimination may be buffered by such coping resources as ethnic identity and familial support.

*Ethnic Identity*

A second conceptual framework for my study is provided by the concept of ethnic identity. There has been debate regarding the definition of ethnic identity and acculturation, more specifically enculturation, and whether ethnic identity and enculturation are the same. Kohatsu (2005) answered this question by stating, “related to, yet distinct from, ethnic identity are the constructs of acculturation and enculturation” (p. 367). Phinney (1992) defined ethnic identity as “the degree to which an individual has explored the meaning of his or her ethnic group membership and developed a sense of commitment to his or her ethnic heritage” (p. 156). Similarly, Chae and Lares (2010) described ethnic identity as “a set of self-conceptions whereby individuals derive a distinct group identity that is multidimensional...[and] the degree of value and emotional significance an individual attaches to his or her ethnic group” (p. 257). Acculturation is defined as a process of change that individuals engage in as they interact with and adapt to a new culture and environment (Rivera, 2010), such as the White American culture. In contrast, enculturation is defined as a “process of socialization to, and maintenance of, the norms of one’s indigenous culture, including the salient values, ideas, and concepts” (Kim, 2007, p. 142). Kim (2007) also labeled enculturation as “cultural maintenance” (p. 142). Kim (2007) and Kim and Abreu (2001) both explained that enculturation is a process of (re)socializing into and maintaining the norms of one’s culture of origin while acculturation is the process of adapting to the norms of the dominant culture. Similarly, del Prado and Church (2010) defined enculturation as the degree to which an ethnic minority adheres to the values and behaviors of
their indigenous culture. Therefore, it appears that ethnic identity, acculturation, and enculturation are different constructs.

Since I was interested in examining the role of ethnic identity, rather than acculturation or enculturation, on the relationship of perceived discrimination and well-being, the rest of this chapter will only refer to ethnic identity. Cheryan and Tsai (2007) defined Asian ethnic identity as “the degree to which individuals view themselves as members of a particular Asian cultural group…[which also include] feelings [of] and [a] sense of attachment to their Asian heritages” (p. 126). According to Phinney and Ong (2007), there are seven components of ethnic identity. The first is self-categorization and labeling and occurs when one identifies with a member of a particular social group (e.g., Asian); furthermore, this label is usually influenced by the perception of others. The second is commitment and attachment, which include feelings of attachment and belonging to a particular group. In addition, commitment and attachment involve a “secure and stable sense of self that…reflects knowledge of and understanding about ethnicity” (p. 272). Exploration pertains to the seeking of information and experiences that is significant to one’s ethnicity. This process is ongoing and may include activities such as speaking one’s native language and learning about and attending cultural events. Ethnic behaviors enable one to express one’s ethnicity and identity. Based on one’s learning and commitment to one’s ethnic group, positive evaluations and in-group attitudes enable one to reject negative views, stereotypes, and discrimination while maintaining a positive perspective on one’s ethnic group. Finally, one attributes importance and salience to one’s ethnicity.

Phinney and Ong (2007) also indicated that individuals transition between stages of identity development as a function of their psychological maturity and exposure to different life experiences. One usually moves from ethnic identity diffusion (i.e., lacking a clear identity) to
foreclosure (i.e., commitment to one’s ethnicity without exploration) or moratorium (i.e., commitment to one’s ethnicity with exploration). Finally, one reaches ethnic identity achievement, which consists of a strong sense of commitment and attachment to one’s ethnicity and is based on the exploration of one’s ethnic culture, resulting in a clear understanding of ethnicity.

It is clear that Asian Americans experience racism and are adversely affected by it. Additionally, based on the stress and coping models, ethnic identity may be a resource to help cope with discrimination and microaggressions; however, its role in the relationship between perceived discrimination and well-being is still unknown. Therefore, my study examined the moderating effects of ethnic identity on the relationship between perceived discrimination and the daily well-being of Asian Americans, including possible feelings of fear, hostility, sadness, and serenity.
CHAPTER 2

Literature Review

From the previous chapter, it is clear that Asian Americans experience microaggressions or perceived discrimination daily. Additionally, Asian Americans are adversely affected by these experiences, including developing symptoms of depression, anxiety, and PTSD. However, according to the stress and coping models, ethnic identity may serve as a resource to help Asian Americans cope with perceived discrimination. In this chapter, I review the current literature regarding Asian Americans and discrimination. More specifically, I review and critique current measures of perceived discrimination and ethnic identity and discuss a more promising method to assessing the effects of daily experiences of perceived discrimination—the daily diary method.

Effects of Discrimination on Asian Americans

It is apparent that perceived discrimination negatively affects Asian Americans. Because findings have been consistent, I review a few representative studies below. Noh et al. (1999) examined the effects of perceived racial discrimination on depression among Southeast Asian refugees in Canada. The authors conducted a sub-study from the Refugee Resettlement Project (RRP), which studied the economical, psychological, and social adaptation of Southeast Asian refugees in Canada. The sample consisted of 647 refugees, including Chinese, Vietnamese, and Laotian Canadians. The authors assessed discrimination by asking, “In Canada, have you been discriminated against because of your race?” Twenty-six percent of the participants reported that they had been. Depression was assessed using the depression scale by Beiser (1988). The scale consists of 17 items that are answered on a 3-point Likert scale. Some examples of the items include, “Have you been feeling unhappy?” and “Have you been feeling like you’ve lost interest and pleasure?” The researchers found that participants who perceived experiences of racial
discrimination were 1.58 times more likely to experience depression than those who reported that they did not experience discrimination.

Gee et al. (2007) examined the relationship between perceived racial discrimination and DSM-IV defined disorders among Asian Americans. This study was a sub-study of the 2002-2003 US National Latino and Asian American study. The study included 2095 Asian Americans, including Chinese, Vietnamese, Filipino, Japanese, Korean, Pacific Islanders, and other. To assess for DSM-IV diagnoses, the authors used the World Health Organization Composite International Diagnostic Interview (WHM-CIDI; World Health Organization, 1998). The scale assesses for major depressive disorder, dysthymia, panic disorder, agoraphobia without panic, social phobia, generalized anxiety disorder, posttraumatic stress disorder, alcohol abuse, alcohol dependence, drug abuse, and drug dependence within the past 12 months. Everyday discrimination was assessed using a 9-item scale that was adopted from the 1995 Detroit Area Study Discrimination Questionnaire (DAS-DQ; Williams, Yu, Jackson, & Anderson, 1997). The items are answered on a 6-point Likert scale, ranging from “almost everyday” to “never.” Examples of the items include, “How often have you experienced being treated with less courtesy than other people?” and “How often have you experienced being called names or insulted?” Gee et al. (2007) found that perceived discrimination predicted many DSM-IV disorders, and particularly depression and anxiety disorders. More specifically, after controlling for sociodemographic characteristics, family cohesion, poverty, physical health, and social desirability, participants who endorsed experiencing perceived discrimination were 1.9 times more likely to have a DSM-IV disorder within the past 12 months than those who did not report experiencing perceived discrimination. Participants who reported high levels of discrimination (e.g., a few times a year) had a 0.058 probability of having any mental disorder, compared to
0.043 for those who reported moderate levels of discrimination (e.g., approximately once a year) and 0.027 for individuals who reported low levels of discrimination (e.g., less than once a year). This indicated that those who experienced regular discrimination were two times more likely to have any DSM-IV diagnosis than those who experienced little discrimination. Similarly, participants who experienced frequent discrimination had a 93% probability of developing an anxiety disorder compared to those who reported infrequent experiences with racism. The probability of participants experiencing depression rose 169% from low to high experiences of perceived discrimination. Among immigrants, the authors found that discrimination was a stronger predictor of mental health disorders than acculturative stress. Furthermore, discrimination appeared to account for the relationship between acculturative stress and depressive disorders. Finally, participants who experienced discrimination were 1.98 times more likely to be associated with one disorder and 3.07 times more likely to have two or more disorders compared to participants who did not experience discrimination. The authors also found that perceived discrimination was associated with depression and substance use among Filipino Americans and inadequate mental health among Chinese Americans.

In another study, Hwang and Goto (2008) examined the effects of perceived racial discrimination on the mental health of Asian American college students. The authors sampled 186 Asian American college students, including Chinese, Vietnamese, Japanese, Taiwanese, and Korean Americans. Perceived discrimination was measured using the General Ethnic Discrimination Scale (GED; Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). The GED assesses 18 forms of discrimination involving work, public places, health care, and school in addition to the amount of stress that each causes. The items are answered on a 6-point Likert scale ranging from “never” to “almost all of the time” and “not at all stressful” to “extremely
stressful.” To assess for psychological distress and well-being, the authors used the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983), the Scale for Suicidal Ideation (SSI; Beck et al., 1979), the State-Trait Anxiety Inventory (STAI; Spielberger, 1983), and the Hamilton Depression Inventory (HDI; Hamilton, 1960).

The BSI (Derogatis & Melisaratos, 1983) consists of a list of psychological symptoms and participants are asked to rate each symptom according to a 5-point Likert scale (1 = “not at all” to 5 = “extremely”). The SSI (Beck et al., 1979) is a 5-item scale that asks about participants’ wish to live, desire to kill themselves, frequency of their suicidal ideation, certainty that they will make a suicide attempt, and the extent to which they had developed a specific plan. State anxiety was defined as an emotional state of worry, tension, and nervousness (Center for Psychological Studies, 2009; Hwang & Goto, 2008). Trait anxiety was defined as individual differences in the general tendency to respond with stress in perceived stressful situations (Center for Psychological Studies, 2009; Hwang & Goto, 2008). The items are answered on a 4-point Likert scale ranging from “not at all” to “very much so.” The HDI (Hamilton, 1960) is a 23-item scale that assesses depression severity among the participants.

Hwang and Goto (2008) found that more experiences of perceived discrimination were correlated with greater suicidal ideation. Additionally, greater experiences with discrimination were also associated with high state and trait anxiety and nearly doubled the possibility of experiencing depression.

In contrast, Harrell (2000) indicated that racism-related stress correlates with post-traumatic stress symptoms, substance abuse, eating difficulties, psychosomatization, and even violence. More specifically, Loo et al. (2001) found that, after controlling for combat exposure and military rank, Asian American veterans who perceived experiencing discrimination were
20% more likely to develop PTSD symptoms compared to their Caucasian counterparts. Loo et al. (2005) found that 13% of those who reported experiencing a single racist event met full criteria for PTSD, 36% of individuals who experienced multiple events of racism met criteria on the first event, and 35% met criteria for PTSD on the second event. In regards to substance use, Chae et al. (2008) found that participants who reported experiencing frequent discrimination were three times more likely to be a current smoker compared to those who reported experiencing no discrimination. Liang and Fassinger (2008) found that perceived racism negatively correlated with subjective competence as well as collective self-esteem among Asian Americans. Furthermore, they found that it was positively correlated with interpersonal and career problems.

In summary, it is very clear that Asian Americans experience discrimination and racism. More worrisome is the effects that racism can cause on this population (Table 1). It has been demonstrated that perceived racism is positively correlated with depression (Gee et al., 2007; Greene et al., 2006; Hwang & Goto, 2008), anxiety (Hwang & Goto, 2008; Lam, 2007; Yoo & Lee, 2008), PTSD (Loo et al., 2001; Loo et al., 2005), and high risk behaviors (Chae et al., 2008; Wilson & Yoshikawa, 2004). Discrimination is also negatively correlated with self-esteem (Barry & Grilo, 2003; Greene et al., 2006; Rosenbloom & Way, 2004). These affects paired with Asian Americans’ reluctance to seek help, especially mental health help (Ting & Hwang, 2009), can be very damaging. These studies have some limitations, however, which are addressed later in this chapter.

Table 1. Summary of Findings: Effects of Perceived Discrimination for Asian Americans

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<th>Study</th>
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18
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<th>Study</th>
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<tr>
<td>Noh, Beiser, Kaspar, Hou, and Rummens (1999)</td>
<td>26% of participants perceived experiences with discrimination; they were 1.58 times more likely to experience depression than those who did not report any experiences of discrimination</td>
</tr>
<tr>
<td>Hwang and Goto (2008)</td>
<td>Greater perceived discrimination correlated with greater suicidal ideation, increased state and trait anxiety, and nearly doubled the possibility of experiencing depression</td>
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<tr>
<td>Gee, Spencer, Chen, Yip, and Takeuchi (2007)</td>
<td>Participants who reported experiencing perceived discrimination were 1.98 times more likely to be associated with one DSM-IV disorder and 3.07 times more likely to have two or more disorders. They also had a 93% probability of developing an anxiety disorder and a 169% probability of developing depression compared to those who reported infrequent experiences with racism</td>
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<tr>
<td>Chae, Takeuchi, Barbeau, Bennett, Lindsey, and Krieger (2008)</td>
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<tr>
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<td>Perceived racism was negatively correlated with subjective competence and collective self-esteem and positively correlated with interpersonal and career problems</td>
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**Measures of Discrimination and Distress**

In the studies that I reviewed in this chapter, several methods were used to assess and identify perceived discrimination, including previously developed scales and specifically chosen questions or statements. Many of the studies attempted to measure the perception of experiences of racism rather than quantifying “racism.” The perception of racism was used because modern racism is subtle and covert, therefore it is difficult to measure. Thus, researchers measured racism through the experiences of minorities (Noh et al., 1999).

Lam (2007) used one statement, “Racism affects the lives of people of their racial and ethnic group” to assess perceived discrimination. This statement did not assess participants’ own experiences with racism but rather their general belief about racism. An individual can believe
that racism has a negative effect on their racial group and also believe that s/he had never personally experienced racism. Sue et al. (2007) asked eight open-ended questions, including “What are some subtle ways that people treat you differently because of your race?” and “Describe a situation in which you felt uncomfortable, insulted, or disrespected by a comment that had racial overtones,” to identify forms of subtle racism. Wilson and Yoshikawa (2004) asked their participants to imagine a recent situation where they believed that they encountered a racist act. Noh et al. (1999) measured discrimination by asking, “In Canada, have you been discriminated against because of your race?” This question may promote the recollection of overt forms of racism rather than covert forms, or microaggressions, because individuals usually recall more significant events rather than everyday insults. Barry and Grilo (2003) only used two items—“I find that Americans treat me as an equal” and “People from my ethnic group are discriminated against.”

Boeckmann and Liew (2002) measured the effects of overt discrimination by presenting three scenarios to their participants, including discrimination against an overweight, African American, and Asian American individual. The scenarios described a convenience store patron blatantly making biased comments against the individual in each scenario. Yoo and Lee (2008) conducted a similar study. The researchers presented their participants with two scenarios where a group of Asian American students were denied entrance into a nightclub by a Caucasian doorman while allowing a group of White students to enter.

The studies that I described failed to analyze or report any reliability or validity. Therefore, there is no assurance that the statements used in the studies actually assessed perceived discrimination. Furthermore, several of the studies measured perceived discrimination by simply asking a couple of questions. This raises questions regarding the reliability of the
instruments. Additionally, as I mentioned above, these measures asked participants to recall previous experiences. This may have led to recall bias and skewed information. Among the studies that used previously established scales that did report reliability and validity, Alvarez et al. (2006) used the Racial and Life Experiences Scale (RALES; Harrell, 1997) to assess perceived racism. The measure is a battery of instruments consisting of three scales. The Racism Experiences scale (15 items) measures perceived forms of racism and is divided into three subscales including Vicarious, Direct, and Collective Racism. The Daily Life Experiences scale (20 items) measures participants’ perception of microaggressions. The Socialization scale (19 items) consists of two subscales. The Discussions subscale measures the frequency that participants engage in racism-related discussions and the Environment subscale measures “the racial composition of one’s various environments (e.g., school and places of worship) and interpersonal relationships (e.g., friends and intimate relationships)” (p. 482). The benefit of this measure is that it examines both traditional racism and microaggressions. Alvarez et al. (2006) reported reliability estimates of .78, .76, .81, .94, .80, and .80 for the Vicarious Racism subscale, Direct Racism subscale, Collective Racism subscale, Daily Life Experiences scale (i.e., microaggressions), Discussions subscale, and Environment subscale, respectively.

There were also some studies that used previously developed and validated measures. However, there are problems with these scales as well. Hwang and Goto (2008) used the Schedule of Racist Events (SRE; Klonoff & Landrine, 1999) to assess perceived discrimination. Boeckmann and Liew (2002) also used this scale. This scale was originally developed for African Americans. The SRE (Klonoff & Landrine, 1999) is an 18-item, self-report scale that measures the frequency of African Americans’ experiences with different types of discrimination. The subscales include Recent Racist Events, Lifetime Racist Events,
Appraised Racist Events. Each item is answered on a 6-point Likert scale (1 = “the event never happened to me” to 6 = “the event happens almost all of the time”). The internal consistency (Cronbach’s alpha = .94 to .95) and the test-retest reliability (r = .95 to .96) were high. As evidence of convergent validity, the correlation between the SRE (Klonoff & Landrine, 1999) and the Krieger’s (1990) racial discrimination scale was moderate (r = .36 to .71). Because this measure was created for use with African Americans, it is not necessarily generalizable to Asian Americans. Indeed, some of the items asked in the SRE (Klonoff & Landrine, 1999) do not apply to Asian Americans. For example, Asian Americans may also experience bias from teachers and professors but in a different form. Teachers and professors may discriminate against Blacks by ignoring them in class and may discriminate against Asian Americans by believing the stereotype that they are good students, thus overlooking them when they need assistance. Similarly, Black Americans may be able to feel “really angry,” but Asian values encourage avoidance and lack of expression of strong emotions.

Hwang and Goto (2008) used the General Ethnic Discrimination Scale (GED; Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). The GED (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006) is an 18-item measure modeled after the SRE (Klonoff & Landrine, 1999) and measures the perception of racial discrimination. High factor loadings have been reported for each item of the GED (.80 to .99), indicating construct validity. High internal consistency reliability also have been demonstrated (alpha = .91 to .95). The authors replaced the stems of each item with “because of your race/ethnic group” rather than “because you are Black.” The same weakness applies to both the GED (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006) and the SRE (Klonoff & Landrine, 1999). Several items, even with the stem changes, may not be applicable to Asian Americans. One item asked about being “accused or suspected of
doing something wrong (such as stealing, cheating, not doing your share of the work, or breaking
the law).” Asian Americans are viewed as model minorities and so, may not experience these
discriminations. Rather, they may be held to the standard of behaving like a model citizen, a
label that many Asian Americans feel trapped in. Similarly, due to Asian values, many Asian
Americans may not act overtly or speak up against racism. In addition, although Landrine et al.
(2006) claimed the GED to be generalizable to all ethnic groups, Asian Americans only
represented 6.1% of their original study in which the development of the GED (Landrine,
Klonoff, Corral, Fernandez, & Roesch, 2006) was discussed. Thus, this measure may also not
be valid for Asian Americans.

Gee, Spencer, Chen, Yip, and Takeuchi (2007) and Gee, Spencer, Chen, and Takeuchi
(2007) both used the Detroit Area Study measure, a measure that was also validated for African
Americans. The 1995 Detroit Area Study Discrimination Questionnaire (DAS-DQ; Williams,
Yu, Jackson, & Anderson, 1997) is a 15-item survey that consists of two subscales. The first
subscale, Everyday Mistreatment (9 items), measures daily forms of discrimination. The items
are answered on a 6-point Likert scale (0 = “less than once a year” to 5 = “almost everyday”).
The second subscale is Lifetime and Recent Discrimination and comprises of six items. It
measures overt “violations of civil rights” (Taylor, Kamarck, & Shiffman, 2004, p. 89) and is
answered using a 3-point Likert scale (1 = “never” to 3 = “at least once in my lifetime but not in
the past 12 months”). Taylor et al. (2004) reported the internal consistency reliability as
moderate to high (alpha = .44 to .80). Additionally, the authors found partial support for
convergent validity. The Everyday Mistreatment subscale was positively correlated with the
Perceived Stress Scale (Cohen & Williamson, 1988) ($r = .39$) and the Diary of Ambulatory
Behavioral States (Kamarck et al., 1998) ($r = .30$ to .37), a measure of environmental stressors
and emotional activation. There was also support for divergent validity. The Everyday Mistreatment subscale was found to be uncorrelated with the Cook-Medley Hostility Scale (Ho; Cook & Medley, 1954) \( (r = .16) \) and the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) \( (r = -.23) \). The second subscale, Lifetime and Recent Discrimination, was found to be unrelated to all measures. Due to the fact that this scale was created to measure discrimination experienced by African Americans, it may not be generalizable to Asian Americans. More specifically, some items in the DAS-DQ (Williams, Yu, Jackson, & Anderson, 1997) may not apply to Asian Americans. For instance, the Everyday Mistreatment subscale asks about being perceived as “not smart.” Asian Americans are viewed as model minorities, so they are generally viewed as “smart.” Another item stated, “People act as if they are afraid of you.” Many people view Asian Americans as a nonassertive and submissive group. Therefore, this item may not be significant to Asian Americans.

Many of the above scales simply ask yes or no questions to measure discrimination; the questions are dichotomous. These measures do not assess the frequency that participants perceive experiences of racism or how they perceive these experiences (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). Additionally, many of the studies simply asked one or two items regarding discrimination. One or two items may not be enough to measure the discrimination construct.

In contrast to the above reviewed measures, the Race-Related Stressor Scale (RRSS; Loo et al., 2001), the Asian American Racism-Related Stress Inventory (AARRSI; Liang et al., 2004), and the Subtle and Blatant Racism Scale for Asian Americans (SABR-A\(^2\); Yoo, Steger, & Lee, 2010) were specifically developed for use with Asian Americans. The RRSS is a 33-item measure that assesses exposure to race-related stressors, psychiatric distress, and PTSD.
symptoms among military personnel. Each item is answered based on a 5-point Likert scale (0 = “never” to 4 = “very frequently”). There are three subscales, including Racial Prejudice and Stigmatization, Bicultural Identification and Conflict, and Racist Environment. The first subscale was defined as the perceived experience of discrimination. Because the RRSS was developed and used with Vietnam War veterans, the Bicultural Identification and Conflict subscale was defined as military personnel’s experiences of being mistaken for the enemy, more specifically the Viet Cong. Finally, the third subscale, Racist Environment, measures the witnessing and/or experiencing of behaviors by US military personnel that degraded, harassed, or dehumanized Asians. The reported internal consistency reliability was high for the RRSS general score as well as for each subscale (alpha = .97, .97, .93, and .93, respectively). Loo et al. (2001) described moderate convergent validity with the Combat Exposure scale (Keane et al., 1989) (r = .41) and the Brief Symptom Inventory (BRI; Derogatis & Milisaratos, 1983) (r = .67). Additionally, each of the RRSS subscales had moderate convergent validity with the BRI (Derogatis & Milisaratos, 1983) (r = .68, .51, and .43, respectively) and the Mississippi Scale for Combat-Related Posttraumatic Stress Disorder (Keane, Caddell, & Taylor, 1988) (r = .68). The authors also demonstrated significant discriminant validity between the RRSS and military rank (r = -.37). Finally, the authors reported moderate to high test-retest reliability for the RRSS general and subscales one, two, and three (alpha = .85, .84, .84, and .69, respectively).

The AARRSI (Liang et al., 2004) is a 29-item measure of Asian Americans’ perceived experiences with racism. Each item is answered using a 5-point Likert scale (1 = “this event never happened to me or someone I know” to 5 = “this event happened and I was extremely upset”). There are three subscales including Socio-historical Racism, General Racism, and Perpetual Foreigner Racism. The first subscale assesses one’s awareness of historical racism
against Asians in the US. The second subscale assesses one’s general experience with racism and the third subscale assesses one’s experience with being perceived as a foreigner. In their first study, Liang et al. (2004) reported high internal reliability on the AARRSI general and subscales 1, 2, and 3 (alpha = .90, .82, .75, and .84, respectively). Moderate concurrent validity was also reported between the AARRSI and the Minority Status Stress (Smedley, Myers, & Harrell, 1993) subscales ($r = .48$ to .53). In the second study, the authors reported high internal consistency reliabilities (alpha = .75 to .90) and moderate concurrent validity with the Schedule of Racist Events (Klonoff & Landrine, 1999) ($r = .51$ to .55), low to moderate concurrent validity with the Perceived Racism Scale (McNeilly et al., 1996) ($r = .29$ to .39), and moderate concurrent validity with the Cultural Mistrust Inventory (Terrell & Terrell, 1981) ($r = .32$). Additionally, Liang et al. (2004) reported discriminant validity between the AARRSI and the Asian Values Scale (Kim et al., 1999) ($r = .05$). In study three, high internal reliability was reported (alpha = .77 to .91), as well as high test-retest reliability (alpha = .73 to .87).

The SABR-A$^2$ (Yoo et al., 2010) is an 8-item measure of perceived covert and overt racism among Asian Americans. Items assess the frequency of perceived subtle and blatant racist incidents and are answered on a 5-point Likert scale (1 = “almost never” to 5 = “almost always”). There are two subscales including subtle racism and blatant racism. Yoo et al. (2010) defined subtle racism as “experiences of discrimination attributable implicitly to racial bias or stereotype” (p. 325) and blatant racism as “experiences of discrimination due explicitly to racial bias or stereotype” (p. 325). In the first study, the authors reported internal consistency reliability estimates of .84, .84, and .72 for total racism, subtle racism, and blatant racism, respectively. They also reported a significant negative relationship between the SABR-A$^2$ and the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), indicating discriminant validity. In
the second study, Yoo et al. (2010) reported internal consistency reliability estimates of .88, .82, and .77 for total, subtle, and blatant racism, respectively. They also found a significant positive relationship between the SABR-A^2 and the Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995) as well as the Brief Perceived Ethnic Discrimination Questionnaire—Community Version (PEDQ-CV; Brondolo et al., 2005), indicating convergent validity. Additionally, the authors found a negative relationship between the SABR-A^2 and the Color-Blind Racial Attitude Scale (CoBRAS; Neville et al., 2000), indicating discriminant validity. Finally, in the third study the researchers reported test-retest reliability of .71, .63, and .77 for the total racism, subtle racism, and blatant racism scales, respectively. They also reported internal consistency reliabilities of .84, .76, and .82 for the total, subtle, and blatant racism subscales, respectively.

In summary, many of the studies that have examined the effects of perceived racism on Asian Americans have used open-ended questions/statements, or developed and validated rating-scale measures. However, there are significant weaknesses in these methods. Among the studies that used questions or statements, the researchers failed to conduct or report reliability and validity analyses. Among the studies that used pre-developed rating-scale measures, many of the measures were created to be used with African Americans. As a result, several of the items do not apply to Asian Americans. The largest weakness that these methods share is the requirement for participants to recall their past experiences. This is problematic because it can create biased data. Consequently, a method that assesses participants’ responses to discrimination shortly after it happens, rather than days or even years later, may be more helpful in accurately measuring the effects of perceived discrimination.
Many of the studies that I reviewed examined similar measures of well-being or distress as dependent variables. These include measures of well-being, depression, anxiety, and self-esteem. The Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983), the Kessler Psychological Distress Scale (K10; Kessler et al., 2002), the World Health Organization Composite International Diagnostic Interview (WHM-CIDI; World Health Organization, 1998), which assess DSM-IV symptomology, and the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) were frequently used to measure overall well-being in the above studies. To measure the effects of perceived discrimination on depression among Asian Americans, the Scale for Suicidal Ideation (SSI; Beck et al., 1979), the Hamilton Depression Inventory (HDI; Hamilton, 1960), and the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) were administered to research participants in several studies. Additionally, researchers often used the State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983) to measure anxiety and the Collective Self-Esteem scale (CSE; Crocker & Luhtanen, 1990) to measure self-esteem. Some studies that focused on Asian American college students also used the College Adjustment Scales (CAS; Anton & Reed, 1991) to measure self-esteem, interpersonal problems, and career problems. However, the most frequently used measure of self-esteem was the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965).

Although there are some studies that have examined the effects of discrimination and racism, such as depression, anxiety, and decreased self-esteem, on Asian Americans, there have been few studies that examined the role of ethnic identity.

Ethnic Identity

Measures of Ethnic Identity
I was interested in examining ethnic identity’s role in the relationship between perceived discrimination and well-being; therefore, I reviewed the MEIM-R (Phinney & Ong, 2007), EIDE (Yeh & Huang, 1996), and Int-Ext (Kwan, 2000). I did not review the Asian Values Scale (AVS; Kim, Atkinson, & Yang, 1999) or other measures of acculturation/enculturation because they did not assess ethnic identity or one’s attachment to one’s ethnic group. Rather, they assess one’s adherence to values and behaviors to one’s culture of origin. Similarly, I did not review the People of Color Racial Identity Attitude Scale (PRIAS; Perry, Vance, & Helms, 2009) or other measures of racial identity because I was not interested in assessing “how individuals come to recognize and overcome the psychological and internalized effects of racial oppression” (Alvarez, & Helms, 2001, p. 218). Rather, I was interested in assessing participants’ attachment to their culture of origin.

*Multigroup ethnic identity.* The most common measure of ethnic identity is the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). The MEIM is a 14-item measure and consists of three subscales, including Affirmation/Belonging, Identity Achievement, and Ethnic Behaviors. Affirmation/Belonging was defined as “positive ethnic attitudes and sense of belonging” (p. 164). Identity Achievement was defined as exploration of one’s ethnic identity that “leads to a secure sense of oneself as a member of a minority group” (p.160). Finally, Ethnic Behaviors was defined as “involvement in social activities with members of one’s group and participation in cultural traditions” (p. 159). Each item is answered according to a 4-point Likert scale with higher scores representing a stronger ethnic identity (Fischer & Moradi, 2001). The MEIM was also used and normed among Asian American college students. Lee and Yoo (2004) used 323 participants to examine the structure of the MEIM with Asian Americans. Using exploratory factor analysis, Lee and Yoo (2004) identified a 3-factor model. Factor 1
“reflected a sense of clarity, self-understanding, and belonging” (p. 266). Factor 2 “reflected positive affect toward one’s membership in an ethnic group” (p. 266). Factor 3 “reflected active interest and participation in one’s ethnic group” (p. 266). These factors were similar to Phinney’s (1992) Affirmation/Belonging, Ethnic Identity Achievement, and Ethnic Behaviors factors. Lee and Yoo (2004) renamed Factor 1 as Ethnic Identity Cognitive Clarity (EI-Clarity), Factor 2 as Ethnic Identity Affective Pride (EI-Pride), and Factor 3 as Ethnic Identity Behavioral Engagement (EI-Engage).

Following a review of the use of the MEIM in recent literature, Phinney and Ong (2007) proposed a revised version of the MEIM. Using exploratory and confirmatory factor analysis, the researchers concluded that the MEIM—R (Phinney & Ong, 2007) consists of two subscales, Exploration and Commitment, rather than the original three. A sample item of the Exploration subscale (3 items) is “I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.” A sample item of the Commitment subscale (3 items) is “I have a strong sense of belonging to my own ethnic group.” Phinney and Ong (2007) reported alpha reliability estimates of .81, .76, and .78 for the MEIM—R total score, Exploration subscale, and Commitment subscale, respectively.

**Ethnic identity development exercise.** Yeh and Huang (1996) critiqued Phinney’s (1992) ethnic identity model as well as other stage models, stating that they did not take into account social context. Yeh and Huang (1996) explained that social context, for instance one’s culture of origin in combination with the dominant culture or the influence of others, may affect the self. More specifically, the authors indicated that stage models were inaccurate in describing Asian Americans’ ethnic identity. Social context, geographic location, psychological proximity to Asian American political movements, and family interactions may influence one’s ethnic
identity. Furthermore, many of the stage theories were not created specifically for Asian Americans, thus failing to capture core components of Asian culture such as the emphasis on collectivism (Yeh & Huang, 1996). Yeh and Huang (1996) proposed a different method of measuring ethnic identity among Asian Americans. The Ethnic Identity Development Exercise (EIDE; Yeh & Huang, 1996) is a projective measure that assesses “detailed and descriptive information about ethnic identity development” (p. 458). After giving the participants the definition of ethnic identity, the authors asked them to write or draw the process of their ethnic identity development. The researchers found that the ethnic identity process among their participants involved the emphasis on collectivism and external forces such as geographic location, relationships, and feelings of shame, rather than internal forces, such as anger and frustration, which are core components that facilitate the movement from one stage to another in the stage models. Although Yeh and Huang (1996) raised excellent points regarding the application of stage models on Asian Americans’ ethnic identity, their measure can be difficult to quantify or validate as projective measures are subjective and interpretation of the data can vary between raters.

**Internal-external ethnic identity measure.** Kwan (2000) proposed a measure that takes into account both internal and external factors that may influence the development of ethnic identity. The Internal-External Ethnic Identity measure (Int-Ext Id; Kwan, 2000) consists of two subscales, Internal Ethnic Identity (21 items), encompassing “cognitive, moral, and affective” (p. 142) dimensions of an individual, and External Ethnic Identity (26 items), encompassing “observable social and cultural behaviors” (p. 143). The author reported the internal consistency reliability estimates of .73, .77, and .85 for the Int-Ext Id total score, Internal Ethnic Identity subscale, and External Ethnic Identity subscale, respectively.
Critique of measures. There are pros and cons of each measure that I described above. The benefits of the MEIM are its ease of completion, as the measure only consists of 14 items, and its ability to be used with many ethnic minorities. Additionally, the MEIM was used and normed among Asian American college students (Lee & Yoo, 2004). However, Asian Americans only represented 20% of the participants in Phinney and Ong’s (2007) study where the MEIM—R was validated. When applied to Asian Americans, a weakness of the MEIM—R is that it does not incorporate additional areas that are applicable to Asians’ and Asian Americans’ ethnic identity development. Yeh and Huang (1996) described these areas as (a) social context, such as one’s culture of origin combined with influences from others, especially the dominant group; (b) geographic location; (c) psychological proximity to Asian American political movements; (d) family interactions; and (e) feelings of shame. Yeh and Huang’s (1996) proposed measure of ethnic identity, the Ethnic Identity Development Exercise (EIDE), takes into account these factors. However, as noted above, the measure can be difficult to quantify or validate because projective measures are subjective and interpretation of the data can vary between raters. The benefit of the Int-Ext Id is its integration of both internal and external factors. Similar to Phinney and Ong’s (2007) MEIM—R, the Int-Ext Id assesses internal aspects of ethnic identity, such as one’s self-image and image of one’s ethnic group, historical knowledge of one’s ethnic group, and knowledge of the values and beliefs of one’s ethnic group. Similar to Yeh and Huang’s (1996) EIDE, the Int-Ext Id also assesses external factors of ethnic identity, including use of ethnic language, ethnic-group friendships, and practice of cultural customs. As Kwan (2000) solely sampled from the Chinese American population, the weakness of the Int-Ext Id is its inability to be applied to other ethnic minorities.

Role of Ethnic Identity
There have been mixed findings regarding the effects of ethnic identity on perceived discrimination. Yip, Gee, and Takeuchi (2008) stated that ethnic identity may buffer the effects of discrimination on psychological well-being. Individuals with a clear sense of ethnic identity may focus on the positive aspects of their ethnic group, thus increasing one’s self-esteem. This in turn, may counterbalance the effects of perceived discrimination. On the contrary, Yip et al. (2008) also indicated that individuals with high ethnic identity may be hypervigilent to environmental cues, such as discrimination, which can cause an exacerbation of the negative effects on well-being. There have been several studies that support both theories.

Kiang, Yip, Gonzales-Backen, Witkow, and Fuligni (2006) examined the ability of ethnic identity to buffer the effects of daily stressors on the psychological well-being of 415 Mexican and Chinese American adolescents. Of particular interest, Kiang et al. (2006) used the daily dairy method. The authors used the Multidimensional Inventory of Black Identity (MIBI; Sellers, Rowley, Chavous, Shelton, & Smith, 1997) and the Rosenberg Self-Esteem Scale (R-SES; Rosenberg, 1965) to measure ethnic identity and self-esteem, respectively. Then, they asked the participants to record or assess their self-esteem, stressful demands, and well-being (POMS; Lorr & McNair, 1971) daily for 14 days. The authors used hierarchical linear modeling (HLM) to “analyze nested models [and to] determin[e] whether ethnic identity directly predicted average daily well-being and moderated daily-level associations between stressful demands and well-being” (Kiang et al., 2006, p. 1343). Kiang et al. (2006) found that having a strong ethnic identity buffered against the effects of daily stressors on self-esteem and anxiety on Asian and Mexican American adolescents.

Similarly, Iwamoto and Liu (2010) examined the effects of ethnic identity and race-related stress on Asian Americans and Asian international college students’ psychological well-
being. The authors administered the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992), People of Color Racial Identity Attitudes Scale (PRIAS; Helms, 1995), the Asian American Race-Related Stress Inventory (AARRSI; Liang et al., 2004), and the Scale of Psychological Well-Being (SPWB; Ryff, 1989) to 402 Asian American and Asian international students. Using hierarchical multiple regression, they found that ethnic identity, particularly commitment and attachment, buffered the negative effects of race-related stress on psychological well-being, especially as race-related stress increased.

On the contrary, Yoo and Lee (2008) found that ethnic identity exacerbated the effects of racial discrimination on well-being among Asian Americans. The researchers gave their participants two scenarios to read. One described a single event of discrimination against Asian American college students at a nightclub (e.g., the Asian American students were denied entry into the club by a Caucasian security guard while allowing a group of Caucasian students to enter) and the other described several instances (e.g., similar events occurring at multiple nightclubs) of discrimination against the Asian American students. Additionally, the researchers administered the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) and the Positive and Negative Affect Schedule (PANAS; Watson & Clark, 1988) to 128 Asian American college students. Using hierarchical regression, Yoo and Lee (2008) found that participants experienced more negative affect when reading about multiple experiences of discrimination. Furthermore, those with high ethnic identity had lower positive affect than those with low ethnic identity when reading the same scenario. Additionally, Asian American participants who reported high ethnic identity also reported more negative affect when reading about the perceived discrimination scenarios. The authors concluded that “individuals who identified with and were proud of their
ethnic groups may take greater offense and become more sensitive to reported rejections from entering the nightclubs and thereby experience lower well-being” (p. 71).

Several other studies have found mixed results. Yoo and Lee (2005) examined the moderation effect of ethnic identity and approach-type coping on the relationship between racial discrimination and well-being among Asian Americans. They administered the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992), the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), the Positive and Negative Affect Scale (PANAS; Watson & Clark, 1988), and the Perceived Personal Racial Discrimination Scale (P-Disc), which was created by the researchers for this study. The P-Disc was designed to measure the extent that Asian Americans perceive encountering racial discrimination. A sample item includes, “In America, I am treated differently because I’m Asian.” The researchers used hierarchical multiple regression analyses, particularly Aiken and West’s (1991) statistical procedure, “to test the hypothesis that ethnic identity in combination with coping would moderate the effect of perceived racial discrimination on well-being” (Yoo & Lee, 2005, p. 500). The authors found that when perceived discrimination was low, participants with high ethnic identity and high use of the cognitive restructuring method of coping endorsed more positive affect than participants with high ethnic identity and low use of cognitive restructuring. However, there was no difference between the two groups when perceived discrimination was high. In addition, there was no difference in life satisfaction between the two groups when perceived racial discrimination was low. However, when perceived discrimination was high, participants with low ethnic identity and high use of cognitive restructuring reported more life satisfaction than participants with low ethnic identity and low use of cognitive restructuring. When perceived racial discrimination was low, Asian American participants with high ethnic
identity and high use of problem solving coping indicated less negative affect than participants with high ethnic identity and low use of problem solving. When perceived racial discrimination was high, participants with high ethnic identity and high use of problem solving reported more negative affect than those with high ethnic identity and low use of problem solving. Therefore, the researchers concluded that “Asian Americans with stronger ethnic identity who engage in…approach-type coping strategies actually have a more difficult time when perceiving frequent encounters of racial discrimination—although they are more adaptive when perceiving less frequent encounters of racial discrimination” (Yoo & Lee, 2005, p. 503).

Likewise, Lee (2005) found that Korean American participants who reported high ethnic identity also reported fewer depressive symptoms and higher social connectedness when perceived discrimination was low. However, he reported increased depressive symptoms and decreased social connectedness when perceived ethnic discrimination was high. Therefore, Lee (2005) concluded that the buffering effects of ethnic identity decreased as perceived discrimination increased among Korean Americans.

Similarly, Yip et al. (2008) examined the effects of ethnic identity and age on racial discrimination and psychological distress on Asian Americans. The participants were given the Kessler psychological distress scale (K10; Kessler et al., 2002); asked three items that measured perceived discrimination, for example, “How often do people dislike you because you are (self-described ethnic/racial group)?” (p. 790); and asked one item to measure ethnic identity, “How close do you feel, in your ideas and feelings about things, to other people of the same racial and ethnic decent?” (p. 790). The authors found that having a strong ethnic identity exacerbated the effects of perceived discrimination on Asian Americans who were in their 30’s or over 51 years old. These participants reported higher levels of psychological distress in response to perceived
discrimination. In contrast, high ethnic identity buffered the effects of perceived racial
discrimination among participants who were in their 40’s, who reported that they experienced
less psychological distress in response to perceived discrimination.

In contrast, Lee (2003) found that ethnic identity neither buffered nor exacerbated the
effects of perceived discrimination on Asian Americans’ psychological well-being. In the first
study, Lee (2003) administered the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992),
items that were taken from the Cultural Attitudes and Climate Questionnaire (CACQ; Helm,
Sedlacek, & Prieto, 1998), Rosenberg Self-Esteem Scale (R-SES; Rosenberg, 1965), the Social
Connectedness Scale (SCS; Lee & Robbins, 1995), and the Psychological Sense of Community
Scale (Lounsbury & DeNeui, 1996) to 91 Asian American college students. In the second study,
the author administered the Center for Epidemiological Study—Depression scale (CES-D;
Radloff, 1977) and the Perceived Discrimination Scale (PDS; Finch et al., 2000) to 67 Asian
Indian college students. In both studies, Lee (2003) found that ethnic identity did not moderate
or mediate the negative psychological effects of personal ethnic discrimination (i.e., perception
of unfair individual treatment) or minority group discrimination (i.e., perceptions of racially
hostile university climate). Based on the above findings, which are summarized in Table 2, there
have been mixed indications of the buffering and exacerbating effects of ethnic identity on
perceived discrimination among Asian Americans.

Table 2. Summary of Findings: Ethnic Identity’s Role in the Relationship between Perceived
Discrimination and Well-Being

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<tr>
<th>Study</th>
<th>Findings</th>
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<tr>
<td>Kiang, Yip, Gonzales-Backen, Witkow, and</td>
<td>Ethnic identity buffered against the effects of daily stressors on self-esteem and</td>
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<td>Fuligni (2006)</td>
<td>anxiety among Asian and Mexican American adolescents</td>
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Iwamoto and Liu (2010)  
Ethnic identity buffered the negative effects of race-related stress on psychological well-being among Asian Americans and Asian international college students

Yoo and Lee (2008)  
Ethnic identity exacerbated the effects of racial discrimination on well-being among Asian Americans

Yoo and Lee (2005)  
High ethnic identity and high use of cognitive restructuring or problem solving coping strategies moderated the effects of racial discrimination on participants’ well-being only when perceived discrimination was low but ethnic identity did not buffer against the effects of racial discrimination when perceived discrimination was high

Lee (2005)
Participants who reported high ethnic identity reported fewer depressive symptoms and higher social connectedness when perceived discrimination was low. However, participants reported increased depressive symptoms and decreased social connectedness when perceived ethnic discrimination was high

Yip, Gee, and Takeuchi (2008)
Ethnic identity exacerbated the effects of perceived discrimination on Asian Americans who were in their 30’s or over 51 years old. In contrast, high ethnic identity buffered the effects of perceived racial discrimination among participants who were in their 40’s

Lee (2003)
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Critique of Current Studies

Recently, there have been increasing numbers of studies that examine the effects of racism on Asian Americans. However, there are several weakness in these studies. First, the majority of studies sample only East Asian populations (i.e., Chinese, Japanese, and Koreans). In particular, several of the studies’ largely sampled Chinese Americans (Alvarez et al., 2006; Barry & Grilo, 2003; Hwang & Goto, 2008; Liang & Fassinger, 2008; Sue et al., 2007; Yip, Gee, Takeuchi, 2008). There have been few studies of South and Southeast Asians. It has been demonstrated that Southeast Asians experience racism and, contrary to the model minority myth, they are not as affluent, have as high an education, or earn as much income as East Asians (US Census Bureau, 2004). For example, Alvarez et al. (2006) sampled 46.9% Chinese and only 4.3% Vietnamese and only 4.3% others that included Lao, Thai, and Indian Asians. Similarly,
Chinese Americans represented over 25% (N=36) of the sample in Liang and Fassinger’s (2008) study, while Vietnamese Americans represented less than 4%. Wilson and Yoshikawa (2004) sampled 74% East Asians and only 26% South Asians. Second, many of the studies that I reviewed above examined overt, rather than covert, racism (Boekmann & Liew, 2002; Noh et al., 1999; Wilson & Yoshikawa, 2004; Yoo & Lee, 2008). According to Sue et al. (2007), covert racism, or microaggressions, may be more damaging to people of color than overt forms of racism. Third, and the largest weakness of the reviewed studies, many of the measures and scales require participants to recall past experiences. This may lead to recall error or biased information. For example, participants may recall events that are more traumatic because it is most salient in their memory, or may recall no experiences with racism at all because they have blocked the traumatic experiences.

The present studies were limited because they sampled largely from the East Asian population; assessed overt rather than every day, covert racism, or microaggressions; and used measures that require participants to recall their past experiences. Therefore, it would be helpful to employ a different method that assesses the immediate effects of discrimination on Asian Americans. In the next section I considered the advantages of daily process studies.

In relation to the measures of distress, a large portion of the studies that I reviewed either used a symptom checklist or developed, and validated, scales to measure the effects of perceived racism on Asian Americans. The problem with these studies is they require the participants to recall and rate their emotions and responses to the discriminatory events days or even years later. This may create exaggerated emotions or responses (e.g., intense anger or fear) because the participants have had time to process their discriminatory encounter. On the flip side, these methods may also create passive emotions or responses to participants’ experiences with racism.
So much time may have passed between the racist events and the study that the participants may no longer be affected by the incidents. Therefore, in the next section, I discuss a different method to assess the effects of perceive discrimination on Asian Americans, which may address the above weaknesses.

Daily Process Studies

Daily process studies enable researchers to closely follow participants’ daily experiences and responses to each encounter. Daily process methods enable the researcher to examine the correlation between daily life experiences, mood, psychological symptoms, and well-being (Tennen, Affleck, & Armeli, 2005). Additionally, daily process studies allow for examination of results at both the within- and between-person levels (Affleck, Zautra, Tennen, & Armeli, 1999). This enables the detection of possible relations among variables within a single person or between individuals over time or situations. In previous studies, researchers frequently used paper-and-pencil methods to collect data. More recently, researchers have turned to computer-based technologies such as Internet websites that connect to portals for daily diary keeping (Affleck et al., 1999; Tennen et al., 2005). Tennen et al. (2005) stated that computer-based methods are especially helpful when multiple, within-day recordings are desired.

According to Affleck et al. (1999), there are several different types of schedules for recording daily experiences. The first is interval-contingent recording where participants report their experiences during regular, predetermined intervals. This is usually done with checklists. The second is signal-contingent recording. Participants record their experiences during prompted times. These times are usually random or quasi-random and are indicated with a beeper or programmed watch that is set by the researcher. This method is an example of experience sampling where the recording period is short and the participants are in their natural
environments (Stone, Kessler, & Haythornthwaite, 1991). Finally, the third type is event-contingent recording where the participants report a specified and defined event (e.g., alcohol consumption or cigarette smoking) every time it occurs. More recently, it appears that researchers are using a combination approach to recording daily experiences.

Stone et al. (1991) indicated that it is more difficult to maintain participants’ cooperation during daily process studies than other types of studies; however, they also presented possible methods to increase cooperation and retention. First, the authors emphasize the importance of keeping participants interested in the study. Having short, easy to complete, and enjoyable diary entries as well as providing frequent feedback is helpful in maintaining participants’ interest. Researchers may email, write personal notes, or telephone participants to remind them to complete their daily entries. Additionally, researchers may ask participants to turn in (or mail in) their entries frequently. For instance, participants can be asked to turn in their surveys the day after completion. This would also motivate participants to complete their surveys daily. Second, Stone et al. (1991) recommended using material incentives such as cash, gifts, or even lottery tickets. It may also be helpful for participants to accumulate points so that they can earn larger and more desirable prizes. This would also increase participants’ motivation to consistently complete their daily surveys. However, Stone et al. (1991) caution that using solely financial incentives may attract participants who “lack a commitment to honesty and accuracy in data reporting” (p. 596). This may compromise the quality of the study. Therefore, the authors recommend that researchers emphasize the demanding nature of daily process studies in addition to discussing the material incentives. This way, researchers are able to weed out participants who may not take the study seriously.
Stone et al. (1991) described two methods of recording events including open-ended procedures and checklists. Open-ended methods ask participants to record a certain number of events or to record the event that has the most of a set characteristic, for example, the most stressful experience during the day. Additionally, participants are asked to describe their experiences in their own words. The advantage of the open-ended method is its ease of completion. The disadvantage is that the participants are not prompted to record their experiences. This may lead to recall error and bias. Additionally, there will be variability among the participants’ recordings; some may be elaborate and others may be short. The final disadvantage to open-ended recordings is that participants select the experiences they want to record. They may choose to record a less stressful event or a more stressful event, thus possibly increasing bias.

The other method of recording events or experiences is the checklist. The checklist may include specific experiences or daily events. The events may be recorded using paper-and-pencil, telephone interviews, or computerized diaries. The advantage of the paper-and-pencil method is that it is cost effective and more flexible. The advantage of daily telephone interviews is that researchers can probe and clarify unclear recordings. Finally, the advantage of computerized diaries is that participants can be prompted to record their experiences at pre-set times. Tennen et al. (2005) recommended that rapidly fleeting states, such as mood and pain, would benefit from within-day reporting. This would decrease retrospection biases from arising. On the other hand, end-of-day reporting would be helpful to use when collecting positive and negative daily events data.

According to Affleck et al. (1991), researchers measure the dependent variable(s) repeatedly in a daily process study. Applied to counseling and clinical psychology, the
dependent variable(s) may include mood, stressful events and their appraisals, disordered eating episodes, or coping strategies. Affleck et al. (1991) described four advantages to using a daily process study—(a) it closely captures “real-time” events or occurrences of change, (b) it reduces recall bias, (c) it decreases some confounding variables by using participants as their own controls and, (d) it “establish[es] temporal precedence to strengthen causal inference” (p. 747).

Another advantage of daily process studies is ecological validity. That is, the data obtained from participants reflect the experiences and behaviors of participants in their natural setting. More specifically, because my study will be examining participants and their experiences in their natural setting, the ability to generalize to the rest of the Asian and Asian American population is greater. Furthermore, by using a daily process method researchers will be able to examine the effects of the independent variable on the dependent variable over time.

When applied to research focusing on racism and discrimination, the main benefit of using the daily process method would be that participants can record their encounters with discrimination and their responses to the experiences shortly after they have happened. This may limit recall error and bias. Additionally, by using the daily process method, researchers can ask participants to record their experiences for an extended period of time, for example, 14 to 30 days. This would allow researchers to examine the frequency and intensity of the racist incidents. This information would provide a more accurate understanding of the immediate effects of perceived discrimination on Asian Americans. Finally, researchers would be able to examine the effects of perceived daily experiences of discrimination on participants over time.

Although there are several advantages to using a daily process method, there are also disadvantages. Stone et al. (1991) described a number of disadvantages of daily process studies. First, participants’ appraisal of events may be influenced by the dependent variable. For
example, participants’ level of depression may affect their appraisal of an event by increasing the event’s degree of negativeness. In order to control for this confounding variable, Stone et al. (1991) recommended that the event appraisal be measured before the onset of the outcome variable. Second, other undesirable or unplanned events may occur that may increase the impact of the event. One method to control for this disadvantage is to identify and evaluate the meaning of hypothetical events that may occur during the study. These appraisals could then be factored into the collected daily event data. Finally, Stone et al. (1991) raised questions regarding validity. “Validation of daily checklist data is extremely problematic…It is not clear that the usual kinds of validity, namely, discriminant, convergent, construct, etc., apply to event recordings. Events are not tapping underlying constructs…Events are instead more comparable to behavioral recordings, where the event in question either did or did not occur…there is no underlying construct to validate. Event occurrence is not supposed to represent or be a proxy for something else” (Stone et al., 1991, p. 588). However, Stone et al. (1991) failed to consider the possibility of determining convergent validity by administering a previously validated instrument of perceived discrimination, such as the AARRSI (Liang et al., 2004), and correlating it with the number of racist events reported by participants. A positive correlation between the two would indicate construct validity. In addition, content validity can be addressed by having expert judges in the area of racism and discrimination evaluate the relevance of the item content for the construct of perceived discrimination.

Fleeson (2007) reported that, within daily process studies, participants usually complete 70% to 100% of the daily reports yielding 60% to 80% valid reports. He viewed this percentage as quite good. Of the daily process studies that I reviewed, compliance rates ranged from 76% to 83%. Additionally, several of the studies used cash and course credits as incentives for
participation. Therefore, it appears that daily process studies have fairly high compliance rates and, furthermore, there are methods to increase participants’ cooperation, retention, and motivation.

In summary, there would be advantages to using a daily process method in examining the effects of discrimination on Asian Americans. These advantages include participants’ ability to record their experiences of discrimination and racism as well as their responses shortly after the event has occurred. This may decrease recall error and bias. At the same time, there are also disadvantages to using the daily process method. However, these disadvantages may be controlled for by identifying possible unexpected events and conducting content and construct validity analyses.

Of the studies that I reviewed on perceived discrimination and its effects, none of them used the daily process method. However, the daily process method has been frequently used in psychology to study the relationship between personality and well-being. Zautra, Affleck, Tennen, Reich, and Davis (2005) used this method to examine the effects of positive and negative events and Neuroticism and Extroversion on positive and negative affect. The researchers used a daily diary method that included the Inventory of Small Life Events (ISLE; Zautra, Guarnaccia, & Dohrenwend, 1986), which measures perceived positive and negative events. Participants consisted of 93 men and women who were also asked to rate the events’ level of stress or enjoyment, and to complete the Positive and Negative Affect Schedule (PANAS; Watson & Clark, 1999). The participants were asked to provide nightly daily entries for 30 days and there was a 97% compliance rate. Additionally, the researchers administered the NEO-PI-R (Costa & McCrea, 1992) to measure Neuroticism and Extraversion. Using multilevel analyses, Zautra et al. (2005) found that participants who perceived more daily
positive events reported higher daily positive affect and participants who perceived more negative events reported lower positive affect and higher negative affect. The researchers also found that Neuroticism was correlated with lower positive affect and Extraversion correlated with higher positive affect. Neuroticism was also correlated with higher negative affect and negative events. Additionally, Neuroticism was found to moderate the relationship between perceived negative events and negative affect. That is, the relationship between perceived negative events and negative affect was stronger for participants who were higher in Neuroticism.

Emmons (1991) examined the effects of daily life events (e.g., positive or negative) and personal strivings on psychological and physical well-being. Personal strivings were defined as “the recurring, enduring goals that individuals seek in their everyday behavior” (p. 454) or “what a person is typically or characteristically trying to do” (p. 455). The participants, including 35 females and 13 males, were administered the Global Severity Index (GSI) of the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) and asked to create their own list of 15 personal strivings, such as “trying to help others in need of help,” “trying to persuade others that I am right,” and “trying to be the center of attention” (p. 455). Then, the researcher asked the participants to complete rating forms that measured positive (e.g., “happy, joyful, enjoyment/fun, and pleased”) and negative (e.g., “depressed, unhappy, frustrated, worried/anxious, and angry/hostile”) affect, events, and a physical symptom checklist (e.g., “headaches, stomachache/pains, chest/heart pain, runny or congested nose, coughing/sore throat, faintness/dizziness, shortness of breath, acne/pimples, stiff/sore muscles, or other”) daily for 21 days. Participants received 3 hours of course credit as incentive to participate in the study. The
data was coded by four coders into different categories and discrepancies were discussed until resolved.

When analyzing between-subject differences, Emmons (1991) found that power strivings were positively correlated with psychological symptoms and negative affect. Similarly, affiliative strivings were positively associated with positive affect. Bad interpersonal events were also related to physical symptoms and negative affect and good achievement events were negatively correlated with psychological distress. Thus, there was evidence that events and affect were related to participants’ personal strivings. Emmons (1991) found similar results when he analyzed within-subject differences. He found that daily positive affect was positively correlated with good daily interpersonal events and negative affect was positively correlated with bad interpersonal events. Additionally, achievement strivings were positively related to positive affect and good achievement events, while negative affect was related to bad achievement events. Hence, “the tendency to be affected by achievement-related events is partially a function of one’s achievement strivings” (Emmons, 1991, p. 464). This was also found to be true with affiliative and intimacy strivings. Emmons (1991) found evidence that participants’ experience of positive and negative affect was a function of the association of events with their personal strivings. In the following section, I discuss the various incentives and methods used to increase participation motivation among daily process studies.

Participation and Incentives

Marco, Neale, Schwartz, Shiffman, and Stone (1999) examined the relationship between coping and stress-related mood changes from work or marital stress. Of the 120 individuals who agreed to participate in the study, 100 completed the study resulting in a compliance rate of 83%. Participants included 27 women and 33 men and were asked to record their experiences every 40
minutes for 2 days. They were paid $100 and were given the opportunity to participate in a 2-hour stress management seminar. Steiger, Gauvin, Jabalpurwala, Seguin, and Stotland (1999) evaluated bulimic participants’ tendency to become hypersensitive in social situations. Their sample included 55 women who were paid $40 for their participation. Participants were asked to record their experiences for 22 days; however, completed entries ranged from 6 to 22 days. Feldman, Downey, and Schaffer-Neitz (1999) examined the relationship between chronic pain, negative mood, and social support among 109 participants. Participants were asked to complete daily diaries for 28 days and were either paid $5 for their participation or were given the option to donate their compensation to the Reflex Sympathetic Dystrophy Syndrome (RSDS) Association. Finally, Armeli et al. (2005) examined the positive and negative anticipated outcomes of alcohol use among college students. Of the 200 recruited students, 154 participants participated in the study and were asked to record their experiences for 21 days. The incentives were not described. Similarly, Zevon and Tellegen (1982) used 23 participants to examine the differences within individuals of mood changes related to positive and negative affect. Participants were paid (amount was not discussed) for their participation and asked to record their experiences daily for 90 days. Therefore, it appears that most daily process studies include 23 to 150 participants and participants were asked to record their experiences from 2 to 90 days.

Summary

It has been demonstrated that experiencing perceived discrimination positively correlates with depression, anxiety, PTSD, and high risk behaviors and negatively correlates with self-esteem. However, there are weaknesses in these studies. First, several of the studies over-sampled from the East Asian population and under-sampled from the South or Southeast Asian population. Second, many of the studies I described assessed overt racism rather than the more
modern form of racism, microaggressions. Third, the measures used to assess experiences with
discrimination required participants to recall past events, increasing the probability of recall
error. Additionally, several of the present measures modified validated scales that were
originally created for use with African Americans. Therefore, a significant number of the items
were not applicable and cannot be generalized to Asian Americans. Fourth, a number of the
studies that I reviewed used open-ended questions or statements to measure perceived racism. In
these studies, researchers failed to report or conduct any reliability or validity analyses. And
finally, in many of the studies where researchers did look at the role of ethnic identity on
perceptions of discrimination and racism, they reported mixed results. Therefore, ethnic
identity’s role is still unknown.

To address these weaknesses, it will be beneficial for future studies to use an alternative
method to measure perceived experiences of discrimination and their effects. A promising
alternative method is the daily process method. By using the daily process method, the
researcher can evaluate the frequency and intensity of each discriminatory event. Additionally,
because participants are asked to record their experiences shortly after they happened, the daily
process method enables more accurate measurement of participants’ responses to the racist
events. However, it is also important to use the daily process method with caution as it has
several limitations—possible confounding variables, such as the occurrence of unaccounted for
events, Stone et al.’s (1991) concerns regarding validity (however, there are methods to
determine content and construct validity), and provision of appropriate incentives to maximize
compliance. Nonetheless, in studies of perceived discrimination and its effects, the potential
advantages of the daily process method would seem to outweigh its disadvantages.

Hypotheses
The purpose of my study was to examine the psychological effects, including fear, hostility, sadness, serenity, and self-esteem, of perceived daily discrimination on Asian Americans. The existing literature suggests that perceived discrimination correlates with increased depression, anxiety, and decreased self-esteem among Asian Americans (Barry & Grilo, 2003; Hwang & Goto, 2008; Lam, 2007; Yoo & Lee, 2008). Therefore, I made the following hypothesis:

**Hypothesis 1**: Increased experiences of perceived daily discrimination will predict (a) higher daily fear ratings, (b) higher daily hostility ratings, (c) higher daily sadness ratings, (d) lower daily serenity ratings, and (e) lower daily self-esteem ratings.

In addition, although there are mixed findings in the literature regarding the role of ethnic identity, I offer a second hypothesis:

**Hypothesis 2**: Ethnic identity will moderate the effects of daily perceived discrimination on (a) daily fear ratings, (b) daily hostility ratings, (c) daily sadness ratings, (d) daily serenity ratings, and (e) daily self-esteem ratings. Specifically, I expected the negative impact of daily perceived discrimination on these well-being outcomes to be reduced for Asian Americans who have stronger ethnic identity (e.g., a buffering hypothesis).
CHAPTER 3

Method

Sample

Stone, Kessler, and Haythornthwatte (1991) recommended using the following equation to determine the sample size for a daily process study: 

\[ p \times d = n \]

That is, in a daily process study the number of data points is a function of both the number of participants and the number of repeated measurements. Of the daily process studies that I reviewed, most used a sample of 23 to 150 participants. Fifty-eight self-identified Asian Americans at WSU and California State University, Long Beach (CSULB) began my study and 40 participants met the minimum criteria for inclusion (i.e., completion of at least 15 daily forms). Multiplying the number of final participants times the number of daily forms that each completed resulted in a total of 884 data points for the study. The minimum age of the 40 final participants was 18 years and there were no constraints regarding specific Asian ethnicity (e.g., Chinese, Japanese, etc.), education level, generation, or socioeconomic status. To recruit participants, I made verbal announcements at relevant WSU and CSULB student organizations and centers, including the Asian American Pacific Islander (AAPI) center, Asian Pacific American Student Coalition (APASC), Association of Pacific and Asian Women (APAW), Filipino American Student Association (FASA), Hawaii Club, Pacific Islanders Club (PIC), Chinese Club, Taiwanese Club, and the Vietnamese Club.

Table 3 shows demographic characteristics of the final sample. The majority of participants identified as female and were of East Asian or South East Asian descent. Most participants were second generation, rated their English proficiency as much above average, had
completed some college or more, and described their socioeconomic status as below average to average.

Table 3. Demographic Information for Completers and Non-Completers

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<tr>
<th></th>
<th>Completers n</th>
<th>Completers %</th>
<th>Non-Completers n</th>
<th>Non-Completers %</th>
<th>Chi-Square Comparison $x^2$</th>
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</table>
Table 3 also shows some of the demographic characteristics of the 18 participants who did not complete the study. As seen in Table 3, non-completers were more likely to be males ($\chi^2[1] = 19.53, p < .01$). Completers and non-completers did not differ significantly on any of the other demographic variables shown in Table 3. The mean age for completers ($M = 21.08; SD = 2.99$) and non-completers ($M = 21.72; SD = 4.48$) did not differ significantly ($t[56] = .65, p > .05, d = .17$). In addition, MEIM scores for the non-completers ($M = 3.05, SD = .49$) and completers ($M = 3.25, SD = .43$) were not statistically different ($t[56] = -1.58, p > .05, d = .43$). The average number of completed daily diary entries for the non-completers was 3.9 and the range was 1 to 13 days. Because of the low number of daily forms filled out by the non-completers, comparisons between completers and non-completers on the responses to the daily forms (e.g., the average number of experiences of discrimination each day) were not made.

Instruments

Demographic form. The demographic questionnaire asked participants their email address, telephone number, age, gender, ethnicity, socioeconomic status, generational status, language proficiency, and level of education (see Appendix A).

Daily Perceived Discrimination measure. With the permission of the respective authors, I combined, modified, and adapted items from six perceived discrimination measures. In
particular, I selected items with high factor loadings (i.e., greater than .40) in the studies of the original researchers. The original measures were developed by Sue, Bucceri, Lin, Nadal, and Torino (2007), Sue et al. (2007), Liang et al. (2004) (Asian American Racism-Related Stress Inventory), Loo et al. (2001) (Race-Related Stressor Scale), Yoo et al. (2010) (Subtle and Blatant Racism—Asian Americans), and Landrine, Klonoff, Corral, Fernandez, and Roesch (2006) (General Ethnic Discrimination Scale). This resulted in a list of 63 items in four categories: General Racism, Perpetual Foreigner, Model Minority Myth, and Inferiority to the Dominant Race.

An example of an item adapted from Sue, Bucceri, Lin, Nadal, and Torino (2007) is “Someone said to you or another Asian/Asian American that you do not have to worry about school because you are naturally smart.” Similarly, a sample item adapted from Sue et al. (2007) is “Someone said to you that s/he is not racist because s/he has many Asian friends.” An example of a non-modified item borrowed from the AARRSI (Liang et al., 2004) is “You [were] told that Asians have assertiveness problems.” An example of a modified item from the RRSS (Loo et al., 2001) is “You felt isolated or felt like you did not fit in because you were the only Asian/Asian American” rather than the original “Did you ever feel like you “stood out” (in a negative way) or were looked at as if you did not belong there?” A sample item modified from Yoo et al. (2010) is “Today, I was viewed with suspicion because I’m Asian.” Finally, an example of a modified item from the GED (Landrine et al., 2006) is “You were treated unfairly at work because you are Asian/Asian American” rather than “How often have you been treated unfairly by your employers, bosses and supervisors because of your race/ethnic group?”

Additionally, I modified the GED’s (Landrine et al., 2006) instructions to fit with the daily process method. More specifically, the instructions read as follows:
“I am interested in your experiences with discrimination, if any. As you answer the questions below, please think about your experiences today. Please read each item and circle the number that best describes your experiences. Please use the following numbers: 0 = This did not happen to me today, 1 = This happened to me once today, 2 = This happened to me more than once today.”

To reduce the number of items for the actual daily form I first reviewed the 63 items. Second, six Asian American judges were given the 63 preliminary items of the combined measures in random order and asked to review them. The judges were graduate students in Counseling Psychology. Because they have received training, via the program curriculum, and have personally experienced discrimination, they may have had more knowledge and ability to recognize microaggressions as well as its effects on Asian Americans. For each item, judges were asked to rate the frequency that the microaggression or discriminatory event might be experienced (daily, weekly, monthly, once or more per year, never). They were also asked to circle the item number for any items that were not clear or understandable. I used the mean ratings of the judges, plus content considerations (e.g., coverage of the four item categories), to select the 10 best items for the daily rating form of perceived discrimination experiences. For example, preferred items included those referring to discrimination experiences that could be experienced fairly frequently, and thus would be endorsed by some participants over a 21-day period. The items were likely content valid because they were selected with minimal adaptation from existing instruments that have already been validated. By using six Asian American judges and asking them to rate my preliminary items, I obtained face validity. In addition, by reviewing the selected items myself and making sure that there was roughly equal representation (e.g., 3 to 4 items) of each content category (General Racism, Perpetual Foreigner, Model Minority Myth,
and Inferiority to the Dominant Race), I promoted content validity. Finally, these categories
were labeled by researchers who have validated perceived discrimination measures (Sue,
Bucceri, Lin, Nadal, & Torino, 2007; Sue et al., 2007; Liang, Li, & Kim, 2004).

This resulted in a perceived discrimination measure with the first 10 items shown in
Table 4. I also added one open-ended question (see #11 in Table 4) in order to allow participants
the opportunity to record events and experiences that were not included in the 10-item form. To
obtain a total score, the ratings for each of the first 10 items (e.g., 0, 1, or 2) were summed and
one additional point was given for each experience that participants recorded in the open-ended
question. Thus, scores could range from 0 to 20 or more.

Table 4. Items of the Daily Perceived Discrimination Measure

1. Today, you heard someone make a racial comment that made you feel uncomfortable,
insulted, or disrespected.

2. Today, you felt like you stood out or were looked at as if you did not belong.

3. Today, you were asked where you are really from.

4. Today, you were faced with barriers in society because you are Asian American.

5. Today, someone mistook you for another Asian ethnicity.

6. Today, you felt isolated or felt like you did not fit in because you were the only Asian
American.

7. Today, you were treated differently because you are Asian American.

8. Today, you felt the need to prove that you are American.


10. Today, you heard someone say Asian American females are exotic and sexy.
11. Describe any experiences of discrimination that you experienced today that were not listed above.

---

**PANAS-X items.** The PANAS-X (Watson & Clark, 1994) is an expanded version of the original Positive Affect Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) and consists of 60 items. Each item is answered according to a 5-point Likert scale (1 = “very slightly or not at all,” 2 = “a little,” 3 = “moderately,” 4 = “quite a bit,” and 5 = “extremely”). In addition to positive and negative affect, the PANAS-X also includes subscales that assess fear, sadness, guilt, hostility, shyness, fatigue, surprise, joviality, self-assurance, attentiveness, and serenity. Watson et al. reported internal consistency reliabilities (Cronbach's coefficient alpha) above .83 for the two higher order scales and internal consistency reliability for the Fear, Sadness, Guilt, Hostility, Fatigue, Self-Assurance subscales of .87, .87, .88, .85, .83, .88, and .83, respectively. The authors also reported that the PANAS-X subscales significantly correlate with the Profile of Mood States Survey (POMS; McNair, Lorr, & Droppleman, 1971), with convergent correlations ranging from .85 to .91.

I planned to administer portions of the PANAS-X daily and wanted to avoid participant fatigue or noncompliance. Therefore, I selected 13 salient items from the measure. More specifically, I selected “afraid,” “frightened,” and “nervous” from the Fear scale; “angry,” “irritable,” “disgusted,” and “loathing” from the Hostility scale; “sad,” “alone,” and “lonely” from the Sadness scale; and “calm,” “relaxed,” and “at ease” from the Serenity scale. These scales and affects were selected because they most represent symptoms of anger, depression, and anxiety, or, in the case of the Serenity scale, the absence of anxiety. Studies have demonstrated that perceived discrimination correlates with increased depression and anxiety among Asian Americans (Hwang & Goto, 2008; Noh et al., 1999). For each participant, scores for fear,
hostility, sadness, and serenity were obtained for each day by averaging the relevant mood adjectives for each scale. In the present study, the internal consistency reliabilities (Cronbach's coefficient alpha) for the four scales were computed on participants' average scores across all days. The alpha values for fear, hostility, sadness, and serenity were .84, .90, .92, and .95, respectively.

*Self-Esteem.* The Rosenberg Self-Esteem Scale (R-SES; Rosenberg, 1965) is a 10-item measure of self-esteem. Items are answered using a 4-point Likert scale (1 = “strongly agree,” 2 = “agree,” 3 = disagree,” and 4 = “strongly disagree”) with higher scores indicating higher self-esteem. Rosenberg (1965) reported internal consistency reliability estimates ranging from .72 to .87. Additionally, test-retest reliability values ranging from .63 to .85 have been reported (Crandall, 1973). Crandall (1973) reported a moderate positive correlation ($r = .60$) between the R-SES and the Coopersmith Self-Esteem Inventory (Coopersmith, 1981), indicating convergent validity.

Since the R-SES items were also administered daily, I only administered 5 of the 10 items in order to avoid participant fatigue. I used the Spearman-Brown prediction formula to help me select the appropriate reduced number of items to retain, while maintaining adequate reliability. Specifically, this formula allowed me to estimate the reliability of my instrument after shortening it. The Spearman-Brown formula is calculated as $(2 \times x) / (1 + x) = r$, where $x$ is the estimate of the reliability of half of the items of the self-esteem inventory and $r$ is an estimate of the reliability of the entire 10-item inventory. Substituting an estimate of total test reliability of .77 in this equation yielded an estimate of .63 for the reliability of my 5-item self-esteem measure. This is adequate for a short daily measure. Daily self-esteem scores were obtained by averaging responses to these five items, with two items being reversed scored. In the present
study, an estimate of internal consistency reliability (Cronbach's coefficient alpha) was obtained by averaging scores for each item across all daily forms and computing alpha across all participants using these average item scores. The resulting value was .91.

*Ethnic Identity.* The MEIM (Phinney, 1992) was used to assess the ethnic identity of the participants. The MEIM (Phinney, 1992) is a 14-item measure consisting of three subscales, including Affirmation/Belonging, Identity Achievement, and Ethnic Behaviors. Affirmation/Belonging is defined as “positive ethnic attitudes and sense of belonging” (p. 164). Identity Achievement is defined as exploration of one’s ethnic identity that “leads to a secure sense of oneself as a member of a minority group” (p.160). Finally, Ethnic Behaviors is defined as “involvement in social activities with members of one’s group and participation in cultural traditions” (p. 159). Each item is answered using a 4-point Likert scale (1 = “strongly disagree,” 2 = “somewhat disagree,” 3 = “somewhat agree,” and 4 = “strong agree”) with higher scores representing a stronger ethnic identity (Fischer & Moradi, 2001). Lee and Yoo (2004) estimated the coefficient alpha reliabilities for each subscale and found adequate to good internal item consistency. The MEIM alpha reliability for the present study was .85. Unlike the other measures in the study, this instrument was completed once at the beginning of the study rather than daily. I used the MEIM rather than the MEIM-R because the MEIM has been validated with Asian Americans (Lee & Yoo, 2004) and the MEIM-R has not. Furthermore, Asian Americans only represented 20% of the participants in Phinney and Ong’s (2007) study in which the MEIM—R was validated.

*Procedure*

At the beginning of the study, participants were administered the demographic questionnaire and the MEIM (Phinney, 1992). Subsequently, participants were asked to record
their daily experiences of perceived discrimination, affect, and self-esteem for 21 days. I used the web-based database program QuestionPro to create and administer the daily diary forms (see Appendix B). To test if this was feasible, I pilot tested the program by answering a sample survey in QuestionPro multiple times to verify that respondents could answer the same survey link every day and that the daily data would be stored properly along with the time of completion.

I created a different survey link for each participant so that I could easily monitor their progress and check for missing forms. I then emailed each participant their own link and asked them to visit the webpage and complete the form daily. I emailed or sent a text message to participants frequently (e.g., several times weekly) to check-in with them, remind them, and motivate them to complete their daily diaries. Additionally, during the 21 days that I collected data, I monitored the participants’ diary entries nightly. More specifically, I sent them a text message or email reminder at 9:00 pm if I noticed that they had not yet completed their entries. Permission to contact participants using e-mail and text messages was included in my consent form. Participants were paid $1 for each day that they completed a daily diary. Additionally, those participants who successfully completed at least 15 days were entered into a raffle for $200.

**Statistical Analyses**

*Descriptive statistics and preliminary analyses.* Descriptive statistics were computed for participants’ age, ethnicity, gender, generational status, English language proficiency, level of education, socioeconomic status, affect, self-esteem and MEIM scores. Descriptive statistics for the demographic variables were already reported in the Sample section of this chapter.
Hypotheses I and II. To test Hypotheses I and II, multilevel modeling was conducted using the Multilevel Modeling (MLM) program in SPSS. Multilevel modeling allows for the analysis of both within and between individual differences and accounts for the nesting of days (level 1) within individuals (level 2) in the present study. In general, the MLM models were used to predict daily affect and self-esteem from daily experiences of perceived discrimination.

For each affect and self-esteem indicator, I tested a series of four MLM models. Model I was the unconditional or base model, which tested whether individuals exhibited variability across days in their affect and self-esteem and whether there were average person-level differences in affect and self-esteem across days. Model II provided a test of Hypothesis I, that is, whether daily perceived discrimination predicted daily affect and self-esteem. In Model III, these effects were tested again controlling for the person-level variables of age and gender. Model IV provided a test of Hypothesis II, that is, whether individual differences in the relationship between daily perceived discrimination and affect and self-esteem were predicted by ethnic identity.

Model I: Unconditional (base) model

\[(1) \text{ Level 1 (days): } Y_{ij} = \beta_{0j} + r_{ij}\]

where \(Y_{ij}\) is the daily affect or self-esteem score for day \(i\) for person \(j\) and \(\beta_{0j}\) is the average, or mean, affect or self-esteem rating for person \(j\) across all days. \(\beta_{0j}\) is a fixed effect because it does not vary across days for a given individual. \(r_{ij}\) is the residual error in fear ratings within persons and is a random effect (i.e., it varies).

\[(2) \text{ Level 2 (persons): } \beta_{0j} = \gamma_{00} + \mu_{0j}\]
where $\gamma_{00}$ is the mean affect or self-esteem score across all individuals (i.e., the grand mean), and is a fixed effect, and $\mu_{0j}$ is the individual deviations from the grand mean (i.e., the person effects), and is a random effect.

Combining the level 1 and level 2 equations yields the following mixed-model equation:

\[ Y_{ij} = \gamma_{00} + \mu_{0j} + r_{ij} \]

where $\gamma_{00}$ is a fixed effect and $\mu_{0j}$ and $r_{ij}$ are random effects. The MLM analysis also computes (a) $\sigma^2$, the variance of the within-person (i.e., daily) residuals ($r_{ij}$), which quantifies the variability of individuals’ daily affect or self-esteem ratings, and (b) $\tau_{00}$, the variance of individuals’ affect or self-esteem means around the grand mean, which quantifies the variability between individuals in reports of affect or self-esteem. The intraclass correlation (ICC) is calculated as $\rho = \tau_{00}/(\tau_{00} + \sigma^2)$ and quantifies the proportion of the total affect or self-esteem variance accounted for by individual differences between persons.

**Model II: Hypothesis I — Perceived discrimination as a daily predictor of affect or self-esteem**

\[ Y_{ij} = \beta_{0j} + \beta_{1j}[\text{daily perceived discrimination}] + r_{ij} \]

where $\beta_{ij}$ is the regression slope for person $j$ in predicting daily affect or self-esteem scores from daily perceived discrimination scores.

\[ \beta_{0j} = \gamma_{00} + \mu_{0j} \]

\[ \beta_{1j} = \gamma_{10} + \mu_{1j} \]

where $\gamma_{10}$ is the average regression slope of perceived discrimination as a predictor of affect or self-esteem and the $\mu_{ij}$ are individuals’ deviations from the average regression slope.

Combining the level 1 and level 2 equations yields the following mixed-model equation:

\[ Y_{ij} = \gamma_{00} + \gamma_{10} [\text{daily perceived discrimination}] + \mu_{0j} + \mu_{1j} [\text{daily perceived discrimination}] + r_{ij} \]
where $\gamma_{00}$ and $\gamma_{10}$ are fixed effects for the intercept and slope, respectively, and $\mu_{0j}$, $\mu_{1j}$, and $r_{ij}$ are random effects. In this model, $\sigma^2$ is the within-person variability in affect or self-esteem across days, and $\tau_{00}$ is the variability between persons’ in average affect or self-esteem, both after controlling for the influence of perceived discrimination. Finally, $\tau_{01}$ is the variability between persons in the regression slope ($\mu_{1j}$) for perceived discrimination predicting affect or self-esteem. Hypothesis I will be supported if $\gamma_{10}$ is statistically significant, indicating that, on average, daily perceived discrimination predicts daily affect or self-esteem.

**Model III: Controlling for age and gender in prediction of average affect or self-esteem**

In this model I tested whether age or gender impacted average affect or self-esteem. I did not control for socioeconomic status because the single item measure probably do not provide an interval level of measurement. Also, the meanings of the socioeconomic categories are subjective and may vary across participants.

(8) Level 1: $Y_{ij} = \beta_{0j} + \beta_{1j}[\text{daily perceived discrimination}] + r_{ij}$

(9) Level 2: $\beta_{0j} = \gamma_{00} + \gamma_{01}[\text{age}] + \gamma_{02}[\text{gender}] + \mu_{0j}$

(10) $\beta_{1j} = \gamma_{10} + \mu_{1j}$

(11) Mixed model equation: $Y_{ij} = \gamma_{00} + \gamma_{01}[\text{age}] + \gamma_{02}[\text{gender}] + \gamma_{10}[\text{daily perceived discrimination}] + \mu_{0j} + \mu_{1j}[\text{daily perceived discrimination}] + r_{ij}$

where $\gamma_{00}$, $\gamma_{01}$, $\gamma_{02}$, and $\gamma_{10}$ are fixed effects and $\mu_{0j}$, $\mu_{1j}$, and $r_{ij}$ are random effects.

If $\gamma_{01}$ and $\gamma_{02}$ are statistically significant, it would indicate that age and gender, respectively, predict individuals’ average affect or self-esteem scores. In this model, $\sigma^2$, the within-person variance in daily affect or self-esteem scores, and $\tau_{00}$, the person-level variance in affect or self-esteem scores, will be reduced from their estimates in previous models to the extent that age and gender predict $\beta_{0j}$, the individual affect or self-esteem score means. $\tau_{01}$ is again the
variability between persons in the regression slope for perceived discrimination predicting affect or self-esteem. Age and/or gender will be retained in Model IV only if one or both are significant predictors of affect or self-esteem in Model III. To simplify the description of Model IV below, I assume that age and gender will not need to be included as control variables in Model IV.

**Model IV: Hypothesis II — Ethnic identity as a moderator**

\[ (12) \]

**Level 1:**

\[ Y_{ij} = \beta_{0j} + \beta_{1j}[\text{daily perceived discrimination}] + r_{ij} \]

\[ (13) \]

**Level 2:**

\[ \beta_{0j} = \gamma_{00} + \gamma_{01}[\text{ethnic identity}] + \mu_{0j} \]

\[ \beta_{1j} = \gamma_{10} + \gamma_{11}[\text{ethnic identity}] + \mu_{1j} \]

Combining the level 1 and level 2 equations yields the following mixed model equation:

\[ (15) \]

\[ Y_{ij} = \gamma_{00} + \gamma_{01}[\text{ethnic identity}] + \gamma_{10}[\text{daily perceived discrimination}] + \gamma_{11}[\text{ethnic identity} \times \text{daily perceived discrimination}] + \mu_{0j} + \mu_{1j}[\text{daily perceived discrimination}] + r_{ij} \]

Hypothesis II will be supported if \( \gamma_{11} \) for the cross-level interaction term between ethnic identity and daily perceived discrimination is negative and statistically significant, indicating that higher ethnic identity scores buffer against the impact of daily perceived discrimination on affect or self-esteem scores (i.e., a moderation effect). In this model, \( \sigma^2 \) is the within-person variability in affect or self-esteem across days, \( \tau_{00} \) is the variability between persons in the overall mean of affect or self-esteem, and \( \tau_{11} \) is the variability between persons in the regression slope for perceived discrimination predicting affect or self-esteem, all after controlling for perceived discrimination, ethnic identity, and the interaction of perceived discrimination and ethnic identity.
In MLM, as implemented by SPSS, model parameters can be estimated using either maximum likelihood (ML) or restricted maximum likelihood (REML) estimation. I used REML, which is recommended for smaller data sets (Heck, Thomas, & Tabata, 2010). Also to make the model parameters more interpretable and to model a within-person process, the level-1 predictor (i.e., perceived discrimination) was person-centered. That is, each person’s average perceived discrimination score across all days was subtracted from each of their daily discrimination scores. Similarly, the level-2 ethnic identity predictor was grand mean centered by subtracting the sample mean on the MEIM inventory from each person’s MEIM score.
CHAPTER 4

Results

Descriptive Statistics

*Daily diary measure.* The mean number of daily diary forms completed by the final participants was 22.10 days with a range of 15 to 29 daily forms. Across all participants, the mean number of experiences of discrimination reported per day was 1.57 ($SD = 2.22$) with daily discrimination scores ranging from 0 to 13. Thus, on average, participants reported 1 or 2 discriminatory events per day. The mean perceived discrimination scores across days for individual participants ranged from zero to 6.63 and their individual standard deviations ranged from zero to 4.53. For each participant, I computed the coefficient of variation (CV) (i.e., $100 \times [SD/\text{mean}]$) of the daily perceived discrimination scores. The values ranged from .49 to 4.40 across individuals (CVs cannot be computed when the mean equals zero). Although there is no definitive guideline for interpreting the size of CVs, the values indicated that most participants exhibited a reasonable degree of variability in their daily discrimination scores.

As seen in Table 5, the most frequent items of discrimination reported by the participants were “Today, you felt like you stood out or were looked at as if you did not belong” and “Today, you heard a racial stereotype about Asian Americans.” The items that were least endorsed were “Today, you were faced with barriers in society because you are Asian American” and “Today, you heard someone say Asian American females are exotic and sexy.” The percentages for each item in Table 5 were calculated across all participants and all days.
Table 5. Endorsement Percentages for Items of the Daily Perceived Discrimination Measure

<table>
<thead>
<tr>
<th>Item</th>
<th>This Did Not Happen (%)</th>
<th>This Happened Once (%)</th>
<th>This Happened More Than Once (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Today, you heard someone make a racial comment that made you feel uncomfortable, insulted, or disrespected.</td>
<td>86.2</td>
<td>11.9</td>
<td>1.9</td>
</tr>
<tr>
<td>2. Today, you felt like you stood out or were looked at as if you did not belong.</td>
<td>76.3</td>
<td>19.3</td>
<td>4.4</td>
</tr>
<tr>
<td>3. Today, you were asked where you are really from.</td>
<td>88.8</td>
<td>10.4</td>
<td>.8</td>
</tr>
<tr>
<td>4. Today, you were faced with barriers in society because you are Asian American.</td>
<td>93.6</td>
<td>6.1</td>
<td>.3</td>
</tr>
<tr>
<td>5. Today, someone mistook you for another Asian ethnicity.</td>
<td>86.4</td>
<td>10.7</td>
<td>2.8</td>
</tr>
<tr>
<td>6. Today, you felt isolated or felt like you did not fit in because you were the only Asian American.</td>
<td>88.1</td>
<td>10.4</td>
<td>1.5</td>
</tr>
<tr>
<td>7. Today, you were treated differently because you are Asian American.</td>
<td>90.2</td>
<td>9.2</td>
<td>.7</td>
</tr>
<tr>
<td>8. Today, you felt the need to prove that you are American.</td>
<td>89.0</td>
<td>10.4</td>
<td>.6</td>
</tr>
<tr>
<td>9. Today, you heard a racial stereotype about Asian Americans.</td>
<td>79.7</td>
<td>14.8</td>
<td>5.5</td>
</tr>
<tr>
<td>10. Today, you heard someone say Asian American females are exotic and sexy.</td>
<td>91.2</td>
<td>7.5</td>
<td>1.4</td>
</tr>
<tr>
<td>11. Describe any experiences of discrimination that you experienced today that were not listed above.</td>
<td>93.8</td>
<td>5.9</td>
<td>.3</td>
</tr>
</tbody>
</table>

Note. Percentages were calculated across all participants and all days.

Other measures. Table 6 shows the descriptive statistics for the MEIM, fear, hostility, sadness, serenity, and self-esteem scores. The fear, hostility, sadness, serenity, and self-esteem means were obtained by aggregating across all daily reports. By relating these means to the
rating scale anchors for each instrument, I concluded that participants had fairly strong ethnic identity with their culture of origin and reported minimal levels of fear, hostility, and sadness across all daily forms. Participants reported moderate levels of serenity and high self-esteem across all daily forms.

Table 6. *Descriptive Statistics for the MEIM, Fear, Hostility, Sadness, Serenity, and Self-Esteem Scores*

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEIM</td>
<td>3.25</td>
<td>.43</td>
<td>2.07 — 4.00</td>
</tr>
<tr>
<td>Fear</td>
<td>1.47</td>
<td>.69</td>
<td>1.00 — 5.00</td>
</tr>
<tr>
<td>Hostility</td>
<td>1.44</td>
<td>.63</td>
<td>1.00 — 5.00</td>
</tr>
<tr>
<td>Sadness</td>
<td>1.58</td>
<td>.81</td>
<td>1.00 — 5.00</td>
</tr>
<tr>
<td>Serenity</td>
<td>2.87</td>
<td>.98</td>
<td>1.00 — 5.00</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>3.07</td>
<td>.52</td>
<td>1.00 — 4.00</td>
</tr>
</tbody>
</table>

**Multilevel Analyses**

*Introduction*

As noted in Chapter 3, I chose to use multilevel modeling (MLM) rather than regression analysis because my data include a nesting or grouping variable (i.e., days were nested within individuals). MLM estimates the average effects (i.e., regression slopes) of discrimination on affect and self-esteem and how individuals differ from one another on these outcome variables. MLM also allows the regression slopes relating daily perceived discrimination to affect and self-esteem to vary across individuals. As described in Chapter 3, I tested four MLM models for each outcome variable (i.e., the four affects and self-esteem). The models will be explained as I describe my findings for the daily outcome variables.

*Null Models (Model 1)*

The mixed (combined level 1 and level 2) model for the null model is as follows:

\[ Y_{ij} = \gamma_{00} + \mu_{0j} + r_{ij} \]
The null model provides information on whether there is daily variability in affect or self-esteem scores (level-1) and individual differences in affect or self-esteem scores across days (level-2). $Y_{ij}$ is the daily affect or self-esteem score for person $j$ on day $i$. $\gamma_{00}$ is the mean affect or self-esteem score (i.e., grand mean) across all individuals, and is a fixed effect (i.e., it does not vary). $\mu_{0j}$ represents the individual deviations from the grand mean (i.e., the person effects), and is a random effect. $r_{ij}$ is the residual error in affect or self-esteem ratings within individuals and is a random effect (i.e., it varies). Table 7 shows the estimated fixed and random effects for each outcome variable in the four models.

Table 7. Multilevel Models for Affect and Self-Esteem ($N = 40$)

<table>
<thead>
<tr>
<th></th>
<th>Model: I Null Model</th>
<th>Model II: Discrimination as Predictor</th>
<th>Model III: Control for Age and Gender</th>
<th>Model IV: Moderation Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIXED EFFECTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intercepts ($\gamma_{00}$)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>1.48***</td>
<td>1.48***</td>
<td>1.29***</td>
<td>1.48***</td>
</tr>
<tr>
<td>Hostility</td>
<td>1.44***</td>
<td>1.44***</td>
<td>1.45***</td>
<td>1.44***</td>
</tr>
<tr>
<td>Sadness</td>
<td>1.58***</td>
<td>1.59***</td>
<td>1.62***</td>
<td>1.59***</td>
</tr>
<tr>
<td>Serenity</td>
<td>2.86***</td>
<td>2.86***</td>
<td>3.16***</td>
<td>2.86***</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>3.06***</td>
<td>3.06***</td>
<td>3.02***</td>
<td>3.06***</td>
</tr>
<tr>
<td><strong>Regression Slopes for Perceived Discrimination ($\gamma_{10}$)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Hostility</td>
<td>.05**</td>
<td>.05**</td>
<td>.05**</td>
<td>.05**</td>
</tr>
<tr>
<td>Sadness</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Serenity</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
<td>-.03</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>-.01</td>
<td>-.01</td>
<td>-.01</td>
<td>-.01</td>
</tr>
<tr>
<td><strong>Regression Slopes for Age ($\gamma_{01}$)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>- .04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td>- .01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td>- .04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serenity</td>
<td>.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Slopes for Gender ($\gamma_{02}$)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>-------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td></td>
<td>.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td></td>
<td>-.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td></td>
<td>-.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serenity</td>
<td></td>
<td>-.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td></td>
<td>.05</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Regression slopes for Perceived Discrimination * Ethnic Identity ($\gamma_{11}$)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear</td>
<td></td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Hostility</td>
<td></td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>Sadness</td>
<td></td>
<td>-.07</td>
<td></td>
</tr>
<tr>
<td>Serenity</td>
<td></td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>Self-Esteem</td>
<td></td>
<td>.04</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RANDOM EFFECTS</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Residual Variance ($\sigma^2$)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>.30***</td>
<td>.29***</td>
<td>.29***</td>
</tr>
<tr>
<td>Hostility</td>
<td>.28***</td>
<td>.27***</td>
<td>.27***</td>
</tr>
<tr>
<td>Sadness</td>
<td>.44***</td>
<td>.41***</td>
<td>.41***</td>
</tr>
<tr>
<td>Serenity</td>
<td>.69***</td>
<td>.66***</td>
<td>.66***</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.19***</td>
<td>.18***</td>
<td>.18***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intercept Variance ($\tau_{00}$)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear</td>
<td>.19***</td>
<td>.19***</td>
<td>.18***</td>
</tr>
<tr>
<td>Hostility</td>
<td>.11***</td>
<td>.11***</td>
<td>.12***</td>
</tr>
<tr>
<td>Sadness</td>
<td>.24***</td>
<td>.24***</td>
<td>.24***</td>
</tr>
<tr>
<td>Serenity</td>
<td>.28***</td>
<td>.29***</td>
<td>.27***</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.08***</td>
<td>.08***</td>
<td>.08***</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived Discrimination Variance ($\tau_{01}$)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear</td>
<td>.003</td>
<td>.003</td>
<td>.003*</td>
</tr>
<tr>
<td>Hostility</td>
<td>.003</td>
<td>.003</td>
<td>.003*</td>
</tr>
<tr>
<td>Sadness</td>
<td>.011*</td>
<td>.011</td>
<td>.011*</td>
</tr>
<tr>
<td>Serenity</td>
<td>.013</td>
<td>.013</td>
<td>.015*</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.002</td>
<td>.002</td>
<td>.002*</td>
</tr>
</tbody>
</table>

*p< .05; **p< .005; ***p< .001
As seen in Table 7 for the null model (Model I), the intercept estimates ($\gamma_{00}$) for fear, hostility, sadness, serenity, and self-esteem were 1.48, 1.44, 1.58, 2.86, and 3.06, respectively. That is, on a 5-point Likert scale of daily affect and self-esteem ratings, the average fear, hostility, sadness, serenity, and self-esteem scores across individuals (i.e., the grand means) ranged from 1.44 to 3.06. Thus, participants did not, on average, report much fear, hostility, or sadness across days, but did report moderate levels of serenity and self-esteem across days. The residual variance estimate for fear ($\sigma^2 = .30$) was statistically significant based on the Wald Z test ($z = 20.55, p < .001$), indicating that individuals showed considerable variability in their average fear scores across days. The Wald Z test is a two-tailed test, and since variances cannot be smaller than 0, “the test should be conducted as a one-tailed test” (Heck, Thomas, & Tabata, 2010, p. 80). Therefore, the significance levels for the variance estimates should be divided by 2 to reflect a one-tailed probability level. The residual variance estimates ($\sigma^2$) for the other affect variables and self-esteem were also statistically significant based on the Wald Z tests ($z$ range = 20.53 – 20.55, $p < .001$), indicating that individuals showed variability in their affect and self-esteem scores across days. The intercept variances ($\tau_{00}$) for fear, hostility, sadness, serenity, and self-esteem ($\tau_{00}$ range = .08 – .28) were also statistically significant (Wald Z range = 3.97 – 4.12, $p < .001$) indicating that there was significant variability in average affect and self-esteem scores between individuals. The intraclass correlation (ICC) is calculated as $\rho = \tau_{00}/(\tau_{00} + \sigma^2)$ and quantifies the proportion of the total affect and self-esteem variance accounted for by individual differences between persons. The ICC for the fear outcome was .393, indicating that 39.3 % of the total variance in fear scores was due to individual differences. This large ICC value confirms that it was important to take into account the nested structure of the data in these analyses. Similarly, the intraclass correlations for the other outcome variables (ICC range = .29 – .35)
indicates that a substantial proportion of variance was due to individual differences. Given the significant residual variance ($\sigma^2$) for each outcome variable, it was appropriate to attempt to account for this variance using daily perceived discrimination ratings in Model II.

**Model II: Perceived Discrimination as a Predictor of Daily Affect and Self-Esteem (Hypothesis I)**

The mixed model equation for Model II is as follows:

$$Y_{ij} = \gamma_{00} + \gamma_{10} [\text{daily perceived discrimination}] + \mu_{0j} + \mu_{1j} [\text{daily perceived discrimination}] + r_{ij}$$

Model II adds daily perceived discrimination into the equation to determine if it can predict daily affect or self-esteem. Relative to Model I, the new parameters of interest in Model II are $\gamma_{10}$ and $\mu_{1j}$. $\gamma_{10}$ is the average regression slope coefficient (a fixed effect) indicating how well daily perceived discrimination predicts affect or self-esteem. $\mu_{1j}$ is the deviation of each individual’s slope coefficient from this average slope (a random effect). Finally, $r_{ij}$ is again the residual variance indicating how much the outcome scores for day $i$ (for person $j$) varies from person $j$’s mean, after controlling for daily perceived discrimination scores.

The most important new finding in Model II was the estimated average regression slopes for perceived discrimination in predicting daily affect and self-esteem. The average regression slopes for fear, sadness, serenity, and self-esteem were .01, .02, -.03, and -.01, respectively. These estimates were not statistically significant (Wald $Z$ range $= 1.66 – 2.34$, $p > .05$). That is, daily perceived discrimination did not predict daily fear, sadness, serenity, or self-esteem scores. In addition, the variance of the fear, serenity, and self-esteem regression slopes ($\tau_{10}$ range $= .002 – .013$) were not statistically significant ($p > .05$), indicating that the slopes did not vary
significantly across individuals. The variance of regression slope for sadness was significant
($\tau_{01} = .011, p < .05$), indicating that the slopes did vary significantly across individuals.

The estimated average regression slope for perceived discrimination in predicting
hostility was .05. This estimate was statistically significant ($\text{Wald Z} = 1.70, p < .05$), indicating
that daily perceived discrimination did predict daily hostility scores. The variance of this
regression slope ($\tau_{01} = .003$) was not statistically significant ($p > .05$), indicating that the slopes
did not vary significantly across individuals.

Overall, Hypothesis I was supported only for daily hostility scores. Perceived daily
discrimination predicted reports of daily hostility, but not fear, sadness, serenity, or self-esteem.
In addition, the size of the effect of perceived discrimination on hostility was modest. The
regression slope of .05 indicates that, on average, a 1 point increase in daily discrimination
scores, in relation to each individual’s own daily mean, resulted in just a .05 increase in hostility
scores.

**Model III: Controlling for Age and Gender**

As noted in Chapter 3, the mixed model equation for Model III is as follows:

\begin{equation}
Y_{ij} = \gamma_{00} + \gamma_{01}[\text{age}] + \gamma_{02}[\text{gender}] + \gamma_{10j}[\text{daily perceived discrimination}] + \\
\mu_{0j} + \mu_{ij} [\text{daily perceived discrimination}] + r_{ij},
\end{equation}

Model III adds level-2 variables to determine if age and gender predict daily affect and self-
esteeem scores. The estimates of the fixed effects involving age for fear, hostility, sadness,
serenity, and self-esteem were -.04, -.01,-.04, .01, and .03, respectively. The estimates of the
fixed effects involving gender for fear, hostility, sadness, serenity, and self-esteem were .23, -.01,
-.04, -.35, and .05, respectively. The age and gender effects were not statistically significant
($\text{Wald Z range} = 3.88 –4.00, p > .05$). Therefore, age and gender were not included in Model IV.
Model IV: Ethnic Identity as a Moderator of the Effect of Perceived Discrimination on Daily Affect and Self-Esteem (Hypothesis II)

As noted in Chapter 3, the mixed model equation for Model IV is as follows:

\[ Y_{ij} = \gamma_{00} + \gamma_{01}\text{[ethnic identity]} + \gamma_{10}\text{[daily perceived discrimination]} + \gamma_{11}\text{[ethnic identity } \times \text{daily perceived discrimination]} + \mu_{0j} + \mu_{1j}\text{[daily perceived discrimination]} + r_{ij} \]

Model IV examines the cross-level interaction of ethnic identity and daily perceived discrimination to determine whether ethnic identity (i.e., a level-2 variable) moderates the effect of daily perceived discrimination (a level-1 variable) on daily affect and self-esteem.

The regression slopes (\(\gamma_{11}\)) for the discrimination \(\times\) ethnic identity interaction for fear, hostility, sadness, serenity, and self-esteem were -.03, -.03, -.07, .10, and .04, respectively. None were significant (\(p > .05\)). Therefore, ethnic identity did not moderate the effects of daily perceived discrimination on daily fear, hostility, sadness, serenity, or self-esteem scores. That is, Hypothesis II was not supported.

After testing the four models for each outcome variable, I calculated the reduction in residual (unexplained) variance in daily affect and self-esteem scores after including the additional predictors not included in the null or baseline model. This is calculated by computing

\[ (\sigma^2_{M} - \sigma^2_{MIV})/\sigma^2_{M} \]

\(\sigma^2_{M} \) is the residual variance estimate from the null model and \(\sigma^2_{MIV} \) is the residual variance estimate from Model IV, which includes the level-1 predictor of daily perceived discrimination as well as the level-2 predictor of ethnic identity. The reduction in residual variance estimates for fear, hostility, sadness, serenity, and self-esteem were .03, .05, .07, .04, and .03, respectively. This means that perceived discrimination, ethnic identity, and the
interaction of perceived discrimination and ethnic identity accounted for only 3% to 7% of the residual variance, or unexplained variability, within individuals.

**Predicting Outcome Variables from Perceived Discrimination across Individuals**

The multilevel modeling analyses examined the relationship between daily perceived discrimination and the affect and self-esteem outcome variables within individuals. In these analyses, daily scores for perceived discrimination were compared to each individual’s average perceived discrimination score across days. This controlled for differences between individuals in reported discrimination experiences. However, most studies in the current literature examine the relationship between perceived discrimination and outcome variables across individuals rather than within individuals. Therefore, in Table 8 I show the Pearson correlations relating average perceived discrimination scores and average outcome scores across individuals. Each participant’s scores were computed as the average of their daily scores for each variable. As seen in the table, participants who reported more daily discrimination experiences overall also reported greater fear, hostility, and sadness overall. Thus, these results reveal stronger relationships between perceived discrimination and some of the outcome variables than were found in the within-individual (i.e., MLM) analyses. Finally, the correlations between the various outcome variables, again computed across individuals, are also shown in Table 8. These correlations reveal moderate correlations in the expected direction between the various outcome (i.e., affect and self-esteem) variables.
Table 8. Correlations between Perceived Discrimination, Affect, and Self-esteem Scores Computed Across Individuals

<table>
<thead>
<tr>
<th></th>
<th>Average Perceived Discrimination</th>
<th>Average Fear</th>
<th>Average Hostility</th>
<th>Average Sadness</th>
<th>Average Serenity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Perceived Discrimination</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Fear</td>
<td>.18***</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Hostility</td>
<td>.36***</td>
<td>.37***</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Sadness</td>
<td>.24***</td>
<td>.52***</td>
<td>.56***</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Average Serenity</td>
<td>-.06</td>
<td>-.21***</td>
<td>-.23***</td>
<td>-.14***</td>
<td>-</td>
</tr>
<tr>
<td>Average Self-Esteem</td>
<td>-.06</td>
<td>-.22***</td>
<td>-.37***</td>
<td>-.39***</td>
<td>.33***</td>
</tr>
</tbody>
</table>

*p < .05; **p < .005; ***p < .001
CHAPTER 5

Discussion

Sue et al. (2007) reported that the “old fashioned” or blatant form of racism has morphed into a modern, more subtle and indirect, form. The researchers referred to this subtle form of discrimination as “microaggressions” and described them as daily slights and insults that communicate hostility. Furthermore, microaggressions are often unconscious and unintentional behaviors or verbal comments that communicate rudeness and insensitivity.

In previous studies, experiences of perceived discrimination have been linked to racism-related stress (Alvarez, Juang, & Liang, 2006; Harrell, 2000; Liang, Li, & Kim, 2004), which, in turn, may lead to distress or poorer psychological adjustment. More specifically, experiences of perceived discrimination have been correlated with decreased self-esteem (Liang & Fassinger, 2008), increased depression and anxiety (Hwang & Goto, 2008), and increased engagement in high risk behaviors (e.g., unsafe sex) (Wilson & Yoshikawa, 2004). However, some studies have suggested that Asian Americans’ ability to cope with perceived discrimination may be buffered by such coping resources as ethnic identity and familial support (Barry & Grilo, 2003; Chen, Androsiglio, & Ng, 2010; Harrell, 2000; Hwang & Goto, 2008). However, the experience sampling method has been underutilized in studies relating perceived discrimination to adjustment.

Accordingly, the purpose of the present study was to (a) examine the effects of daily perceived discrimination on the psychological functioning of Asian Americans, specifically their daily fear, hostility, sadness, serenity, and self-esteem, and (b) examine whether ethnic identity moderates the effects of daily perceived discrimination on daily affect and self-esteem of Asian Americans.
Summary of Findings

On average, participants reported one or two experiences of discrimination per day and endorsed a fairly strong ethnic identity with their culture of origin. Participants did not, on average, report much fear, hostility, or sadness across days, but did report moderate levels of serenity and self-esteem across days. Nonetheless, in the multilevel analyses, I found significant within-individual variability in daily fear, hostility, sadness, serenity, and self-esteem scores (level-1), as well as individual differences in affect and self-esteem across days (level-2). The coefficients of variation (CV) computed on the raw discrimination scores also revealed reasonable variability in daily scores for most participants. Thus, the limited predictive relationships between daily perceived discrimination and the outcome variables did not appear to be the result of limited variability in these variables across days. Perceived daily discrimination predicted reports of daily hostility, but did not predict daily fear, sadness, serenity, or self-esteem. However, the size of the effect on hostility was modest, with only a .05 increase in hostility scores for each 1 point increase in experiences of daily perceived discrimination. In contrast, average perceived discrimination was a better predictor of average affect and self-esteem when these variables were related across individuals with Pearson’s correlations. Average daily perceived discrimination was significantly correlated with average fear, hostility, and sadness, but not serenity or self-esteem.

Finally, age and gender did not predict average fear, hostility, sadness, serenity, or self-esteem scores and ethnic identity did not moderate the effects of daily perceived discrimination on daily fear, hostility, sadness, serenity, or self-esteem. Overall, Hypothesis I was partially supported. Within individuals, perceived daily discrimination modestly predicted daily hostility.
scores but not the other outcome variables. Hypothesis II was not supported. Ethnic identity did not moderate the effects of daily perceived discrimination on affect or self-esteem scores.

*Interpretation of Results and Relation to Previous Findings*

Upon initial examination, an average of one to two experiences of perceived discrimination per day may seem trivial. However, upon further consideration, even one to two daily experiences of perceived discrimination might be detrimental to well-being if encountered fairly consistently across days, which appeared to be the case in the present study. Unfortunately, there is little normative data regarding the number of discriminatory experiences per day that constitutes a significant amount. One daily process study examined the effects of racial discrimination on psychological distress, including negative affect, depression, and anxiety, among 174 African Americans. Burrow and Ong (2010) found that over a 14-day time period, African American participants reported, on average, one discriminatory experience every other day. In addition, the researchers found that increased daily experiences of racial discrimination were associated with increased daily negative affect and depression among their African American participants. Since Asian American participants in the present study reported, on average, about twice as many discriminatory events per day as the African American participants in Burrow and Ong’s (2010) study, it was reasonable to anticipate that experiencing one to two discriminatory experiences per day would impact participants’ affects and self-esteem in the present study. Possible explanations for the modest effects of perceived discrimination on affect and self-esteem in the present study are discussed below.

The results for Hypothesis I were partially consistent with the findings in the current literature. In particular, the finding that increases in daily perceived discrimination predicted higher hostility ratings is consistent with Sue et al.’s (2007) description of ethnic minorities’
increase in racial anger and frustration as they continue to experience racism. However, the failure of daily perceived discrimination to predict daily fear, sadness, serenity, and self-esteem in this study is inconsistent with the literature. It should be noted, however, that a stronger relationship was found between average daily perceived discrimination and average daily fear, hostility, and sadness when examined across individuals using the Pearson correlations. Thus, the strength of the relationships between discrimination and adjustment outcomes may depend on the research design and methods of analysis. Most previous studies examined these relationships across individuals using retrospective reports of discrimination and adjustment. In contrast, my experience sampling design and MLM analysis examined the relationships within-individuals across days. Thus, the data on discrimination and well-being were more proximal to the actual daily experiences and should be less subject to recall and response style effects. In addition, the MLM analysis compared daily discrimination scores to each participant’s average daily discrimination scores. That is, I examined whether increased discrimination relative to participants’ baseline or average level of discrimination experiences impacted affect and well-being. This is a somewhat different research question than whether participants who experience greater discrimination report worse affect of self-esteem overall.

My non-supportive findings for Hypothesis II are not necessarily inconsistent with previous findings. Indeed, there have been mixed findings regarding the buffering versus exacerbating effects of having a strong ethnic identity on perceived discrimination. Iwamoto and Liu (2010) found that ethnic identity buffered the negative effects of race-related stress on psychological well-being among Asian Americans and Asian international college student. In contrast, Yoo and Lee (2008) found that ethnic identity exacerbated the negative effects of racial discrimination on well-being among Asian Americans. Finally, Lee (2003) found that ethnic
identity neither buffered nor exacerbated the effects of perceived discrimination on Asian Americans’ psychological well-being. My results were most consistent with Lee’s (2003) findings. Another possible explanation for why I did not find a moderating effect is because of the lack of variability in ethnic identity, or MEIM, scores. Although the scores ranged from 2.07 to 4.00, most of the scores were between 3.07 and 3.64. Thus, this may have inhibited the buffering effect. If there was more variability in the ethnic identity scores, there may have been a significant moderating effect. Clearly, future research in this area is warranted and I offer some suggestions later in this chapter.

There are several possible explanations for the limited effects of perceived discrimination on affect and self-esteem in the present study. First, 62.5% of the participants identified as second generation Asian Americans and 77.5% of the participants described their socioeconomic status as average or below average. Often times, children of immigrant families experience financial difficulties and have many simultaneous responsibilities, which include school, work (e.g., providing financial assistance to the family), and caring for the family (i.e., taking care of younger siblings) (Sy & Romero, 2008). Participants in the current study may have been too busy or distracted to notice or react to some discriminatory events. Furthermore, they may be used to facing adversity and challenges in their everyday life and have learned to cope with these challenges. As a result, they did not endorse more psychological distress in response to the reported discrimination experiences.

Second, Asian families hold values that encourage the control of one’s emotions. Furthermore, expressing distress is viewed as a sign of weakness in this culture (Iwamoto, Liao, & Liu, 2010; Kim & Atkinson, 2002; Kim, Atkinson, & Yang, 1999). Given these Asian values, participants may not have endorsed symptoms of distress even if they experienced them.
Moreover, having strong Asian values would be consistent with the participants’ higher ethnic identity and second generational status. Third, I did not assess participants’ support networks or methods of coping (e.g., the availability of support from friends and family members) (Chen, Androsiglio, & Ng, 2010). Participants in the present study may have had adequate support and modes of coping. As a result, daily variations in their perceptions of discriminatory events did not lead to associated changes in their daily adjustment.

Finally, there are several daily experiences, not just perceived discrimination, that can affect one’s mood or self-esteem. For example, on a given day, a participant may have been saddened by an experience of discrimination, but also learned that s/he received a good grade on an exam. Similarly, a participant’s self-esteem may have been decreased by an experience of discrimination, but also learned that s/he received a promotion at work. One’s overall affect and self-esteem on a given day would presumably reflect some combination of the most salient positive and negative events of the day. There may be numerous life-events that could have impacted participants’ affect and self-esteem on particular days and it would be difficult to assess or control for all of these events.

*Strengths of the Study*

Thus far, much of the research pertaining to the effects of discrimination has been conducted with African Americans. In addition, the few studies of Asian Americans have predominantly sampled East Asian Americans (i.e., Chinese, Japanese, and Koreans). My sample was more representative because it included East Asian and Southeast Asian Americans. Additionally, most previous studies used research designs and measures that required participants to recall past experiences (e.g., retrospective assessments). This may have led to recall error or biased information. For example, participants may have recalled events that were
more traumatic because it was most salient in their memory, or may have recalled no experiences with discrimination at all because they have blocked the traumatic experiences. An important advantage of the methodology used in the current study (i.e., daily diary entries) was that it enabled me to assess the immediate effects of discrimination on affect and self-esteem of Asian Americans. Another possible strength of the present study was the discrimination measure used. First, I only selected or adapted previously validated items with high factor loadings in previous studies. Second, I asked a group of Asian American graduate students to indicate those items that they thought could occur multiple times within a 21-day period. Thus, I took steps to ensure construct and content validity. Third, I included an open-ended question in case participants experienced discriminatory events that were not listed in the 10 items. However, participants rarely used the open-ended question, suggesting that the most salient or prevalent discriminatory experiences were covered by the 10 primary items.

Finally, as noted earlier, my research design enabled me to examine the relationship between perceived discrimination and well-being both within and across individuals. Most previous studies relied on retrospective reports and only examined the relationship between discrimination and well-being across individuals.

**Possible Limitations of the Study**

The current study has several potential limitations. First, I only sampled college students, and only from two states. This resulted in a relatively young and educated sample that is not representative of the broader Asian American population. The impact of discrimination on well-being may be greater in more representative samples. In addition, my sample consisted mostly of second generation Asian American women. Therefore, it would be beneficial in future studies to sample across the country, across age groups, generations, and gender. Second, I did not assess
participants’ racial identity, support networks and modes of coping, or the Asian values that they may hold. Ethnic identity is the extent to which participants identify with their culture of origin, whereas racial identity is “how individuals come to recognize and overcome the psychological and internalized effects of racial oppression” (Alvarez & Helms, 2001, p. 218). Individuals may have high ethnic identity and low racial identity, thus being unaware of discriminatory events or experiences. I chose to include ethnic identity rather than racial identity because I was interested in the buffering effects of participants’ identification with their culture of origin. In addition, there are mixed findings in the literature regarding the buffering or exacerbating effects of ethnic identity on perceived discrimination and I wanted to shed additional light on this topic. With that said, it is important in future studies to also examine racial identity and its buffering effects on racial discrimination. Had I assessed and controlled for racial identity, methods of coping, and Asian values in the current study, I might have found stronger relationships or been better able to explain some of the findings. It would be helpful in future studies to take these variables into consideration.

Third, although I believe the measure of discriminatory events that I created was an overall strength of the study, two items contributed less well to the instrument. These items were “Today, you were faced with barriers in society because you are Asian American” and “Today, you heard someone say Asian American females are exotic and sexy.” Because of the limited endorsement of these items, these particular types of discrimination may not be salient or experienced frequently. Therefore, it may be beneficial to discard or replace these items in subsequent studies.

A fourth limitation of the present study involved the ambiguous direction of causality in the relationship between daily discrimination and hostility. I interpreted the results of this study
as indicating that daily experiences of perceived discrimination lead to increases in hostility. However, the reverse direction of causality might also apply. It is possible that participants who felt more hostile perceived more discrimination. For example, participants who felt hostile or angry on a given day may have had a generally negative outlook and thus perceived more discrimination. It might be possible to clarify the primary direction of causality to some extent by conducting additional analyses. For example, I could examine whether perceived discrimination predicts hostility on subsequent days better than hostility predicts perceived discrimination of subsequent days. However, given the weak impact of perceived discrimination on hostility in the present analysis, such an analysis might not be fruitful.

Fifth, attrition was a possible limitation of the present study. Fifty-eight participants began the study but only 40 participants completed the study. Attrition is a common finding in daily process and other longitudinal studies. I did compare some characteristics of completers and non-completers and there were minimal differences other than gender between the two groups. Females were apparently more motivated to complete the study, perhaps because the researcher was female. It should also be noted that the final sample size did not lead to problems with statistical power. With the very large number of data points available in a daily process study, power was sufficient to detect a rather modest relationship between daily discrimination and hostility in the multilevel analysis. Statistically significant correlations were also found in the supplementary analysis conducted across individuals. Indeed, the sample size was not atypical of previous daily process studies.

Finally, it is possible that I would have found stronger effects of discrimination on well-being had I assessed not only the frequency of perceived discrimination but also the perceived impact or potency of the discriminatory experiences. However, if I had assessed the perceived
impact of these experiences, there would have been greater conceptual overlap with the outcome variables (i.e., affect and self-esteem). By assessing the frequency of discriminatory events, I was able to better distinguish the predictor and criterion variables.

*Implications and Future Directions for Research*

The current study has implications for theory, research, and practice. Looking back on the stress and coping model that I described in the introductory chapter, my study supports the theory that perceived discrimination is a stressor and therefore affects well-being, including elevated feelings of hostility. However, the lack of support for Hypothesis II—ethnic identity did not buffer the effects of perceived discrimination—suggests that ethnic identity may not be a strong coping mechanism against perceived discrimination among Asian American college students. As a result, it would be beneficial in future studies to examine further the relationship between perceived discrimination, ethnic identity, and well-being. Furthermore, it would be useful for future studies to examine this relationship using a wide variability range of ethnic identity scores. It may be helpful to incorporate other coping strategies, including family and social support.

In addition, the current study has implications for research design and methods in this area of research. It would be useful to conduct additional studies using the daily process approach used in the present study. The advantages of this approach were discussed earlier.

Finally, the results of the present study have applied clinical implications. It is important for clinicians to assess Asian American clients’ experiences with discrimination and to be aware of the potential effects of discrimination on this population, especially feelings of anger and hostility. This, in turn, may facilitate rapport and a healthy therapeutic relationship. In addition, it would be helpful to assess clients’ ethnic identity, Asian values, and coping mechanisms.
These variables may buffer or exacerbate the effects of discrimination on affect and self-esteem. Finally, it is equally important for clinicians to be aware of their own biases in order to not perpetuate discrimination and feelings of alienation and misunderstanding among their Asian American clients.

Conclusion

Examining the effects of perceived discrimination on the well-being of ethnic minorities—particularly Asian Americans, as research with this population is limited—is important and necessary. It has been documented in previous studies that the experiences of perceived discrimination may lead to depression, anxiety, and lowered self-esteem. The current study assessed these relationships by examining the immediate effects of perceived discrimination on daily affect and self-esteem. In addition, the current study investigated a possible buffering variable (i.e., ethnic identity) in order to explore potentially effective means of coping with discrimination. The results indicate that experiences of daily perceived discrimination were modestly associated with elevated feelings of hostility. However, ethnic identity did not moderate the impact of perceived discrimination on daily affect or self-esteem. Further research in this area is warranted, especially with Asian Americans.
References


http://cps.nova.edu/~cpphelp/STAI.html.


Finch, B.K., Kolody, B., & Vega, W.A. (2000). Perceived discrimination and depression among


as protective factors for Korean Americans. *Journal of Counseling Psychology, 52*, 36-44.


Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of


Ying, Y.W., Lee, P.A., & Tsai, J.L. (2000). Cultural orientation and racial discrimination:


approaches to emotions and stress in everyday life: Bolger and Zuckerman reloaded with positive as well as negative affects. *Journal of Personality, 73*, 1-28.

Appendix A

DEMOGRAPHIC QUESTIONNAIRE

1. Name:  
____________________________________________________________________

2. Email Address:  
____________________________________________________________________

3. Phone Number:  
____________________________________________________________________

4. Age: _______

5. Gender: _____ Female _____ Male

6. Do you identify as Asian/Asian American? _____ Yes _____ No

   If yes, please identify your specific ethnicity (e.g., Chinese American, Japanese American, Korean American, etc.):

   _______________________________________________________________________

7. How many years have you lived in the United States? _____ years

8. Choose the generational status that best describes you: (check one)
   _____ 1st generation = I was born in another country
   _____ 2nd generation = I was born in the U.S., and at least one of my parents was born in another country other than the U.S.
   _____ 3rd generation = I was born in the U.S., both of my parents were born in the U.S., and all of my grandparents were born in another country other than the U.S.
   _____ 4th generation = I was born in the U.S., both of my parents were born in the U.S., and at least one of my grandparents was born in another country other than the U.S., and one of my grandparents was born in the U.S.
   _____ 5th generation = I was born in the U.S., both of my parents were born in the U.S., and all of my grandparents were also born in the U.S.

9. How would you describe your ability to read the English language?
   _____ Much Below Average
   _____ Below Average
   _____ Average
   _____ Somewhat Above Average
   _____ Much Above Average
10. How would you describe your ability to communicate with others in English?
   _____Much Below Average
   _____Below Average
   _____Average
   _____Somewhat Above Average
   _____Much Above Average

11. What is your highest level of education? (check one)
   _____Elementary school
   _____Middle school
   _____Some high school
   _____High school degree
   _____Some college
   _____College graduate
   _____Some graduate school
   _____Completed advanced degree (e.g., M.A., Ph.D., M.D., J.D.)

12. How would you describe your family’s socioeconomic status growing up?
   _____Much below Average
   _____Below Average
   _____Average
   _____Somewhat above average
   _____Much above average
Appendix B

DAILY DIARY FORM

Date: ____________________________________________________________

1) I am interested in your experiences with discrimination, if any. As you answer the questions below, please think about your experiences today. Please read each item and circle the number that best describes your experiences. Please use the following numbers:

   0 = This did not happen to me today.

   1 = This happened to me once today.

   2 = This happened to me more than once today.

<table>
<thead>
<tr>
<th>Experiences</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Today, you heard someone make a racial comment that made you feel</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>uncomfortable, insulted, or disrespected.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Today, you felt like you stood out or were looked at as if you did</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>not belong.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Today, you were asked where you are really from.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. Today, you were faced with barriers in society because you are Asian</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>American.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Today, someone mistook you for another Asian ethnicity.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
6. Today, you felt isolated or felt like you did not fit in because you were the only Asian American. | 0 | 1 | 2  

7. Today, you were treated differently because you are Asian American. | 0 | 1 | 2  

8. Today, you felt the need to prove that you are American. | 0 | 1 | 2  

9. Today, you heard a racial stereotype about Asian Americans. | 0 | 1 | 2  

10. Today, you heard someone say Asian American females are exotic and sexy. | 0 | 1 | 2  

Please briefly describe any experiences of discrimination that you experienced today that was not listed above:___________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

**II) Mood ratings:** This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way *today*. Use the following scale to record your answers:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>very slightly or not at all</td>
<td>a little</td>
<td>moderately</td>
<td>quite a bit</td>
<td>extremely</td>
</tr>
</tbody>
</table>

- _____ disgusted
- _____ relaxed
- _____ irritable
- _____ sad
- _____ calm
- _____ afraid
- _____ alone

- _____ nervous
- _____ lonely
- _____ at ease
- _____ angry
- _____ frightened
- _____ loathing
### III) Feelings about self:

Below is a list of statements dealing with your general feelings about yourself. Please check the box next to each statement that most closely represents your feelings.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Today, you felt that you were a person of worth, at least on an equal plane with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Today, you thought you were no good at all.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Today, you felt that you had a number of good qualities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Today, you felt you did not have much to be proud of.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Today, you were satisfied with yourself.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>