

## **ABSTRACT**

HONG, JIHEE. The Role of Coping in Perceived Racism and Depressive Symptoms Among Asian American College Students. (Under the direction of Dr. Siu-Man Raymond Ting.)

The purpose of this study was to explore the moderating and mediating role of collectivistic/situation-specific coping and individualistic/dispositional coping in the relationship between perceived racism and depressive symptoms in a sample ( $N = 203$ ) of Asian American college students. Data were collected from a large public Southeastern state university through an online survey. Moderating effects were tested using a series of hierarchical regression analyses as well as simple effect analyses, while multiple mediating effects were tested through bootstrapping procedures. Separate analyses were also conducted for subgroups based on gender, generational status, and household income.

For moderating effects, simple effect analyses indicated that low utilization of suppressive coping strategies, and high utilization of reactive coping strategies, strengthened the association between perceived racism and depressive symptoms. The results of multiple mediation analyses showed indirect effects of suppressive coping, reactive coping, and private emotional outlet on the relationship between perceived racism and depressive symptoms. The findings demonstrated how coping with perceived racism differs for Asian American college students on the basis of gender, generational status, and socioeconomic status, and highlighted the importance of investigating collectivistic/situation-specific coping and individualistic/dispositional coping to perceived racism. Recommendations for future research and implications for counseling practice were discussed.

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The Role of Coping in Perceived Racism and Depressive Symptoms  
Among Asian American College Students

by  
Jihee Hong

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**DEDICATION**

To my mother, who has always supported and encouraged me with unconditional love

To my father, who dedicated his life to make a better world and is now in heaven

To Asian and Asian American college students, their families, and the future generations

## **BIOGRAPHY**

Jihee Hong was born in Seoul, Korea. She attended Ewha Womans University and graduated in 1988 with a bachelor's degree in Philosophy and a minor in Christian Studies. She came to the United States to pursue her studies in counseling in 2002 at Denver Seminary in Colorado. Her work experiences included counseling clients, many of whom were historically underrepresented. She worked with Asian populations as well as racially and ethnically diverse individuals, and clients with mental health issues. She received a Master's degree in Counseling in 2006, and continued her studies in Counselor Education at North Carolina State University (NCSU). During her doctoral studies, she worked and taught in various venues at NCSU. She served as an academic advisor and coach for undergraduate students. She trained Master's level interns to assist pre-college youth with college preparation. She also was a teaching assistant for the Graduate Certificate in Counselor Education.

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## **CHAPTER ONE:**

### **INTRODUCTION**

#### **Backgrounds**

In the United States, the population has become more diverse culturally in the last three decades, and understanding the racial and ethnic minority population has become increasingly important in the counseling profession. Within this context, studies on racial or ethnic minority populations in general have increased; however, studies on Asian Americans' experiences of racial discrimination and coping, and mental health issues have continued to be very limited. Many people have continued to believe that Asian Americans do not encounter racism in the United States. In reality, Asian Americans, like other U.S. racial minorities, have experienced racism on a daily basis (Goto, Gee, & Takeuchi, 2002; Lee, 2003). It has been reported that Asian Americans have experienced direct verbal abuse, subtle put-downs, unconscious insults, and thoughtless comments, including institutional racism as well as stereotypical portrayals in mainstream mass media, and have also been victims of racially motivated assaults and vandalism (Alvarez, 2009; Federal Bureau of Investigation, 2011; Fong, 2008; Sue, Bucceri, Lin, Nadal, & Torino, 2007).

Some researchers have argued that blatant racism has been transformed into more subtle forms making manifestations more difficult to detect (Lin, 2010; Sue, 2010). Asian Americans have likely experienced more subtle forms of racism than blatant forms of racism due to the model minority myth (Lin, 2010; Sue, 2010). Although subtle forms of racism may be more prevalent than blatant racism, Asian Americans still experience blatant racism (Yoo,

Steger, & Lee, 2010), and college students are no exception. Scholars reported that racial minority students have been exposed to institutional and individual racism (Alvarez, 2009). Racial diversity on college campuses has increased over the past several decades; however, subtle tensions and unequal treatments have continued to affect minority college students (e.g., Sydell & Nelson, 2000). Colleges and universities tend to have institutional cultures that deny or minimize racial inequities, pressure racial minority students to conform to White culture, maintain racial hierarchies, address racial issues superficially, and resist addressing genuine diversity (Corcoran & Thompson, 2004). Researchers recently reported that racial minority students have still experienced both subtle and blatant forms of racism on campus (Hardwood, Hunt, Mendenhall, & Lewis, 2012). This kind of campus climate has negatively impacted the academic and social life of racial minority students (Solórzano, Ceja, & Yosso, 2000) as well as the psychological well-being of minority students (Cress & Ikeda, 2003; Hwang & Goto, 2008). Researchers addressed how racial minority college students may experience colleges and universities as the institutionalization of White culture, which does not necessarily reflect their own values or reward their contributions. Racial minority students may often feel unwelcomed, alienated and mistreated on predominantly White college campuses (Foster, 2005; Harwood et al., 2012; Wei, Liao et al., 2010). Experiences of racial discrimination have added further stress to racial minority students who may face academic pressure and other stressors (Kadison & DiGeronimo, 2004).

Researchers underscored racial discrimination as a stressor that may lead to psychological and emotional trauma or injury (e.g., Carter, 2007; Carter, Forsyth, Mazzula,

& Williams, 2005; Clark, Anderson, Clark, & Williams, 1999; Ocampo, 2000). Clark et al. (1999) argued that perceived racism resulted in physiological and psychological distress responses, and these responses to distress influenced health outcomes over time. Empirical studies demonstrated that racial and ethnic minorities' personal experiences with discrimination are significantly associated with poor physical health and/or mental health (e.g., Karlsen, & Nazroo, 2002; Kessler, Mickelson, & Williams, 1999; Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Williams, Neighbors, & Jackson, 2003). Researchers indicated that racial minorities reported incidents of perceived racism as stressful (e.g., Noh & Kaspar, 2003; Williams et al., 2003). Researchers reported the positive association between perceived racism and depressive symptoms among Asian Americans (e.g., Noh et al., 1999; Noh & Kaspar, 2003; Wei, Heppner, Ku, & Liao, 2010). Specifically, a study conducted by Wei, Heppner, et al. (2010) found that there was a positive relationship between racial discrimination stress and depressive symptoms among Asian American college students, above and beyond perceived general stress. A meta-analysis on perceived racism and Asian mental health by Lee and Ahn (2011) indicated that perceived racism is significantly related to overall psychological distress. Furthermore, they reported that racism had a significantly stronger association with depression and anxiety than with psychological distress.

Although Asian American coping with perceived racism has been an emerging topic, only limited numbers of studies to date have examined how individuals with Asian heritages cope with racism (Alvarez & Juang, 2010; Liang, Alvarez, Juang, & Liang, 2007; Liang,

Nathwani, Ahmad, & Prince, 2010; Noh et al., 1999; Noh & Kaspar, 2003; Wei, Heppner et al., 2010; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Yoo & Lee, 2005).

In the existing literature, coping strategies have been studied as moderators or mediators in the relationship between racial discrimination and psychological distress or depressive symptoms. Findings of studies were often inconsistent due to different perspectives of coping and/or different theoretical foundations based on situation-specific or dispositional coping.

A meta-analysis by Pascoe and Smart Richman (2009) indicated that “active or problem-focused coping seemed to be the most effective type of coping, with all significant effects showing a buffering effect” (p. 546). Yoo and Lee (2005) found that for Asian Americans with a strong ethnic identity, problem solving coping skills attenuated the negative effects of racial discrimination when perceived racism was low. Noh and Kaspar (2003) also reported that Korean Canadians were more likely to use problem-focused coping strategies that also served as a moderator to attenuate their depression. Along this line, general problem-solving coping styles were examined by researchers (Wei et al., 2008; Wei, Heppner et al., 2010). The findings of these studies demonstrated that frequent use of reactive coping (i.e., strong emotional reactions) heightened the strength of the association between racial discrimination stress and depressive symptoms, while findings of suppressive coping were inconsistent. Wei et al. (2008) found that suppressive coping (i.e., use of avoidance and denial) exacerbated the relationship between discrimination and depression among Asian international students. Whereas Wei, Heppner, et al. (2010) found that

suppressive coping attenuated the association between racial discrimination stress and depressive symptoms. Given these inconsistent findings, it is important to note that findings of studies using collectivistic coping measures reported forbearance, a collectivistic coping strategy, in response to racism served as a moderator to reduce depressive symptoms among Southeast Asians in Canada (Noh et al., 1999).

In terms of coping mechanisms, while the majority of studies focused on coping as moderators (e.g., Noh et al., 1999; Noh & Kaspar, 2003; Wei, Heppner et al., 2010; Yoo & Lee, 2005), some studies examined coping as mediators (e.g., Alvarez & Juang, 2010; Liang et al., 2007). Liang et al. (2007) found that for men, support-seeking coping was a mediator that was positively associated with racism-related stress; whereas for women, active coping was a mediator that was positively associated with racism-related stress. Alvarez and Juang (2010) found that active coping was negatively associated with psychological distress, whereas both support seeking and avoidance were positively associated with psychological distress. Out of previous studies, two of them measured general coping styles (Wei et al, 2008; Wei, Heppner et al. 2010), and the remaining studies investigated situation specific coping in the relationship between perceived racism and depressive symptoms or psychological distress.

Scholars noted that while some people may only be slightly bothered by racial discrimination incidents, others may remember in great detail and feel extremely bothered by perceived racism in their present lives (Thompson-Miller & Feagin, 2007). Along this line, Clark et al. (1999) encouraged researchers to examine other factors that moderate or mediate

the effects of perceived racism. Wei, Heppner, et al. (2010) suggested that the association between racism-related stress and depressive symptoms can be better understood by examining both dispositional coping and situation-specific coping.

### **Theoretical Foundation for the Study**

Historically in coping research, there have been two major theoretical trends: situation-specific coping strategies and general coping styles. Lazarus and Folkman (1984) emphasized situation-specific coping. Coping was understood as specific thoughts and behaviors in response to stressful situations that change over time and situations. Thus coping was viewed as situation specific. They further addressed coping as the behavioral and cognitive efforts of an individual to manage the internal and external demands of a stressful situation. Lazarus and Folkman (1984) defined coping as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of a person” (p. 141). In Lazarus and Folkman’s theory, coping can be identified as problem-focused coping and emotion-focused coping. Problem-focused coping involved activities that focus on directly changing elements of the stressful situation, whereas emotion-focused coping involved activities that focus more on modifying an individual’s internal reactions resulting from the stressful situation. The coping process employed is critical in the relationship between the experience and appraisal of the threatening event, and subsequent feelings of event-related stress and psychopathology (Lazarus, 1999). In the coping process, individuals use specific coping strategies, and these

coping strategies mediate the relationship between stress and adjustment difficulties (Lazarus, 1999; Lazarus & Folkman, 1984).

Another theoretical approach has viewed coping from the dispositional coping perspective. Dispositional coping theory was based on the premise that individuals have habitual ways of coping that can be applied to different problems or stressors (Carver & Scheier, 1994). The dispositional coping approach provided a base for the ways of problem solving coping. Heppner, Cook, Wright, and Johnson (1995) developed an instrument from the perspective of dispositional and problem resolution coping, which assessed three styles of coping (i.e., reflective, suppressive, and reactive coping). Heppner et al. (1995) indicated that reflective coping was negatively related to psychological distress but positively related to suppressive and reactive coping.

Although limited in number, empirical studies looking at coping as moderators reported inconsistent findings. For example, Wei et al. (2008) reported that a high level of suppressive coping was related to the positive association between racial discrimination stress and depressive symptoms, and high use of reactive coping increased the vulnerability to depression among Asian international students in the U.S. On the other hand, Wei, Heppner, et al. (2010) found that high utilization of reactive coping strengthens the association between racial discrimination stress and depressive symptoms, whereas suppressive coping negatively predicts depression. Upon reviewing the literature, the necessity for further investigation becomes clearer.

### **Rationale for the Study**

In the existing literature on perceived racism and coping, three possible methodological issues need to be considered. The first methodological issue may be the use of instruments based on Western values which may not always congruent with Asian Americans' values and cultures. Asian American college students may be exposed to both Asian and Western values and cultures, and their coping strategies also may be affected by them. Researchers stated that coping instruments used in the United States have been based on Western values and psychology, and this may not cover how racial or ethnic minorities in the United States cope with stressful life events (Heppner, 2008; Heppner et al., 2006). Subsequently, scholars addressed the importance of the inclusion of culturally sensitive coping instruments in the literature on coping with perceived racism (e.g., Clark et al., 1999; Harrell, 2000; Noh et al., 1999; Noh & Kaspar, 2003; Wei, Heppner et al., 2010).

The second methodological issue may be that only one study examined both situation-specific coping strategies and dispositional coping styles. Researchers addressed the need to add dispositional coping when studying coping strategies in perceived racism and psychological outcome (Wei et al., 2008; Wei, Heppner et al., 2010). While some scholars emphasized situation-specific coping responses which may vary across different types of difficulties or problems (Lazarus & Folkman, 1984), others addressed the importance of dispositional coping which described individuals' habitual ways of dealing with stress, and encouraged researchers to examine both dispositional and situation-specific coping (Carver & Scheier, 1994; Wei, Heppner et al., 2010). Currently, only a limited number of studies

examined whether dispositional coping are moderators in the relationship between racial discrimination and depressive symptoms; however, the results were inconsistent. Wei et al. (2008) found that high use of suppressive coping and reactive coping increased vulnerability to depression in the encounter of racial discrimination. On the other hand, Wei, Heppner, et al. (2010) found that reactive coping increased vulnerability to depression, while suppressive coping attenuated the association between racial discrimination stress and depression. Thus, it is evident that further examination was necessary.

The third issue pertaining to studies in perceived racism and coping research among individuals with Asian heritages may be that that there have been differences in understanding the role of coping in moderator models (Noh et al. 1999; Wei et al., 2008; Wei, Heppner et al., 2010) versus mediator models (Alvarez & Juang, 2010; Liang et al., 2007). While previous studies dealing with coping and perceived racism or racism-related stress focused on coping as a moderator, some scholars emphasized that coping serves as a mediator of stress and its outcomes (Clark et al., 1999; Harrell, 2000; Lazarus & Folkman, 1984). In the moderation model, researchers focused on finding “when” or “for whom” an independent variable strengthens or attenuates the relationship between an independent variable and dependent variable. However in the mediation model, researchers focused on finding “how” or “why” an independent variable predicts or causes a dependent variable (Baron & Kenny, 1986).

In summary, there has been a need for the use of culturally sensitive measures, and a need for testing both dispositional coping styles and situation-specific coping strategies in

examining the relationships between perceived racism and depressive symptoms as well as a need for investigating the role of coping as moderators and mediators. Hence, in the present study, coping as moderators in the relationship between perceived racism and depressive symptoms was tested first, and then mediating or indirect effects of coping were investigated in a multiple mediation model. In terms of coping measures, both situation-specific coping and dispositional coping approaches were employed. To measure collectivistic and situation-specific coping, the Collectivistic Coping Styles-Racial Discrimination (CCS-RD; Heppner et al., 2006) was used, which is based on Asian cultural values (Kim, Li, & Ng, 2005) and assesses coping activities related specifically to racial discrimination incidents. The Problem-Focused Style of Coping (PF-SOC; Heppner et al., 1995) was used to measure individualistic and dispositional styles of coping.

### **Purpose of the Study**

Despite evidence indicating that Asian American college students have been experiencing racism, researchers have begun investigating the psychological impact of racism on Asian Americans only recently. Research on Asian Americans' experiences related to racism and its relationship between depressive symptoms and the role of coping was essential to provide this population with culturally sensitive and effective psychological interventions. Consequently, in the present study, the researcher examined the psychological impact of Asian American college students' perceptions of their experiences with racism, and the role of coping in the relationship between perceived racism and depressive symptoms.

The first purpose of the study was to examine the moderating effects of coping among Asian American college students. The second purpose of the study was to investigate mediating or indirect effects of coping among Asian American college students. The specific goals of the proposed study included the following: (a) to examine the relationship between perceived racism and depressive symptoms, (b) to examine what collectivistic/situation-specific coping strategies and individualistic/dispositional coping styles strengthen or attenuate the association between perceived racism and depressive symptoms, and (c) to investigate the mediating or indirect effects of coping strategies in the relationship between perceived racism and depressive symptoms in the multiple mediation model.

Thus, two research questions were as follows: (1) Is there a positive relationship between perceived racism and depressive symptoms? What coping strategies strengthen or weaken the relationship between perceived racism and depressive symptoms? (2) What is the role of coping as a mediator in the relationship between perceived racism and depressive symptoms? How is perceived racism linked to depressive symptoms through coping?

### **Definition of Terms**

**Asian American.** Asian American was defined as an individual living in the United States, who self-identifies as being of Asian descent, both Asian alone or Asian in combination with one or more races. In the present study, American citizens and permanent residents were included, and Asian international college students were excluded in this category.

**First generation.** First generation referred to an individual who was born outside of the United States and moved to the United States as an adult, and who became American citizen or permanent resident.

**1.5 generation.** 1.5 generation referred to an individual who was born outside of the United States but moved to the United States as a child or adolescent.

**Second generation.** Second generation referred to an individual who was born and grew up in the United States, and who was an offspring of first or 1.5 generation immigrants.

**Racism.** Racism referred to the beliefs, attitudes, and practices that denigrate and exclude individuals or groups of people based on their race (Alvarez & Helms, 2001; Jones, 1997).

**Blatant racism.** Blatant racism was defined as instances of “discrimination due explicitly to racial bias or stereotype” (Yoo et al., 2010).

**Subtle racism.** Subtle racism was defined as instances of “discrimination due implicitly to racial bias or stereotype” (Yoo et al., 2010).

**Collectivistic coping.** Collectivistic coping referred to ways of dealing with stress, which is based on Eastern/Asian cultural values. In the present study, five collectivistic coping strategies, specifically adapted for racial discrimination stress (Heppner et al., 2006) were used:

1. *Acceptance, Reframing, and Striving.* Acceptance, Reframing, and Striving referred to an individual’s efforts to accept discrimination as inevitable or to accommodate to

existing realities, to reframe the meaning of racial discrimination, and to develop persistence as well as to maintain positive relationships.

2. *Family Support*. Family Support referred to seeking support from family and respected elders.

3. *Religion/Spirituality*. Religion/Spirituality referred to coping with racial discrimination through the use of religion or spiritual activities.

4. *Avoidance and Detachment*. Avoidance and Detachment referred to an individual's efforts to detach oneself and avoid thinking about discrimination for a short period of time.

5. *Private Emotional Outlet*. Private Emotional Outlet referred to coping strategies that were confidential or anonymous or strategies that were often used in private such as advice seeking (e.g., professional help seeking) as well as tension reduction activities.

**Individualistic coping.** Individualistic coping referred to ways of dealing with stress, which is based on Western cultural values. In the present study, three individualistic/problem-focused coping styles (Heppner, Cook, Wright, & Johnson, 1995) were used:

1. *Reflective Coping*. Reflective Coping measured a systematic plan to solve problems.

2. *Suppressive Coping*. Suppressive Coping measured avoidance activities.

3. *Reactive Coping*. Reactive Coping measured having a strong emotional response.

**Situation-specific coping.** Situation-specific coping referred to a response to specific stressful situations rather than a stable feature of personality. This approach reflects how an

individual copes with a particular type of stressful event. This is the theoretical term, which in the present study, overlaps the cultural term collectivistic coping.

**Dispositional coping.** Dispositional coping referred to an individual's habitual ways of dealing with stress across different situations or problems, unless otherwise specified. This is the theoretical term, which in the present study, overlaps the cultural term individualistic coping.

## **CHAPTER TWO: LITERATURE REVIEW**

In the previous chapter, backgrounds of this study, theoretical foundations, rationale and purpose of the study, and definitions of terms were provided. This chapter describes the demographic frameworks related to Asian Americans, an overview of the literature related to Asian Americans' experiences of racism, the impact of those experiences on depressive symptoms, and relevant literature on coping. Next, rationale for the theory selection, Lazarus and Folkman's stress and coping theory, and theories of dispositional coping are described along with relevant empirical studies. Lastly, the chapter concludes by identifying limitations in the literature related to coping theories.

### **Demographic Frameworks Related to Asian Americans**

Asian Americans were the fastest growing single-race racial and ethnic minority group, by percentage increase, in the United States between 2000 and 2010 (Humes, Jones, & Ramirez, 2011). According to the 2010 Census, there were a total of 17.3 million Asian Americans, which was 5.6 % of the U.S. population (Humes et al., 2011). The total number of Asian Americans included those reporting "Asian only" and "Asian in combination with other races." Asian Americans have been comprised of culturally, linguistically, and historically diverse groups representing three broad yet distinct groups: East Asians from China, Taiwan, Japan, the Philippines, and Korea; South Asians from India, Pakistan, Bangladesh, Sri Lanka, Nepal, Bhutan, and the Maldives; and Southeast Asians from Vietnam, Laos, and Cambodia, including the Hmong ethnic group (Tewari, Inman, &

Sandhu, 2003). Southeast Asians also included individuals who identify themselves as Burmese, Thai, Malaysian, or Singaporean. The report of the U.S. Census (Hoeffel, Rastogi, Kim, & Shahid, 2012) demonstrated that Chinese-Americans were the largest Asian group (3.8 million), followed by Filipinos (3.4 million), Asian Indians (3.1 million), Vietnamese (1.7 million), Koreans (1.7 million) and Japanese (1.3 million).

A large number of Asian Americans were born overseas, and Asian Americans constituted more than one-quarter of the foreign-born population in the United States. Given the high proportion of recent immigrants, Asian Americans represented very diverse populations in terms of ethnicity, language, culture, education, income level, English proficiency, and sociopolitical experience. While cultural similarities existed among the different Asian communities, there were also differences between the groups. Although the majority of Asian Americans were born outside of the U.S., a large proportion of Chinese and Japanese Americans were 4th and 5th generation Americans. Therefore, it should be noted that the adherence to Asian cultural values among Asian Americans can vary depending on the generation.

Geographically, Asian Americans have been heavily concentrated in the western United States; California had the largest Asian population (5.6 million), followed by New York (1.6 million) and Texas (1.1 million). Hawaii was the only majority Asian state, which made up the highest proportion of the total population (57%) (Hoeffel et al., 2012).

On average, Asian Americans have attained more education than any other ethnic group in the United States. In 2011, 50.8 percent of Asian Americans age 25 years or older

had a college degree or higher level of education, whereas 34 percent of the White population had achieved that level of education (Snyder & Dillow, 2012). Out of this number, 88.7 percent of single-race Asians age 25 years and older had at least a high school diploma and 17 percent had a graduate or professional degree (U.S. Department of Education, 2012). In 2010, Asian American undergraduate students comprised 5.8% (1,030, 000) and postbaccalaureate students 7.2% (188, 000) in degree-granting institutions (Aud et al., 2012).

Pertaining to the income characteristics of Asian Americans, national statistics of median family incomes have been a poor indicator of relative Asian American success. It should be noted that although Asian Americans generally have had higher median family income per capita than the average American, they also have had a higher rate of poverty than non-Hispanic Whites. In 2011, the poverty rate for Asians was 12.3 percent (DeNavas-Walt, Proctor, & Smith, 2012). This indicates that there are ethnic group differences in average income, and in some groups, income averages may reflect the bimodal income distribution within a population.

Asian Americans in general are a heterogeneous group, in which within group differences exist, in terms of ethnicity, language, culture, education, income level, English proficiency, history, and sociopolitical experience. As the Asian American population has increased largely through new immigration, the number of Asian American college students also has been growing. The educational status of Asian American college students reflects family socioeconomic background and level of acculturation, as well as racial and gender barriers in higher education (Hune, 2002). In the next section, myths of the model minority

and related stereotypes, and Asian Americans' experiences related to racism will be discussed.

### **Asian Americans' Experiences of Racism**

Studies have demonstrated that Asian Americans experience discrimination just as other racial minority groups do; however, there may be differences in how racism has been expressed toward Asian Americans and how they have been treated due to the model minority myth (Lin, Kwan, Cheung, & Fiske, 2005; Sue, Bucceri, Lin, Nadal, & Torino, 2007; Teranishi, 2002). A primary assumption of the model minority myth is that Asian Americans have been shielded from educational underachievement, poverty, mental health issues, and perceived racism (S. Sue, D. W. Sue, L. Sue, & Takeuchi, 1995; Wong & Haglin, 2006). The model minority myth has been often used to legitimize the negative stereotyping of other racial minorities as well as to overlook the experiences of Asians (Rosenbloom & Way, 2004; Wong & Haglin, 2006). In reality, being perceived as a model minority has prevented Asian Americans from receiving access to important services, such as government financial and social programs, and higher education opportunities (Fong, 2008). Anti-Asian prejudice has also been reported by researchers (Lin et al., 2005). Along with the model minority myth, other Americans have perceived Asian Americans as being highly competent. Although "highly competent" emphasizes economic and educational success, this success was often interpreted as having characteristics of unsociability or challenging the existing state of affairs. Thus, this seemingly positive characteristic was, in reality, at least partially negative for Asian Americans (Fiske, Cuddy, Glick, & Xu, 2002; Kohatsu, Victoria, Lau,

Flores, & Salazar, 2011; Lin et al., 2005). Furthermore, the belief that Asian Americans are model minorities has caused indifference and even nonaction in situations where Asian Americans experience racial harassment or discrimination (Delucchi and Do, 1996).

For the last decade, researchers have asserted that overt racism has been transformed into more covert forms, making manifestations more subtle and difficult to detect, which has been harder to deal with than traditional overt racism (Lin, 2010; Solórzano, Ceja, & Yosso, 2000; Sue, 2010; Sue, Capodilupo, & Holder, 2008). Researchers have used terms such as “aversive racism” (Dovidio, Gaertner, Kawakami, & Hodson, 2002), and “racial microaggression” (Solórzano et al., 2000; Sue, 2010) to describe these subtler forms of racism. Scholars suggested that Asian Americans may be more likely than other racial minority groups to experience subtle forms of racism (i.e., microaggressions) with themes such as perpetual foreigner, invisibility, or invalidation of interethnic differences. A prevalent stereotype of Asian Americans has been the perpetual foreigner in their own land (Kim, Wang, Deng, Alvarez, & Li, 2011; Lee, Wong, & Alvarez, 2009; Sue, Bucceri et al., 2007).

College students have not been shielded from racism. Although subtle forms of racism may be more prevalent these days, Asian Americans still experience both subtle and blatant racism. Researchers discussed how college students' experiences of racial issues and their perceptions of racism differed by race (e.g., Buttny, 1997; Dovidio et al., 2002; Goto, Gee, & Takeuchi, 2002; Sydell & Nelson, 2000). White students may be exposed to meaningful multiculturalism for the first time upon arriving at the university, and this can either attenuate or strengthen racial stereotypes that they may have (e.g., Dinh, Weinstein,

Nemon, & Rondeau, 2008; Pettigrew, 1998). On the other hand, Asian American students may feel uneasy or unwelcome based on the campus racial climate or in interracial relations, treated unfairly at predominantly White campuses (e.g., Ancis, Sedlacek, & Mohr, 2000; Biasco, Goodwin, & Vitale, 2001; Harwood, Huntt, Mendenhall, & Lewis, 2012; Mack et al., 1997; Pieterse, Carter, Evans, & Walter, 2010). A recent study by Harwood et al. (2012) reported that racial or ethnic minority undergraduate and graduate students have experienced discrimination based on race in a variety of interpersonal interactions.

In short, despite prevalent beliefs about being model minorities, Asian American college students have experienced subtle and blatant racism, and its impacts continue to negatively influence their well-being. In this context, literature on perceived racism and its effects on mental health in general, and on Asian Americans in particular, will be reviewed in the following section.

### **Perceived Racism and Depressive Symptoms**

Minority group members experienced more depressive symptoms and a marginally higher prevalence of major depression than did their White counterparts (Plant & Sachs-Ericsson, 2004). Among many risk factors for depression, research revealed that perceived racism has been identified as one of the potential social risk factors of physical and mental health issues (Chakraborty & McKenzie, 2002). Studies have supported the view that racism can be experienced as stressors that may lead to poor health conditions (Brondolo et al. 2011; Gee, Spencer, Chen, & Takeuchi, 2007; Paradies, 2006; Pavalko, Mossakowski, & Hamilton, 2003), psychological and emotional reactions (Clark, Anderson, Clark, & Williams, 1999;

Ocampo, 2000), suicidal ideation and attempts (Cheng et al., 2010), mental health issues (Chou, Asnaani, & Hofmann, 2012; Cokley, Hall-Clark, & Hicks, 2011; Hwang & Goto, 2008), and depression (Han & Lee, 2011; Taylor & Turner, 2002).

The salient impact of perceived racism among Asian Americans has also been demonstrated as being more strongly associated with depressive symptoms than perceived sexism (Remedios, Chasteen, & Paek, 2012). Remedios et al. (2012) showed that Asian women experienced more depression following a race-based rejection than a gender-based rejection. Researchers emphasized the harmful effects of blatant and subtle racism of racial minorities. Scholars stated that blatant racism, such as hostility at work and verbal attacks, was reported as an extreme emotional distress (Carter, Forsyth, Mazzula, & Williams, 2005). Other scholars reported negative effects of subtle racism (Sue, Bucceri et al., 2007; Sue, Capodilupo et al., 2007). For example, findings of studies demonstrated that Asian American college students showed greater emotional intensity when they perceived subtle racism (Wang, Leu, & Shoda, 2011).

Racial language and accent discrimination were associated with health-related quality of life and depressive symptoms (Gee, 2002), and both episodic and chronic experiences of racism were associated with depressive symptoms (Mossakowski, 2003). These findings have been consistent for individuals with Asian heritages across various regions of the United States and Canada (e.g., Gee, Spencer, Chen, Yip, & Takeuchi, 2007; Liang, Alvarez, Juang, & Liang, 2007; Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Noh & Kaspar, 2003; Noh, Kaspar, & Wickrama, 2007; Yoo & Lee, 2005; Yoo & Lee, 2008). Lee, Juon, et al.

(2009) also found that discrimination based on race or cultural backgrounds was a significant source of stress among Asian American young adults.

Despite the limited number of studies with Asian populations, the positive association between perceived racism and depressive symptoms has been supported by scholars. In particular, the positive association between perceived racism and depression was found among Asian American college students (e.g., Han & Lee, 2011; Wei, Heppner, Ku, & Liao, 2010). Given depression was a serious and often underdiagnosed and undertreated mental health issue in Asian American college students (e.g., Young, Fang, & Zisook, 2010), it is important to discuss stress and coping.

### **Coping**

Traditionally, coping researchers have based their work on theories using an individualistic perspective or research that focused primarily on White Americans (Bjorck, Cuthbertson, Thurman, & Lee, 2001). Findings from coping research often reported that action-oriented coping was associated with positive psychological outcomes, while avoidance and emotion-focused strategies tended to be associated with poor mental health (e.g., Endler & Parker, 1990; Folkman, Lazarus, Gruen, & DeLongis, 1986).

Over the last two decades, scholars discussed the likelihood that coping differs across cultures and contexts. Individuals from cultures with collectivistic values have been shown to select coping strategies that are less likely to disrupt social relations (Kirkbride, Tang, & Westwood, 1991; Tweed, White, & Lehman, 2004). Yeh, Arora, and Wu (2006) discussed family support, respect for authority figures, supportive networks comprised of racially

similar individuals also serve as a coping resource, forbearance, social activity, and fatalism. Scholars also addressed religion and spirituality as coping resources among Asian Americans (Ano, Mathew, & Fukuyama, 2009; Inman & Yeh, 2007).

Given differences in coping in Asian cultures, scholars also indicated that even among third or fourth generation Asian Americans, cultural values and norms, including coping patterns, were still consistent with their culture of origin even when they may be acculturated to the dominant American culture (Hieshima & Schneider, 1994; Kim, Atkinson, & Yang, 1999). However, it has been unlikely that individuals use only collectivistic or individualistic coping strategies just as people have not been entirely interdependent or independent in their cultural orientation (Yeh et al., 2006). Although the exact nature of cultural differences on individualism and collectivism has been the source of much debate (Oyserman, Coon, & Kemmelmeier, 2002), cross-cultural researchers stated that these differences exist in some capacity (Yeh et al., 2006).

Given the varying coping strategies among individuals with Asian heritages, studies reported their coping strategies with perceived racism. Findings of previous studies on individuals with Asian heritages indicated that some coping strategies, such as forbearance or avoidance, which are consistent with Asian values, were frequently used in dealing with perceived racism (Noh et al., 1999). In contrast, problem-focused coping strategies were reported as a moderator to buffer their depressive symptoms (Noh & Kaspar, 2003; Yoo & Lee, 2005). Liang et al. (2007) found gender differences in how coping mediated the relationship between racism and racial discrimination stress. Specifically for men, support-

seeking coping was a significant mediator that was positively associated with racism-related stress; whereas for women, active coping was a significant mediator that was positively associated with racism-related stress.

While studies on situation-specific coping strategies have been dominant since Lazarus and Folkman (1984), some scholars examined coping styles in the encounter of perceived racism (Wei, Ku, Russell, Mallinckrodt, & Liao, 2008) and found that suppressive coping (i.e., use of avoidance and denial) exacerbated the relationship between discrimination and depression among Asian international students. The findings of a study conducted by Wei, Heppner, et al. (2010) suggested that collectivistic and discrimination-specific family support was a significant moderator. Additionally, the frequent use of reactive coping heightened the strength of the association between racial discrimination stress and depressive symptoms.

With the increased population of Asian American college students, researchers should address individualistic and collectivistic ways of coping as well as situation-specific and habitual styles of coping when studying perceived racism and its psychological impact. The existing studies on coping with perceived racism suggested that it is important to recognize the role of coping in dealing with racism.

### **Rationale for Theory Selection**

There have been coping researchers who emphasized situational factors (i.e., coping processes) and those who emphasized the importance of dispositional factors (i.e., traits or dispositions). The difference between situational and dispositional factors has been

sometimes referred to as a distinction between an intraindividual approach to coping and interindividual approach to coping (Endler & Parker, 1990; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; Lazarus, 1993). The intraindividual approach to coping has attempted to identify basic coping behaviors or strategies used by individuals in particular types of stressful or upsetting situations. On the other hand, the interindividual approach to coping has attempted to identify habitual coping strategies that may be used by particular individuals across different types of stressors. The integration of the interindividual and intraindividual approaches has been generally neglected in recent coping research regarding Asian Americans. However, some researchers emphasized the importance of examining both dispositional styles of coping and situational coping strategies (Carver & Scheier, 1994; Wei, Heppner et al., 2010; Wei et al., 2008).

There has been limited empirical research conducted that provides a comprehensive review of all components of these theories, specifically with perceived racism among Asian Americans, and it needs to be noted that most studies have focused on one or two particular elements of the theories. For the purpose of this paper, the stress and coping theory of Lazarus and Folkman (1984) and some subsequent theoretical trends of dispositional coping will be reviewed because it provides a theoretical foundation for the study on coping in dealing with perceived racism and mental health issues among Asian American college students.

### **Lazarus and Folkman's Stress and Coping Theory**

The concept of stress was known long before theories of stress and coping developed three decades ago. Traditionally, studies on stress were based on noncognitive models such as psychoanalytic theory. Lazarus and Folkman's stress theory was one of many efforts to incorporate cognitive mediation into stress models. Although Lazarus published numerous books and articles on stress and coping, Lazarus and Folkman's book, *Stress, Appraisal, and Coping* (1984), has been regarded as a comprehensive source of the theory by researchers.

Lazarus and Folkman's theory was built on the assumption that stress is a person-environment interaction, thus an event or situation in itself is not inherently stressful. In this regard, they defined stress as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources, and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). According to Lazarus and Folkman (1984), two critical processes mediate this person-environment relationship: (a) cognitive appraisal; and (b) coping. An individual evaluates the significance of what is happening for his or her well-being through cognitive appraisal. The cognitive appraisal was identified as having three kinds: primary, secondary, and reappraisal, which is an evaluative process. Primary appraisals evaluate perceived control of the situation and resources available to the individual. Secondary appraisals guide the use of specific coping strategies. The effectiveness of these coping strategies determines the reappraisal, as well as the individual's psychological adaptation. According to their theory, a person is vulnerable if he or she lacks coping resources.

From this perspective of stress, Lazarus and Folkman (1984) emphasized that coping is defined as “constantly changing cognitions and behavioral efforts to manage specific internal and external demands that are appraised as exceeding the resources of the person” (p. 141). Coping for them was process-oriented rather than trait-oriented. They also distinguished coping from automatic thoughts or feelings, or automatized adaptive behavior. In other words, an individual has to make an effort in order for it to be regarded as coping whether that effort is adaptive or maladaptive. However, Lazarus and Folkman (1984) stated that “many behaviors are originally effortful and hence reflect coping, but become automatized through learning processes” (p. 136). Lazarus and Folkman also emphasized that coping is not mastery, but managing, which can include minimizing, avoiding, tolerating, or accepting the stressful conditions as well as attempts to master the environment. Lazarus and Folkman viewed coping as a mediator. Folkman and Lazarus (1987) underscored, “as a mediator, coping arises during the encounter and transforms the original appraisal and its attendant emotion in some way” (p. 467). Lazarus (1999) further clarified that coping is not a moderator, but a mediator of the emotional outcome of a stressful encounter.

From this theoretical perspective, coping was viewed as having two major functions: the management of the problems that caused the stress (i.e. problem-focused coping) and the regulation of emotion or stress caused by the stressor (i.e. emotion-focused coping). Before an individual attempts to reduce or manage stress, he or she must first engage in a process of cognitive appraisal. If a stressor was evaluated as stressful or threatening to the person (i.e., primary appraisal), various coping options were evaluated (i.e., secondary appraisal).

Appraisals of coping options were beliefs about what can be done to cope effectively and can differ according to the emotion-focused or problem-focused coping (Lazarus, 1991; Lazarus & Folkman, 1984). An individual began to implement coping strategies only after he or she has assessed coping options that were relevant to the stressor (Lazarus & Folkman, 1984).

Problem-focused coping involved activities that focused on changing elements of the stressful situation or the actual relationship between person and environment (e.g., planned actions), whereas emotion-focused coping involved activities that focused more on modifying an individual's internal reactions resulting from the stressful situation (e.g., avoidance, denial or distancing). Controllable stressors may be best dealt with by focusing on the problem itself, whereas problem-solving efforts may be ineffective or detrimental in the face of an uncontrollable stressor. On the other hand, in the situation of an uncontrollable problem, coping strategies that were more emotion-focused may be adaptive in reducing stress. In other words, when conditions of stress were appraised as changeable, problem-focused coping would likely be used. However, when the conditions were appraised as unchangeable, emotion-focused coping would likely be used (Folkman, Lazarus, Dunkel-Schetter et al., 1986; Folkman, Lazarus, Gruen et al., 1986). Problem- and emotion-focused coping influenced each other throughout a stressful encounter. In effective coping, problem- and emotion-focused forms of coping complemented each other.

Lazarus and Folkman (1984) viewed coping as a dynamic process. Hence, coping responses have commonly been assessed by utilizing situation-specific measures like the Ways of Coping Checklist (Folkman & Lazarus, 1980), which consisted of eight factors of

specific problem- or emotion-focused coping strategies in managing a recent stressful situation: confronting, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, problem solving, and positive reappraisal.

According to Lazarus and Folkman (1984), certain cognitive forms of emotion-focused coping led to a change in the way an encounter was interpreted without changing the objective situation. These strategies were comparable to cognitive reappraisal. An example of reappraisal was “I considered how much worse things could be” (p. 150). By the coping effort through reappraisal, the threat was diminished by changing the meaning of the situation. Lazarus and Folkman, however, pointed out that not all reappraisals were targeted at emotion regulation. Some reappraisals may be focused on the problem itself. Some other emotion-focused coping strategies did not change the meaning of an event directly. An example would be strategies such as emotional support-seeking behaviors.

Lazarus and Folkman (1984) stated that problem-focused coping strategies were similar to strategies used for problem-solving, which primarily focused on changing the environment. However, problem-focused coping also included strategies that were directed inward such as “motivational or cognitive changes” (p. 152).

Lazarus and Folkman (1984) underscored that the way a person copes was determined in part by an individual’s resources (e.g., health and energy; existential beliefs, or general beliefs about control; commitments; problem solving skills; social skills; social support; and material resources). Later, Lazarus (1999) emphasized that stress became greater when an individual struggled with excessive demands that could not easily be met.

Thus, a stress emotion such as anxiety was more likely to occur. Lazarus stated that it may have become trauma if the demands exceeded resources too greatly. The individual may have felt helpless to deal with the demands to which he or she was exposed, and this could result in feelings of panic, hopelessness, and depression.

Lazarus (1993) also emphasized that whether a coping process was adaptive or maladaptive depended on the particular individual, the specific type of stressor, duration, the individual's social functioning, and health. Along this line, Lazarus (1999) reported that a coping strategy, such as distancing, may be beneficial under certain circumstances when nothing could be done to influence outcomes. Under other circumstances, it may be harmful if an individual must take action to confront and change the situation or events.

In the context of cross-cultural study, P. T. P. Wong, L. C. J Wong, & Scott (2006) asserted that Lazarus and Folkman's theory was based on individualistic values and orientation. For example, one of the eight factors of Ways of Coping developed by Folkman and Lazarus (1980) involved seeking support, which meant an individual used his or her own efforts to gather social support based on personal relationships. This kind of seeking social support was based on individualism, while collective coping was more than receiving social support, in which all members of a group work together to solve the same problem (P. T. P. Wong et al., 2006). Cultural orientation such as collectivistic or individualistic, and self-construal such as interdependent or independent, took a critical role in shaping one's cognition, emotion, and motivation (Markus & Kitayama, 1991). On the other hand, Chun, Moos, and Cronkite (2006) emphasized that cultural differences might be expected to emerge

in the coping process and strategies. However, both the situational context and cultural impact on individuals have been important in cross-cultural studies.

### **Empirical Studies**

Few research studies that applied Lazarus and Folkman's stress and coping theory on the topic of perceived racism, coping, and depressive symptoms among individuals with Asian heritages were found. First, a study by Liang et al. (2007) examined coping as a mediator of the relationship between perceived racism and racism-related stress. Second, a study by Noh et al. (1999) investigated the association between perceived racial discrimination and depression, and the moderating roles of coping and ethnic identity in the discrimination-depression relation. Third, Noh and Kaspar (2003) examined moderating effects of problem-focused and emotion-focused coping, acculturation, and ethnic support in the relationship between perceived discrimination and depression. Finally, a study by Yoo and Lee (2005) examined ethnic identity and social support seeking, cognitive restructuring, and problem-solving coping strategies as moderators in the relation of perceived racial discrimination and Asian Americans' well-being. Each study used slightly different terms such as perceived racism, perceived racial discrimination, or perceived discrimination. In reviewing empirical literature, terms were used following the usage of the researchers (e.g., perceived racism or perceived racial discrimination).

The first article, by Liang et al. (2007), drew upon Lazarus and Folkman's theory and reported a quantitative study examining coping as a mediator of the relationship between perceived racism and racism-related stress. Findings of the study indicated that there were

gender differences in dealing with perceived racism. The more men perceived racism, the more likely they were to engage in support-seeking coping strategies which were associated with higher levels of racism-related stress. However, neither active nor avoidance coping strategies served to mediate the relationship between perceived racism and racism-related stress for men. On the other hand, the more women perceived racism, the more they were likely to engage in active coping strategies which were associated with higher levels of racism-related stress.

The sample was composed of 336 Asian American undergraduate students recruited from two universities, one on the West Coast and one on the East Coast. The majority of participants consisted of Chinese (40.8%) and Filipino (24.7%) in terms of ethnicity. Three measures were used: Racial and Life Experience Scales, Asian American Racism-Related Stress, and the COPE Inventory. Sufficient information about the measurements was provided in the study, including the reliability and validity of measurements of the study as well as information on the validity of measurement with other Asian samples. A limitation could be the COPE inventory, which was developed based on Western values, because it may not capture the possible difference of Asian Americans using support-seeking behaviors such as collectivistic coping responses.

Statistical procedures were appropriately documented in the study. Bivariate correlational analyses and an independent t-test or one-way analyses of variance were used to examine the relationship between demographic variables and study variables. It was appropriate to use gender, ethnicity, socioeconomic status, and location as control variables

in subsequent analyses because those were variables that showed significant relationships with perceived racism, the three coping strategies, and racism-related stress from preliminary analyses. Multiple regression analyses were used to determine whether coping strategies mediated the relationship between perceived racism and participants' racism-related stress. Based on the previous literature suggesting differences in coping by gender, the authors conducted separate multiple regression analyses for each of these two groups to determine whether coping strategies mediated the relationship between perceived racism and participants' racism-related stress.

There were a few limitations in the study. Internal validity was limited due to the nature of correlational design. Given the design of the study, correlation between variables may have resulted from method variance rather than a true correlation between constructs. Thus, interpretation of causality must be made with caution. There was also a selection bias, in that participants were recruited during an undergraduate psychology course as part of a large study on Asian Americans' experiences with racism. Also, construct validity was limited due to the potential mono-method bias, in that the study relied on only self-reporting.

Regarding external validity, the applicability to general Asian populations should be cautioned due to the type of participants included in the study. The sample ( $N = 336$ ) of the study seemed to be large enough, based on a priori power analysis results. A limitation of the sample could be that a majority of participants were Chinese and Filipino because the experience of Asian Americans of other ethnicities may have not been represented appropriately considering the large number of Chinese and Filipino participants. There may

be also differences between college students and other Asian Americans in terms of their perceived racism, racism-related stress, and ways of coping. The geographical variations of the sample could be an advantage; however, the researchers and others using this study should be careful to not make rapid generalizations to Asian immigrants or refugees, non-college students, and all Asian Americans.

The authors clearly stated that the study was grounded by Lazarus and Folkman's theory, specifically because it considered coping as a mediator. The literature review and the theoretical backgrounds were well documented regarding the conception of coping as moderators and mediators. The study was focused on examining active, avoidant, and support seeking, and emotional ventilation coping strategies. Despite limitations, the findings showed that Asian American men and women used different ways of coping with racism.

The second article, a cross-sectional study by Noh et al. (1999), investigated the association between perceived racial discrimination and depression, and the role of coping, and whether the association between discrimination and depression depended on the individual's level of ethnic identification. This study employed a correlational design. The data was obtained from structured personal interviews with a sample of 647 Southeast Asian refugees in Canada. The findings of the study indicated that the effect of discrimination was not affected by the inclusion of sociodemographic factors in the model. Among the demographic information included: age, education, and current employment status were inversely related to levels of depression. The results of regression analysis indicated that refugees who reported that they had experienced racial discrimination had higher depression

levels than those who reported no such experiences. Responding to discrimination through confrontation was not significantly associated with depression. Study findings suggested the effectiveness of forbearance in diminishing the strength of the association between perceived racial discrimination and depression. Pertaining to effects of ethnic identity, the strength of ethnic identity had no direct relationship with the level of depression. However, the results indicated that when Asian refugees held a strong ethnic identity they were more vulnerable to the psychological consequences of perceived racial discrimination if they did not use forbearance. In other words, the moderating effect of forbearance was conditioned by the level of ethnic identity. The beneficial effect of forbearance was significantly greater among those holding a stronger ethnic identification.

There were a few limitations for the study. Construct validity was limited due to unclear conceptual and operational definitions. Definitions of terms such as perceived racial discrimination, ethnicity, and coping were not clearly defined in the study. The definition of racial discrimination was included only as a tool of explaining it to respondents in the study. Although demographic characteristics were provided in terms of ethnicity, age, gender, marital status, education, and employment status, ethnicity was not clearly identified either by self-identity or nationality. The sample was composed of Chinese (43.4 %), and Vietnamese and Laotian (56.6 %). However, the reason or rationale for including Chinese under the term Southeast Asians was not provided. Furthermore, concepts such as problem-focused coping and emotion-focused coping were used interchangeably with confrontation and forbearance respectively.

A detailed description of the interview procedure and interview questions related to discrimination and coping responses was included. Pertaining to the measures, a single item measure of perceived racial discrimination used in the study may not capture the complex nature of racial discrimination. Moreover, the reliability of the forbearance coping and measure and confrontational coping for the study was low (i.e.,  $\alpha = .50$ , and  $.65$ , respectively). A strength was that the depression measure used in the study included emic items developed for Asian refugees, in addition to etic items. Also, the reliability of the ethnic identity measure was provided; however, information on validity was omitted.

Internal validity was addressed through sampling methods and attrition. The study used the data from the third wave survey of the Refugee Resettlement Project, a longitudinal study of Southeast Asian refugees in Canada. Although the original sample of the first wave survey was conducted using a random sampling method, the study only included refugees who stayed by the time of the study done in 1991. In this regard, it was appropriate for the authors to address the attrition. The overall retention (62.5%) and response rate (76.8 %) seemed to be reasonably high considering the 10 year follow-up period. As a result, more single refugees dropped out than the married individuals, thus married individuals (80 %) over-represented the sample of the study. Furthermore, the higher rates of attrition among the less depressed refugees and single refugees may have potentially contributed to an increased estimate of the rate of perceived discrimination.

The authors mentioned that trained bilingual interviewers conducted the structured interviews, which were prepared in Cantonese, Vietnamese, and Laotian versions using

standard back-translation procedures. However, the training procedure or materials for interpreters were not provided, which is a potential threat to internal validity of the study. The role of interviewers could affect the process and results. Furthermore, translated terms such as “ethnicity” or “ethnic identity” may not have language equivalence despite the back-translation procedure. In cross-sectional research with culturally diverse populations, comprehension of the questionnaire was the most important task facing the respondent. Although the vocabulary used seems to be appropriate and simple sentence structure seemed to be adequate, the use of interpreters could remain as a confounding factor.

External validity was limited due to a few significant characteristics of the sample, despite the reasonably large sample size. First, the sample was limited to only Chinese, Vietnamese, and Laotians residing in Vancouver. Second, the majority (80 %) was married. Third, the level of formal education of refugees was significantly lower than that of the general population of Canada. Considering the characteristics of the sample, the generalization of the results to other Asian populations or American refugees should be cautioned. Despite a few limitations, this study demonstrated the importance of culturally congruent measures and interpretations.

The study was linked partially to Lazarus and Folkman’s theory. The authors applied situation-specific coping strategies, which were congruent with Lazarus and Folkman’s theory. The concept of problem-focused and emotion-focused coping of Noh et al. (1999) covered only a scope of Lazarus and Folkman’s problem-focused and emotion-focused coping functions. Additionally, problem-focused and emotion-focused coping were viewed

as moderators. Despite limitations of the study, findings of the study called for the need and importance of culturally sensitive and psychometrically sound measures in coping research.

The third study was another cross-sectional study conducted by Noh and Kaspar (2003) that examined the moderating effects of coping behaviors, acculturation and ethnic support in perceived discrimination and depression. The study employed a correlational design. The sample ( $N=180$ ) was comprised of Korean immigrant adults residing in Toronto, Canada. The data used in the study was derived from the Growing Up Canadian Project. The hypotheses were sufficiently documented in the study. The sample was defined adequately in terms of age, gender, education, marital status, employment status, years in Canada, and household income. The regression analyses were used to test hypotheses. The findings of the study suggested that problem-focused coping strategies reduced the distressing influences of perceived discrimination, while emotion-focused coping increased the adverse psychological impact of perceived discrimination. Problem-focused coping strategies were more effective in reducing the impacts on depression of perceived discrimination, while frequent use of emotion-focused coping had negative mental health effects, specifically depression. The authors extended the models by adding the effect of acculturation and its three-way interactions with moderating effects of coping. Similarly, the moderating effects of ethnic social support were also examined. The results indicated that the efficacy of problem-focused coping was manifested only for highly acculturated Korean Canadian immigrants. The effects of emotion-focused coping were not modified according to level of acculturation. Despite detrimental effects of emotion-focused coping, the influence of emotion-focused

coping was moderated by ethnic support. Finally, the authors implied that racial minority individuals may choose to confront rather than to accept racial discrimination, when they have sufficient social resources.

There were a few limitations of the study. Construct validity was also limited due to lack of clear definitions. Clear definitions of perceived discrimination and coping were not provided. For example, problem-focused coping and confrontation were used interchangeably, as well as emotion-focused coping and forbearance. Perceived discrimination was also assessed in the form of subjective self-reports. Internal validity was limited due to the nature of cross-sectional correlational design. Additionally, the procedure of selecting participants was clear and thorough. However, the data collection process was not clearly stated. Although it was reported that data was obtained from personal interviews with parents, the exact amount of time spent for the interviews was not reported. Information about the language used for the interviews was not clearly provided. Information about interviewers also was not provided.

A limitation in the study was the validity and reliability of measures used. The use of the Center for Epidemiologic Studies Depression Scale was appropriate, in terms of a non-clinical sample, validity, and reliability. Although most of the measures reported were reliable, there were measures with very low Cronbach's alphas (e.g., .440 for taking formal action; .485 for emotional distraction), which makes the instrument less reliable. The information on construct validity of measures was also omitted. The use of self-report measures was another limitation for statistical conclusion validity.

External validity was limited due to the small and relatively homogenous sample. As a result of the nature of the sampling design, most respondents were married (94.4%), employed (82.8%), and had been living in Canada for a considerable number of years (20 years on average). A majority had notably higher household incomes than the average household income among Korean Canadians in Toronto. Therefore, findings and conclusions of the study should be viewed with caution, and care should be taken as to not generalize the results of the study to other Asian populations with different backgrounds.

The study was linked to Lazarus and Folkman's theory in that coping efforts which involved problem-focused and emotion-focused coping behaviors, personal and social resources, and situational factors were addressed in the article. Consistent with the important role of individuals' resources, the authors reported the importance of resources in coping. However, the role of coping was viewed as a moderator, unlike Lazarus and Folkman's theory. Despite some limitations, the study called for the use of culturally sensitive instruments in coping research, as well as the importance of social resources and context in examining coping with discrimination.

Finally, a quantitative study conducted by Yoo and Lee (2005) examined ethnic identity and approach-type coping strategies (i.e., social support seeking, cognitive restructuring, and problem-solving), as moderators of the effects of perceived racial discrimination on the well-being of Asian Americans. The sample was comprised of 155 Asian American college students from a Midwestern university. A cross-sectional survey testing for a three-way interaction between perceived racial discrimination, ethnic identity,

and approach-type coping strategies on three measures of well-being was conducted. The findings were that problem-solving coping and cognitive restructuring moderated the effects of racial discrimination on well-being only when racial discrimination was low, while individuals with a strong ethnic identity were more likely to use approach-type coping strategies. The results suggested that approach-type coping strategies may not always have protective effects on Asian Americans in dealing with racial discrimination.

Yoo and Lee clearly stated the purpose of the study and hypothesis in the study. Definitions of terms were defined clearly (i.e., ethnic identity, approach-type coping, cognitive restructuring, and problem-solving); however, a conceptual definition of racial discrimination was not provided. The sample was sufficiently identified in terms of age, gender, ethnicity, generational status, and grade level in college. The number of women ( $n = 97$ ) was higher than men ( $n = 58$ ). Two thirds of the participants were from the second generation, and one third were refugees. Thus, participants had very different backgrounds. The sample consisted of diverse ethnic groups; however, Hmong (33%) and Koreans (24%) represented more than half of the sample, and participants were recruited from one Midwest university, thus was geographically limited.

The information on validity and reliability of five measures was properly documented: Multitude Ethnic Identity Measure, Coping Strategies Inventory, Asian American Perceived Racial Discrimination Scale, Satisfaction With Life Scale, and Positive Affect Negative Schedule. However reliability and validity data involving other Asian American samples were not reported, which could be important information regarding the

measures in studies with diverse ethnic populations. Multivariate analysis of variance was used in order to test for possible differences between the measures used in the study, and differences in gender and generation were found. Considering the heterogeneity of Asian Americans, a limitation regarding this test could be the omission of ethnicity. However, that limitation seemed to be inevitable considering the small sample sizes of each ethnic group. The statistical procedures used, such as simple slope analysis with simultaneous regression analysis to examine three-way interaction effects, was appropriate to test the hypothesis that ethnic identity in combination with coping would moderate the effect of perceived racial discrimination on well-being.

External validity was limited due to the small sample size, the characteristics of the participants, and the lack of variation of geographical region. It should also be cautioned against generalizing the findings of the study because the population of interest was Asian Americans in general, while the sample was comprised of only Asian American college students. Thus, the applicability to other Asian populations may be limited. As authors admitted, internal validity was limited due to the nature of the correlational design, which limits the directionality between the study variables.

The theoretical ground for the study was not clearly stated in the study. This study was linked partially to Lazarus and Folkman's theory in that they applied situation-specific coping. However, the study utilized an integrated framework of a view of approach and avoidance concepts, and Lazarus and Folkman's problem-focused and emotion-focused coping strategy. Problem-focused and emotion-focused coping was viewed under the

umbrella of approach type of coping. The study also examined ethnic identity as a moderator. Despite a few limitations, the study demonstrated that beneficial effects of coping and ethnic identity depend on type and frequency of racial discrimination perceived, strength of ethnic identity, and types of coping strategies.

### **Theories of Dispositional Coping**

As discussed in the section of rationale for theory, there have been intraindividual approaches (situational focus) and interindividual approaches (dispositional focus) to coping. In the theory of Lazarus and Folkman (1984), coping was viewed as situation-specific. In contrast, the interindividual or trait-oriented approach viewed coping as a style or disposition that goes beyond the influence of situational context or time. Thus the dispositional or trait-oriented approach measures assessed broad coping styles without providing specific coping strategies employed in particular situational contexts.

Early coping theory, based on psychoanalytic ego psychology, supported a trait-oriented conceptualization, whose interest was in defense centered on the role of coping as a characteristic style for managing threat. Sigmund Freud's (1926/1990) defense mechanisms conception was an example of a traditional trait-oriented approach.

Scholars in this field established two basic orientations to understanding cognitive responses to stress: vigilance, that is the orientation toward stressful aspects of an encounter, and cognitive avoidance, that is averting attention from stress-related information (Roth & Cohen, 1986). For example, some scholars conceptualized the coping style as “monitoring and blunting” (Miller, 1987) or “repression and sensitization” (Byrne, 1961). In the

repression-sensitization approach, for example, when an individual encountered stressful events or problems, he or she tends to deny or minimize the stress, or to be unable to express feelings of distress, and to avoid thinking about possible negative consequences of the problem. On the other hand, an individual tends to react to stress by worrying or searching for information (Byrne, 1961). The concept of monitoring and blunting (Miller, 1987) originated from the same basic assumptions of the repression–sensitization construct. Miller viewed both monitoring and blunting as cognitive informational styles and stated that individuals who encountered a stressful situation reacted with arousal according to the amount of attention they directed to the stressor (Krohne, 1996).

Scholars outside the psychoanalytic tradition also conceptualized coping in dispositional terms. While dispositional approaches and situation-specific approaches have been usually treated as opposing theories, some scholars did not view them as mutually exclusive; rather, as interacting to explain individual differences in coping and stress outcomes (e.g., Carver, Scheier, & Weintraub, 1989). According to Suls and Fletcher (1985), approach coping referred to the use of strategies that focused on both the stressor and the reaction to it, whereas avoidant coping referred to the use of strategies that placed focus away from both the stressor and reactions to it. Suls and Fletcher (1985) asserted that approach and avoidance coping and problem-focused and emotion-focused coping need not reflect mutually exclusive coping classifications. Additionally, Tobin, Holroyd, Reynolds, and Wigal (1989) viewed problem-focused and emotion-focused coping under the rubric of engagement, and disengagement. Another approach to assess coping styles was elaborated by

Endler and Parker (1990). They added a third coping dimension, avoidance, to Lazarus's classification. Thus, three coping styles were distinguished: task-oriented, emotion-oriented, and avoidance-oriented. These coping styles represented three independent dimensions of coping dispositions rather than three different types of people.

As demonstrated above, different meanings of coping styles have emerged from the scholars (Krohne, 1996). Although the dispositional approach may have limitations when assessing changes in coping during different states of a stressful event, some scholars emphasized the importance of considering dispositional coping styles (Carver & Scheier, 1994; Krohne, 1996). These scholars pointed out that personal dispositions interact with the situation in shaping perceptions of stress, and there was some consistency in coping responses.

Along this line, Heppner, Cook, Wright, and Johnson (1995) developed an instrument measuring problem-focused style of coping, which was based on the coping concepts of Endler and Parker (1990), and the conceptual approach of approach-avoidance (e.g., Roth & Cohen, 1986; Suls & Fletcher, 1985). This coping instrument assessed three styles of coping (i.e., reflective, suppressive, and reactive coping). Heppner et al. (1995) targeted problem-focused coping in their inventory. They conceptualized and operationalized "problem-focused coping as involving cognitive, behavioral, and affective coping activities aimed at altering the cause of a stressful problem" (p. 280). The assumption of approach-avoidance model was that the more effort invested in coping, the more likely a favorable or adaptive

outcome. The general prediction in this model has been that approach coping will lead to better outcomes, whereas avoidant coping will lead to worse outcomes.

### **Empirical Studies**

Wei, Heppner, et al. (2010) conducted a quantitative study examining the association between racial discrimination stress and depressive symptoms, as well as the moderating effects of coping strategies on depressive symptoms among Asian Americans. They specifically investigated the relationship between racial discrimination stress and depressive symptoms by controlling perceived general stress and perceived discrimination. Furthermore, the authors investigated whether collectivistic and situation-specific coping strategies as well as individualistic and dispositional coping styles modified this association between racial discrimination stress and depressive symptoms.

Findings of the study supported the positive direct association between racial discrimination stress and depressive symptoms, after controlling the general stress. The results also demonstrated two significant moderators in this study: (1) collectivistic/discrimination-specific family support, and (2) individualistic/dispositional strategy of reactive coping. The results suggested that high levels of helpfulness from family support can be beneficial in attenuating the association between racial discrimination stress and depression. On the other hand, the frequent use of reactive coping (i.e., strong emotional responses) strengthened the association between racial discrimination stress and depressive symptoms. Conversely, less frequent use of reactive coping weakened this association.

The authors clearly stated the purpose of the study and hypotheses. The results of an a priori power analysis were also provided. The sample was sufficiently described. The sample ( $N = 201$ ) was Asian Americans college students from a public Midwestern university. The major ethnic subgroups of the sample were Korean (23.9%), Chinese (21.4%) with other diverse ethnic groups. Although gender was balanced, participants varied in their academic year, and the majority was the second generation (48.3%), followed by 1.5 generation (37.3%). The description of the procedure was sufficient, including validity items for the online survey.

Measures used in the study included the Perceived Stress Scale, Perceived Discrimination subscale of the Acculturative Stress Scale for International Students, the Problem-Focused Style of Coping, the Collectivistic Coping Styles-Racial Discrimination (CCS-RD), Discrimination Stress (RDS), and the Center for Epidemiological Studies–Depression Mood Scale. The reliability of measures was properly reported, and alpha coefficients of all measures were acceptable or better. The estimated construct validity was reported. Multivariate analyses of variance was conducted to examine whether all the main variables varied by ethnicity, gender, generational status. Age differences were found in perceived discrimination, racial discrimination stress, and coping; however, age differences were not examined in the moderation analysis. For moderation analysis, hierarchical regression analysis and simple slope analysis were adequate.

There were a few limitations in this study. The construct validity was potentially limited because clear definitions of the measured variables such as perceived racial

discrimination and racial discrimination stress were not provided. The study relied on self-reported data from the volunteer participants; therefore, mono-method bias remains a potential threat to the construct validity.

External validity was limited due to the type of participants included in the study. Participants were all college students from a university in a region. The majority of the participants were Korean and Chinese, 1.5 or the second generation, and freshmen and sophomores. Considering the heterogeneity of Asian populations in terms of ethnic groups, age, generational status, or geographic region, the sample may not represent the entire Asian ethnic population. Therefore, it should be cautioned when generalizing to other Asian ethnic groups or recent Asian immigrants.

Finally, this study was linked to theories of dispositional coping as well as situation-specific coping. Wei, Heppner, et al. (2010) used an integrated approach in terms of theories. They viewed both situation-specific coping and dispositional coping as moderators, while dispositions were usually viewed as moderators in coping research, and situation-specific coping has been viewed either as a moderator or mediator. Despite a few limitations, it was meaningful that both situation-specific coping and dispositional were explored in this study. An important contribution of the study would be that the authors controlled the potential confounding variables of perceived general stress in investigating the racial discrimination stress and depressive symptoms relations. Furthermore, they considered the cultural differences in dealing with stressors among Asian Americans.

### **Integration of Theories**

Upon reviewing studies on perceived racism, the relationship between perceived racism and mental health issues, specifically depression, it seemed that perceived racism had adverse impacts on an individual's mental health or well-being. As a foundation of the study, Lazarus and Folkman's theory, as well as a brief review of dispositional coping theories, along with relevant empirical studies on perceived racism, coping and depression, were covered in this chapter. Despite evidence of the negative consequences of perceived racism, existing literature indicated that either coping strategy or style could modify the strengths of the perceived racism-depressive symptoms relation, or that coping had indirect effects on the perceived racism-depressive relation.

Lazarus and Folkman's theory (1984) addressed the interaction between person and environment; relationship between stress, coping, and emotion; coping, such as problem-focused and emotion-focused coping; and the importance of contextual differences in the choice of coping strategies. Thus, the theory provided components that addressed the coping strategies, and the theoretical framework to examine effects of coping within specific situation and incidents, as well as its impact on emotion. Given the literature review, Lazarus and Folkman's theory appeared to be applicable to the topic of perceived racism, coping, and depressive symptoms. Despite of a few limitations of the theory in cross-cultural research, Lazarus and Folkman's theory could provide a foundation for future research for Asian American populations, when cultural factors have been carefully considered in research.

In current theories of dispositional coping, scholars addressed the construct of approach and avoidance, and emphasized that coping styles and situation-specific coping strategies are not mutually exclusive. As many scholars addressed, individuals have habitual ways of coping with stress, and this disposition can influence an individual's reaction in new situations (Carver & Scheier, 1994; Endler & Parker, 1990; Heppner et al., 1995; Krohne, 1996; Roth & Cohen, 1986; Suls & Fletcher, 1985). Empirical studies and theories of stress and coping suggested that studying coping with perceived racism among racial or ethnic minority groups may need a more complex model. This may be caused by the complexity of perceived racism as a stressor, different perspectives of roles of coping, the need of culturally congruent measures, and mental health issues (Wei, Heppner et al. 2010).

The present study utilized a collectivistic/situation-specific coping instrument as well as individualistic/dispositional style of coping measure, and to investigate both moderating effects and mediating or indirect effects of coping in the relationship between perceived racism and depressive symptoms. The methodology of this study will be presented in the next chapter.

## **CHAPTER THREE:**

### **METHODS**

Demographic frameworks related to Asian Americans, existing literature on study variables, two theories of coping and empirical studies were reviewed in the previous chapter. This chapter describes the a priori power analysis, the participants who comprised the sample, the instruments, the research design and the procedures used, and includes the data collection and analysis methods of the study.

#### **A Priori Power Analysis**

An a priori power analysis was conducted by using the G\*Power program (3.1.4 version), which was recommended by scholars (Balkin & Sheperis, 2011) to estimate power. Based on Cohen's (1992) suggestion, the sample size for the study was calculated assuming a significance level  $\alpha = .05$ , power = .80 and small, medium, and large effect sizes ( $f^2 = .02$ , .15, and .35, respectively). The results suggested a sample with 395 for a small effect size, 55 for a medium effect size, and 25 for a large effect size. A sample with 55 participants was sufficient to obtain statistically significant results for a medium effect size in this study. Due to the lack of resources, a sample size of 395 participants for a small effect size was infeasible. Therefore, the final sample size of 203 participants for this study was more than adequate to have at least 80% power to detect a medium effect size.

#### **Participants**

The study involved Asian American college students enrolled at North Carolina State University (NCSU) in Spring 2012. NCSU, a large, public land grant university in the

Southeast, had 33,144 total students. Of the total students, 24,016 were undergraduates and 9,128 were graduate students. Of the total students, 1,525 (4.3%) were Asian American students. Students at both the undergraduate and graduate level, and who self-identified as being of Asian descent whether U.S. born or immigrants, were invited to participate in the study (see Appendix A for the invitation letter). All degree-seeking undergraduate and graduate Asian American students enrolled at NCSU were the targeted sample of the study; however, the potential participants were limited to those without privacy blocks on their email accounts. Therefore, approximately 986 (64.7%) of the targeted sample were invited to participate in the study.

In survey research, the response rate for minority students has been found to be often lower than that of European Americans (Wei, Russell, Mallinkcrodt, & Zakalik, 2004). Of the 986 students contacted, a total of 270 students responded to the online survey that was administered via the Qualtrics tool (see Appendix B for the survey). The researcher eliminated 49 partially completed surveys, which resulted in 221 completed surveys. Then five students (2.26%) who reported that they almost never experienced racial discrimination were removed from this study due to the element of the study on coping with racism. Twelve additional survey responses that were completed in fewer than five minutes (when the average completion time was 20 minutes) and who failed to answer a validity question (survey question item 15) on their experiences of racism that seemed consistent with previous responses on racial discrimination were also removed. Thus, after removing these

surveys, a total of 203 completed surveys (20.6% of the students originally solicited) were retained for data analysis.

The final sample consisted of 203 Asian American undergraduate and graduate students who were enrolled in the spring semester 2012. Approximately, 49.3% were men and 50.7% were women in the sample. The breakdown of participants based on ethnicity was 18% Chinese, 18% Korean, 17% Indian, 13% Vietnamese, 8% Taiwanese, 4% Filipino, 4% Pakistani, 3% Hmong, 2.5% Japanese, 2% Thai, 1.5% Laotian, 2.5% Bangladeshi, 0.5% Malaysian, 2% Multiethnic, and 3% Biracial. Multiethnic participants self-identified as Asian from two different ethnic groups (e.g., Cambodian and Filipino). All of the biracial participants identified as Asian and White (e.g., Japanese and Caucasian), and one self-identified as Japanese, Korean and Caucasian. The age range for the sample was of 17-39 years with a mean age of 21.6 years. The majority of the sample, 76.9%, was between the ages of 17 and 22; 14.8% of the sample were 23 to 27 years of age; and 8.5% of the sample were 28 years and older. The majority of the participants were undergraduate students. Eighteen percent of the participants were freshmen, 21.7% sophomores, 20% juniors, 23% seniors, and 17% graduate students. In terms of generational status, 49% self-identified themselves as first generation, 16% as 1.5 generation, 31% as second generation, 3.5% as third generation, 1.5% as fourth generation or higher. The largest group was the first generation, followed by the second generation. Forty-four percent of the sample reported their household income as middle level, 26.6% upper middle, 22.7%, lower middle, 5.4%

lower, and 1% upper level. In the present study, 44.5% of the participants reported higher depressive symptoms than the cutoff score of the depression measure (see Appendix C).

## **Instruments**

### **Perceived Racism**

The Subtle and Blatant Racism Scale for Asian American College Students (SABR-A<sup>2</sup>; Yoo, Steger, & Lee, 2010) contains eight items designed to measure perceived racism in forms of subtle and blatant racism which considered the unique racism-related experiences of Asian American college students. Participants rate a 5-point scale, ranging from (1) *almost never* to (5) *almost always*. The subtle racism scale referred to instances of discrimination due implicitly to racial bias or stereotype (i.e., treated differently, viewed with suspicion, overlooked, and racial barriers), whereas the blatant racism scale referred to instances of discrimination due explicitly to racial bias or stereotype (i.e., called names, commented about English proficiency, physically assaulted, and made fun of). All study variables, including perceived racism and the associated questions, were presented in Appendix D.

The two-subscale structure of the SABR-A<sup>2</sup> was supported by a combination of exploratory and confirmatory factor analyses with evidence of good internal reliability and stability over 2 weeks. The internal consistency reliability of total racism ( $\alpha = .84$ ) and its subscales, subtle racism ( $\alpha = .83$ ) and blatant racism ( $\alpha = .72$ ), was acceptable. In the second study conducted by the authors (Yoo et al., 2010), the internal consistency reliability of total racism ( $\alpha = .88$ ) and its subscales, subtle racism ( $\alpha = .82$ ) and blatant racism ( $\alpha = .77$ ), was also acceptable. In support of convergent validity, there was a significant positive

relationship between total racism, its subscales (i.e., subtle racism and blatant racism), and depression, anxiety, and stress. In support of discriminant validity, there was no relationship between total racism and its subscales, subtle and blatant racism, with color-blind attitudes. Two factors of the SABR-A<sup>2</sup> were supported in the present study by a confirmatory factor analysis (see Appendix E). In this study, Cronbach's alpha coefficient of the total measure was .74, which was acceptable.

### **Collectivistic Coping**

The Collectivistic Coping Styles-Racial Discrimination (CCS-RD) was based on the Collectivistic Coping Styles inventory (CCS; Heppner et al., 2006), which was a situation-specific collectivistic coping inventory initially developed with a sample of Taiwanese college students. The items were developed based on Asian cultural values, primary control (i.e., control through direct and active influences) and secondary control (i.e., control through accommodating and reframing existing realities), and problem resolution (Zeidner & Saklofske, 1996).

For the CCS-RD, the original CCS instructions and items were modified to focus on how individuals coped with racial discrimination experiences (Wei, Heppner, Ku, & Liao, 2010). This instrument consisted of 30 coping items to assess the utilization of collectivistic coping strategies that either facilitated or hindered individuals from resolving racial discrimination. Following Heppner et al. (2006), each item was rated on a 6-point scale ranging from (0) *never used this strategy/not applicable*, to (5) *a tremendous amount of help*.

The thirty items were divided into five factors, the largest being Acceptance, Reframing, and Striving (ARS) with 11 items. A sample ARS item follows: “Believed that I would grow from surviving the racial discrimination event.” This factor reflects a blend of acceptance, reframing, efficacy, and interpersonal harmony strategies. Family support (FS), with 6 items, reflects the extent to which one seeks support from one's family or respected elders. A sample FS item was, “Placed trust in my elder's traditional wisdom to cope with discrimination.” Religion/Spirituality (RS), with 4 items, reflects the degree to which the individual turns to religious or spiritual activities for coping. A sample RS item was: “Thought about the meaning of the racial discrimination event from the perspectives of my religious beliefs.” Avoidance and Detachment (AD), with 5 items, assesses an individual's tendency to detach from others and avoid thoughts about racial discrimination. A sample AD item was: “Saved face by not telling anyone.” Private Emotional Outlet (PEO), with 4 items, measures the extent to which one seeks out confidential, anonymous, or private coping strategies to resolve problems. A sample PEO item was: “Saved face by seeking advice from a professional (e.g., counselor, social worker, psychiatrist) I did not know personally.”

Higher scores on all five factors indicate a higher level of helpfulness in resolving perceived discrimination. In a study with an Asian college student sample, the factors with their corresponding coefficient alphas were ARS .89; FS .86; RS .90; AD .78; and PEO .76 (Wei, Heppner, et al., 2010). In the present study, the respective coefficient alphas were .81, .89, .93, .75, and .65, and the total coefficient alpha was .86. An estimate of construct validity for the original CCS coping factors was supported through correlations in the expected directions

with measures of psychological distress and other problem solving measures for Taiwanese college students (Heppner et al., 2006). All study variables, including collectivistic/situation-specific coping and the associated questions, were presented in Appendix D.

### **Problem-Focused Coping**

The Problem-Focused Style of Coping (PF-SOC; Heppner, Cook, Wright, & Johnson, 1995) is an 18-items inventory to measure dispositional coping. The PF-SOC assesses the problem-focused coping activities that would either facilitate or inhibit progress toward the resolution of stressful life events in general. The inventory uses a 5-point scale ranging from (1) *almost never* to (5) *almost all of the time* to depict their utilizations of the coping strategies. The PF-SOC consists of three styles of coping: (a) Reflective, (b) Suppressive, and (c) Reactive.

Reflective coping, 7 items, assesses a systematic plan to solve problems. A sample Reflective coping item follows: "I think about ways that I solved similar problems in the past." Suppressive coping, 6 items, measures avoidance activities. A sample Suppressive coping item follows: "I avoid even thinking about my problems." Reactive coping, 5 items, assesses having a strong emotional response. A sample Reactive coping item follows: "I act too quickly, which makes my problems worse." Higher reflective scores indicate a greater utilization of coping activities that promote progress in resolving stressful life events. Conversely, higher suppressive and reactive scores indicate a greater utilization of coping activities that inhibit or hinder the resolution of stressful life events. All study variables,

including individualistic/dispositional coping and the associated questions, were presented in Appendix D.

Coefficient alphas were .77, .76, and .73 for reflective, suppressive, and reactive coping styles respectively among primarily White college students (Heppner et al., 1995), and thus these initial estimates of reliability suggest that the three factors have acceptable levels of internal consistency. Additionally, coefficient alphas were .81, .82, and .75 among Asian American college students respectively (Wei, Heppner et al., 2010). In this present study, the Cronbach's alphas of reflective, suppressive, and reactive coping styles were .81, .73, .75, and the total coefficient alpha was .76; all of which were at least acceptable. An estimate of construct validity was supported through a negative correlation between reflective style of coping and depression and positive associations between suppressive and reactive style of coping and depression for Asian international students (Wei, Ku, Russell, Mallinckrodt, & Liao, 2008).

### **Depressive Symptoms**

The Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item, self-reporting symptom rating scale to assess depressive symptoms such as poor appetite, hopelessness, pessimism, and fatigue in the general population. Four major factors were identified: Depressed Affect, Positive Affect, Somatic and Retarded Activity, and Interpersonal (Radloff, 1977). Participants are asked to rate each item on a 4-point Likert scale from 0 to 3 on the basis of "how often you have felt this way during the past week": (0) *rarely or none of the time (less than 1 day)*, (1) *some or a little of the time (1-2 days)*, (2)

*occasionally or a moderate amount of time (3-4 days), (3) most or all of the time (5-7 days).* CES-D scores range from 0 to 60; higher scores indicate more severe depressive symptoms. A score of 16 or higher was identified in early studies as identifying individuals with depression. All study variables, including depressive symptoms and the associated questions, were presented in Appendix D.

High internal consistency has been reported with alpha coefficients ranging from .85 to .90 across studies (Radloff, 1977). Test-retest reliability studies ranging over two to eight weeks showed moderate correlations ( $r = .51-.67$ ), which was desirable for a test of symptoms that are expected to show change over time. The CES-D has been a widely used measure of depressive symptoms with diverse racial and ethnic populations and has been found to be a reasonably reliable and valid measure of depression in samples of Asian Americans. In a study with a Chinese American college student sample, the coefficient alpha was .88 (Ying, Lee, Tsai, Yeh, & Huang, 2000). Studies also have indicated that the psychometric properties of the computerized version were equivalent to those of the paper-and-pencil format (Ogles, France, Lunnen, Bell, & Goldfarb, 1998). In an internet based study with an Asian American college student sample, the alpha coefficient of CES-D was .91 (Choi & Rogers, 2010). The Cronbach's alpha coefficient of the measure was .91 in the present study.

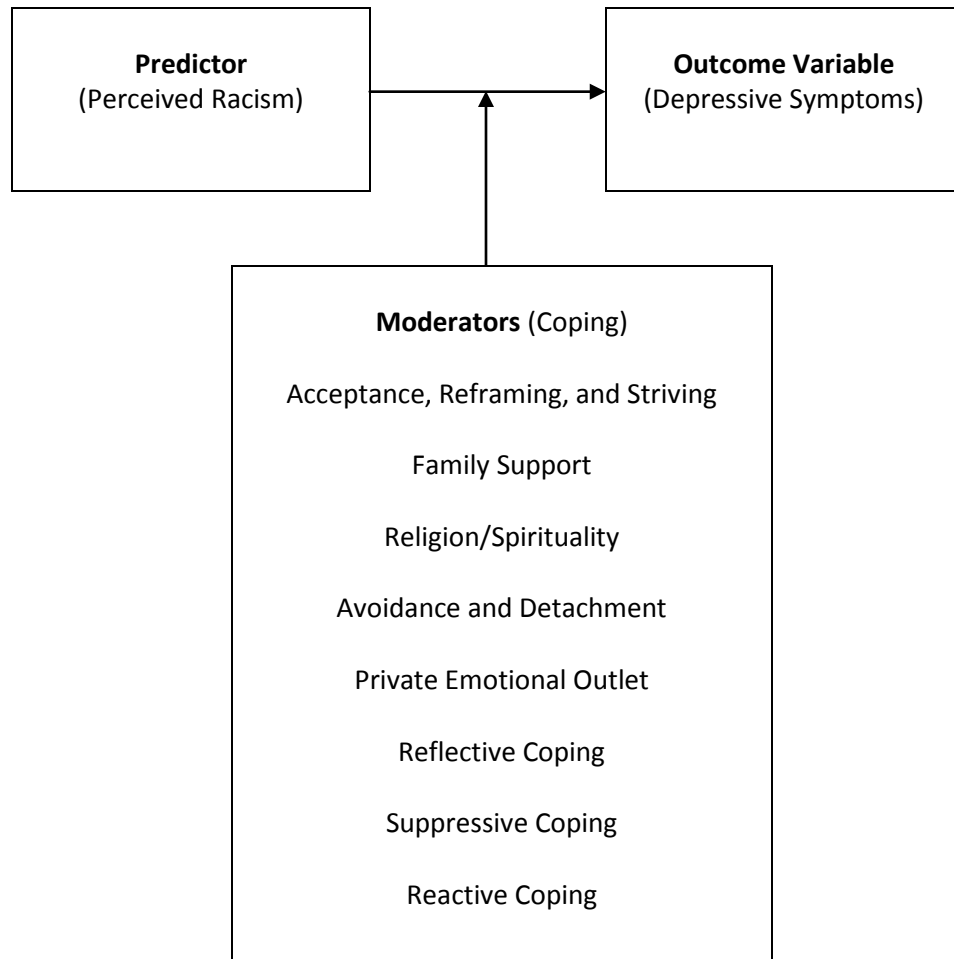
### **Design of Study**

Previous empirical research on perceived racism among Asian Americans has focused on coping as a moderator (Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Wei, Heppner et

al., 2010), while some other research has focused on coping as a mediator based on theoretical and empirical support (Lazarus & Folkman, 1984; Liang, Alvarez, Juang, & Liang, 2007). This study employed a correlational design to examine the relationships among multiple variables (i.e., perceived racism, coping strategies, and depressive symptoms). The correlational design was selected for this study, because correlational studies were necessary when experiments could not be carried out for practical and ethical reasons (Goodwin, 2010). Solely on the basis of an existing correlation, choosing the causal direction is not possible. However, third variables might provide the explanation for the correlation found because correlational research does not attempt to control extraneous variables directly. In other words, this correlational study provides possible explanations for the relation between perceived racism and depressive symptoms by evaluating the role of coping.

It is important to note that a moderation effect is a model that posits “when” or “for whom” an independent variable strongly or weakly causes a dependent variable. In essence, a moderator modifies the strength or direction (i.e., positive or negative) of a relationship, whereas a mediation effect is a model that posits “how” or “why” an independent variable predicts an outcome variable (Baron & Kenny, 1986). In other words, a moderator is a third variable that modifies a causal effect, and a mediator is a third variable that links a cause and an effect. While Baron and Kenny (1986) used a causal steps approach, scholars recently have recommended using a product of coefficient approach, specifically bootstrapping (MacKinnon, 2008; Preacher & Hayes, 2008).

In this exploratory study, the relationship between perceived racism and depressive symptoms was examined first. The moderating effects of each coping strategy were investigated next, and mediation or indirect effects were examined later (MacKinnon, 2008). The first step of this process was that all moderators (i.e., coping strategies) were examined separately, and significant modifiers of the relation between perceived racism and depressive symptoms were further investigated by using simple slope analysis. The model for moderating effects was presented in Figure 1. In the next step, these results were further investigated with a simultaneous multiple mediation model, which is a nonparametric resampling procedure (i.e., bootstrapping), to understand the significant mediating or indirect effects of coping in the study. The multiple mediation model, demonstrating these analyses, was presented in Figure 2. These analyses included examining whether the paths (i.e., paths from perceived racism to coping strategies, or  $a$  coefficient; and paths from coping strategies to depressive symptoms, or  $b$  coefficient) were statistically significant. Following recommendations of scholars (Hayes, 2009; Preacher & Hayes, 2008), the product of a regression coefficient approach, specifically bootstrapping, was used in examining mediating or indirect effects in the present study. The indirect effect (i.e.,  $ab$ ), or the product of the two unstandardized regression coefficients between perceived racism and depressive symptoms through the mediator, was calculated in the multiple mediation model. The details of bootstrapping were described in the data analysis section.



*Figure 1.* A moderation model: The relationship between perceived racism and depressive symptoms as moderated through coping.

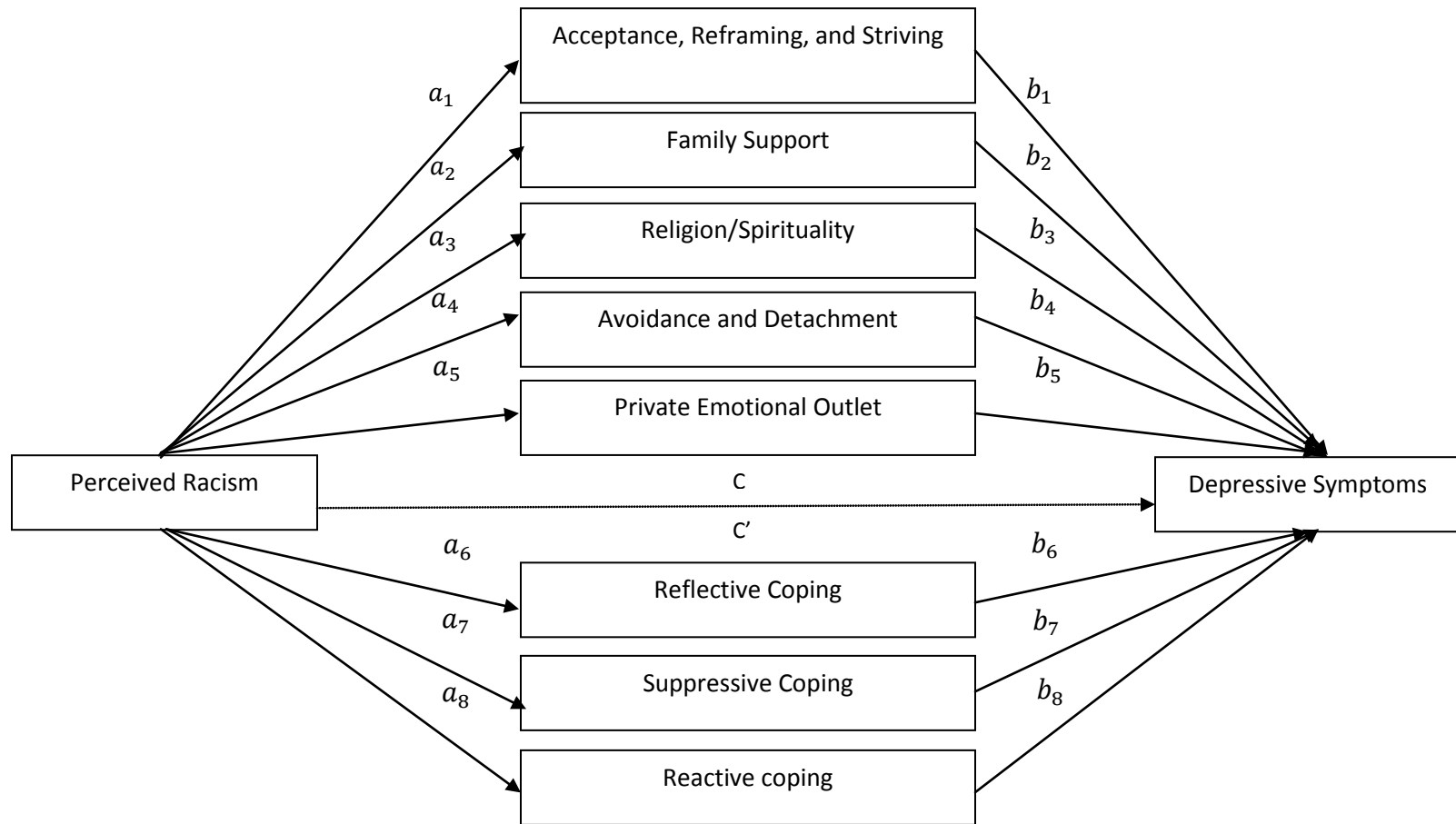


Figure 2. A multiple mediation model : The relationship between perceived racism and depressive symptoms as mediated through coping.  $c$  = total effect.  $c'$  = direct effect.  $ab$  = indirect effect.

## **Procedure**

### **Data Collection**

An email list of Asian American students was obtained from the registrar's office at North Carolina State University. At this university, the Asian American population has been consistently estimated to be about five percent; however, the obtained email list did not include students who had privacy blocks on their accounts. Therefore, an email message was sent to 986 undergraduate and graduate students inviting them to participate in an online survey. The online method was selected because participants may have felt more comfortable in giving anonymous answers to sensitive topics such as discrimination and depressive symptoms.

The email contained a brief description of the study and an invitation to participate by clicking the link to the website. When potential participants clicked the link, they were asked to read the informed consent form. Eligibility for participation included self-identification as Asian American or as a member of any Asian American subgroup, excluding international students. The informed consent outlined the following: the purpose of the study, the amount of time that would be required of them, possible risks and benefits of the study, confidentiality of their data, compensation, and contact information of the researcher. Participants were told that the purpose of the research was to examine Asian American students' racism-related stress, coping and feelings. Participants were informed that they were under no obligation to participate, and that their rights would be respected if at any time they were to decide that they did not wish to continue the survey or if they did not feel

comfortable answering questions. After reading and agreeing to the informed consent and being reminded that participation was voluntary, participants were asked to continue to the survey.

Next, if participants agreed to participate in this study, they were asked to complete a minimal demographic survey section. The next section included questions about their racism-related experiences, ways of coping with those experiences, as well as their feelings or moods. The online survey was designed to be terminated when participants answered “almost never” to the eight questions on perceived racial discrimination. Therefore, only those who have had at least one perceived racial discrimination event were allowed to continue answering the remainder of the survey.

After completing the survey, participants were told to send a separate email using their school email accounts with their contact information (i.e. mailing address) to the researcher in order to receive compensation (a \$10 Visa gift card). The survey responses were collected within a week without requiring follow-up reminder emails to potential respondents.

### **Data Analysis**

The first research question addresses the moderating effects of coping in the relationship between perceived racism and depressive symptoms. Hierarchical regression analyses were utilized in this section. The second research question investigates the mediating effects of coping by using simultaneous multiple mediation analysis.

**Moderation analysis.**

Research question 1: Is there a positive relationship between perceived racism and depressive symptoms? What coping strategies strengthen or weaken the relationship between perceived racism and depressive symptoms?

In order to test (1) the relationship between perceived racism and depressive symptoms, (2) and the moderating effect of coping in the relationship between perceived racism and depressive symptoms, a series of hierarchical regressions was conducted. First of all, the independent variable (perceived racism) and the moderators (five collectivistic/situation-specific coping strategies and three individualistic/dispositional styles of coping) were centered by subtracting the sample mean from all individuals' scores on each variable, thus producing a revised sample mean of zero. This was done based on Aiken and West's recommendation (Aiken & West, 1991; Holmbeck, 1997), to reduce multicollinearity effects, which occur when variables are very highly correlated and are almost linear combinations of other independent variables.

Next, the significance of perceived racism, the combined effect of all coping strategies, and the combined effect of all interactions were assessed using an F test; the percent variance in depressive symptoms explained by each combined effect was assessed using  $R^2$ . Then hierarchical regression analyses were conducted separately for each coping strategy. In Step 1, perceived racism was entered as a predictor variable to test a main effect of perceived racism on depressive symptoms. In Step 2, among the five collectivistic coping strategies and three individualistic coping styles, a specific coping variable was then entered

in addition to perceived racism. Finally, in Step 3, the interaction with perceived racism and the specific coping strategy was then additionally included in the model to examine each interaction/moderation effect with depressive symptoms. A significant regression coefficient and change in  $R^2$  for the interaction term indicated a significant moderation effect (Aiken & West, 1991).

For interaction terms, based on the results of step 3, simple effect analyses were conducted to explore the nature of the two-way interactions. Following the suggestions by Aiken and West (1991), one standard deviation below and above the mean for predictor and moderator was used to plot the variables and to test the statistical significance for each of the simple slopes.

### **Mediation analysis.**

Research question 2: What is the role of coping as a mediator in the relationship between perceived racism and depressive symptoms? How is perceived racism linked to depressive symptoms through coping?

A multiple mediation model was examined in the present study, which involves “simultaneous mediation by multiple variables” (Preacher & Hayes, 2008, p. 880). Testing a multiple mediation model involves (a) an analysis of the total indirect effect (i.e., the combined mediating effect of all the mediators under investigation), and (b) an analysis of the specific indirect effect (i.e., the mediating effect of a specific mediator), as recommended by Preacher and Hayes (2008). In the present study, mediation models were examined: first, the relationship between perceived racism and depressive symptoms as mediated by coping

for the total sample and, second, the relationship between perceived racism and depressive symptoms as mediated by coping in separate subgroups of participants by gender, generational status, and household income. For each subgroup, total and specific indirect effects were examined.

As scholars noted, bootstrap analysis has the advantage of greater statistical power without assuming multivariate normality in the sampling distribution, and it can be utilized with relatively small samples (Mackinnon, 2008; Mallinckrodt, Abraham, Wei, & Russell, 2006; Preacher & Hayes, 2008). Bootstrap analysis is a widely used nonparametric sampling procedure to test the significance of indirect effects. In bootstrap analyses, the obtained sample is used to generate multiple random samples with replacements that serve as the basis for repeatedly computing the statistic under investigation (Mallinckrodt et al., 2006). To test for mediating effects, a parameter estimate of the total and specific indirect effects and their respective confidence intervals are generated by using 1,000–20,000 random samples. In the present study, the original sample of 203 participants was used to generate 5,000 bootstrap samples with replacements, each with 203 participants. The regression approach uses the product of unstandardized path coefficients to test for significance of indirect effects and to construct confidence intervals around the estimate of the indirect effect. Thus, for each of the 5,000 bootstrap samples, the indirect effect (i.e.,  $ab$ ) or the product of the two unstandardized regression coefficients between perceived racism and depressive symptoms through coping, was calculated (see Figure 2).

The total indirect effect was defined as the sum of the indirect effects across all mediators in a given model,  $\sum_i(a_i b_i)$ ,  $i=1$  to 8 mediators, whereas the specific indirect effect was defined as the indirect effect of a particular mediator ( $a_i b_i$ ). Thus, for multiple mediation models, following the recommendation by Preacher and Hayes (2008), these calculations were repeated for each of the 5,000 bootstrap samples to yield a distribution of parameter estimates for both total and specific indirect effects. If the 95% bias-corrected confidence interval for the parameter estimate did not contain zero, then the indirect effect was statistically significant and mediation was demonstrated (Mallinckrodt et al., 2006; Preacher & Hayes, 2008).

Through the multiple mediation model, it was examined how the relationship between perceived racism and depressive symptoms were influenced by (a) the total indirect or mediating effect of all eight coping strategies and (b) the specific indirect or mediating effect of each of the eight coping strategies.

## CHAPTER FOUR:

### RESULTS

In the previous chapter, the a priori power analysis, the characteristics of participants, instruments, and the design of the study as well as the procedure were described. Among the steps taken, the following functional and analytic procedures were conducted: organizing the data, eliminating incomplete and invalid data, and scoring the four instruments. The purpose of this chapter is to highlight the results of the study and answer the research questions. This chapter includes results of the data analyses: the descriptive statistics, bivariate correlation analyses, multivariate analysis of variance, hierarchical regression analyses, and simultaneous multiple mediation analyses. Tables and figures were utilized to summarize the descriptive statistics and significant findings of the data.

#### Preliminary Analyses

##### Descriptive Statistics

A summary of descriptive statistics for the study variables was provided in Table 1. Of the participants who completed the survey, five students reported no experience of racism. The remaining participants experienced perceived racism at least once in a while ( $M = 2.09$ ,  $SD = 0.59$ ). When measuring perceived racism in the subtle and blatant forms, participants reported higher subtle racism ( $M = 2.28$ ,  $SD = 0.69$ ) than blatant racism ( $M = 1.91$ ,  $SD = 0.66$ ). The most frequently reported type of perceived racism was “being treated differently” ( $M = 2.71$ ,  $SD = 0.87$ ), which was a subtle form of racism, followed by “being made fun of”

( $M = 2.58$ ,  $SD = 1.10$ ), which was a blatant form of racism. The least frequently reported form of racism was “being physically assaulted” ( $M = 1.20$ ,  $SD = 1.10$ ).

Table 1.

*Descriptive Statistics of Main Study Variables*

Variable	$M$	$SD$	Range	
			Potential	Actual
1. Perceived Racism	2.09	0.59	1 -- 5	1.12 -- 3.88
2. ARS	2.23	0.91	0 -- 5	0.00 -- 4.36
3. Family Support	1.80	1.37	0 -- 5	0.00 -- 5.00
4. Religion/Spirituality	1.37	1.57	0 -- 5	0.00 -- 5.00
5. Avoidance/Detachment	1.50	1.01	0 -- 5	0.00 -- 5.00
6. Private Emotional Outlet	0.50	0.79	0 -- 5	0.00 -- 4.00
7. Reflective Coping	3.05	0.83	1 -- 5	1.00 -- 5.00
8. Suppressive Coping	3.75	0.72	1 -- 5	1.17 -- 5.00
9. Reactive Coping	3.55	0.81	1 -- 5	1.00 -- 5.00
10. Depressive Symptoms*	0.84	0.53	0 -- 3	0.05 -- 2.55
Depressive symptoms (sum)	16.75	10.55	0 -- 60	1.00 -- 51.00

*Note.*  $N = 203$ . Perceived Racism is from the Subtle and Blatant Racism for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance/Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. \*In order to be consistent with the other variables that have been averaged across questions in the hierarchical analysis, the average depressive symptoms score was also used such that the sum was divided by 20 questions.

In terms of coping, participants reported that acceptance, reframing, and striving ( $M = 2.23$ ,  $SD = 0.91$ ) were most helpful; followed by family support ( $M = 1.80$ ,  $SD = 1.37$ ); avoidance and detachment ( $M = 1.50$ ,  $SD = 1.01$ ); with private emotional outlet ( $M = 0.50$ ,  $SD = 0.79$ ) being the least helpful among collectivistic coping. The most frequently used individualistic problem-focused coping was suppressive coping ( $M = 3.75$ ,  $SD = 0.72$ ), followed by reactive coping ( $M = 3.55$ ,  $SD = 0.81$ ). The results showed that suppressive coping was reported by all participants to some degree, whether or not they used suppressive coping frequently.

In terms of depressive symptoms, of 203 participants, 46.8% ( $n = 95$ ) reported 16 (or 0.80 on the mean depressive symptoms measure) or higher scores on the sum depressive symptoms measure, which is a cutoff score indicative of significant or mild depressive symptoms. The results also indicated that the mean of depressive symptoms was higher than the cutoff score of depressive symptoms.

### **Bivariate Correlational Analysis**

A summary of the correlation matrix for the study variables was provided in Table 2. The results indicated that perceived racism and depressive symptoms were significantly related ( $r = .28$ ,  $p < .001$ ). In regards to the relationship between perceived racism and collectivistic coping, perceived racism was positively related to acceptance, reframing, and striving ( $r = .25$ ,  $p < .001$ ); and, to avoidance and detachment ( $r = .23$ ,  $p < .001$ ). Out of individualistic coping styles, both suppressive coping ( $r = -.20$ ,  $p = .005$ ) and reactive coping ( $r = -.26$ ,  $p < .001$ ) were negatively related with perceived racism.

Table 2.

*Bivariate Correlations Among Main Study Variables*

Variable	1	2	3	4	5	6	7	8	9	10
1. Perceived Racism	-	.25***	.03	.14*	.23***	.17*	.10	-.20**	-.26***	.28***
2. ARS		-	.39***	.17*	.39***	.30***	.41***	-.03	-.16*	.05
3. Family Support			-	.34***	-.09	.24***	.22**	.17*	-.09	.03
4. Religion/Spirituality				-	-.01	.25***	.09	.00	-.07	.10
5. Avoidance/Detachment					-	.21**	.01	-.31***	-.28***	.17*
6. Private Emotional Outlet						-	.06	-.17*	-.18**	.32***
7. Reflective Coping							-	.14*	-.16*	.00
8. Suppressive Coping								-	.44***	-.56***
9. Reactive Coping									-	.42***
10. Depressive Symptoms										-

*Note.*  $N = 203$ . Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

In terms of the relationship between coping and depressive symptoms, avoidance and detachment was significantly related ( $r = .17, p = .016$ ) to depressive symptoms. Private emotional outlet and depressive symptoms were also positively related ( $r = .32, p < .001$ ) in the present study. Suppressive coping ( $r = -.56, p < .001$ ) and reactive coping ( $r = -.42, p < .001$ ) were negatively related to depressive symptoms.

### **Multivariate Analysis of Variance**

Given the heterogeneous backgrounds of Asian American college students, the researcher tested for possible differences on the measures used in the study. Thus, multivariate analyses of variance (MANOVA) were performed to assess differences in each demographic variable (i.e., gender, ethnic origin, age, academic year, generational status, household income) with all study variables under investigation (i.e., perceived racism; acceptance, reframing, and striving; family support; religion/spirituality; avoidance and detachment; private emotional outlet; reflective coping; suppressive coping; reactive coping; and depressive symptoms). The researcher aggregated participants' generational status into four categories: first generation, 1.5 generation, second generation, and third generation or higher, due to the small number in each of the original categories (i.e., "first generation," "1.5 generation," "second generation," "third generation," and "fourth generation or higher"). In regards to household income, household income was aggregated into three categories: upper, middle, and low due to the small number in each of the original categories (i.e., "upper," "upper middle," "middle," "lower middle," and "lower").

The results of MANOVA revealed a significant multivariate main effect for ethnic groups (Wilks' lambda),  $F(140, 1486.1) = 1.30, p = .013, \eta_p^2 = .091$ , generational status (Wilks' lambda),  $F(30, 558.4) = 1.77, p = .008, \eta_p^2 = .085$ , and household income (Wilks' lambda),  $F(20, 382) = 2.24, p = .024, \eta_p^2 = .105$ . Although significant differences in gender were not detected, the researcher still decided to perform analyses by gender following existing literature. The researcher, however, was unable to test for ethnic group differences given the small sample sizes of each ethnic group.

Further investigation of these multivariate differences in subsequent between-subject comparisons were made for each study variable by gender, generational status, and household income level. A test of between-subject comparison for gender was presented in Table 3. A test of between-subject comparison found a generational difference regarding family support ( $M = 1.61$  vs.  $2.39$  vs.  $1.75$  vs.  $2.17$ , respectively) for first, 1.5, second, third and fourth generational status ( $p = .032$ ). Family support was reported as being more helpful for the 1.5 generation compared to the first generation (see Table 4).

There was also a significant difference in perceived racism by household income ( $p < .001$ ). Participants from low income households reported higher levels of perceived racism than students from upper or middle income households ( $M = 2.41$  vs.  $2.02$  and  $1.95$ , respectively) (see Table 5). Consequently, the researcher decided to perform statistical analyses with the total sample, and separately by subgroups (i.e., by gender, generational status and household income). However, even after combining the third generation ( $n = 7$ ) with the fourth generation or higher ( $n = 3$ ) categories, the number was too small ( $n = 10$ ) for

a separate data analysis. In data analysis by generational status, the category of the third and fourth generation was not conducted separately.

Table 3.

*Means, Standard Deviations of Main Study Variables by Gender*

Mediator	Male ( <i>n</i> = 100)		Female ( <i>n</i> = 103)		<i>F</i> (1, 201)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Perceived Racism	2.12	0.58	2.07	0.59	0.45
ARS	2.25	0.95	2.22	0.87	0.05
Family Support	1.69	1.33	1.91	1.41	1.34
Religion/Spirituality	1.21	1.47	1.53	1.66	2.17
Avoidance/Detachment.	1.58	1.02	1.42	0.99	1.32
Private Emotional Outlet	0.56	0.80	0.45	0.77	1.01
Reflective Coping	2.96	0.82	3.15	0.84	2.65
Suppressive Coping	3.77	0.60	3.73	0.83	0.18
Reactive Coping	3.60	0.75	3.51	0.86	0.68
Depressive Symptoms	0.78	0.48	0.89	0.56	2.09

*Note.* *N* = 203. Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. Significant differences were not found between male and female students.

Table 4.

*Means, Standard Deviations of Main Study Variables by Generational Status*

Mediator	<u>1 (n = 99 )</u>		<u>1.5 (n = 32 )</u>		<u>2 (n = 62 )</u>		<u>3 (n = 10)</u>		F (3, 199)	Tukey's HSD test
	M	SD	M	SD	M	SD	M	SD		
Perceived Racism	2.08	0.58	2.23	0.74	2.03	0.52	2.19	0.44	0.94	
ARS	2.21	0.90	2.38	1.02	2.23	0.88	1.97	0.92	0.56	
Family Support	1.61	1.22	2.39	1.46	1.75	1.43	2.17	1.74	3.00*	1 < 1.5 generation
Religion/Spirituality	1.05	1.39	1.83	1.78	1.58	1.65	1.85	1.65	3.08*	
Avoidance/Detachment.	1.41	1.00	1.57	1.04	1.64	0.99	1.34	1.08	0.76	
Private Emotional Outlet	0.48	0.80	0.65	0.69	0.49	0.84	0.38	0.60	0.49	
Reflective Coping	3.07	0.87	3.24	0.69	2.90	0.81	3.20	0.96	1.38	
Suppressive Coping	3.79	0.63	3.79	0.86	3.58	0.78	4.20	0.60	2.68*	
Reactive Coping	3.61	0.74	3.24	0.94	3.56	0.82	3.96	0.74	2.63	
Depressive Symptoms	0.78	0.49	0.73	0.43	0.98	0.61	0.84	0.43	2.26	

*Note.* 1 = first generation; 1.5 = 1.5 generation; 2 = second generation; 3 = third or higher generation. Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. HSD = Honestly Significant Difference. \*  $p < .05$ .

Table 5.

*Means, Standard Deviations of Main Study Variables by Household Income*

Mediator	<u>1 (n = 56)</u>		<u>2 (n = 57)</u>		<u>3 (n = 90)</u>		F (2, 200)	Tukey's HSD test
	M	SD	M	SD	M	SD		
Perceived Racism	2.02	0.54	1.95	0.44	2.41	0.72	12.67***	upper < low middle < low
ARS	2.16	0.96	2.19	0.88	2.38	0.91	1.00	
Family Support	1.77	1.35	1.64	1.28	2.08	1.50	1.76	
Religion/Spirituality	1.58	1.64	1.16	1.40	1.52	1.74	1.59	
Avoidance/Detachment.	1.43	1.07	1.42	0.89	1.69	1.11	1.41	
Private Emotional Outlet	0.55	0.85	0.44	0.69	0.56	0.86	0.55	
Reflective Coping	2.96	0.91	3.07	0.84	3.11	0.75	0.52	
Suppressive Coping	3.76	0.68	3.73	0.74	3.77	0.75	0.06	
Reactive Coping	3.48	0.79	3.54	0.80	3.64	0.84	0.51	
Depressive symptoms	0.78	0.40	0.87	0.56	0.85	0.59	0.54	

*Note.* N = 203. 1 = upper household income; 2 = middle household income; 3 = low household income. Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. HSD = Honestly Significant Difference. \*\*\*  $p < .001$ .

### **Moderation Analysis**

Research question 1: Is there a positive relationship between perceived racism and depressive symptoms? What coping strategies strengthen or weaken the relationship between perceived racism and depressive symptoms?

Hierarchical regression analysis for the total sample was conducted first, and subsequently hierarchical regression analyses were performed by subgroups separately (i.e., gender, generational status, and household income). When significant interactions were found in hierarchical regression analyses, the results of simple slope analyses were provided along with the figures.

#### **Moderation Analyses for the Total Sample**

The results were presented in Table 6. The results in Step 1 indicated perceived racism accounted for 7.6% of the variance in depressive symptoms ( $p < .001$ ). In Step 2, the coping strategies accounted for an increased 34% of the variance in depressive symptoms ( $p < .001$ ). Among collectivistic coping strategies, private emotional outlet significantly predicted depressive symptoms ( $B = 0.19, \beta = .28, sr^2 = .076, p < .001$ ). Among individualistic coping styles, suppressive coping ( $B = -0.38, \beta = -.53, sr^2 = .267, p < .001$ ) and reactive coping ( $B = -0.24, sr^2 = .128, \beta = -.37, p < .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effects of coping with perceived racism accounted for 6.6% increase in explained variance of depression ( $\Delta R^2 = .066, p = .004$ ). An overall two-way interaction significantly predicted depressive symptoms. However, only the interactions of perceived racism  $\times$  suppressive coping ( $B = -0.25, \beta = -.20, sr^2 = .031, p =$

Table 6.

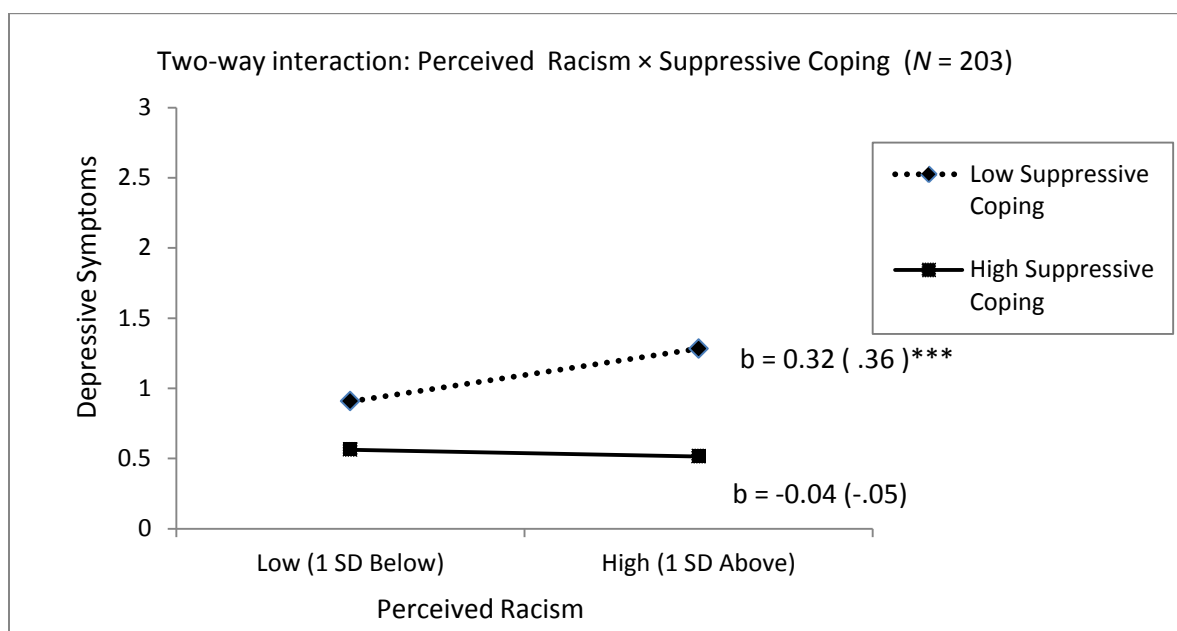
*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for the Total Sample*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.076	.076	16.6***(1,201)
	Perceived Racism	0.25	0.06	.28***	.08			
Step 2						.419	.343	15.39***(8,193)
	ARS	-0.01	0.04	-.01	.00			
	Family Support	0.01	0.03	.02	.00			
	Religion/Spirituality	0.02	0.02	.06	.00			
	Avoidance/Detachment	0.06	0.04	.11	.01			
	Private Emotional Outlet	0.19	0.04	.28***	.08			
	Reflective Coping	-0.02	0.04	-.03	.00			
	Suppressive Coping	-0.38	0.04	-.53***	.27			
	Reactive Coping	-0.24	0.04	-.37***	.13			
Step 3						.485	.066	2.95**(8,185)
	PR x ARS	-0.12	0.07	-.12	.01			
	PR x Family Support	-0.07	0.04	-.10	.01			
	PR x Religion/Spirituality	-0.01	0.04	-.02	.00			
	PR x Avoidance/Detachment	-0.06	0.05	-.07	.01			
	PR x Private Emotional Outlet	0.08	0.09	.07	.00			
	PR x Reflective Coping	0.01	0.08	.01	.00			
	PR x Suppressive Coping	-0.25	0.08	-.20**	.03			
	PR x Reactive Coping	0.15	0.06	.14*	.02			

Note.  $N = 203$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

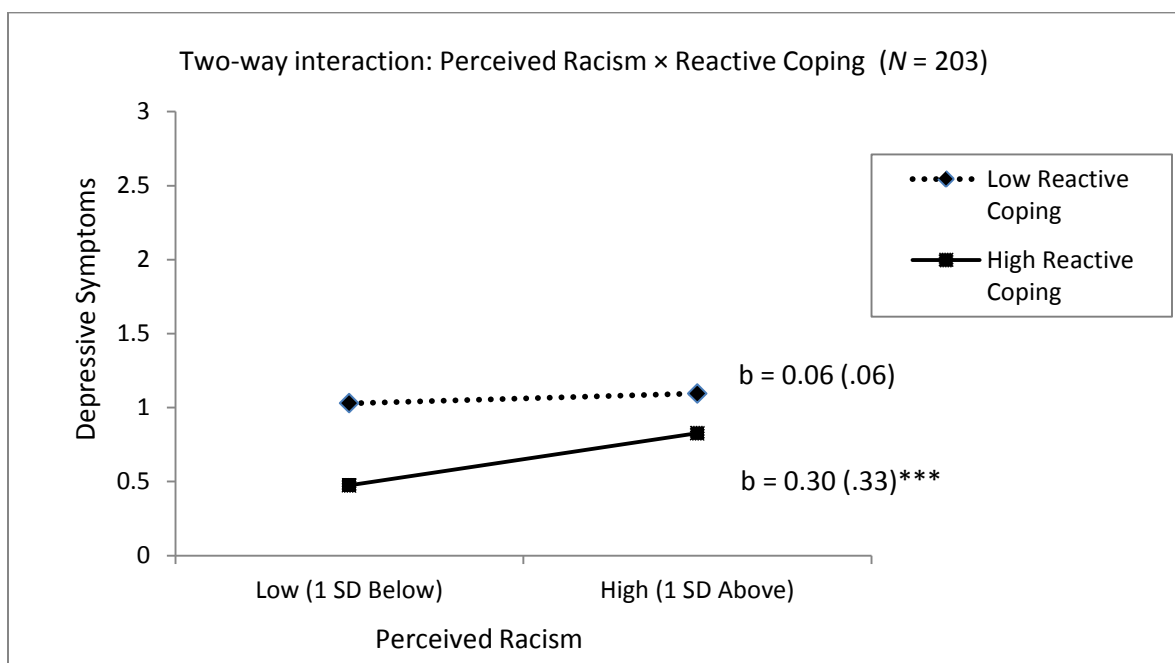
.002) and of perceived racism  $\times$  reactive ( $B = 0.15$ ,  $\beta = .14$ ,  $sr^2 = .022$ ,  $p = .018$ ) were statistically significant.

The results of simple effect analyses of the two-way interactions suggested that the relation between perceived racism and depressive symptoms was positive and significant at a low utilization of suppressive coping ( $B = 0.32$ ,  $\beta = .36$ ,  $sr^2 = .060$ ,  $p < .001$ ), but was not statistically significant at a high utilization of suppressive coping strategies ( $B = -0.04$ ,  $\beta = -.05$ ,  $sr^2 = .001$ ,  $p = .608$ ). These results suggested that low utilization of suppressive coping increased vulnerability to depressive symptoms, whereas high utilization of suppressive coping was not significantly associated with depressive symptoms (see Figure 3).



*Figure 3.* The relationship between perceived racism and depressive symptoms at high and low levels of suppressive coping for the total sample. The figure shows the depressive symptoms mean score, ranging from 0 to 3 (where the maximum is 60 points across all questions divided by 20 questions); thus, on the mean scale, the cut-off score is 0.80 (i.e., the original cutoff for depressive symptoms of 16 divided by 20 questions). The standardized numbers are given in parentheses after the unstandardized numbers. \*\*\*  $p < .001$ .

The result also indicated that the relation between perceived racism and depressive symptoms was positive and significant at high utilization of reactive coping ( $B = 0.30$ ,  $\beta = .33$ ,  $sr^2 = .052$ ,  $p < .001$ ), but was not statistically significant at a low utilization of reactive coping strategies ( $B = 0.06$ ,  $\beta = .06$ ,  $sr^2 = .002$ ,  $p = .567$ ). These results indicated that high utilization of reactive coping increased vulnerability to depressive symptoms, whereas low utilization of suppressive coping was not significantly associated with depressive symptoms (see Figure 4).



*Figure 4.* The relationship between perceived racism and depressive symptoms at high and low levels of reactive coping for the total sample. The figure shows the depressive symptoms mean score, ranging from 0 to 3 (where the maximum is 60 points across all questions divided by 20 questions); thus, on the mean scale, the cut-off score is 0.80 (i.e., the original cutoff for depressive symptoms of 16 divided by 20 questions). The standardized numbers are given in parentheses after the unstandardized numbers. \*\*\*  $p < .001$ .

### Moderation Analyses by Gender

For male students, the results were presented in Table 7. The results in Step 1 indicated perceived racism accounted for 6.9% of the variance in depressive symptoms ( $p = .008$ ). In Step 2, the coping strategies accounted for an increased 33.3% of the variance in depressive symptoms ( $p < .001$ ). Among collectivistic coping strategies, private emotional outlet coping ( $B = 0.19, \beta = .32, sr^2 = .095, p = .001$ ) significantly predicted depressive symptoms. Among individualistic coping styles, suppressive coping ( $B = -0.39, \beta = -.48, sr^2 = .228, p < .001$ ) negatively predicted depressive symptoms, and reactive coping ( $B = -0.21, \beta = -.32, sr^2 = .095, p = .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effect of coping with perceived racism was not statistically significant ( $\Delta R^2 = .057, p = .375$ ).

For female students, the results were presented in Table 8. The results in Step 1 indicated perceived racism accounted for 9.0% of the variance in depressive symptoms ( $p = .002$ ). In Step 2, the coping strategies accounted for an increased 39.7% of the variance in depressive symptoms ( $p < .001$ ). Among collectivistic coping strategies, private emotional outlet coping significantly predicted depressive symptoms ( $B = 0.20, \beta = .28, sr^2 = .076, p = .003$ ). Among individualistic coping styles, suppressive coping ( $B = -0.38, \beta = -.55, sr^2 = .289, p < .001$ ) and reactive coping ( $B = -0.26, \beta = -.40, sr^2 = .148, p < .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effect of coping with perceived racism was not statistically significant ( $\Delta R^2 = .075, p = .087$ ). However, the interaction of perceived racism  $\times$  suppressive coping ( $B = -0.29, \beta = -.25, sr^2 = .042, p =$

Table 7.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for Male Students*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.069	.069	7.25**(1,98)
	Perceived Racism	0.22	0.08	.26**	.07			
Step 2						.402	.333	6.31***(8,90)
	ARS	0.01	0.05	.03	.00			
	Family Support	-0.01	0.04	-.02	.00			
	Religion/Spirituality	0.00	0.03	.00	.00			
	Avoidance/Detachment	0.04	0.05	.09	.01			
	Private Emotional Outlet	0.19	0.06	.32**	.09			
	Reflective Coping	-0.03	0.06	-.05	.00			
	Suppressive Coping	-0.39	0.07	-.48***	.23			
	Reactive Coping	-0.21	0.06	-.32**	.09			
Step 3						.459	.057	1.10(8,82)
	PR x ARS	-0.11	0.10	-.13	.01			
	PR x Family Support	-0.05	0.07	-.09	.01			
	PR x Religion/Spirituality	-0.04	0.05	-.07	.01			
	PR x Avoidance/Detachment	-0.08	0.08	-.10	.01			
	PR x Private Emotional Outlet	0.09	0.12	.09	.01			
	PR x Reflective Coping	0.00	0.12	.00	.00			
	PR x Suppressive Coping	-0.18	0.12	-.13	.02			
	PR x Reactive Coping	0.14	0.10	.13	.02			

Note.  $n = 100$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 8.

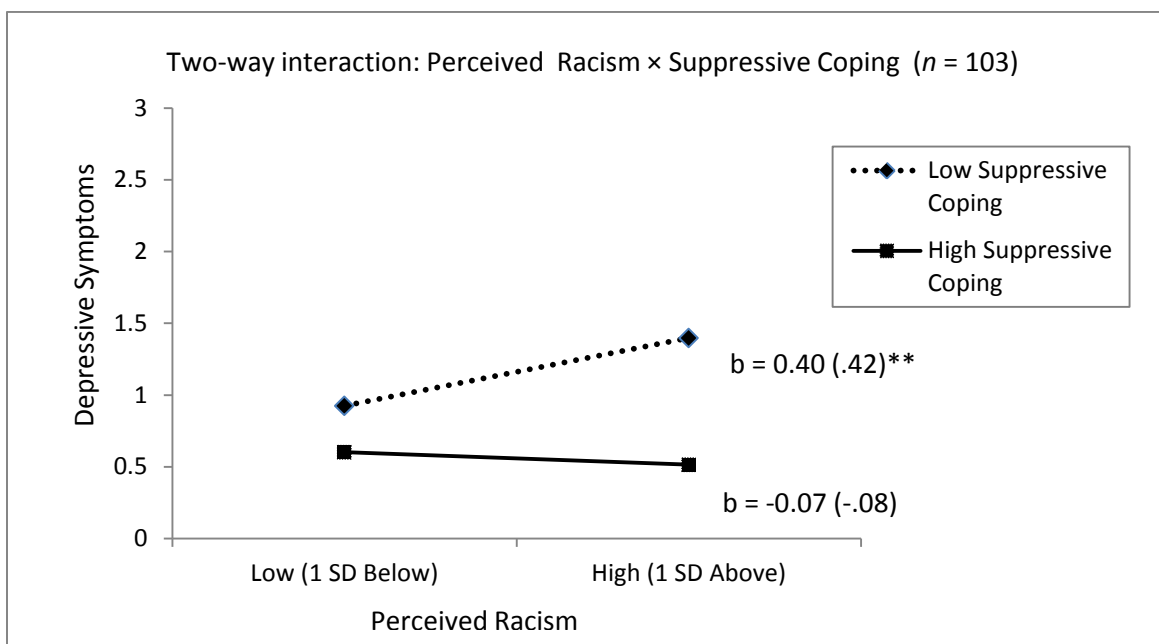
*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for Female Students*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.09	.090	10.05**(1,101)
	Perceived Racism	0.29	0.09	.30**	.09			
Step 2						.487	.397	9.61*** (8,93)
	ARS	-0.03	0.06	-.04	.00			
	Family Support	0.02	0.04	.04	.00			
	Religion/Spirituality	0.03	0.03	.09	.01			
	Avoidance/Detachment	0.08	0.05	.14	.02			
	Private Emotional Outlet	0.20	0.07	.28**	.08			
	Reflective Coping	-0.02	0.06	-.04	.00			
	Suppressive Coping	-0.38	0.06	-.55***	.29			
	Reactive Coping	-0.26	0.06	-.40***	.15			
Step 3						.562	.075	1.81(8,85)
	PR x ARS	-0.14	0.10	-.13	.02			
	PR x Family Support	-0.08	0.06	-.13	.02			
	PR x Religion/Spirituality	0.04	0.06	.07	.00			
	PR x Avoidance/Detachment	-0.04	0.07	-.04	.00			
	PR x Private Emotional Outlet	0.13	0.14	.11	.01			
	PR x Reflective Coping	0.01	0.11	.01	.00			
	PR x Suppressive Coping	-0.29	0.11	-.25**	.04			
	PR x Reactive Coping	0.18	0.08	.16*	.03			

Note.  $n = 103$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

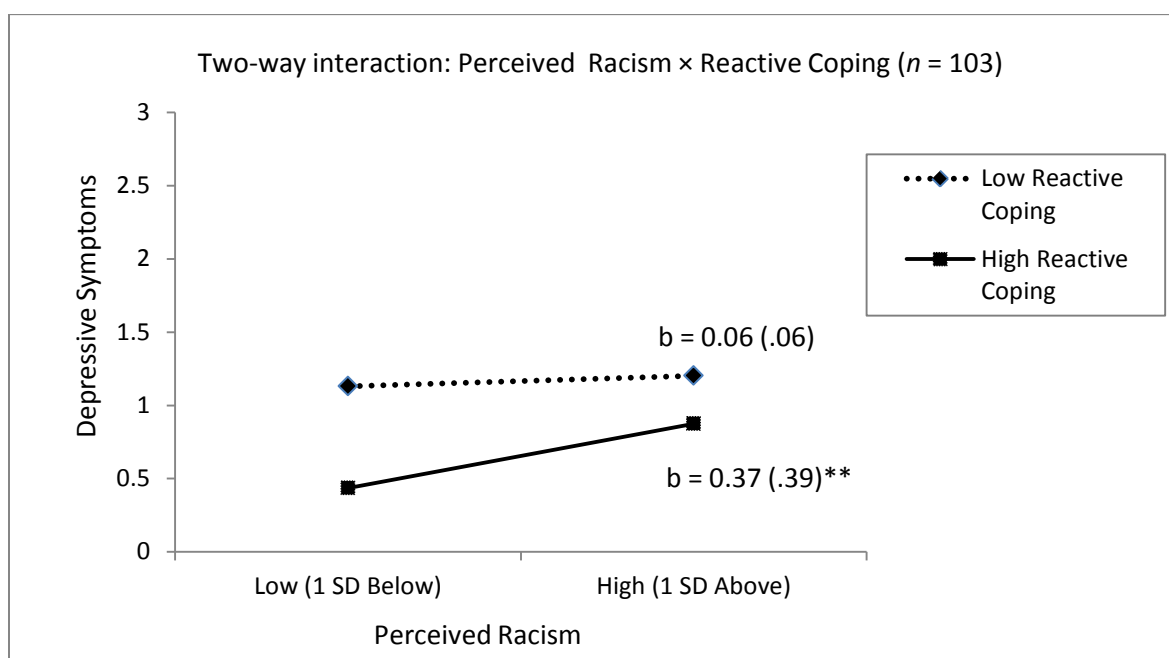
.008) and perceived racism  $\times$  reactive coping ( $B = 0.18$ ,  $\beta = .16$ ,  $sr^2 = .033$ ,  $p = .036$ ) was statistically significant.

The results of simple effect analyses of the two-way interactions suggested that the relation between perceived racism and depressive symptoms was positive and significant at low utilization of suppressive coping ( $B = 0.40$ ,  $\beta = .42$ ,  $sr^2 = .072$ ,  $p = .001$ ), but was not statistically significant at a high utilization of suppressive coping strategies ( $B = -0.07$ ,  $\beta = -.08$ ,  $sr^2 = .002$ ,  $p = .530$ ). These results indicated that low utilization of suppressive coping increased vulnerability to depressive symptoms, whereas high utilization of suppressive coping was not significantly associated with depressive symptoms (see Figure 5).



*Figure 5.* The relationship between perceived racism and depressive symptoms at high and low levels of suppressive coping for female students. The figure shows the depressive symptoms mean score, ranging from 0 to 3 (where the maximum is 60 points across all questions divided by 20 questions); thus, on the mean scale, the cut-off score is 0.80 (i.e., the original cutoff for depressive symptoms of 16 divided by 20 questions). The standardized numbers are given in parentheses after the unstandardized numbers.  $** p < .01$ .

The result also indicated that the relation between perceived racism and depressive symptoms was positive and significant at high utilization of reactive coping ( $B = 0.37$ ,  $\beta = .39$ ,  $sr^2 = .075$ ,  $p = .002$ ), but was not statistically significant at a low utilization of reactive coping strategies ( $B = 0.06$ ,  $\beta = .06$ ,  $sr^2 = .002$ ,  $p = .567$ ). These results suggested that high utilization of reactive coping added to the vulnerability of depressive symptoms, whereas low utilization of suppressive coping was not significantly associated with depressive symptoms (see Figure 6).



*Figure 6.* The relationship between perceived racism and depressive symptoms at high and low levels of reactive coping for female students. The figure shows the depressive symptoms mean score, ranging from 0 to 3 (where the maximum is 60 points across all questions divided by 20 questions); thus, on the mean scale, the cut-off score is 0.80 (i.e., the original cutoff for depressive symptoms of 16 divided by 20 questions). The standardized numbers are given in parentheses after the unstandardized numbers. \*\*  $p < .01$ .

### Moderation Analyses by Generational Status

For the first generation, the results were presented in Table 9. The results in Step 1 indicated perceived racism accounted for 8.8% of the variance in depressive symptoms ( $p = .003$ ). In Step 2, the coping strategies accounted for an increased 38% of the variance in depressive symptoms ( $p < .001$ ). Among collectivistic coping strategies, avoidance and detachment ( $B = 0.10, \beta = .20, sr^2 = .037, p = .048$ ), private emotional outlet ( $B = 0.18, \beta = .28, sr^2 = .079, p = .003$ ) significantly predicted depressive symptoms. Among individualistic coping styles, suppressive coping ( $B = -0.44, \beta = -.56, sr^2 = .304, p < .001$ ) negatively predicted depressive symptoms, and reactive coping ( $B = -0.27, \beta = -.40, sr^2 = .151, p < .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effects of coping with perceived racism accounted for 5.6% increase in explained variance of depression; however, it was not statistically significant ( $\Delta R^2 = .056, p = .322$ ). Thus, simple effect analyses of the two-way interactions were not conducted for this subgroup.

For students of 1.5 generation, the results are presented in Table 10. The results in Step 1 seen in this table indicated the main effect of perceived racism on depressive symptoms was not significant ( $p = .804$ ). In Step 2, the coping strategies accounted for an increased 58% of the variance in depressive symptoms ( $p = .004$ ). Among collectivistic coping strategies, private emotional outlet coping ( $B = 0.29, \beta = .48, sr^2 = .222, p = .007$ ) significantly predicted depressive symptoms. Among individualistic coping styles, suppressive coping ( $B = -0.25, \beta = -.50, sr^2 = .248, p = .004$ ) and reactive coping ( $B = -0.25, \beta = -.56, sr^2 = .263, p = .003$ ) negatively predicted depressive symptoms. In Step 3, the

Table 9.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for the First Generation*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.088	.088	9.32**(1,97)
	Perceived Racism	0.25	0.08	.30**	.09			
Step 2						.467	.379	8.06***(8,89)
	ARS	0.01	0.06	.02	.00			
	Family Support	0.03	0.04	.09	.01			
	Religion/Spirituality	0.02	0.03	.04	.00			
	Avoidance/Detachment	0.10	0.05	.20*	.04			
	Private Emotional Outlet	0.18	0.06	.28**	.08			
	Reflective Coping	-0.08	0.05	-.15	.02			
	Suppressive Coping	-0.44	0.06	-.56***	.30			
	Reactive Coping	-0.27	0.06	-.40***	.15			
Step 3						.523	.056	1.18(8,81)
	PR x ARS	-0.10	0.09	-.11	.01			
	PR x Family Support	-0.10	0.05	-.14	.03			
	PR x Religion/Spirituality	0.00	0.07	.00	.00			
	PR x Avoidance/Detachment	-0.03	0.06	-.04	.00			
	PR x Private Emotional Outlet	0.02	0.11	.02	.00			
	PR x Reflective Coping	0.00	0.09	.00	.00			
	PR x Suppressive Coping	-0.21	0.11	-.15	.02			
	PR x Reactive Coping	0.13	0.09	.11	.01			

Note.  $n = 99$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 10.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for 1.5 Generation*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.002	.002	0.06(1,30)
	Perceived Racism	0.03	0.10	.05	.00			
Step 2						.582	.580	5.22**(8,22)
	ARS	0.06	0.08	.13	.02			
	Family Support	0.05	0.05	.16	.03			
	Religion/Spirituality	-0.05	0.04	-.20	.04			
	Avoidance/Detachment	0.07	0.08	.16	.02			
	Private Emotional Outlet	0.29	0.10	.48**	.22			
	Reflective Coping	-0.01	0.12	-.02	.00			
	Suppressive Coping	-0.25	0.08	-.50**	.25			
	Reactive Coping	-0.25	0.08	-.56**	.26			
Step 3						.805	.223	2.01(8,14)
	PR x ARS	0.07	0.13	.13	.01			
	PR x Family Support	0.12	0.09	.30	.05			
	PR x Religion/Spirituality	-0.02	0.06	-.05	.00			
	PR x Avoidance/Detachment	-0.01	0.10	-.03	.00			
	PR x Private Emotional Outlet	0.17	0.21	.20	.02			
	PR x Reflective Coping	0.11	0.19	.13	.01			
	PR x Suppressive Coping	-0.23	0.15	-.35	.06			
	PR x Reactive Coping	0.08	0.09	.13	.02			

Note.  $n = 32$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

overall two-way interaction effects of coping with perceived racism was not statistically significant ( $\Delta R^2 = .223, p = .121$ ). No statistically significant interaction between perceived racism and coping strategies were found in the results.

For the second generation, the results were presented in Table 11. The results in Step 1 indicated perceived racism accounted for 17.9% of the variance in depressive symptoms ( $p < .001$ ). In Step 2, the coping strategies accounted for an increased 30.6% of the variance in depressive symptoms ( $p = .002$ ). Among coping strategies, suppressive coping ( $B = -0.38, \beta = -.49, sr^2 = .214, p < .001$ ) and reactive coping ( $B = -0.28, \beta = -.38, sr^2 = .139, p < .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effects of coping with perceived racism accounted for 7.0% increase in explained variance of depression; however, it was not statistically significant ( $\Delta R^2 = .070, p = .548$ ). No statistically significant interaction between perceived racism and coping strategies were found in the results.

Table 11.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for the Second Generation*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.179	.179	13.08****(1,60)
	Perceived Racism	0.50	0.14	.42***	.18			
Step 2						.485	.306	3.78**(8,52)
	ARS	-0.04	0.08	-.06	.00			
	Family Support	-0.01	0.05	-.03	.00			
	Religion/Spirituality	0.06	0.05	.15	.02			
	Avoidance/Detachment	-0.01	0.07	-.01	.00			
	Private Emotional Outlet	0.15	0.08	.20	.04			
	Reflective Coping	0.11	0.09	.14	.02			
	Suppressive Coping	-0.38	0.08	-.49***	.21			
	Reactive Coping	-0.28	0.08	-.38***	.14			
Step 3						.555	.070	0.87(8,44)
	PR x ARS	-0.06	0.17	-.05	.00			
	PR x Family Support	-0.03	0.11	-.04	.00			
	PR x Religion/Spirituality	0.05	0.09	.07	.00			
	PR x Avoidance/Detachment	-0.09	0.18	-.08	.00			
	PR x Private Emotional Outlet	0.09	0.22	.07	.00			
	PR x Reflective Coping	0.08	0.19	.06	.00			
	PR x Suppressive Coping	-0.23	0.18	-.15	.02			
	PR x Reactive Coping	0.01	0.17	.00	.00			

Note.  $n = 62$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### **Moderation Analyses by Household Income**

For students from upper income households, the results were presented in Table 12. The results in Step 1 indicated perceived racism accounted for 8.0% of the variance in depressive symptoms ( $p = .035$ ). In Step 2, the coping strategies accounted for an increased 37.9% of the variance in depressive symptoms ( $p = .003$ ). Among collectivistic coping strategies, family support positively predicted depressive symptoms ( $B = 0.10$ ,  $\beta = .35$ ,  $sr^2 = .123$ ,  $p = .006$ ), and private emotional outlet ( $B = 0.22$ ,  $\beta = .46$ ,  $sr^2 = .196$ ,  $p < .001$ ) predicted significantly depressive symptoms. Among individualistic coping, reactive coping ( $B = -0.17$ ,  $\beta = -.34$ ,  $sr^2 = .114$ ,  $p = .009$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effects of coping with perceived racism accounted for 5.6% increase in explained variance of depressive symptoms; however, it was not statistically significant ( $\Delta R^2 = .056$ ,  $p = .808$ ). No statistically significant interaction between perceived racism and coping strategies were found in the results.

For students from middle income households, the results were presented in Table 13. The results in Step 1 indicated perceived racism accounted for 11.8% of the variance in depressive symptoms ( $p < .001$ ). In Step 2, the coping strategies accounted for an increased 43.4% of the variance in depressive symptoms ( $p < .001$ ). Among collectivistic coping strategies, avoidance and detachment positively predicted depressive symptoms ( $B = 0.16$ ,  $\beta = .26$ ,  $sr^2 = .066$ ,  $p = .010$ ), and private emotional outlet ( $B = 0.21$ ,  $\beta = .27$ ,  $sr^2 = .067$ ,  $p = .009$ ) predicted significantly depressive symptoms. Among individualistic coping styles, suppressive coping ( $B = -0.47$ ,  $\beta = -.63$ ,  $sr^2 = .383$ ,  $p < .001$ ) and reactive coping ( $B = -0.34$ ,

Table 12.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for Students from Upper Income Households*

Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1					.080	.080	4.68*(1,54)
Perceived Racism	0.21	0.10	.28*	.08			
Step 2					.459	.379	3.71**(8,46)
ARS	0.01	0.06	.03	.00			
Family Support	0.10	0.04	.35**	.12			
Religion/Spirituality	0.02	0.03	.10	.01			
Avoidance/Detachment	0.08	0.05	.21	.04			
Private Emotional Outlet	0.22	0.06	.46***	.20			
Reflective Coping	0.07	0.06	.15	.02			
Suppressive Coping	-0.09	0.08	-.15	.02			
Reactive Coping	-0.17	0.06	-.34**	.11			
Step 3					.515	.056	0.55(8,38)
PR x ARS	-0.02	0.10	-.02	.00			
PR x Family Support	0.04	0.08	.07	.00			
PR x Religion/Spirituality	0.08	0.07	.17	.02			
PR x Avoidance/Detachment	0.12	0.09	.17	.03			
PR x Private Emotional Outlet	0.04	0.10	.05	.00			
PR x Reflective Coping	0.03	0.11	.03	.00			
PR x Suppressive Coping	-0.14	0.17	-.13	.01			
PR x Reactive Coping	0.10	0.11	.11	.01			

Note.  $n = 56$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 13.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for Students from Middle Income Households*

Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1					.118	.118	11.81***(1,88)
Perceived Racism	0.43	0.13	.34***	.12			
Step 2					.552	.434	9.83*** (8,80)
ARS	0.01	0.07	.02	.00			
Family Support	-0.02	0.04	-.05	.00			
Religion/Spirituality	0.00	0.04	.01	.00			
Avoidance/Detachment	0.16	0.06	.26**	.07			
Private Emotional Outlet	0.21	0.08	.27**	.07			
Reflective Coping	-0.10	0.07	-.15	.02			
Suppressive Coping	-0.47	0.06	-.63***	.38			
Reactive Coping	-0.34	0.07	-.49***	.20			
Step 3					.603	.051	1.15(8,72)
PR x ARS	-0.06	0.14	-.04	.00			
PR x Family Support	-0.07	0.10	-.07	.00			
PR x Religion/Spirituality	0.12	0.09	.13	.02			
PR x Avoidance/Detachment	-0.02	0.14	-.02	.00			
PR x Private Emotional Outlet	0.22	0.21	.12	.01			
PR x Reflective Coping	-0.01	0.15	.00	.00			
PR x Suppressive Coping	-0.05	0.14	-.03	.00			
PR x Reactive Coping	-0.01	0.14	-.01	.00			

Note.  $n = 90$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

$\beta = -.49$ ,  $sr^2 = .204$ ,  $p < .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effects of coping with perceived racism was not statistically significant ( $\Delta R^2 = .051$ ,  $p = .340$ ). No statistically significant interaction between perceived racism and coping strategies were found in the results.

For students from low income households, the results were presented in Table 14. The results in Step 1 indicated perceived racism accounted for 7.1% of the variance in depressive symptoms ( $p = .046$ ). In Step 2, the coping strategies accounted for an increased 44.4% of the variance in depressive symptoms ( $p < .001$ ). Among coping strategies, suppressive coping ( $B = -0.48$ ,  $\beta = -.60$ ,  $sr^2 = .337$ ,  $p < .001$ ) negatively predicted depressive symptoms. In Step 3, the overall two-way interaction effects of coping with perceived racism was not statistically significant ( $\Delta R^2 = .142$ ,  $p = .070$ ). However, the interaction of perceived racism  $\times$  suppressive coping was statistically significant ( $B = -0.39$ ,  $\beta = -.35$ ,  $sr^2 = .089$ ,  $p = .003$ ).

The results of simple effect analyses of the two-way interactions suggested that the relation between perceived racism and depressive symptoms was positive and significant at low utilization of suppressive coping ( $B = 0.39$ ,  $\beta = .47$ ,  $sr^2 = .088$ ,  $p = .004$ ), but was not statistically significant at a high utilization of suppressive coping ( $B = -0.19$ ,  $\beta = -.23$ ,  $sr^2 = .022$ ,  $p = .133$ ). These results indicated that low utilization of suppressive coping added to the vulnerability of depressive symptoms, whereas high utilization of suppressive coping strategies was not significantly associated with depressive symptoms (see Figure 7).

Table 14.

*A Hierarchical Multiple Regression Analysis for the Interaction of Perceived Racism and Coping Strategies in Predicting Depressive Symptoms for Students from Low Income Households*

	Variable	B	SE B	$\beta$	$sr^2$	$R^2$	$\Delta R^2$	$\Delta F (dfs)$
Step 1						.071	.071	4.18*(1,55)
	Perceived Racism	0.22	0.11	.27*	.07			
Step 2						.515	.444	6.31***(8,47)
	ARS	-0.09	0.09	-.13	.02			
	Family Support	-0.02	0.05	-.05	.00			
	Religion/Spirituality	0.05	0.04	.16	.02			
	Avoidance/Detachment	-0.07	0.07	-.13	.02			
	Private Emotional Outlet	0.14	0.09	.21	.04			
	Reflective Coping	0.04	0.10	.05	.00			
	Suppressive Coping	-0.48	0.09	-.60***	.34			
	Reactive Coping	-0.16	0.10	-.23	.04			
Step 3						.657	.142	2.02(8,39)
	PR x ARS	-0.20	0.12	-.22	.05			
	PR x Family Support	-0.09	0.07	-.16	.03			
	PR x Religion/Spirituality	-0.09	0.06	-.19	.04			
	PR x Avoidance/Detachment	-0.02	0.09	-.03	.00			
	PR x Private Emotional Outlet	0.15	0.18	.15	.01			
	PR x Reflective Coping	-0.02	0.16	-.02	.00			
	PR x Suppressive Coping	-0.39	0.13	-.35**	.09			
	PR x Reactive Coping	0.23	0.12	.23	.05			

Note.  $n = 57$ . PR = Perceived Racism; ARS = Acceptance, Reframing, and Striving. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

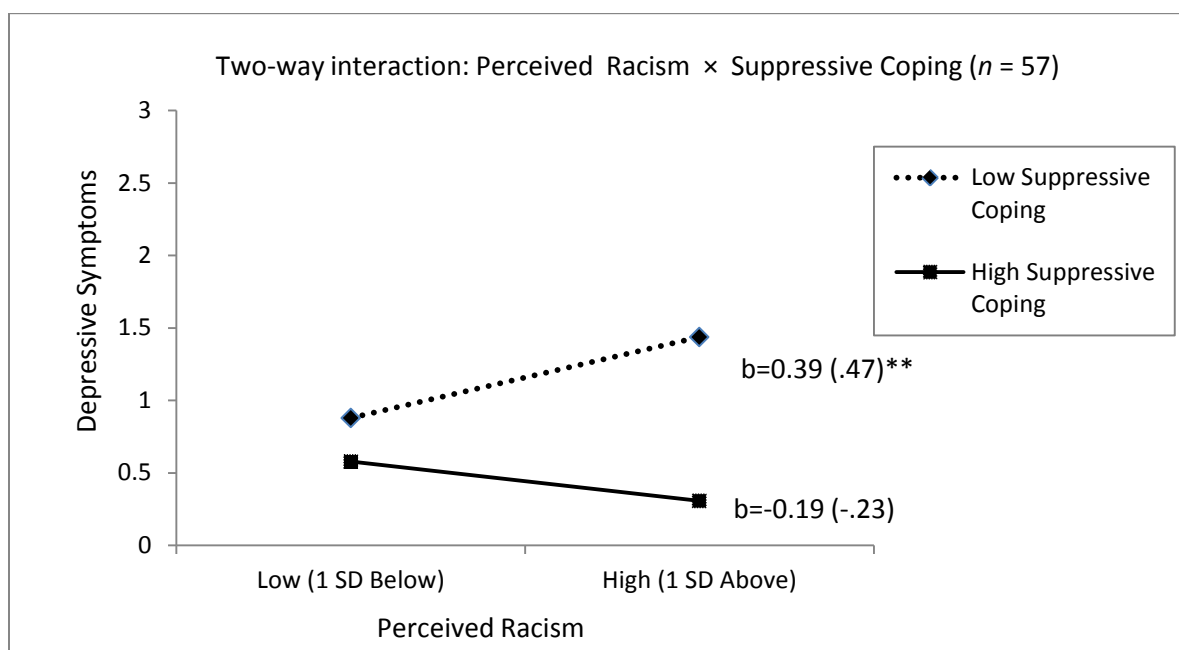


Figure 7. The relationship between perceived racism and depressive symptoms at high and low levels of suppressive coping for students from low income households. The figure shows the depressive symptoms mean score, ranging from 0 to 3 (where the maximum is 60 points across all questions divided by 20 questions); thus, on the mean scale, the cut-off score is 0.80 (i.e., the original cutoff for depressive symptoms of 16 divided by 20 questions). The standardized numbers are given in parentheses after the unstandardized numbers. \*\*  $p < .01$ .

## Mediation Analysis

Research question 2: What is the role of coping as a mediator in the relationship between perceived racism and depressive symptoms? How is perceived racism linked to depressive symptoms through coping?

Mediation analysis for the total sample was conducted first, and subsequently mediation analyses were performed by subgroups separately (i.e., generational status, household income, and gender).

### Mediation Analyses for the Total Sample

The results of simultaneous multiple mediation analysis indicated that the total indirect effect of eight coping strategies was significant. Specifically, the indirect effect of private emotional outlet, suppressive coping, and reactive coping was significant as demonstrated by bootstrap bias-corrected confidence intervals that did not contain zero in Table 15. Thus, private emotional outlet coping was a significant mediator such that perceived racism was positively related ( $B = 0.226, p = .015$ ) to private emotional outlet, which, in turn, was positively related to depressive symptoms ( $B = 0.140, p < .001$ ) (see Figure 8). Next, suppressive coping was a significant mediator such that perceived racism was negatively associated with suppressive coping ( $B = -0.244, p = .004$ ), and in turn, was negatively associated with depressive symptoms ( $B = -0.340, p < .001$ ). The indirect effect of reactive coping was also significant such that perceived racism was negatively associated with reactive coping ( $B = -0.358, p < .001$ ), which in turn, was negatively associated with depressive symptoms ( $B = -0.101, p = .016$ ).

Table 15.

*Indirect Effect of Perceived Racism on Depressive Symptoms through Coping for the Total Sample*

Mediator	Parameter Estimate	SE	95% BC CI	
			LL	UL
Total	0.125	0.042	0.048	0.211*
ARS	-0.023	0.018	-0.067	0.007
Family Support	0.002	0.006	-0.004	0.023
Religion/Spirituality	0.002	0.009	-0.014	0.024
Avoidance/Detachment	-0.011	0.016	-0.053	0.014
Private Emotional Outlet	0.032	0.015	0.010	0.070*
Reflective Coping	0.004	0.008	-0.006	0.032
Suppressive Coping	0.083	0.032	0.028	0.156*
Reactive Coping	0.036	0.019	0.007	0.087*

*Note.*  $N = 203$ . Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. BC CI = bias corrected confidence intervals; *LL* = lower limit, *UL* = upper limit.

\*  $p < .05$  (significant indirect effect).

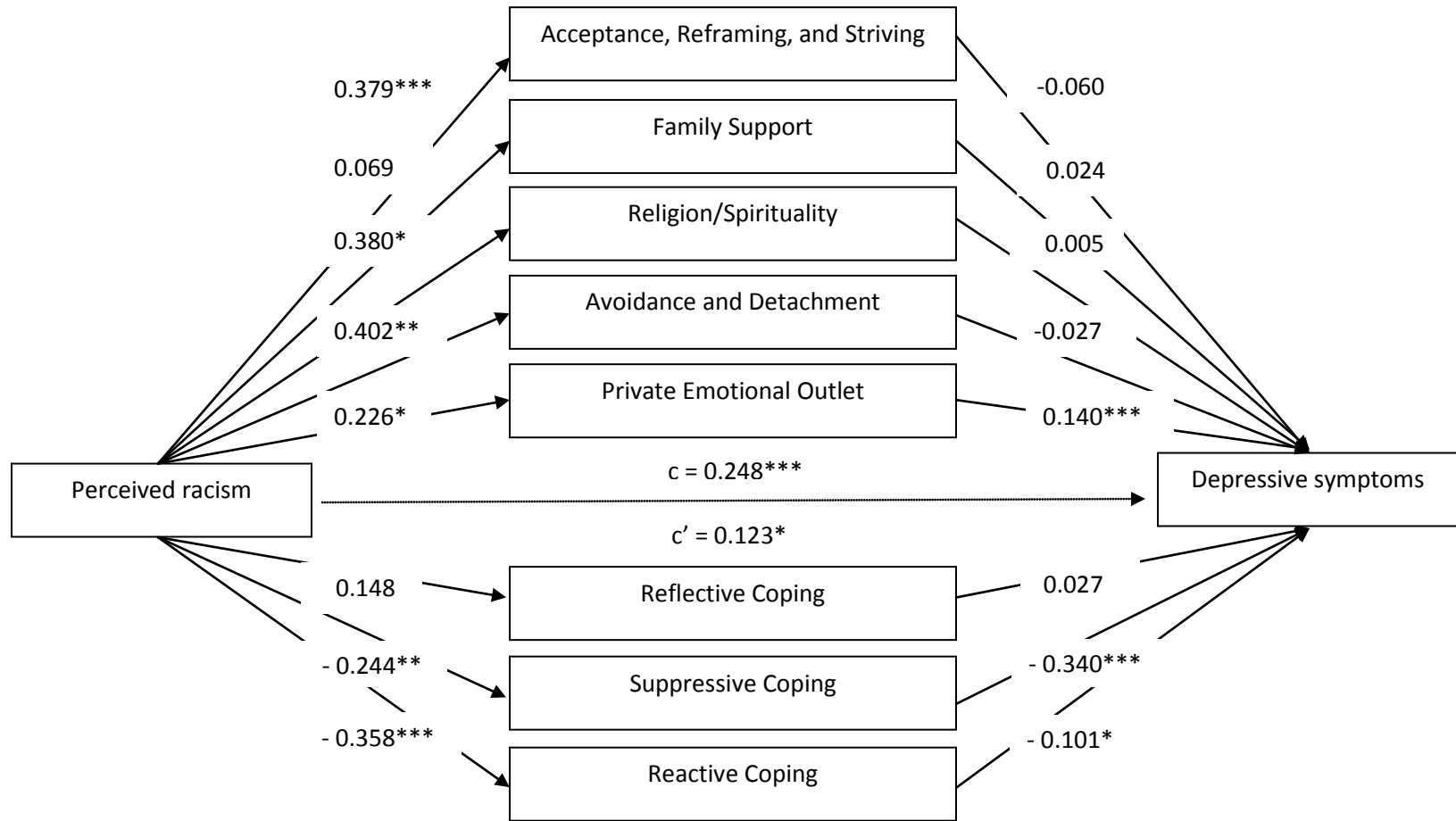


Figure 8. A multiple mediation model of the relationship between perceived racism and depressive symptoms as mediated through coping for the total sample. Unstandardized coefficients for each path are shown.  $c$  = total effect.  $c'$  = direct effect. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

### **Mediation Analyses by Gender**

For male students, the total indirect effect of coping strategies was not significant as shown by the confidence interval that contained zero (see Table 16). The specific indirect effect of private emotional outlet was significant such that perceived racism was positively associated with private emotional outlet ( $B = 0.347, p = .009$ ) which, in turn, was positively associated with depressive symptoms ( $B = 0.194, p < .001$ ). The indirect effect of reactive coping was also significant, such that perceived racism was negatively related to reactive coping ( $B = -0.389, p = .001$ ), which, in turn, was negatively associated with depressive symptoms ( $B = -0.113, p = .066$ ) (see Figure 9).

For female students, the total indirect effect of coping strategies was significant as evidenced by the confidence interval that did not contain zero (see Table 16). The indirect effect of suppressive coping was significant such that perceived racism was negatively related to suppressive coping ( $B = -0.311, p = .020$ ), which, in turn, was negatively associated with depressive symptoms ( $B = -0.368, p < .001$ ) (see Figure 9).

Table 16.

*Indirect Effect of Perceived Racism on Depressive Symptoms through Coping by Gender*

Mediator	Male Students ( <i>n</i> = 100)				Female Students ( <i>n</i> = 103)			
	Estimate	SE	95% BC CI		Estimate	SE	95% BC CI	
			LL	UL			LL	UL
Total	0.111	0.062	-0.007	0.234	0.135	0.067	0.010	0.273*
ARS	-0.009	0.032	-0.076	0.055	-0.033	0.028	-0.112	0.003
Family Support	-0.007	0.013	-0.053	0.007	-0.001	0.023	-0.052	0.043
Religion/Spirituality	-0.018	0.026	-0.086	0.022	0.002	0.010	-0.008	0.041
Avoidance/Detachment	-0.022	0.028	-0.098	0.020	0.007	0.022	-0.028	0.066
Private Emotional Outlet	0.067	0.032	0.021	0.146*	0.010	0.013	-0.006	0.053
Reflective Coping	-0.003	0.016	-0.041	0.027	0.004	0.015	-0.013	0.054
Suppressive Coping	0.058	0.034	0.000	0.134	0.114	0.058	0.026	0.249*
Reactive Coping	0.044	0.029	0.004	0.126*	0.031	0.029	-0.006	0.117

*Note.* *N* = 203. Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. BC CI = bias corrected confidence intervals; *LL* = lower limit, *UL* = upper limit. \* *p* < .05 (significant indirect effect).

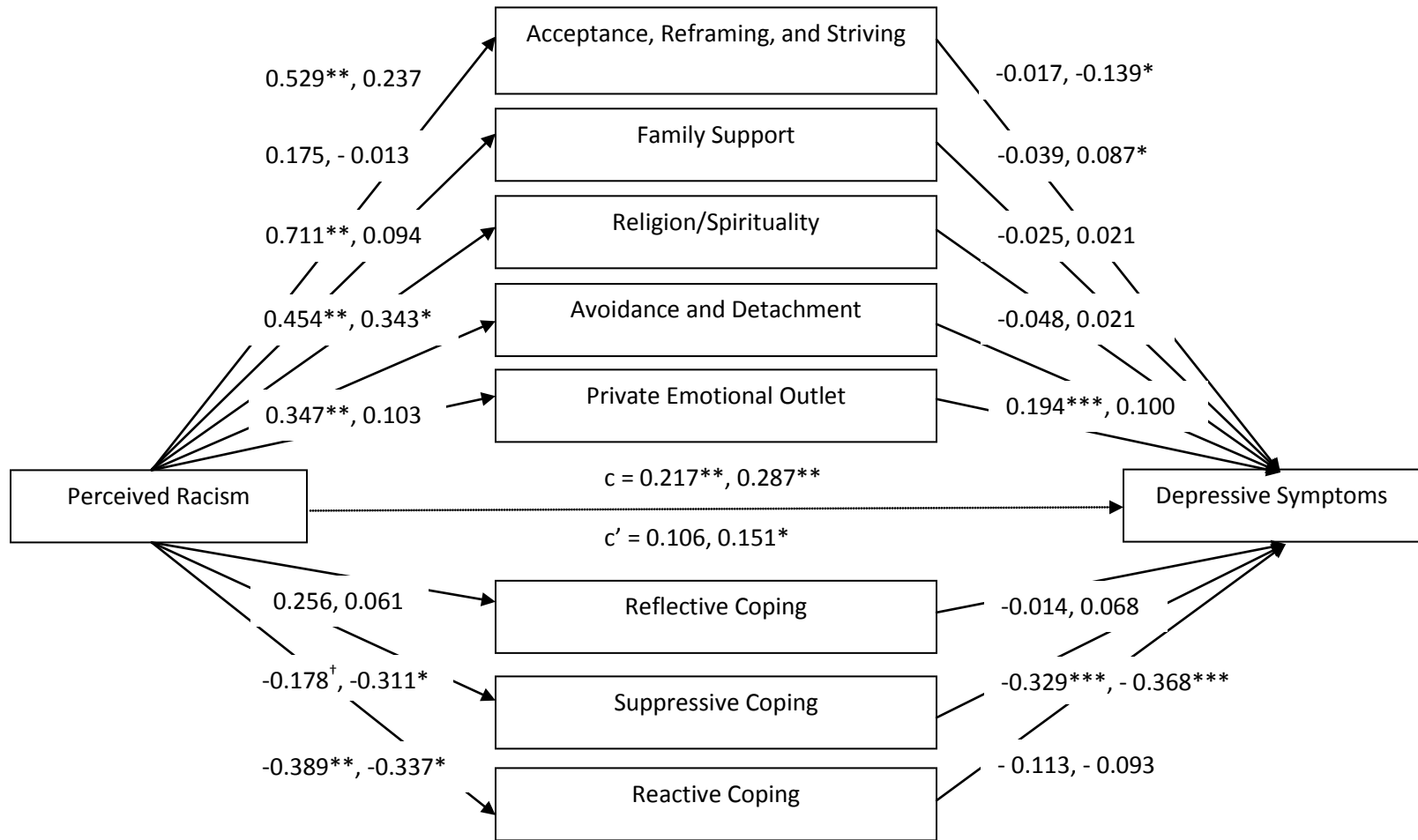


Figure 9. A multiple mediation model of the relationship between perceived racism and depressive symptoms as mediated through coping by gender. Unstandardized coefficients for each path are shown by gender: male and female, respectively.  $c$  = total effect.  $c'$  = direct effect.  $^\dagger p < .10$ .  $^* p < .05$ .  $^{**} p < .01$ .  $^{***} p < .001$ .

### **Mediation Analyses by Generational Status**

For Asian American students of the first generation, the total indirect effect of eight coping strategies was significant. Specifically, the indirect effect of suppressive coping and reactive coping was significant as demonstrated by bootstrap bias-corrected confidence intervals that did not contain zero in Table 17. Thus, suppressive coping was a significant mediator such that perceived racism was negatively related ( $B = -0.206, p = .052$ ) to suppressive coping, which, in turn, was negatively related to depressive symptoms ( $B = -.359, p < .001$ ) (see Figure 10). Next, perceived racism was negatively related to reactive coping ( $B = -0.290, p = .019$ ), which, in turn, was negatively related to depressive symptoms ( $B = -0.129, p = .030$ ).

For students of the 1.5 generation, with zero in the confidence interval, the total indirect effect of these eight coping strategies was not significant. No specific coping was found statistically significant as demonstrated by confidence intervals that contained zero in Table 17. The regression coefficients for path from perceived racism to coping and path from coping to depressive symptoms were presented in Figure 10.

The total indirect effect of students of the second generation was significant as presented in Table 17. Particularly, the indirect effect of suppressive coping was significant as demonstrated by confidence intervals that did not contain zero. Thus, suppressive coping was a significant mediator such that perceived racism was negatively related to suppressive coping ( $B = -0.483, p = .007$ ), which, in turn, was negatively related to depressive symptoms ( $B = -0.322, p < .001$ ) (see Figure 10).

Table 17.

*Indirect Effect of Perceived Racism on Depressive Symptoms through Coping by Generational Status*

Mediator	1st Generation ( <i>n</i> = 99)				1.5 Generation ( <i>n</i> = 32)				2nd Generation ( <i>n</i> = 62)			
	Estimate	SE	95% BC CI		Estimate	SE	95% BC CI		Estimate	SE	95% BC CI	
			LL	UL			LL	UL			LL	UL
Total	0.121	0.060	0.006	0.249*	0.076	0.157	-0.220	0.380	0.251	0.120	0.051	0.511*
ARS	-0.026	0.026	-0.098	0.011	0.006	0.074	-0.148	0.169	-0.006	0.030	-0.104	0.033
Family Support	0.005	0.013	-0.008	0.052	-0.040	0.059	-0.251	0.022	0.002	0.022	-0.028	0.072
Religion/Spirituality	-0.001	0.007	-0.028	0.007	-0.006	0.032	-0.110	0.032	0.027	0.055	-0.048	0.190
Avoidance/Detachment	0.001	0.022	-0.048	0.039	-0.030	0.063	-0.255	0.042	-0.008	0.027	-0.108	0.018
Private Emotional Outlet	0.031	0.024	0.000	0.099	0.016	0.034	-0.014	0.173	0.035	0.037	-0.006	0.159
Reflective Coping	0.000	0.010	-0.022	0.021	0.002	0.026	-0.036	0.079	0.022	0.050	-0.043	0.177
Suppressive Coping	0.074	0.041	0.007	0.172*	0.032	0.06	-0.035	0.207	0.156	0.085	0.034	0.376*
Reactive Coping	0.037	0.028	0.002	0.115*	0.098	0.088	-0.002	0.394	0.023	0.037	-0.018	0.158

*Note.* Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. BC CI = bias corrected confidence intervals; *LL* = lower limit, *UL* = upper limit. \*  $p < .05$  (significant indirect effect).

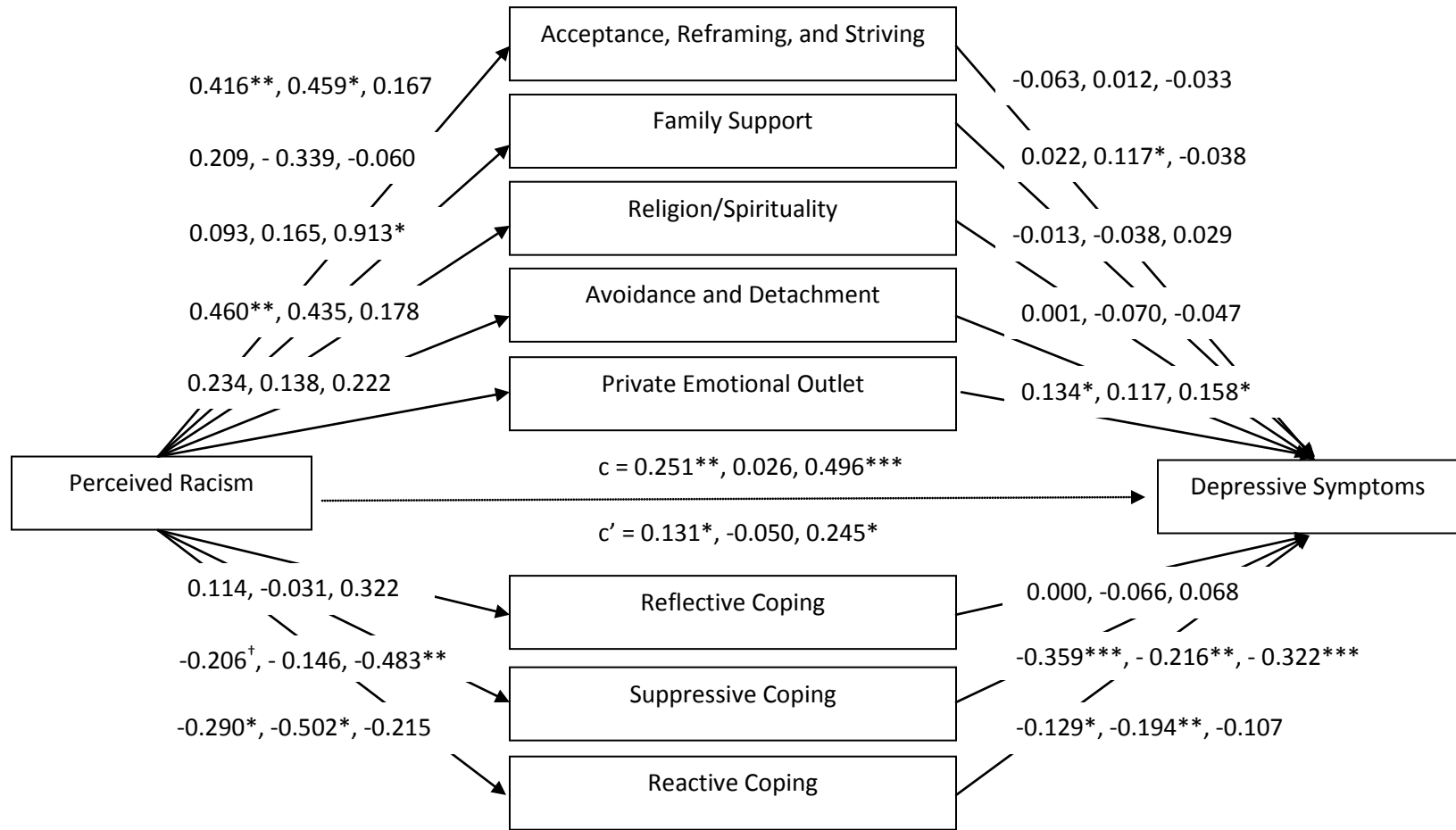


Figure 10. A multiple mediation model of the relationship between perceived racism and depressive symptoms as mediated through coping by generational status. Unstandardized coefficients for each path are shown by generation: 1st, 1.5, and 2nd generation, respectively.  $c$  = total effect.  $c'$  = direct effect. † $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

### **Mediation Analyses by Household Income**

For students from upper income households, the total indirect effect of coping was not significant, with zero in the confidence interval in Table 18. However, the indirect effect of private emotional outlet was statistically significant among eight coping strategies, such that perceived racism was positively associated with private emotional outlet ( $B = 0.419$ ,  $p = .039$ ), which in turn, was positively associated with depressive symptoms ( $B = 0.161$ ,  $p = .004$ ) (see Figure 11).

For students from middle income households, the total indirect effect of coping strategies was statistically significant as demonstrated in Table 18. However, no specific indirect effects of coping were found to be significant for students from middle income households (see Figure 11).

For students from low income households, the parameter estimates for the total and specific indirect effects on the relationship between perceived racism and depressive symptoms were presented in Table 18. The total indirect effect of coping was not significant, as its bias corrected confidence interval contained zero. However, suppressive coping was a significant mediator, such that perceived racism was negatively associated with suppressive coping ( $B = -0.267$ ,  $p = .046$ ), and, which, in turn, was negatively associated with depressive symptoms ( $B = -0.479$ ,  $p < .001$ ) (see Figure 11).

Table 18.

*Indirect Effect of Perceived Racism on Depressive Symptoms through Coping by Household Income*

Mediator	Upper ( <i>n</i> = 56)				Middle ( <i>n</i> = 90)				Low ( <i>n</i> = 57)			
	Estimate	<i>SE</i>	95% BC CI		Estimate	<i>SE</i>	95% BC CI		Estimate	<i>SE</i>	95% BC CI	
			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>
Total	0.080	0.089	-0.089	0.248	0.243	0.104	0.038	0.455*	0.085	0.086	-0.074	0.265
ARS	-0.057	0.052	-0.198	0.016	0.044	0.041	-0.026	0.140	-0.047	0.043	-0.166	0.010
Family Support	-0.008	0.030	-0.090	0.042	-0.004	0.015	-0.050	0.015	-0.006	0.022	-0.082	0.020
Religion/Spirituality	-0.015	0.021	-0.092	0.007	0.007	0.021	-0.025	0.068	0.017	0.026	-0.012	0.103
Avoidance/Detachment	0.036	0.035	-0.006	0.142	-0.004	0.026	-0.071	0.042	-0.011	0.028	-0.108	0.022
Private Emotional Outlet	0.067	0.051	0.001	0.205*	0.013	0.032	-0.048	0.086	0.003	0.020	-0.033	0.050
Reflective Coping	0.023	0.042	-0.042	0.133	0.000	0.017	-0.034	0.038	0.008	0.025	-0.026	0.089
Suppressive Coping	0.020	0.044	-0.032	0.146	0.103	0.075	-0.032	0.269	0.128	0.065	0.020	0.278*
Reactive Coping	0.015	0.035	-0.023	0.134	0.083	0.058	-0.008	0.238	-0.009	0.044	-0.109	0.068

*Note.* *N* = 203. Perceived Racism is from the Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive Symptoms is from the Center for Epidemiological Studies Depression Scale. BC CI = bias corrected confidence intervals; *LL* = lower limit, *UL* = upper limit. \* *p* < .05 (significant indirect effect).

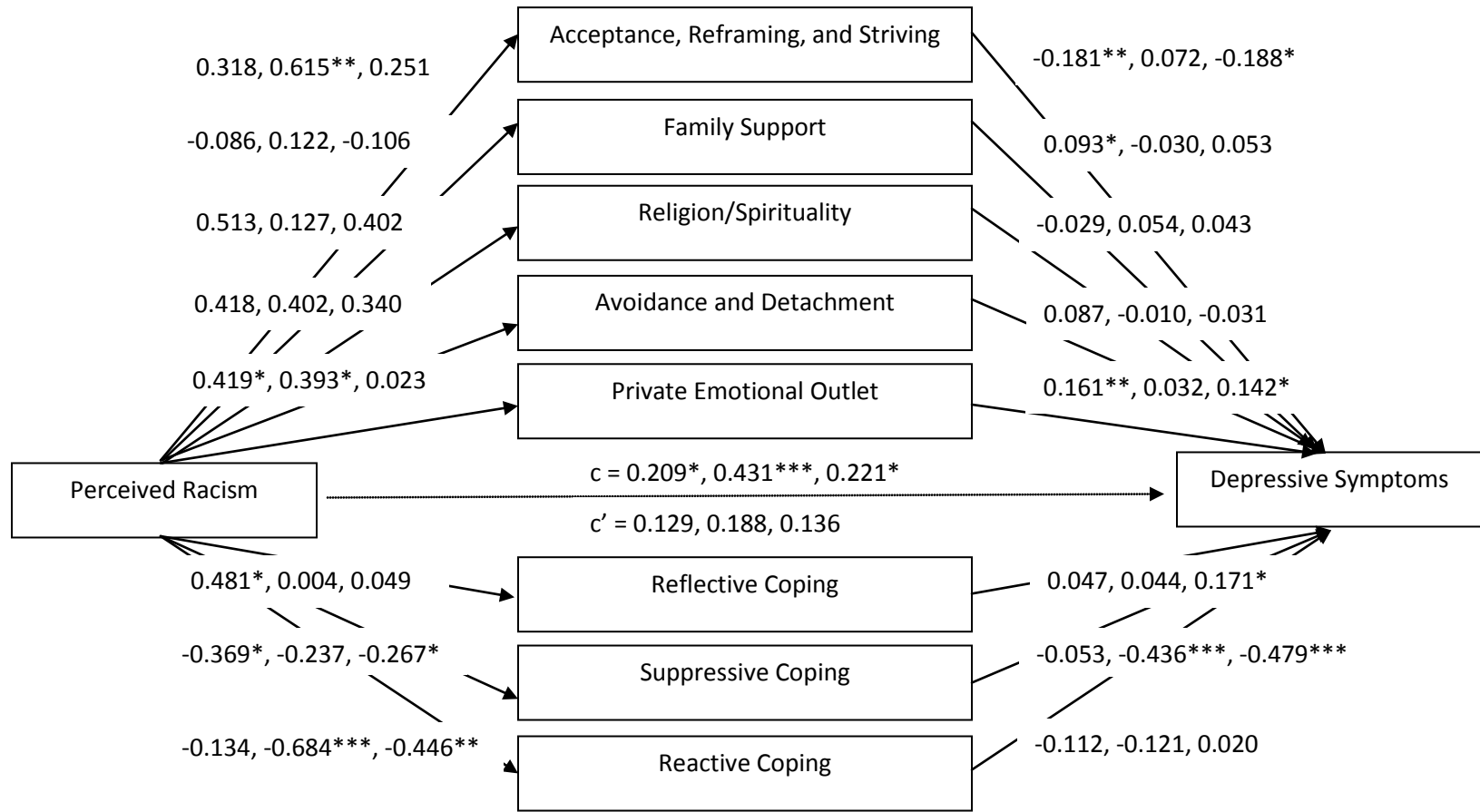


Figure 11. A multiple mediation model of the relationship between perceived racism and depressive symptoms as mediated through coping by household income. Unstandardized coefficients for each path are shown by household income: upper, middle, low income, respectively.  $c$  = total effect.  $c'$  = direct effect. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## **CHAPTER FIVE:**

### **DISCUSSION**

In the previous chapter, the study's findings were presented. This chapter provides a summary of the results, discussions on findings which answer the research questions posed, and the researcher's interpretation with synthesis of literature. Furthermore, limitations of the study, recommendations for future research, implications for counseling practice, and conclusions are provided.

#### **Summary of Research**

The present study examined the relationships between perceived racism, coping, and depressive symptoms in a college student sample. In addition to preliminary analyses (i.e., descriptive statistics, bivariate correlational analyses, and multivariate analyses of variance), a series of hierarchical regression analyses and simple effects analyses were conducted in order to investigate moderating effects in the relationship between perceived racism and depressive symptoms, and simultaneous mediation analyses were conducted in order to investigate mediating effects or indirect effects of perceived racism to depressive symptoms through coping. Given differences in perceived racism and coping, analyses were conducted for the total sample and subgroups by gender (male and female), generational status (first generation, 1.5 generation, and second generation), and household income (upper, middle, and low).

The overall results suggested that the adverse effects of perceived racism on depressive symptoms were significant for the recruited Asian American college students,

with the exception of students of the 1.5 generation. The results of the moderation analyses suggested that low utilization of suppressive coping among individualistic/dispositional coping styles strengthened the association between perceived racism and depressive symptoms, and increased vulnerability to depressive symptoms. On the other hand, the frequent use of reactive coping strategies strengthened the association between perceived racism and depressive symptoms. Surprisingly, in general, the level of depressive symptoms for students who used reactive coping frequently was lower than for students who used reactive coping less frequently.

Additionally, some notable subgroup differences were found in the present study. For female students, low utilization of suppressive coping increased vulnerability to depressive symptoms, and high utilization of reactive coping strengthened the positive association between perceived racism and reactive coping. Contrary to expectations, significant generational differences were not found in moderation analyses. However, for students from low income households, utilization of suppressive coping showed similar results, which means that low utilization of suppressive coping increased vulnerability to depressive symptoms.

The overall findings of multiple mediation analyses suggested that the total indirect effect of coping was significant in the relationship between perceived racism and depressive symptoms among Asian American college students participating in the study. Specifically, perceived racism had significant indirect effect to depressive symptoms through private emotional outlet among collectivistic/situation-specific coping strategies. This finding

suggested that as students perceived more racism, they were more likely to report private emotional outlet to be helpful; however, the level of depressive symptoms also increased. Among individualistic/dispositional coping styles, suppressive coping and reactive coping styles had a significant indirect effect for students in this study. Specifically, as students experienced more perceived racism, suppressive coping and reactive coping was utilized less frequently which, in turn, increased depressive symptoms.

Furthermore, subgroup differences also were found for the mediating or indirect effects of coping in the relationship between perceived racism and depressive symptoms. For male students, private emotional outlet and reactive coping were mediators, whereas only suppressive coping had a mediating or indirect effect that was associated with elevations in depressive symptoms for female students.

The results for subgroups by generational status indicated that for the first generation, there were mediating or indirect effects of suppressive and reactive coping which were also evident in the total sample. However, for the 1.5 generation, specific indirect effects of coping were not found in the present study. For the second generation, only suppressive coping was shown to be a mediator between perceived racism and depressive symptoms.

The results of mediation analyses by household income suggested that perceived racism had an indirect effect on depressive symptoms through private emotional outlet for students from upper income households. These pathways suggested that as these students more frequently encountered racism, the more they found private emotional outlet to be helpful; however, depressive symptoms increased as well. For students from middle income

households, the total indirect effect of coping was present, but specific indirect effects through coping were not found in the study. On the other hand, for students from low income households, mediating or indirect effects of suppressive coping were found as in the total sample.

### **Discussion on Findings**

The first purpose of the present study was to examine the moderating effects of coping among Asian American college students. The specific goals to achieve this were to examine the relationship between perceived racism and depressive symptoms, and to examine what collectivistic/situation-specific coping strategies and individualistic/dispositional coping styles strengthen or attenuate the association between perceived racism and depressive symptoms.

Overall results of this study demonstrated that perceived racism was positively related to depressive symptoms. This significant positive direct association between perceived racism and depressive symptoms supported the findings of previous studies (e.g., Liang, Alvarez, Juang, & Liang, 2007; Noh, Beiser, Kaspar, Hou, & Rummens, 1999; Noh & Kaspar, 2003; Wei, Heppner, Ku, & Liao, 2010; Yoo & Lee, 2005). This study finding also supported that the accumulated effects of perceived racism had a deleterious impact on the mental health of Asian American college students (Harrell, 2000). Notably, no significant relationship between perceived racism and depressive symptoms for 1.5 generation was found in the present study. These findings may imply that 1.5 generation students' perception of racism may be different from other generations. Also, there may be other factors such as

racial or ethnic identity that may ameliorate the effects of racism on that generation.

However, considering the small numbers of 1.5 generation in the present study, further investigation would be needed with a larger sample.

The findings of the moderation analyses showed that the first significant coping strategy was suppressive coping among the individualistic/dispositional coping styles. This result suggested that less frequent use of suppressive coping strengthened the association between perceived racism and depressive symptoms, specifically for female students and students from low income households. In other words, female students and students from low income households who used less suppressive coping were more vulnerable to depressive symptoms when faced with increased perceived racism. These results were inconsistent with previous literature (e.g., Wei, Ku, Russell, Mallinckrodt, & Liao, 2008), and with the theoretical model of dispositional problem-focused coping that emphasized the need to resolve problems or risk factors. A possible explanation for female students would be that suppression may not always be associated with negative emotions. Suppression has been a frequently used coping strategy in collectivistic cultures in order to maintain social rules or to preserve positive interpersonal relationships (Cheung & Park, 2010; Tseng, 2004). Butler, Lee, and Gross (2007) also reported that for bicultural Asian women, habitual emotional suppression was actually associated with fewer negative emotions and may serve as self-protection. For students from low income households, suppressive coping may be used to avoid interpersonal conflict or hostile responses by others, due to limited financial resources. As scholars have addressed, racial minority individuals with low socioeconomic statuses may

use more avoidant coping strategies (Alvarez & Juang, 2010; Noh et al., 1999). Asian American college students from low income households may use suppressive coping, which is a habitual way of avoidance in dealing with problems, to protect themselves from possible interpersonal conflicts at least for a short term period. However, further exploration is necessary given the cross-sectional correlational design of the present study. A longitudinal study may be necessary in order to further explore their experiences of racism and its impact on their mental health, which may differ from individuals with higher socioeconomic status.

The second coping strategy that positively strengthened the association between perceived racism and depressive symptoms was reactive coping as demonstrated in the moderation analysis. The findings suggested that the frequent use of reactive coping strengthened this association and added vulnerability to depressive symptoms when perceived racism increased. Specifically, female students who used frequent reactive coping were vulnerable to depressive symptoms when encountering frequent perceived racism. These results seemed to be consistent with findings of previous studies involving college students with Asian heritages (Wei et al., 2008; Wei, Heppner et al., 2010). Although not directly related to the present study, Carter and Foryth (2010) found that Asian Americans reported a variety of negative emotions (e.g., feeling angry, disrespected, insulted, disappointed, frustrated, etc.) in encounters of racial discrimination. Considering that emotional self-control has been regarded as a sign of maturity (Kim, Li, & Ng, 2005), a tendency to show strong emotional reactions or to react impulsively may be incongruent with Asian values.

The second purpose of the study was to investigate mediating or indirect effects of coping among Asian American college students. The specific goal to achieve this was to investigate the mediating or indirect effects of coping strategies in the relationship between perceived racism and depressive symptoms. The coping strategies, which were examined separately in the moderation model, were explored further in a multiple mediation model in which all coping strategies were considered simultaneously.

The first coping strategy which showed significant mediating or indirect effect was private emotional outlet. The findings suggested that as students encountered racism more frequently, the more helpful they reported private emotional outlet to be; however, depressive symptoms also increased. The same pathways were observed for male students and students from upper income households. While it may be premature to come to a conclusion, it is possible that private emotional outlets may not be sufficiently effective to reduce distress in the face of racism, or may evoke other kind of stress, especially for male students. As some researchers addressed (Alvarez & Juang, 2010), support-seeking behaviors from mental health professionals or educators for Asian American men may be regarded as contrary ways of coping that violate Asian cultural values or gender role expectations (Iwamoto & Liu, 2009). Perhaps, Asian American college students have already experienced high levels of psychological distress or emotional injury when seeking the help of professionals. Following Lazarus (2006), support-seeking strategies are often used when stressors are perceived as unchangeable. Perhaps, Asian American students feel helpless by the perception that racism appears unchangeable, and a sense of control may become lowered (Jang, Chiriboga, Kim, &

Rhew, 2010). Perhaps, the accumulated effects of perceived racism still exist due to frequent encounters with racism. However, keeping in mind that private emotional outlet was the least frequently used coping strategy among collectivistic situation-specific coping strategies, further investigation is necessary with other Asian American samples.

The second coping strategy that showed significant mediating, or indirect effects, was suppressive coping among individualistic/dispositional coping styles. The findings suggested that the more frequently students encountered racism, the less frequently they used suppressive coping, which, in turn, increased depressive symptoms. A possible explanation may be that as students experience racism more frequently, the more likely that dealing with racism issues and feelings regarding racism may become unavoidable. As discussed earlier, this may increase feelings of helplessness or loss of self-control. Furthermore, it is noteworthy that suppressive coping strategies showed mediating or indirect effects, specifically for female students, first generation students, as well as students from low socioeconomic backgrounds, who may also experience other kinds of discrimination based on language, sexism, or classism.

For instance, experiences of first generation Asian Americans may be different from U.S. born generations in terms of discrimination based on language which is intertwined with racial discrimination. English proficiency or accent is a factor which may invoke racial stereotypes and biases that lead to unfair treatment for first generation Asian Americans. Alternatively, different verbal or nonverbal communication styles based on Asian culture may often lead to further unfair treatment especially for first generation students. One of the

most frequently reported forms of discrimination Asian Americans experience may be pathologizing verbal and nonverbal communication styles that differ from those in the dominant culture. As first generation students encounter racism more frequently, they may become more aware of racism. Goto and colleagues (2002), for instance, also found that Asian Americans who lived in the U.S. longer tended to perceive more racism. This may lead to low utilization of suppressive coping; however, this may increase their psychological distress and depressive symptoms.

The investigation in mediation analyses suggested that as students encountered perceived racism more frequently, the use of reactive coping was decreased; however, depressive symptoms increased. Similar paths of reactive coping were found for first generation students and male students. In part, these results may support the importance of emotional self-control in Asian cultures; however, it does not explain how exactly decreased utilization of reactive coping increased depressive symptoms. It is possible that different types of racism were encountered (i.e., blatant and subtle racism) by male students and first generation students. For example, male students reported higher incidents of physical assaults and being made fun of than female students. Lazarus (2006) underscored that coping can be best understood within the specific context that an individual faces, and the resources to which they have access. It can be speculated that college students may react less impulsively to incidents of racism or use suppressive coping to a lesser extent as they perceived racism more frequently, but this also may evoke feelings of despair or helplessness about racism, as discussed earlier in this chapter. It is also possible that Asian American

college students feel differently when they encounter racial discriminatory incidents, thus their choice of coping strategy and the psychological impact on them may be differentiated from other racial minority groups. Scholars also supported the view that Asian Americans feel more self-directed shame than anger when racial discriminatory incidents occur (Chan & Mendoza-Denton, 2008). Although they may not react to others directly or outwardly, the internalized feelings or accumulated effects may contribute to the increase of depressive symptoms.

This study includes several null findings that are worth noting. It may be worth speculating why some coping strategies failed to serve as significant moderators or mediators. For instance, acceptance, reframing and striving was not found to be statistically significant as moderating or mediating the relationship between perceived racism and depressive symptoms. However, given that the results of multiple mediation analyses showed a decrease in depressive symptoms with implementation of acceptance, reframing and striving, yet did not register as being statistically significant, may imply that the significance of this coping strategy might not have been found due to the small sample size. Thus, further investigation is desirable for future studies.

Moreover, although it has been reported by scholars that family support in Asian cultures plays a central cultural role (Kim et al., 2005) and is a vital supportive system (Inman & Yeh, 2007; Yeh, Arora, & Wu, 2006), and that family support was reported as a moderator (Wei, Heppner et al., 2010), the moderating or indirect effects of family support were not found in the present study. It can be speculated that the quality of family support

may not always be effective for college students in dealing with racism when they perceive racism more frequently. Further investigation with specific context, severity of experiences, and duration may be needed with a larger sample.

Furthermore, reflective coping, considered to be an adaptive way of coping in general, was not found to be a significant coping strategy in either moderation or mediation analysis. As Wei, Heppner et al. (2010) speculated, problem-focused dispositional coping might not be directly related to racism-related experiences among Asian American college students. Perhaps, the type of racism college students encounter, that is blatant or subtle, determines the coping strategy used. It may be easier to recognize blatant racism, because, as its name implies, it is more apparent when a blatantly racist incident occurs. Thus, recognizing its source may make it easier to acknowledge; whereas, subtle racism may be more difficult to recognize, verify, and anticipate in order to prepare for problem resolution. Further investigation may be needed to explore how reflective coping in particular, and other coping strategies in general, interact with specific types of racism.

### **Limitations of Study**

There are several limitations of the present study that should be noted, and the findings should also be applied with caution. First of all, the external validity may be limited due to the characteristics of the study sample. The majority of the sample was comprised of Chinese, Korean, and Indian American students, which may not represent diverse ethnic groups. Although balanced in numbers of gender, more than half of the sample was foreign born (48.8% of first generation, and 15.8% of 1.5 generation), with a relatively low number

of second generation and or higher Asian American college students. It should be noted that the geographic limitation of the sample (i.e., a university located in the Southeastern U.S.) may limit generalizing the study, given that there is evidence to indicate that there are regional differences in how Asian Americans experience racism (Cowan, 2005; Gee et al., 2006; Liang et al., 2007). Thus, further replication is needed with Asian American samples from different geographic regions to determine the generalizability of findings to specific segments of the Asian American students.

Second, the external validity of the study findings may be also limited by volunteer bias among participants given that the study may have attracted Asian American college students who considered racism as a salient issue in their lives. The non-respondents may differ from the respondents in their perceptions of racism, coping strategies, and depressive symptoms. Given the voluntary nature of research participation, findings may not be generalizable to participants who decided not to participate.

Third, although a priori power analyses suggested that the overall sample provided sufficient power for the regression analyses, analyses using many parameters may need a larger sample. Additionally, bootstrapping procedures were utilized for mediation analysis, which is useful for small samples; however, this study may not have sufficient power to detect mediating effects for subgroups. Moreover, the null results may reflect insufficient power for the analyses that were conducted.

Next, the lack of significant findings may be related to the measures used in this study. The instrument used to measure perceived racism (i.e., The Subtle and Blatant Racism

Scale for Asian American College Students) is a relatively newly developed instrument which needs more testing with diverse Asian American college student samples. Although the reliability data of this instrument was acceptable in the present study, and the construct validity based on previous studies seemed to be promising, future studies may be needed to validate the measure with larger samples. Also, Collectivistic Coping Styles-Racial Discrimination used in the present study was a version adapted from the Collectivistic Coping Styles (2006), which was originally developed to measure coping strategy in dealing with general traumatic stress. The reliability and validity of the collectivistic coping measure for racial discrimination may need to be further tested with Asian American college student samples. Moreover, the reliability of private emotional outlet, a factor of the Collectivistic Coping Styles-Racial Discrimination, was not sufficient enough. Thus, any generalization needs to be done with caution.

Fifth, some limitations are due to the research methods. The correlational design of the study based on subjective self-reports may have also biased respondents' responses. Although the moderation and mediation models imply a causal relationship, causality should be interpreted with caution given the correlational design of the present study which limits the directionality between variables. Therefore, it is possible that participants' coping styles may have elicited how they perceived racism, or that participants' level of depressive symptoms may draw certain coping strategies in response to racism. Thus, future studies should consider the use of a longitudinal design to examine these relationships further.

Finally, the online administration of the survey may be a limitation. Despite the benefit of online surveys, which appear to make respondents feel more anonymous and therefore more honest in providing information to sensitive questions (Tuten, Urban, & Bosnjak, 2002), online data collection has limitations. The list-based sample may have decreased the potential for excluding members of the target population who have no chance of being selected into the sample. However, the email list obtained from the Registrar's office was limited to those Asian American students who did not have privacy blocks on their email accounts. Additionally, the emails were sent only once to potential participants. Even though college students are expected to have access to the internet or computers on campus, some may have limited access to it, which may have affected the response rates. Consequently, some willing respondents might not have been available during the survey administration period.

### **Recommendations for Future Studies**

In the present study, the possible differences between diverse Asian American ethnic groups in terms of different rate or type of racism and possible differences in coping strategies were not explored due to the small number of participants in each ethnic group. Although limited in number, existing literature indicated that Asian American ethnic groups' experiences were different in terms of perceived racism, coping strategies, and their physical and psychological impact (e.g., Alvarez & Juang, 2010; Liang, Nathwani, Ahmad, & Prince, 2010; Mereish, Liu, & Helms, 2012; Tummala-Narra, Inman, & Ettigi, 2011). Thus, the associations between perceived racism, ways of coping, and depressive symptoms may be

different for different ethnic subgroups of Asian American college students. Also, given that the preliminary analyses revealed ethnic group differences, future studies may want to investigate how different ethnic subgroups of Asian American students experience racism, and how they cope with racism. Future researchers may also conduct studies with specific ethnic groups.

Given that differences in gender, generational status, and household income in the rate of perceived racism were found in the present study, future research with a larger sample size may need to account for differences in how gender, generational status, socioeconomic status, or other factors influence the perceived racism and coping. Future studies will need to attend to power and sample size considerations.

The present study did not explore the possible differences in coping in the face of different forms of racism (i.e., subtle vs. blatant). Although experiences of subtle racism may be more prevalent than blatant racism in the U.S. currently, the findings supported that Asian American college students experience both blatant and subtle racism. As some scholars addressed, subtle and blatant forms of racism may have differential psychological effects. Thus it is possible that Asian American college students may utilize different coping strategies. Therefore, future studies may consider comparing coping strategies with different forms of racism, in particular, subtle and blatant racism, faced by Asian American college students.

Finally, considering existing literature on the academic pressure Asian American students may experience, future studies may include instruments measuring other

confounding factors such as academic stress or general stress in life that may affect their depressive symptoms for a clearer understanding of the role of coping in the relationship between perceived racism and depressive symptoms. Furthermore, the severity and duration of racial discrimination, in addition to the frequency, need to be considered in future studies.

### **Implications for Counseling Practice**

The current results provide some useful insights for practitioners. First of all, it is striking that almost half of the recruited Asian American college students reported depressive symptoms. In other words, they scored higher than the cutoff indicative of mild or significant depressive symptoms. It is important for mental health professionals to become aware that perceived racism is one risk factor for Asian American college students' mental health, specifically depressive symptoms. Practitioners need to increase their awareness of Asian American college students' perceived racism. Belief in the model minority myth might further render Asian American students' experiences of racism invisible. Thus practitioners should be aware that the prevalent stereotypes based on the model minority myth of Asian Americans can be an obstacle when working with students, in that perceived racism and its adverse impact on students can be overlooked. Practitioners working with Asian American college students should also carefully assess the racism-related experiences and the deleterious impact of such experiences on students.

Considering Asian American students reported both subtle and blatant forms of racism, practitioners may need to attend to the nature of racism-related experiences of Asian American college students. In particular, counselors may need to be aware that subtle forms

of racism may be easily dismissed (Dunbar, 2001), so possibly decreasing the likelihood that treatment of its psychological impacts would occur. In cases of blatant racism, mental health practitioners, educators, or administrators can take advocacy roles for students when interventions are necessary.

Third, practitioners need to take into consideration the cultural context of Asian American students when they present with issues related to their perceived racism, specifically coping strategies that might increase or lessen depressive symptoms. Moreover, counselors may also need to assess both the nature and the efficacy of the habitual ways of coping as well as culturally congruent situation-specific coping strategies that Asian American students may utilize in dealing with racism. Practitioners may also need to keep in mind that problem-focused coping styles, which are often regarded as adaptive ways of coping in general, may not always be effective in dealing with racism among Asian American college students. Furthermore, suppressive coping, which usually tends to hinder the resolution of the problem, may influence Asian American students differently given the differences in Asian cultural values. Practitioners need to understand how culturally congruent coping strategies and habitual ways of coping such as suppressive and reactive coping might interact and influence Asian American students' mental health. During assessment and intervention, multiple coping strategies may need to be considered to provide students with culturally sensitive interventions.

Fourth, the exploratory findings of the present study suggest that there may be differences in coping with perceived racism among Asian American college students, and

that paths may also be different by gender, generational status, or socioeconomic status. Consequently, it may be helpful for practitioners to assist Asian American students in exploring how they cope with racism, how gender, generational status, and socioeconomic status influence the coping process, and it may be helpful to process the development of additional strategies for dealing with these experiences.

Fifth, there are also implications for counselor educators. The results of the present study regarding private emotional outlet, which included questions on seeking help from mental health professionals, was found to be the least utilized, as well as to be the least helpful, coping strategy. This finding is consistent with literature addressing the underutilization of mental health service by Asian American college students in the United States (Ruzek, Nguyen, & Herzog, 2011). This report of the current study may reflect the lack of training for treating racism-related experiences in the mental health fields. Carter and Forsyth (2010) also supported the view that specific training related to racial harassment or discrimination is needed for counselors in working with racial minority clients. Furthermore, American mental health professionals are often untrained regarding their first contact with Asian Americans (Akutsu & Chu, 2006). As discussed earlier, more specific training for practitioners may be necessary to provide Asian American college students with effective interventions.

### **Conclusion**

The present study provided empirical findings for experiences of racism that affect Asian American college students, and the impact of those experiences on their mental health.

The study underscored the deleterious effects of perceived racism on Asian American college students and the role of coping in understanding the relationship between perceived racism and its impact on depressive symptoms, which is one of the prevalent mental health issues facing Asian American college students. Although exploratory in nature, and keeping in mind the study's limitations, the findings of the study may have potentially meaningful contributions to literature by (a) examining both culturally congruent discrimination-specific coping strategies and individualistic/dispositional coping styles, (b) examining the moderating effects of coping in the relationship between perceived racism and depressive symptoms, (c) further investigating indirect effects of coping in the relationship between perceived racism and depressive symptoms in the multiple mediation model, and (d) exploring subgroup differences by gender, generational status, and socioeconomic status. One important contribution of the present study would be to encourage practitioners and researchers to increase their awareness of the adverse impact of perceived racism on Asian American college students and on their mental health. Furthermore, another important contribution would be to facilitate better understanding of the effects of coping and its different paths, as well as the various impacts based on gender, generational status, and socioeconomic status.

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**APPENDICES**

## **Appendix A. Invitation Letter**

### Invitation letter to participants in the study

Dear Student,

Greetings, I am a doctoral student in Counselor Education at North Carolina State University. I am inviting you to participate in a dissertation study. I am conducting a study on stress, coping, and depressive symptoms among Asian American college students, under the direction of Dr. Siu-Man Raymond Ting.

The purpose of this study is to learn more about racism-related stress, ways of coping, and depressed feelings or moods among Asian American college students. Completion of the questionnaire will take approximately 20 minutes of your time. As an incentive to participate in the study, you will receive a \$10 Visa gift card. This study was approved by the North Carolina State University Human Subjects Institutional Review Board on February 16, 2012.

If you are interested in this study, please click the link below and read the informed consent form. [http://ncsu.qualtrics.com//SE/?SID=SV\\_88NzhqspVm6nhkM](http://ncsu.qualtrics.com//SE/?SID=SV_88NzhqspVm6nhkM)

Please email any further questions you may have to the researcher at [jhong@ncsu.edu](mailto:jhong@ncsu.edu).

Thank you for your consideration and if you should decide to participate, thank you for your contribution to this very important area of research.

Sincerely,

Jihee Hong, M.A.  
Ph.D. Candidate, Counselor Education  
North Carolina State University  
Email: [jhong@ncsu.edu](mailto:jhong@ncsu.edu)

**Appendix B. Online Survey**

Racism-Related Stress, Coping and Depressive Symptoms

## Racism-Related Stress, Coping and Depressive Symptoms

### Informed Consent

North Carolina State University  
INFORMED CONSENT FORM for RESEARCH

Title of Study: Subtle and Blatant Racism-Related Stress, Coping and Depressive Symptoms among Asian American College Students

Principal Investigator: Jihee Hong

Faculty Sponsor: Dr. Siu-Man Raymond Ting

#### **INFORMATION**

You are being asked to take part in a research study. The purpose of this study is to learn more about stress, coping and depressive symptoms among Asian American college students. If you agree to participate in this study, you will be asked to complete one survey section about minimal demographic information (e.g. ethnic origin). The next section includes questions about your racism-related experiences, stress, ways of coping as well as your feelings or moods. In total, completing the demographic information and questionnaires should take approximately 20 minutes.

#### **RISKS**

When filling out questionnaires, you may come across a question that will lead to some discomfort or upset. For instance, a few of the questions may cause you to think about negative emotional states. The questionnaires are for general populations, not for clinical diagnosis. If you may become uncomfortable answering questions that are related to your personal experiences or feelings, you may withdraw from the study at any point without penalty. If you become unnerved by the survey topic or process, you will be permitted to stop answering the questionnaires. Should you, as the participant, be unable to continue, your data will be destroyed. If you feel you need more resources or assistance, you may contact the Office for Institutional Equity & Diversity (919/515-3148) or the Counseling Center (919/515-2423) on the NCSU campus.

#### **BENEFITS**

There are no immediate benefits for you for participating in the study. However, this study may increase the awareness of racial discrimination Asian Americans experience in society in the long run, which can lead to social justice. Specifically, it can encourage society to become more sensitive to the needs of Asian Americans as a racial and ethnic minority.

## Racism-Related Stress, Coping and Depressive Symptoms

### Informed Consent Continued

#### **CONFIDENTIALITY**

The information in the study records will be kept confidential. Data will be stored securely in a locked file, within this researcher's office. No reference will be made in oral or written reports which could link you to the study. You will NOT be asked to write your name on any study materials so that no one can match your identity to the answers that you provide.

#### **COMPENSATION**

For participating in this study, you will receive a \$10 visa gift card that can be used where Visa Debit cards are accepted. You must provide your mailing address in order to receive a gift card. If you take part in the study, at the end of the survey you will find more instructions for how to receive a gift card. Again, the results of your survey remain anonymously.

#### **CONTACT**

If you have questions at any time about the study or the procedures, you may contact the researcher, Jihee Hong, via email at [jhong@ncsu.edu](mailto:jhong@ncsu.edu) (Please specify dissertation research in the subject line). If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

#### **PARTICIPATION**

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty. If you want to keep a copy of this informed consent form, you may print it for you.

#### **IN ORDER TO PARTICIPATE IN THE STUDY, YOU SHOULD**

1. Identify yourself as a person of Asian descent (including immigrant and American citizen)
2. Be enrolled in NC State University
3. NOT be an international student

**BY CLICKING THE "NEXT" BUTTON, YOU ARE VOLUNTARILY PARTICIPATING IN THE STUDY.**

## Racism-Related Stress, Coping and Depressive Symptoms

Below are demographic questions. Please select the appropriate response for each question.

### 1. What is your gender?

- Male
- Female

### 2. What is your ethnic origin?

- Asian Indian
- Bangladeshi
- Cambodian
- Chinese
- Filipino
- Hmong
- Indonesian
- Japanese
- Korean
- Laotian
- Malaysian
- Pakistani
- Sri Lankan
- Taiwanese
- Thai
- Vietnamese
- Multiethnic (Please specify)

- Other (Please specify)

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**3. What is your age in years (e.g., 20)?**

**4. What is your academic year?**

- Freshman
- Sophomore
- Junior
- Senior
- Graduate student

**5. What is your generational status?**

- 1st generation
- 1.5 generation
- 2nd generation
- 3rd generation
- 4th generation or higher

**6. What is your household income?**

- Upper
- Upper middle
- Middle
- Lower middle
- Lower

### Racism-Related Stress, Coping and Depressive Symptoms

**Instructions:** The following statements are general racial situations that you personally may have encountered. Read each situation and answer the questions using the following rating scales.

*Note:* Again, the term “Asians” is used to include all Asians living in the U.S. including immigrants, U.S. born, and adoptees.

**7. In America, I am treated differently because I’m Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

**8. In America, I am viewed with suspicion because I’m Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

**9. In America, I am called names such as, “chink, gook, etc.” because I’m Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

**10. In America, I am told “you speak English so well” because I’m Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**11. In America, I am overlooked because I'm Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

**12. In America, I have been physically assaulted because I'm Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

**13. In America, I am made fun of because I'm Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

**14. In America, I am faced with barriers in society because I'm Asian.**

- 1. Almost never
- 2. Once in a while
- 3. Sometimes
- 4. Often or frequent
- 5. Almost always

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**15. From the following eight statements, select one of the following types of racial discrimination you have experienced that has affected you the most.**

- 1. In America, I am treated differently because I'm Asian.
- 2. In America, I am viewed with suspicion because I'm Asian
- 3. In America, I am called names such as, "chink, gook, etc." because I'm Asian.
- 4. In America, I am told "you speak English so well" because I'm Asian.
- 5. In America, I am overlooked because I'm Asian.
- 6. In America, I have been physically assaulted because I'm Asian.
- 7. In America, I am made fun of because I'm Asian
- 8. In America, I am faced with barriers in society because I'm Asian

### Racism-Related Stress, Coping and Depressive Symptoms

**Directions:** Below is a list of strategies that some people use to respond to racial/cultural discrimination. Please respond to the following items as honestly as possible to accurately reflect how effective or non-effective this strategy was/is in helping you to resolve such discrimination. There are no correct, or right or wrong answers. Please read each statement, and indicate how much each item helped you toward resolving the effects of racial/cultural discrimination. In doing so, use the following alternatives.

- 0 = Never used this strategy/Not applicable
- 1 = Used but of no help at all
- 2 = A little help
- 3 = A moderate amount of help
- 4 = A great deal of help
- 5 = A tremendous amount of help

*Note:* The following questions are NOT asking how frequently you engage in the various coping activities. Rather, please indicate how much each item helped you toward resolving the effects of racial/cultural discrimination:

**16. Through prayer or other religious rituals.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**17. Found guidance from my religion.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**18. Followed the guidance of my elders (e.g., parents, older relatives).**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**19. Believed that I would grow from surviving discrimination.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**20. Waited for time to run its course.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**21. Followed the norms and expectations of my family about handling discrimination.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**22. Found comfort from my religion or spirituality.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**23. Saved face by not telling anyone.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**24. Placed trust in my elders' traditional wisdom to cope with discrimination.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**25. Pretended to be OK.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**26. Analyzing my feelings provided me with ideas about how to proceed.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**27. Not vented my negative feelings to some people around me.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**28. Avoided thinking about the trauma for a short time for peace of mind.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**29. Told myself that I could think of effective ideas.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**30. Knew that I could ask assistance from my family increased my confidence.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**31. Saved face by seeking advice from a professional (e.g., counselor, social worker, psychiatrist) I did not know personally.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**32. Shared my feelings with my family.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**33. Chatted with people about discrimination on the Internet in order to gain support.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**34. To save face, only thought about discrimination by myself.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**35. Kept my feelings within myself in order not to worry my parents.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**36. Accepted discrimination as fate.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**37. Maintained good relationships with people around me.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**38. Actively sought advice from professionals (e.g., counselors, social workers, psychiatrists).**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**39. Realized that often good comes after overcoming bad situations.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**40. Ate in excess (or not eating).**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**41. Realized that discrimination served as an important purpose in my life.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**42. Thought about the meaning of discrimination from the perspectives of my religious beliefs.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**43. Told myself that I could make my plans and ideas work.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**44. As a starting point, tried to accept discrimination for what it offered me.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

**45. Through family assistance and support.**

- 0. Never used this strategy/Not applicable
- 1. Used but of no help at all
- 2. A little help
- 3. A moderate amount of help
- 4. A great deal of help
- 5. A tremendous amount of help

### **Racism-Related Stress, Coping and Depressive Symptoms**

**Directions:** This inventory contains statements about how people think, feel, and behave as they attempt to resolve personal difficulties and problems in their day to day lives. In considering how you deal with such problems, think about successful and unsuccessful outcomes, and what hinders or helps you in solving these problems. Please respond to the items as honestly as possible so as to accurately portray how frequently you do what is described in each item. Do not respond to the items as you think you should; rather, respond in a way that most accurately reflects how you actually think, feel, and behave when you solve personal problems.

Please read each statement below, and indicate how often each item describes the way you typically respond to problems. In doing so, use the following alternatives:

1. Almost never
2. Occasionally
3. About half of the time
4. Often
5. Almost all of the time

**46. I am not really sure what I think or believe about my problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**47. I don't sustain my actions long enough to really solve my problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**48. I think about ways that I solved similar problems in the past.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**49. I identify the cause of my emotions, which helps me identify and solve my problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**50. I feel so frustrated that I just give up doing any work on my problems at all.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**51. I consider the short-term and long-term consequences of each possible solution to my problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**52. I get preoccupied thinking about my problems and overemphasize some parts of them.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**53. I continue to feel uneasy about my problems, which tells me I need to do some more work.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**54. My old feelings get in the way of solving current problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**55. I spend my time doing unrelated chores and activities instead of acting on my problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**56. I think ahead, which enables me to anticipate and prepare for problems before they arise.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**57. I think my problems through in a systematic way.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**58. I misread another person's motives and feelings without checking with the person to see if my conclusions are correct.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**59. I get in touch with my feelings to identify and work on problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**60. I act too quickly, which makes my problems worse.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**61. I have a difficult time concentrating on my problems (i.e., my mind wanders).**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**62. I have alternative plans for solving my problems in case my first attempt does not work.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

**63. I avoid even thinking about my problems.**

- 1. Almost never
- 2. Occasionally
- 3. About half of the time
- 4. Often
- 5. Almost all of the time

### Racism-Related Stress, Coping and Depressive Symptoms

**Directions:** Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

During the Past Week

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**64. I was bothered by things that usually don't bother me.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**65. I did not feel like eating; my appetite was poor.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**66. I felt that I could not shake off the blues even with help from my family or friends.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**67. I felt I was just as good as other people.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**68. I had trouble keeping my mind on what I was doing.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**69. I felt depressed.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**70. I felt that everything I did was an effort.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**71. I felt hopeful about the future.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**72. I thought my life had been a failure.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**73. I felt fearful.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**74. My sleep was restless.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**75. I was happy.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**76. I talked less than usual.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**77. I felt lonely.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**78. People were unfriendly.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**79. I enjoyed life.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**80. I had crying spells.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**81. I felt sad.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

**82. I felt that people dislike me.**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

## Racism-Related Stress, Coping and Depressive Symptoms

### Questions Continued

**83. I could not get “going.”**

- 0. Rarely or none of the time (less than 1 day )
- 1. Some or a little of the time (1-2 days)
- 2. Occasionally or a moderate amount of time (3-4 days)
- 3. Most or all of time the time (5-7 days)

## Racism-Related Stress, Coping and Depressive Symptoms

### Information for Gift Card (Message A)\*

#### THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY

Your survey was completed based on your responses reporting that you have almost never experienced racial discrimination.

#### IN ORDER TO RECEIVE A GIFT CARD

YOU MUST SEND ME AN EMAIL AND PROVIDE YOUR MAILING ADDRESS.

Please email me at [jhong@ncsu.edu](mailto:jhong@ncsu.edu) with the following subject line: "Dissertation Research: Address for gift card," from your NC State email address. In the body of your email, please include your mailing address by March 30<sup>th</sup>, 2012, so you can receive your gift card. All correspondence with you will be deleted after the study is completed.

The results of your survey will remain anonymous, even though you are providing your mailing address to receive your gift card.

Thank you for your contribution to this very important area of research.

NB: You MUST use your NC State email address with the subject line: "Dissertation Research: Address for gift card" to received your gift card.

\* This was the message participants who had *not* experienced perceived racism received upon completion of the survey.

## Racism-Related Stress, Coping and Depressive Symptoms

### Information for Gift Card (Message B)\*

THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY

IN ORDER TO RECEIVE A GIFT CARD

YOU MUST SEND ME AN EMAIL AND PROVIDE YOUR MAILING ADDRESS.

Please email me at [jhong@ncsu.edu](mailto:jhong@ncsu.edu) with the following subject line: "Dissertation Research: Address for gift card," from your NC State email address. In the body of your email, please include your mailing address by March 30<sup>th</sup>, 2012, so you can receive your gift card. All correspondence with you will be deleted after the study is completed.

The results of your survey will remain anonymous, even though you are providing your mailing address to receive your gift card.

Thank you for your contribution to this very important area of research.

NB: You MUST use your NC State email address with the subject line: "Dissertation Research: Address for gift card" to received your gift card.

\* This was the message participants who had experienced perceived racism received upon completion of the survey.

### Appendix C. Background Characteristics of Sample

Variable	Values	Frequency	%
Gender			
	Male	100	49.3
	<b>Female</b>	<b>103</b>	<b>50.7</b>
Ethnic Origin			
	Asian Indian (Indian)	34	16.8
	Bangladeshi	5	2.5
	Cambodian	-	-
	<b>Chinese</b>	<b>36</b>	<b>17.7</b>
	Filipino	12	5.9
	Hmong	6	3.0
	Indonesian	-	-
	Japanese	5	2.5
	<b>Korean</b>	<b>36</b>	<b>17.7</b>
	Laotian	3	1.5
	Malaysian	1	0.5
	Pakistani	8	3.9
	Sri Lankan	-	-
	Taiwanese	17	8.4
	Thai	4	2.0
	Vietnamese	26	12.8
	Multiethnic	4	2.0
	Other	6	3.0

*Note.*  $N = 203$ . Bolding indicates largest group

## Appendix C (Continued)

Variable	Values	Frequency	%
Age			
	17	2	1.0
	18	24	11.8
	19	35	17.2
	<b>20</b>	<b>42</b>	<b>20.7</b>
	21	33	16.3
	22	20	9.9
	23	9	4.4
	24	8	3.9
	25	6	3.0
	26	2	1.0
	27	5	2.5
	28	6	3.0
	29	1	0.5
	30	2	1.0
	33	2	1.0
	34	2	1.0
	36	1	0.5
	38	2	1.0
	39	1	0.5

*Note.*  $N=203$ . Bolding indicates largest group.

## Appendix C (Continued)

Variable	Values	Frequency	%
Academic Year			
	Freshman	37	18.2
	Sophomore	44	21.7
	Junior	40	19.7
	<b>Senior</b>	<b>47</b>	<b>23.2</b>
	Graduate	35	17.2
Generational Status			
	<b>1st generation</b>	<b>99</b>	<b>48.8</b>
	1.5 generation	32	15.8
	2nd generation	62	30.5
	3rd generation	7	3.5
	4th gen. or higher	3	1.5
Household Income			
	Upper	2	1.0
	Upper Middle	54	26.6
	<b>Middle</b>	<b>90</b>	<b>44.3</b>
	Lower Middle	46	22.7
	Lower	11	5.4
Depressive Symptoms	( $\geq 16$ )	95	47

*Note.*  $N = 203$ . Bolding indicates largest group. Depression is defined as a mean score  $> 0.80$  or sum score  $> 16$ .

### Appendix D. Variables of the Study

Variable	Cultural	Theoretical	Survey Item
Perceived Racism			<p>Q7. In America, I am treated differently because I'm Asian.*</p> <p>Q8. In America, I am viewed with suspicion because I'm Asian.*</p> <p>Q9. In America, I am called names such as, "chink, gook, etc." because I'm Asian.†</p> <p>Q10. In America, I am told "you speak English so well" because I'm Asian.†</p> <p>Q11. In America, I am overlooked because I'm Asian.*</p> <p>Q12. In America, I have been physically assaulted because I'm Asian.†</p> <p>Q13. In America, I am made fun of because I'm Asian.†</p> <p>Q14. In America, I am faced with barriers in society because I'm Asian.*</p>
ARS	Collectivistic	Situation-specific	<p>Q19. Believed that I would grow from surviving discrimination.</p> <p>Q20. Waited for time to run its course.</p> <p>Q26. Analyzing my feelings provided me with ideas about how to proceed.</p> <p>Q27. Not vented my negative feelings to some people around me.</p> <p>Q29. Told myself that I could think of effective ideas.</p> <p>Q36. Accepted discrimination as fate.</p> <p>Q37. Maintained good relationships with people around me.</p> <p>Q39. Realized that often good comes after overcoming bad situations.</p> <p>Q41. Realized that discrimination served as an important purpose in my life.</p> <p>Q43. Told myself that I could make my plans and ideas work.</p> <p>Q44. As a starting point, tried to accept discrimination for what it offered me.</p>
Family Support	Collectivistic	Situation-specific	<p>Q18. Followed the guidance of my elders (e.g., parents, older relatives).</p> <p>Q21. Followed the norms and expectations of my family about handling discrimination.</p> <p>Q24. Placed trust in my elders' traditional wisdom to cope with discrimination.</p> <p>Q30. Knew that I could ask assistance from my family increased my confidence.</p> <p>Q32. Shared my feelings with my family.</p> <p>Q45. Through family assistance and support.</p>

## Appendix D (Continued)

Variable	Cultural	Theoretical	Survey Item
Religion/Spirituality	Collectivistic	Situation-specific	Q16. Through prayer or other religious rituals. Q17. Found guidance from my religion. Q22. Found comfort from my religion or spirituality. Q42. Thought about the meaning of discrimination from the perspectives of my religious beliefs.
Avoidance/Detachment	Collectivistic	Situation-specific	Q23. Saved face by not telling anyone. Q25. Pretended to be OK. Q28. Avoided thinking about the trauma for a short time for peace of mind. Q34. To save face, only thought about discrimination by myself. Q35. Kept my feelings within myself in order not to worry my parents.
Private Emotional Outlet	Collectivistic	Situation-specific	Q31. Saved face by seeking advice from a professional (e.g., counselor, social worker, psychiatrist) I did not know personally. Q33. Chatted with people about discrimination on the Internet in order to gain support. Q38. Actively sought advice from professionals (e.g., counselors, social workers, psychiatrists). Q 40. Ate in excess (or not eating).
Reflective Coping	Individualistic	Dispositional	Q48. I think about ways that I solved similar problems in the past. Q49. I identify the cause of my emotions, which helps me identify and solve my problems. Q51. I consider the short-term and long-term consequences of each possible solution to my problems. Q56. I think ahead, which enables me to anticipate and prepare for problems before they arise. Q57. I think my problems through in a systematic way. Q59. I get in touch with my feelings to identify and work on problems. Q62. I have alternative plans for solving my problems in case my first attempt does not work.

## Appendix D (Continued)

Variable	Cultural	Theoretical	Survey Item
Suppressive Coping	Individualistic	Dispositional	<p>Q46. I am not really sure what I think or believe about my problems.</p> <p>Q47. I don't sustain my actions long enough to really solve my problems.</p> <p>Q50. I feel so frustrated that I just give up doing any work on my problems at all.</p> <p>Q55. I spend my time doing unrelated chores and activities instead of acting on my problems.</p> <p>Q61. I have a difficult time concentrating on my problems (i.e., my mind wanders).</p> <p>Q63. I avoid even thinking about my problems.</p>
Reactive Coping	Individualistic	Dispositional	<p>Q52. I get preoccupied thinking about my problems and overemphasize some parts of them.</p> <p>Q53. I continue to feel uneasy about my problems, which tells me I need to do some more work.</p> <p>Q54. My old feelings get in the way of solving current problems.</p> <p>Q58. I misread another person's motives and feelings without checking with the person to see if my conclusions are correct.</p> <p>Q60. I act too quickly, which makes my problems worse.</p>
Depressive Symptoms			<p>Q64. I was bothered by things that usually don't bother me.</p> <p>Q65. I did not feel like eating; my appetite was poor.</p> <p>Q66. I felt that I could not shake off the blues even with help from my family or friends.</p> <p>Q67. I felt I was just as good as other people.</p> <p>Q68. I had trouble keeping my mind on what I was doing.</p> <p>Q69. I felt depressed.</p> <p>Q70. I felt that everything I did was an effort.</p> <p>Q71. I felt hopeful about the future.</p> <p>Q72. I thought my life had been a failure.</p> <p>Q73. I felt fearful.</p> <p>Q74. My sleep was restless.</p>

## Appendix D (Continued)

Variable	Cultural	Theoretical	Survey Item
			Q75. I was happy. Q76. I talked less than usual. Q77. I felt lonely. Q78. People were unfriendly. Q79. I enjoyed life. Q80. I had crying spells. Q81. I felt sad. Q82. I felt that people dislike me. Q83. I could not get "going."

*Note.* Perceived Racism is from Subtle and Blatant Racism Scale for Asian American College Students; ARS (Acceptance, Reframing, and Striving), Family Support, Religion/Spirituality, Avoidance and Detachment, and Private Emotional Outlet are from the Collectivistic Coping Styles-Racial Discrimination; Reflective, Suppressive, and Reactive Coping are from the Problem-Focused Style of Coping; and Depressive symptoms is from the Center for Epidemiological Studies Depression Scale. The question numbers are from the present study so differ from the original numbering of the instruments used. \*Subtle racism. †Blatant racism.

### **Appendix E. Confirmatory Factor Analysis of the Subtle and Blatant Racism Scale for Asian American College Students**

A confirmatory factor analysis of the Subtle and Blatant Racism Scale for Asian American College Students (SABR-A<sup>2</sup>; Yoo, Steger, & Lee, 2010) was conducted by comparing the two-correlated-factor model with a model positing two orthogonal factors. The following criteria suggested by Browne and Cudeck (1993) and Hu and Bentler (1999) indicate good model fit: (1) Goodness of Fit Index (GFI) greater than .90; (2) Non-Normed Index (NNI) close to or greater than .95; (3) root mean square error of approximation (RMSEA) of about .06 or less; and (4) standardized root mean squared error (SRMSR) close to or less than .08. According to these criteria, the two-correlated-factor model is an adequate fit (see Table E1).

Table E1.

#### *Summary of Fit Indices from Confirmatory Factor Analysis of the Subtle and Blatant Racism Scale for Asian American College Students*

Model	N	$\chi^2$	df	GFI	NNI	RMSEA	90% CI RMSEA	SRMSR	AIC
Correlated	203	40.90	19	.95	.88	.07	.04, .11	.06	2.90
Orthogonal	203	104.21	20	.90	.56	.14	.12, .17	.17	64.2

*Note.* GFI = Goodness of Fit Index; NNI = Non-Normed Index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMSR = standardized root mean squared error; AIC = Akaike's Information Criterion.

Two factor loadings for the eight question items are shown in Table E2. The associated t-values are all statistically significant. Four items were loaded on Factor 1 (subtle

racism: Q7, Q8, Q11, Q14); the other four questions loaded on Factor 2 (blatant racism: Q9, Q10, Q12, Q13). Thus, this model specified that Asian Americans' experience of racism fell into two correlated categories, subtle racism and blatant racism.

Table E2.

*Factor Loadings, Means and Standard Deviations for the Subtle and Blatant Racism Scale for Asian American College Students*

Item	Factor 1 loading (t-value)	Factor 2 loading (t-value)	<i>M</i>	<i>SD</i>
Q7. In America, I am treated differently because I'm Asian.	0.50 (7.69)		2.71	0.87
Q8. In America, I am viewed with suspicion because I'm Asian.	0.45 (6.76)		1.77	0.92
Q9. In America, I am called names such as, "chink, gook, etc." because I'm Asian.		0.64 (10.43)	1.88	1.01
Q10. In America, I am told "you speak English so well" because I'm Asian.		0.45 (6.48)	1.99	1.17
Q11. In America, I am overlooked because I'm Asian.	0.53 (8.41)		2.27	1.08
Q12. In America, I have been physically assaulted because I'm Asian.		0.31 (3.98)	1.20	0.56
Q13. In America, I am made fun of because I'm Asian.		0.67 (11.12)	2.58	1.10
Q14. In America, I am faced with barriers in society because I'm Asian.	0.80 (15.48)		2.35	1.07

*Note.* Factor 1 = Subtle racism; Factor 2 = Blatant racism.