Carter (2007) proposed the notion of race-based traumatic stress and argued that experiences of racial discrimination can be viewed as a type of trauma. Moreover, frequent exposure to racial discrimination may put racial and ethnic minorities in a vulnerable position to develop posttraumatic stress symptoms. However, the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM–IV–TR) criteria to assess trauma are limited to life threats and physically dangerous events (American Psychiatric Association, 2000). Because the DSM–IV–TR fails to include all possible experiences that could produce trauma, Carlson (1997) offered an alternative model of trauma to indicate that psychologically and emotionally threatening experiences could also produce traumatic stress. Carlson identified three elements to define traumatic experiences: (a) subjective perception of the event as negative, (b) the event as sudden, and (c) the event as out of one’s control. These experiences can result in posttraumatic stress symptoms primarily involving reexperiencing (e.g., intrusive thoughts and images of the event), avoidance (e.g., avoiding thoughts, feelings, places, or people related to the trauma), and physiological arousal (e.g., hypervigilance, difficulty concentrating, anger, or sleeplessness). Subsequently, researchers have recently begun to examine the association between racial discrimination and posttraumatic stress symptoms. For example, Pieterse, Carter, Evans, and Walter (2010) found that perceived ethnic discrimination predicted posttraumatic stress symptoms after controlling for perceived general stress among Asian/Asian American and African American students. Flores, Tschann, Dimas, Pasch, and de Groat (2010) found that Mexican American adolescents who reported more racial discrimination also reported greater posttraumatic stress symptoms after controlling for sex, age, socioeconomic status (SES), and acculturation. Clearly, more research studies are needed in this line of research.

Although research on racial discrimination and posttraumatic stress symptoms is a relatively new area, the association between racial discrimination and other mental health indicators has been better established across various ethnic groups. D. L. Lee and Ahn (2011) recently conducted a meta-analysis of 24 published studies (1992–2009) on racial discrimination and mental health outcomes among those with Asian heritages (including Asian international stu-
discrimination and outcomes, Pieterse, Todd, Neville, and Carter (2008). Therefore, research studies need to fill this gap to examine whether perceived racial discrimination is indeed positively associated with anxiety (r = .28), depression (r = .26), and psychological distress (r = .17). Despite the cumulative empirical evidence of the association between racial/ethnic discrimination and psychological outcomes for those with Asian heritages, only three of the quantitative studies focused on Asian international students (i.e., Chen, Mallinckrodt, & Mobley, 2002; Frey & Roysircar, 2006; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008).

Chinese international students represent a rapidly growing population that is at risk for perceived racial discrimination. According to the Open Doors report released by the Institute of International Education (2011), Chinese international students compose the fastest growing international student group, increasing 60% over the last 2 years, whereas the overall increase of the total number of international students was at 8%. Moreover, Chinese international students from China and Taiwan make up more than 25% of the total international student population in the 2010–2011 academic year. The rapid influx of Chinese international students on U.S. campuses has received much attention, and these students could likely become targets of discrimination. Clearly, their adjustment experiences in the United States warrant researchers’ attention.

Perceived discrimination is a common acculturative stressor that international students experience. Klineberg and Hull (1979) reported that about 70% of international students either experienced or knew someone who experienced discrimination. Qualitative data have documented discrimination experiences among international students (e.g., Bonazzo & Wong, 2007; Swagler & Ellis, 2003). In addition, Asian international students, along with African students, perceived higher levels of discrimination than European and Latin American students (Sodowsky & Plake, 1992). Instances of racial discrimination can be subtle microaggressions or overt macroaggressions, and their impacts can be short term, chronic, or accumulative. Below is an example of a discrimination incident:

I went to California for [a] trip with my friends, and we forgot to bring a passport . . . . We drove by a city, which is very near to Mexico, and this border patrol [officer] . . . . required us to show identification. Since we did not have a passport . . . . he said “Get off the bus.” And we were brought to the office. It was very scary . . . . they kind of looked down on us . . . . they said, “Why didn’t you bring a passport? You are international, you know.” “You always have to bring a passport and why don’t you bring a passport?” . . . We said, “I forget, I am sorry.” They still [asked] “Why, why, why!!!” Some of the officers were laughing. Some of them said that “Shame!!!(Bonazzo & Wong, 2007, p. 634)

Clearly such racial discrimination can be psychologically damaging (Bonazzo & Wong, 2007) and could lead to posttraumatic stress symptoms. In a recent meta-analysis on perceived racial discrimination and outcomes, Pieterse, Todd, Neville, and Carter (2012) reported that the associations between perceived racial discrimination and depression or anxiety were quite robust. Thus, they encouraged future researchers to extend beyond depression and anxiety to examine other outcomes such as posttraumatic stress symptoms. Therefore, research studies need to fill this gap to examine whether perceived racial discrimination is indeed positively related to posttraumatic stress symptoms among Chinese international students.

Berry’s (1997) theory on acculturation provides a framework that may illustrate the complexity of the cross-national adjustment experiences encountered by Chinese international students. He developed a model illustrating the process of acculturative adjustment and adaptation (i.e., acculturation experiences → appraisal of experiences → coping strategies → immediate effects or outcomes → long-term outcomes). In the model, he also proposed several moderating factors that could change the strength of any of the above associations (e.g., acculturation experiences [such as racial discrimination] → outcomes) in this acculturation adjustment and adaptation process. These moderators can include, but are not limited to, factors prior to acculturation (e.g., language differences or migration motivation) and other factors during acculturation (e.g., social support from the home or host culture) or coping strategies. Studying moderation effects was also echoed in Zhang and Goodson’s (2011) recommendations for future studies after their review of the literature on 64 international student studies over the past 20 years. Thus, in this study, we explored the effect of moderators (social connectedness in both ethnic and mainstream communities, see details below) on the association between perceived racial discrimination and posttraumatic stress symptoms.

Social connectedness (SC) refers to a subjective sense of interpersonal closeness and togetherness with one’s social environment (R. M. Lee & Robbins, 1995). SC in the ethnic community (i.e., Ethnic SC) and mainstream society (i.e., Mainstream SC) are conceptualized by integrating the concepts of SC with acculturation and enculturation (Yoon & Lee, 2010). The constructs of Ethnic and Mainstream SC are very relevant to Chinese international students because when these students move to the United States, they retain both their heritage culture (i.e., enculturation) as well as adapt to the mainstream culture (i.e., acculturation; Kim & Abreu, 2001). Ethnic and Mainstream SC focus on the affective aspect of acculturation/enculturation (Yoon & Lee, 2010) as it relates to one’s sense of being part of a community and one’s identity. The more individuals are enculturated, the more they may feel connected to their ethnic community; by the same token, the more individuals are acculturated, the more they may feel connected to the mainstream society (Yoon, 2006). Empirically, Yoon, Jung, Lee, and Felix-Mora (2012) reported that Ethnic SC was positively and moderately associated with enculturation. Conversely, Mainstream SC was positively and moderately associated with acculturation among Asian international students. In addition, Ethnic SC negatively predicted negative affect above and beyond the effects of general SC, enculturation, and ethnic identity in samples of Mexican American and Asian international students (Yoon, Jung, et al., 2012). Similarly, Mainstream SC positively predicted satisfaction with life above and beyond general SC, acculturation, and other-group orientation for Mexican American students (Yoon, Jung, et al., 2012).

SC has been conceptualized as a higher order construct for social support and loneliness (R. M. Lee & Robbins, 1995). Moreover, SC may be associated with the level and type of social support one perceives (Ashida & Heaney, 2008). The larger social support literature has shown that social support has main and moderation effects on stress and mental health outcomes (see Chen et al., 2002; S. Cohen & Wills, 1985). Likewise, lack of social support has been identified through meta-analysis as a risk factor for posttraumatic symptoms (Brewin, Andrews, & Valentine, 2000). However, the moderating effect of social support on posttraumatic stress symptoms has been inconsistent. Some studies found social support to buffer the development of posttraumatic
stressed symptoms (e.g., Hyman, Gold, & Cott, 2003), but other studies did not (e.g., Overstreet, Dempsey, Graham, & Moely, 1999). In Berry’s (1997) theoretical framework on acculturation, he proposed the moderation role of social support. For some studies, links to one’s heritage culture (i.e., with conationalists) are associated with lower stress (e.g., Ward & Kennedy, 1993). Likewise, connections with members from the host culture (i.e., United States) are more helpful, particularly if the relationships match one’s expectations (e.g., Berry & Kostovick, 1990). Berry indicated that having social contact with members from both the home and host culture is the best predictor of cross-cultural adaptation. Moreover, social support has been found to be a moderator that changes the strength of the relation between racial discrimination and mental health outcomes among international students. For example, Chen et al. (2002) found that support from the International Student Office buffered the positive association between perceived racism and psychological symptoms in a sample of Asian international students. Jung, Hecht, and Wadsworth (2007) found that social undermining (i.e., counter-concept of social support—friends display negative evaluation or behaviors to hinder one’s ability to achieve one’s goals) exacerbated the positive association between perceived discrimination and depression for international students.

We speculated that SC in ethnic communities would serve as a useful resource to decrease the strength of the positive association between racial discrimination and posttraumatic stress symptoms. Brondolo, ver Halen, Pencille, Beatty, and Contrada (2009) indicated that:

A supportive social network promotes a sense of security and connectedness, helping the individual to understand that discrimination is a shared experience. Group members can serve as models, guiding the individual in effective methods for responding to and coping with discrimination. (p. 75)

Therefore, by having a stronger sense of connection with their ethnic community, individuals may not only gain empathic support from those with similar experiences but also still feel socially connected despite being discriminated against by others in the host society. In a study on an online ethnic social support group for Chinese international students, Ye (2006) found that perceived online emotional support from their ethnic group (e.g., knowing others were also facing similar problems) was positively associated with life satisfaction, but negatively associated with perceived discrimination, perceived hatred, and negative feelings caused by change. Therefore, based on Berry’s (1997) theoretical framework as well as the reasons and evidence from the studies (e.g., Chen et al., 2002) stated above, we expected that the strength of the association between perceived racial discrimination and posttraumatic stress symptoms would be weaker for those with high Ethnic SC than for those with low Ethnic SC.

Similarly, we speculated that a strong sense of SC in mainstream society (i.e., Mainstream SC) could also serve as an important resource to regulate the association between perceived racial discrimination and posttraumatic stress symptoms, but for different reasons. For example, when Chinese international students perceive racial discrimination, those with a stronger sense of Mainstream SC are more likely to have a better sense of American cultural norms and perspectives to help them understand acts of discrimination within the larger societal context (e.g., Trice, 2004). In addition, their American friends are also likely to help them to respond to the situation or serve as their advocates. In line with Berry’s (1997) theoretical framework on acculturation and the reasons stated above, we expected that the strength of the association between racial discrimination and posttraumatic stress symptoms would be significantly weaker for those with high Mainstream SC than for those with low Mainstream SC.

Finally, several scholars (Harrell, 2000; Pieterse et al., 2012) argued that it is vital to examine whether racial discrimination is a unique stressor related to negative outcomes over and beyond confounding variables such as other life stressors. Empirically, Pieterse et al. (2010) found that perceived racial discrimination was positively associated with posttraumatic stress symptoms after controlling for perceived general stress. In conclusion, there were three hypotheses in the present study. First, we hypothesized that perceived racial discrimination would positively predict posttraumatic stress symptoms after controlling for perceived general stress. Second, the association between perceived racial discrimination and posttraumatic stress symptoms would be significantly weaker for those with high Ethnic SC than for those with low Ethnic SC. Third, the association between racial discrimination and posttraumatic stress symptoms would be significantly weaker for those with high Mainstream SC than for those with low Mainstream SC.

Method

Participants

A total of 383 Chinese international students were recruited from two public universities in the Midwest. They were 182 (48%) men, 192 (50%) women, and nine who did not report their sex. A majority of them (336; 88%) identified their home country as China, 43 (11%) Taiwan, two (1%) Hong Kong, and two did not report their home country. In addition, 61% were graduate students, 35% undergraduate students, and 4% others. Half (50%) were single, 30% were in a dating relationship, 19% were married, and 1% was divorced. The participants’ mean age was 24.9 years (SD = 4.5, range = 18–42 years). The average length of time in the United States was 29.7 months (SD = 21.5 months, range = 1–120 months).

Instruments

All the scales below were translated from English to Traditional Chinese and Simplified Chinese on the basis of the three steps suggested by Brislin (1970). Traditional Chinese is used in Taiwan and Hong Kong; Simplified Chinese is used in Mainland China.

Perceived general stress. The Perceived Stress Scale—4-item (PSS-4; S. Cohen, Kamark, & Merlmein, 1983) was used to measure participants’ general perception of stress. The PSS is a self-report measure that assesses the degree to which situations in one’s life are perceived as stressful during the past month. A sample item is “How often have you felt difficulties were piling up so high that you could not overcome them?” Items are rated on a 5-point scale ranging from 0 (never) to 4 (very often). A higher score indicates a greater level of perceived general stress. Coefficient alpha for scores on the PSS-4 scale was .74 for Chinese international students (Tsai, 2011). In this study, the coefficient
alpha for scores on the PSS-4 was .63 (total sample), .66 (Chinese version) and .59 (English version). The construct validity was supported by a positive association between perceived general stress (i.e., PSS-4) and perceived discrimination among Chinese international students (Tsai, 2011).

**Perceived racial discrimination.** The Perceived Discrimination (PD) subscale of the Acculturative Stress Scale for International Students (ASSIS; Sandhu & Asrabi, 1994) was used to assess perceived racial discrimination in the context of being an international student in the United States. Each item begins with: “Because of my different cultural background as a foreign student, I feel that”; sample items are “Others are biased toward me” or “I am treated differently because of my race.” Therefore, students’ responses to discrimination experiences are related to their experiences of being international students. The PD is an eight-item scale, and each item is rated on a 5-point scale that ranges from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate greater perceived discrimination. In this sample, 60% (228/383) participants rated at least one item with a 4 (agree) or 5 (strongly agree). Coefficient alpha for the scores from the PD subscale ranged from .90 to .92 (Jung et al., 2007; Ye, 2005) for international students and .92 (total sample), .91 (Chinese version), and .93 (English version) in the present study. Evidence for concurrent validity was provided by positive associations with depressive symptoms, general stress, and cultural shock as well as a negative association with life satisfaction among international students (Jung et al., 2007; Ye, 2005).

**SC in the ethnic community and in mainstream society.** The Social Connectedness in the Ethnic Community Scale (SCETH) and Social Connectedness in Mainstream Society Scale (SCMN; Yoon, 2006) were used to measure these two constructs. The SCETH is used to assess a sense of connection, belonging, and closeness to Chinese or Taiwanese individuals in the Chinese/Taiwanese community, whereas the SCMN is used to measure a sense of connection, belonging, and closeness to Americans in the U.S. society (Yoon, 2006; Yoon & Lee, 2010). The SCETH and SCMN have two parallel sets of five items. Sample items are, “I feel a sense of closeness with Chinese/Taiwanese” or “I feel a sense of belonging to U.S. society.” Participants responded using a 7-point scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicated stronger SCETH and SCMN. Coefficient alpha was .95 for scores on the SCETH and .89 for scores on the SCMN among Asian international students (Yoon, Jung, et al., 2012). Coefficient alpha was .94 (total sample), .94 (Chinese version), and .95 (English version) on scores of the SCETH and .88 (total sample), .89 (Chinese version), and .91 (English version) on scores of the SCMN in this study. The scales evidenced convergent and divergent validity through their associations with acculturation and enculturation (Yoon, Jung, et al., 2012).

**Posttraumatic stress symptoms.** The Posttraumatic Stress Disorder Checklist (PCL; Weathers, Litz, Huska, & Keane 1994) assesses the presence of various stress-related symptoms that correspond to the diagnostic criteria for posttraumatic stress disorder. The original version of the PCL has 17 items. The six-item PCL-short version was developed and validated through a series of comparisons among four abbreviated PCL versions (Lang & Stein, 2005). The correlations between scores on six-item and 17-item versions were .97 and .96 in two independent samples (Lang & Stein, 2005). According to its authors, the questions may be worded generally to refer to “stressful experiences in the past” (PCL-C; Civilian Version) or to describe reactions to specific events (PCL-S; Specific Version). In the present study, the specific version with six items (PCL-S-6) was used, and “specific events” were classified as “racial discrimination experiences.” Sample items are: “Repeated, disturbing memories, thoughts, or images of racial discrimination experiences” or “Feeling very upset when something reminded you of racial discrimination experiences.”

Participants were asked how often they have been bothered by each symptom in the past 2–3 months. The response scale ranged from 1 (not at all), 2 (a little bit), 3 (moderately), 4 (quite a bit), to 5 (extremely). In this sample, 78% (300/383) of participants rated at least one of the items as a 2 (a little bit) or above. The coefficient alpha for PCL-S-17 scores was .93 (Blanchard, Alexander, Buckley, & Fornaris, 1996). In the present study, the coefficient alpha for PCL-S-6 was .89 (total sample), .89 (Chinese version), and .91 (English version). Validity evidence was supported by a positive association (r = .93) between scores on the PCL-S-17 and scores on the Clinical Administered PTSD Scale (Blanchard et al., 1996).

**Procedure**

The two universities (A and B) used the same data collection procedure. After receiving Institutional Review Board approval from both universities, a list of Chinese international students from China, Taiwan, and Hong Kong (880 from University A and 666 from University B) was obtained from each university’s registrar office. Three language versions were made available for participants (i.e., English, Simplified Chinese, and Traditional Chinese) with a specific website link to access the survey. At the end of the survey, participants were invited to enter a drawing to win one of four $25 gift certificates at each university for participating in this study. A total of 383 completed surveys (144 [a response rate of 16%] from University A and 239 [a response rate of 36%] from University B) were used for the subsequent data analyses. The combined response rate was 28%, which is comparable to response rates reported in the literature through online data collection among international students (e.g., 15% [Rice et al., 2009]; 26% [Wei et al., 2008]). Among these 383 participants, 93 (24%) participants completed the English version, and 290 (76%) participants completed the Chinese versions (i.e., 268 [70%] for the Simplified Chinese version and 22 [6%] for the Traditional Chinese version).

**Results**

**Preliminary Analyses and Descriptive Statistics**

Residual normality assumption in regression was first assessed (see J. Cohen, Cohen, West, & Aiken, 2003, pp. 117–141, for a discussion). The skewness and kurtosis of the residual scores were 0.99–1.01, which indicated a departure from normality. Thus, a log transformation of the dependent variable (i.e., posttraumatic stress symptoms) was used (J. Cohen et al., 2003), which resulted in a decrease in the skewness and kurtosis of the residual scores to 0.40 and 0.01, respectively. The patterns of significant main effects and interaction effects results were identical to the analyses...
done with transformed and original scores. Thus, the original posttraumatic stress symptoms variable was reported in the subsequent analyses for easier interpretation.

Chi-square tests indicated that the two university samples were representative of the population of Chinese international students regarding nationality and/or sex. In addition, a one-way multivariate analysis of variance (MANOVA) and follow-up analyses of variance (ANOVAs) indicated no significant differences on the five main variables (i.e., perceived general stress, perceived discrimination, Ethnic SC, Mainstream SC, and posttraumatic stress symptoms) by different language versions, different universities, and graduate/undergraduate levels. Therefore, we analyzed the aggregated data.

Means, standard deviations, possible range, sample range, and zero-order correlations among the variables are presented in Table 1. The mean PD score in this study (Mean = 2.70, SD = 0.77) is comparable to another study with Asian international students (Mean = 2.60, SD = 0.80; see Wei et al., 2008) and with Chinese international students (Mean = 2.37, SD = 0.72; see Ye, 2006). Cohen’s ds of 0.13 and 0.44, respectively, indicate a small effect. Similarly, the mean PCL score (Mean = 1.82, SD = 0.80) for Chinese international students in this study is comparable to that for White (Mean = 1.87, SD = 0.73), Asian (Mean = 2.04, SD = 0.72), and Black (Mean = 1.87, SD = 0.56) college students in the United States reported in a study done by Pieterse et al. (2010, p. 259). Cohen’s ds from 0.07 to 0.29 also indicate small effects. Moreover, some correlations deserve our attention. For example, perceived racial discrimination had a small association with perceived general stress (r = .26) but had a moderate association with posttraumatic stress symptoms (r = .46). Ethnic SC had a close to zero correlation (rs = −.07 to .06) with all other variables (i.e., perceived general stress, Mainstream SC, and posttraumatic stress symptoms). Conversely, Mainstream SC had a small negative association with perceived general stress (r = −.26), perceived racial discrimination (r = −.24), and posttraumatic stress symptoms (r = −.12).

Main Analyses

We conducted a hierarchical regression analysis to examine the main and interaction effects. Prior to this analysis, all predictors and moderators were standardized to reduce multicollinearity (Frazier, Tix, & Barron, 2004). In Step 1, we entered perceived general stress as a covariate. In Step 2, we entered perceived racial discrimination as a predictor to examine its main effect on posttraumatic stress symptoms after controlling for perceived general stress. In Step 3, we entered two moderators (Ethnic SC and Mainstream SC). Finally, in Step 4, we entered the two interaction variables (i.e., Ethnic SC × Perceived Racial Discrimination; Mainstream SC × Perceived Racial Discrimination) to examine the interaction effects on posttraumatic stress symptoms.

As seen in Step 1 in Table 2, perceived general stress accounted for 12% of the variance in posttraumatic stress symptoms. In Step 2, perceived racial discrimination added a significant incremental 15% of the variance in predicting posttraumatic stress symptoms. In Step 3, Ethnic SC and Mainstream SC did not add a significant incremental variance in predicting posttraumatic stress symptoms. Finally, in Step 4, the two-way interactions accounted for an additional 2% of the variance in predicting posttraumatic stress symptoms. Specifically, the interaction of Ethnic SC and perceived racial discrimination was significant. However, the interaction of Mainstream SC and perceived racial discrimination was not significant.

Because we found a significant interaction effect for Ethnic SC, we conducted a simple effects analysis to examine the significance level for each of the simple slopes (J. Cohen et al., 2003). Results of the simple effects analysis indicated that the association between perceived racial discrimination and posttraumatic stress symptoms was statistically significant at both the lower level (b = 0.42, β = .53, p < .001) and higher level (b = 0.23, β = .29, p = .001) of Ethnic SC. The simple slope for those with a lower level of Ethnic SC (b = 0.42) was significantly steeper than for those with a higher level of Ethnic SC (b = 0.23). From a different perspective, the strength (b = 0.23) for a higher level of Ethnic SC is 43% less than the strength (b = 0.42) for a lower level of Ethnic SC. Thus, our results indicate that a higher level of Ethnic SC plays a role in reducing the strength of the association between perceived racial discrimination and posttraumatic stress symptoms.

Discussion

Overall, we found that (a) perceived racial discrimination positively predicted posttraumatic stress symptoms after controlling for perceived general stress, (b) there was a significant moderation...
effect of Ethnic SC, but (c) there was no significant moderation effect of Mainstream SC on the association between perceived racial discrimination and posttraumatic stress symptoms. These results are consistent with recent research that perceived racial discrimination is traumatic for Asian Americans and African Americans (Pieterse et al., 2010) as well as for Mexican American adolescents (Flores et al., 2010). These results also support Pieterse et al.’s (2012) call for future researchers to examine other outcomes such as posttraumatic stress symptoms in addition to depression and anxiety. In the present study, we applied growing evidence of race-based traumatic stress (Carter, 2007; Sanders Thompson, 1996) to the Chinese international student population. Moreover, these results suggest that racial discrimination is a unique stressor associated with posttraumatic stress symptoms over and beyond general life stress (Harrell, 2000; Pieterse et al., 2010). Although this finding and other recent findings (e.g., Pieterse et al., 2010) support the association between racial discrimination and posttraumatic stress symptoms, we need to be careful not to overpathologize psychological responses to racial discrimination. Carter (2007) asserted that race-related trauma should be viewed as an emotional and/or psychological injury, and not necessarily as a mental disorder.

Second, as hypothesized, a high Ethnic SC weakened the strength of the association between perceived racial discrimination and posttraumatic stress symptoms more than a low Ethnic SC. Feeling more connected with one’s own culture group may provide more or better opportunities to reduce the negative effects of perceived racial discrimination on posttraumatic stress symptoms. Conversely, students who have a weak connection to their own ethnic community may be in a vulnerable position to have posttraumatic stress symptoms when they perceive discrimination. These results provide support for Berry’s (1997) theoretical framework on acculturation, specifically regarding the moderator role of Ethnic SC (a type of social support). It is important to note the small effect size (i.e., 2%) of the two-way interaction. However, in the social science literature, interaction effects typically account for only 1%–3% of the variance (Chaplin, 1991). Sue (2009) also argued that researchers studying ethnic minority populations need to consider the importance of the cumulative effect of single small effects over time.

Third, contrary to our expectations, we did not find a significant moderation effect of Mainstream SC. A possible explanation could be that the participants in this study did not feel sufficiently connected to mainstream U.S. society (Mainstream SC M = 3.9 on a 7-point scale). Perhaps the topic of racial discrimination is too sensitive to discuss when Mainstream SC is relatively low. Thus, if one feels both less connected to the mainstream culture as well as discriminated against by the people in that cultural group, one will have less of an opportunity for Mainstream SC to serve as a protective factor. As shown in Table 1, perceived racial discrimination is negatively correlated with SC in mainstream society. Our interpretation may also be supported by a recent study finding that Asian or Asian American students who perceived discrimination had difficulty feeling connected to the mainstream society (Yoon, Hacker, Hewitt, Abrams, & Cleary, 2012). We also found that perceived discrimination indirectly contributed to lower levels of well-being through a lack of connectedness to mainstream society.

Moreover, although Mainstream SC failed to be a moderator in this study, the correlation patterns of Mainstream and Ethnic SC with other variables deserve attention. In Table 1, Mainstream SC was significantly correlated with less perceived general stress, less perceived racial discrimination, and less posttraumatic stress symptoms; in contrast, Ethnic SC was not. It appears that these two forms of connection can be helpful in different ways. These results are consistent with Berry’s (1997) model, which indicates that social contact with members from both mainstream and ethnic communities can be helpful in cross-cultural adjustment. Therefore, Chinese international students should be encouraged to develop connections with both groups.

### Table 2

**Two-Way Interactions of (a) Perceived Racial Discrimination and Ethnic Social Connectedness and (b) Perceived Racial Discrimination and Mainstream Social Connectedness on Posttraumatic Stress Symptoms**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>ΔR²</th>
<th>ΔF</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Perceived general stress</td>
<td>0.28</td>
<td>.04</td>
<td>.34***</td>
<td>.12***</td>
<td>50.87</td>
<td>1, 381</td>
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<tr>
<td>Step 2</td>
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<td></td>
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<tr>
<td>Perceived general stress</td>
<td>0.19</td>
<td>.04</td>
<td>.24***</td>
<td>.15***</td>
<td>76.60</td>
<td>1, 380</td>
</tr>
<tr>
<td>Perceived racial discrimination (PRD)</td>
<td>0.32</td>
<td>.04</td>
<td>.40***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Perceived general stress</td>
<td>0.20</td>
<td>.04</td>
<td>.25</td>
<td>.01</td>
<td>1.73</td>
<td>2, 378</td>
</tr>
<tr>
<td>Perceived racial discrimination (PRD)</td>
<td>0.33</td>
<td>.04</td>
<td>.41***</td>
<td></td>
<td></td>
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<tr>
<td>Ethnic SC</td>
<td>−0.06</td>
<td>.04</td>
<td>−0.07</td>
<td></td>
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<tr>
<td>Mainstream SC</td>
<td>0.04</td>
<td>.04</td>
<td>.05</td>
<td></td>
<td></td>
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<tr>
<td>Step 4</td>
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<tr>
<td>Perceived general stress</td>
<td>0.19</td>
<td>.04</td>
<td>.24</td>
<td>.02</td>
<td>4.04</td>
<td>2, 376</td>
</tr>
<tr>
<td>Perceived racial discrimination (PRD)</td>
<td>0.33</td>
<td>.04</td>
<td>.41***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnic SC</td>
<td>−0.06</td>
<td>.04</td>
<td>−0.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mainstream SC</td>
<td>0.03</td>
<td>.04</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRD × Ethnic SC</td>
<td>−0.09</td>
<td>.03</td>
<td>−.12**</td>
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<tr>
<td>PRD × Mainstream SC</td>
<td>−0.02</td>
<td>.03</td>
<td>−.02</td>
<td></td>
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</tr>
</tbody>
</table>

Note. N = 383. SC = social connectedness. R² for final model = .54, F(6, 376) = 25.32, p < .001.

* p < .05. ** p < .01. *** p < .001.
Limitations and Future Research Directions

Despite the effects found in this study, there are a few limitations worth noting. First, participants were Chinese and Taiwanese international students studying in the Midwest, and thus the generalizability of the results is limited. Second, this study is cross-sectional and therefore cannot explain causal relationships. A longitudinal design would provide better understanding of the mechanisms underlying the interactive relationships between perceived racial discrimination, Ethnic and Mainstream SC, and posttraumatic stress symptoms. Third, the alpha for the PSS is somewhat lower. Possible reasons may be due to the use of the shorter version (i.e., four items) or due to this specific sample. In order to address the impact of the lower internal consistency of the PSS on the results, we conducted an analysis with this scale removed. The significance pattern is identical to the results with and without this scale included in the analysis. Thus, the low internal consistency does not seem to impact the study’s overall findings.

Fourth, the Ethnic SC measure did not specify whether the connection was to other Chinese individuals in the United States or to those in their home country. Future studies can assess these two specific sources to establish social connections. Fifth, only 60% of participants rated at least one item with a 4 (agree) or 5 (strongly agree) for the PD scale. However, the significant pattern of results was the same between analyzing the whole sample and only the 60% of participants mentioned above. Additional research may further examine the relationships found in this study related to racial discrimination across different levels of severity (mild, moderate, severe), frequency (e.g., once, occasionally, daily), and duration (e.g., 1 day, 1 year, 10 years). Finally, the psychometric information for most scales used in the present study (e.g., the PD, SCETH, SCMN, and PCL scales) was based on the English version. The lack of psychometric information for the Chinese version is a limitation that can be addressed in future studies.

The moderation effect of Mainstream SC was not significant. Future studies might explore whether this moderation would depend on a third variable (e.g., racial or ethnic identity, social acceptance, or level of problem solving/coping skills). In addition, future research might explore other aspects of perceived discrimination such as language or gender discrimination to see whether other types of discrimination are associated with posttraumatic stress symptoms.

Clinical Implications

Although we did not find in the present study a significant moderation effect of Mainstream SC, its negative association with perceived racial discrimination and posttraumatic stress symptoms is worthy of our attention. It might also be important to educate international students on the value of connection with both their own culture group and Americans. People from both groups can be helpful in different ways, and thus a balanced connection may be optimal (Swagler & Ellis, 2003). Third, American counselors are encouraged to sensitively initiate discussions of discrimination as it may be harder for Chinese international students to talk about racial discrimination with someone outside of their cultural group. Perhaps such normalization might help students feel more comfortable sharing their traumatic racial experiences with others.

References

Chen, H-J., Mallinckrodt, B., & Mobley, M. (2002). Attachment patterns of Chinese international students on the value of connection with both their own culture group and Americans. People from both groups can be helpful in different ways, and thus a balanced connection may be optimal (Swagler & Ellis, 2003). Third, American counselors are encouraged to sensitively initiate discussions of discrimination as it may be harder for Chinese international students to talk about racial discrimination with someone outside of their cultural group. Perhaps such normalization might help students feel more comfortable sharing their traumatic racial experiences with others.

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