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## Racial and Cultural Factors Affecting the Mental Health of Asian Americans

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### Abstract

In this study, we employed structural equation modeling to test the degree to which racism-related stress, acculturative stress, and bicultural self-efficacy were predictive of mental health in a predominantly community-based sample of 367 Asian American adults. We also tested whether bicultural self-efficacy moderated the relationship between acculturative stress and mental health. Finally, we examined whether generational status moderated the impact of racial and cultural predictors of mental health by testing our model across immigrant and U.S.-born samples. Results indicated that our hypothesized structural model represented a good fit to the total sample data. While racism-related stress, acculturative stress, and bicultural self-efficacy were significant predictors of mental health in the total sample analyses, our generational analyses revealed a differential predictive pattern across generational status. Finally, we found that the buffering effect of bicultural self-efficacy on the relationship between acculturative stress and mental health was significant for U.S.-born individuals only. Implications for research and service delivery are explored.

### Keywords

Asian Americans; generational analyses; racism-related stress; acculturative stress; bicultural self-efficacy

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## Racial and Cultural Factors Affecting the Mental Health of Asian Americans

A common misperception of the Asian American population, commonly referred to as the model minority myth, is that they are well adjusted and thriving in the U.S. compared to other racial minority populations (Ying, Lee, & Tsai, 2000). However, over the past several years, numerous empirical studies have demonstrated the erroneous nature of this myth. For example, there is a growing body of research suggesting that Asian Americans have higher rates of mental illnesses than previously suspected (Zane, 2007). In fact, data suggest that some Asian Americans fare worse in terms of psychological well-being than their non-Asian peers (Hwang & Ting, 2008). For example, Oh, Koeske, and Sales (2002) found that their

Korean immigrant participants tended to report higher levels of depression than their non-Korean American counterparts. Similarly, Mui and Kang (2006) reported that Japanese, Vietnamese, Chinese, and Indian immigrant older adults had higher levels of depression than other non-Asian counterparts.

Following the recommendations of the Surgeon General's Office (U.S. Department of Health and Human Services, 2001), scholars have recently begun to examine factors that might have a bearing on Asian Americans' mental health and well-being, such as immigration factors (e.g., acculturation and generational status), English proficiency, acculturation gap, and experiences of racism and discrimination (Alvarez, Juang, & Liang, 2006; Barry & Grilo, 2003; Constantine, Okazaki, & Utsey, 2004; Hwang & Ting, 2008; Lee, Choe, Kim, & Ngo, 2000; Takeuchi et al., 2007; Ying & Han, 2007). In spite of the aforementioned research, "our understanding of how culture-related factors contribute to mental health difficulties remains quite limited" (Hwang & Ting, 2008, p. 147). Thus, our study goal was to test the utility of a racial and cultural factors model of mental health with a predominantly community-based sample of Asian Americans.

### Racism-Related Stress

*Racism-related stress* refers to the "race-related transactions between individuals or groups and their environment that emerge from the dynamics of racism, and that are perceived to tax or exceed existing individual and collective resources or threaten well-being" (Harrell, 2000, p. 44). Experiences of racism can occur from interactions across individual, institutional, and cultural life domains, and racism-related stress can be experienced through a number of distinct stressors including racism-related life events, vicarious life experiences, daily racism microaggressions, chronic contextual stress, collective experiences, and transgenerational transmission (Harrell, 2000). *Racism-related life events* (e.g., being discriminated at school or work) tend to be infrequent, time limited, and may have short- and long-term effects on well-being. *Vicarious life experiences* (e.g., hearing about a racially motivated attack on someone from your racial background) are experienced indirectly through others' experiences of racism and can produce a wide range of stressful emotional responses. *Daily racism microaggressions* are subtle daily demoralizing incidents (e.g., being told that "you all" look alike) whose cumulative burden can have a substantial negative impact on health. *Chronic contextual stress* (e.g., lack of racial diversity among university faculty and administration or local and national government) reflects the sociopolitical and institutional inequalities that disadvantage people of color. *Collective experiences* refer to the cultural, social, and political expressions of racism (e.g., seeing your racial group stereotyped in the media) that are perceived to impact one's racial group (the collective) and are felt by the individual. Finally, *transgenerational transmission* (e.g., the restriction of Asian immigrants to the U.S.) refers to the way in which the historical context of one's racial group elucidates present day dynamics of racism-related stress.

The effects of racism are insidious (Dovidio & Gaertner, 1986; Harrell, 2000). For example, even though experiences of racism might at times be perceived as minor events or normal occurrences in daily life, "to live with the threat of racism means planning, almost every day of one's life, how to avoid or defend oneself against discrimination" (Essed, 1990, p. 260). Therefore, Asians Americans are likely to expend a considerable amount of psychological, emotional, and physical energy coping with racism-related stress (Harrell, 2000; Utsey, Bolden, & Brown, 2001); which could otherwise be used in other pursuits such as professional advancement or advocacy efforts in the community. Racism-related stress has been linked to poorer mental health outcomes (Pak, Dion, & Dion, 1991) in Asian American populations. For example, Gee, Spencer, Chen, Yip, and Takeuchi (2007) found that being subjected to racial discrimination was a significant predictor of mental disorders over a 12-month period in a nationally representative sample of 2,047 Asian Americans. In a sample

of 158 Chinese American school-aged youth, Grossman and Liang (2008) found that racism-related stress was a significant predictor of depressive symptoms. Liang and Fassinger (2008) also found that racism-related stress was related to lower self-esteem and interpersonal and career problems in a sample of 134 Asian American college students.

### Acculturative Stress

Asian immigrants and their offspring often experience the effects of acculturation, or “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original cultural patterns of either or both groups” (Redfield, Linton, & Herskovits, 1937, p. 149). Ultimately, acculturation is a process by which Asian immigrants and their offspring, as a result of continuous exposure to a second culture, undergo cultural change across life domains including language, ethnic identification, cognition, affective expression, and affiliation preferences (Kim, 2007; Miller, 2007). Ultimately, acculturation can produce biological (e.g., adjusting to new food and climate) and psychosocial (e.g., adjusting to new roles and social processes) change (Berry, Kim, Minde, & Mok, 1987); while not all change is inherently stressful, there are times and situations in which these culture-specific changes can be taxing.

*Acculturative stress* is, therefore, a physiological and psychological state of the individual brought about by culture-specific stressors rooted in the process of acculturation (Berry et al., 1987). Acculturative stressors include language (e.g., learning nuances of communication; Masgoret & Ward, 2006), social (e.g., learning new social norms and interacting with culturally diverse individuals; Ward & Kennedy, 1999), familial (e.g., culture-specific intergenerational conflict; Lee et al., 2000), and environmental (e.g., lack of cultural diversity in community; Benet-Martínez & Haritatos, 2005) stressors. Ultimately, acculturative stress can lead to a reduction in one’s mental health status (Williams & Berry, 1991).

Past literature has identified several factors associated with higher levels of acculturative stress that include lower levels of education, lower levels of engagement in second culture, and lower levels of language competence (Berry et al., 1987). In addition, Ying’s (2005) 2-year longitudinal study of 97 Taiwanese international graduate students identified difficulties with homesickness, cultural change, loneliness, academics, and a different climate as salient sources of acculturative stress. Similarly, in a sample of 107 Asian American college students, Hwang and Ting (2008) found language conflict, social conflict, perceived discrimination, perceptions of a closed society, and perceived acculturation gap between parents and children as significant sources of acculturative stress.

### Bicultural Self-Efficacy

For some time now, scholars have explored factors that facilitate the adjustment of bicultural individuals – those who have been exposed to and have (to some extent) internalized aspects of two cultures. One recently identified factor is *bicultural self-efficacy* (Miller, Farrell, Grome, Lin, & Ong, 2009). Based on Bandura’s (1997) self-efficacy theory, bicultural self-efficacy refers to domain-specific estimates of one’s confidence in his or her ability to negotiate and cope with perceived interactions and incompatibilities in language (e.g., translation), social interaction (e.g., understanding nuances social norms), and value (e.g., weighing the merits of individualistic versus collectivistic ways of viewing the world) domains between the culture of origin and a second culture. Conceptually, bicultural self-efficacy is important because it impacts (a) the choices that a person makes in regards to engaging in both cultures, (b) the effort an individual puts forth in engaging in both cultures, (c) how long an individual persists in engaging in both cultures in the face of obstacles, and

(d) how an individual feels about engaging in both cultures (Bandura, 1997). In addition, bicultural self-efficacy is important because it has the potential to reduce “vulnerability to stress and depression in taxing situations and strengthens resiliency to adversity” (Bandura, 2001, p. 10). Ultimately, bicultural self-efficacy might serve to buffer the negative impact of acculturative stress on mental health.

For example, David, Okazaki, and Saw (2009) found that bicultural self-efficacy was related to psychological well-being and mental health for Asian American bicultural college students. Similarly, Soriano, Colins, and Weil (1999), in a sample of racially diverse adolescent students, found that higher levels of bicultural self-efficacy were associated with a decreased likelihood of avoiding culturally different peers and of espousing negative attitudes toward culturally different populations. Although the link between bicultural self-efficacy and Asian American mental health has been established, research in this area is in its early stages; thus, it is not clear whether this relationship is the same for different Asian subgroups. For example, it is possible that bicultural self-efficacy operates differently across Asian American generational statuses.

### Generational Status

Generational status refers to the age and life status during which an individual immigrates to a new country. For example, first generation individuals are born and raised outside of the U.S. and immigrate to the U.S. in their adult lives, 1.5 generation individuals are born and raised outside of the U.S. and immigrate during childhood or adolescence, and second generation individuals are born, raised, and educated in the U.S. (Kim, Brenner, Liang, & Asay, 2003; Lee et al., 2000). First generation individuals (who were exposed only to their culture of origin during their formative years) tend to experience cultural and racial socialization experiences differently than second generation individuals (who were exposed to two cultures during their formative years). The differences in cultural socialization processes across generational status account for, in part, differences in such outcomes as cultural engagement (Miller, 2010), mental health (Miller, Yang, Hui, Choi, & Lim, in press), and physical health (Frisbie, Cho, & Hummer, 2001).

Generational status has also been shown to moderate the relationships between acculturative stress and mental health and racism-related stress and mental health (Hwang & Ting, 2008; Kuo, 1995; Yip, Gee, & Takeuchi, 2008). For example, some contend that acculturative stress is likely salient for both recent immigrants and later generation individuals who have lived in the U.S. for some time (Hwang & Ting, 2008; Suarez-Morales, Dillon & Szapocznik, 2007). Depending on an individual's generational status, years in the U.S. and exposure to a second culture, different aspects of acculturative stress might be most salient. Thus, for recent immigrants, assessing difficulties associated with the new culture might be most relevant whereas for U.S. born individuals the stress related to culture of origin difficulties and pressures from members of one's culture of origin might be more relevant (Castillo, Cano, Chen, Blucker, & Olds, 2008; Roysircar-Sodowsky & Maestas, 2000).

Others, however, suggest that racial and cultural stressors are most salient for recent immigrants. For example, Ying (2005) reported that acculturative stress slowly declined over the course of 1 year and that Asian immigrants may experience most acculturative stress early on in their arrival in the United States. Similarly, Asian immigrants might be subjected to experiences of racism and discrimination for the first time shortly after entering the U.S. Because many Asian nations are relatively mono-racial, immigrants might not have experience dealing with race-specific issues and therefore lack strategies for dealing with racism; in fact, prior to living in the U.S., these individuals might not consider race to be an important issue. For example, it has been hypothesized that the association between racism-related stress and mental health will be weaker for second generation individuals (who have

learned strategies for dealing with racism) than for first generation individuals (Yip et al., 2008). Having grown up in the U.S., second generation individuals likely have experience with and strategies for dealing with racism.

## Purpose

In this study, we tested the plausibility of our racial and cultural factors model of Asian American mental health. First, we hypothesized that acculturative stress, racism-related stress, and bicultural self-efficacy would be related to Asian American mental health (see Figure 1). We also hypothesized that bicultural self-efficacy would moderate the relationship between acculturative stress and mental health such that higher levels of bicultural self-efficacy would reduce the effect of acculturative stress on mental health. Finally, based on recent generational tests (cf. Miller, 2010; Miller, Yang, et al., in press), we hypothesized that generational status would moderate racial and cultural processes for Asian Americans. Specifically, we hypothesized that the magnitude of the relationships between racial and cultural factors and mental health would differ such that a different pattern of significant relationships would emerge across immigrant and U.S.-born samples. The present study contributes to the literature by including acculturative stress, racism-related stress, bicultural self-efficacy, and mental health within the same study. While a number of studies have examined some combination of these variables, few (if any) have included all variables simultaneously; thus our current understanding of racial and cultural factors that impact the mental might be underdeveloped. Ultimately, we believe that Asian Americans' racial and cultural experiences do not occur in a vacuum; instead, these experiences occur and impact mental health simultaneously. Therefore, including racial and cultural factors within the same model likely best approximates Asian Americans' mental health experiences. In addition, because the majority of our study participants were adults from the community (i.e., not college or convenience samples), we were able to generalize findings to a broader population of Asian Americans.

## Method

### Procedure

Asian Americans (broadly defined and including Asian and Pacific Islander individuals) over the age of 18 were recruited through university, community, and professional organizations and associations across the U.S. Participants were informed that we were conducting a study that examined Asian, Asian American, and Pacific Islander cultural experiences. Participants were asked to complete an electronic informed consent form and a one-time anonymous web-based questionnaire. Data collection occurred over a 3-month period. In total, 606 individuals participated in the study. Of the 606 surveys, only 367 had complete data and were therefore retained for analysis.

### Participants

A total of 367 (253 women, 110 men, 4 did not report this information) Asian Americans from 26 states and the District of Columbia were included in this study. Participants consisted of 205 (55.7%) professionals, 114 (31%) university students, 28 (7.6%) other, and 16 (4.3%) currently unemployed with a mean age of 32.74 ( $SD = 11.96$ ). Participants came from a variety of Asian ethnic backgrounds including Korean (25.5%), Chinese (25.5%), Asian Indian (12.5%), Filipino (12.5%), Vietnamese (6%), Taiwanese (4.3%), Japanese (2.4%), Thai (1.9%), other (1.9%), Hmong (1.6%), Cambodian (1.1%), Pakistani (0.8%), Laotian (0.5%), Khmer (0.5%), Sri Lankan (0.5%), Bangladeshi (0.3%), Burmese (0.3%), Nepalese (0.3%), Pacific Islander (0.3%). Of these individuals, 73 (19.8%) identified as first generation, 124 (33.7%) as 1.5 generation, 155 (42.1%) as second generation, 3 (0.8%) as

third generation, 4 (1.1%) as fourth generation, 2 (0.5%) as fifth generation, and 4 (1.1%) as other. Forty-nine participants (13.3%) reported an annual income ranging from \$25,000 to 50,000; 82 (22.3%) reported \$50,000 to 75,000; 56 (15.2%) reported between \$75,000 and \$100,000; 68 (18.5%) reported \$100,000 to 150,000, and 67 (18.2%) reported \$150,000 and higher (39 reported “other”). Participants’ majors and professions included communications, economics, education, engineering, humanities, law, liberal arts, library sciences, mathematics, medicine or premed, pharmacy, psychology, science, social science, sociology, and “other.”

## Measures

**Riverside Acculturation Stress Inventory (RASI; Benet-Martínez & Haritatos, 2005)**—The RASI is a brief and comprehensive measure that reflects the interpersonal, intellectual, professional, and structural acculturative stressors. The 15 RASI items represent acculturative stressors in the following five domains: language skills (e.g., “It bothers me that I have an accent [in English or an Asian language]”), work (e.g., “Because of my Asian background, I have to work harder than most Americans”), intercultural relations (e.g., “I have had disagreements with Americans for liking Asian customs or ways of doing things”), discrimination (e.g., “I have been treated rudely or unfairly because of my Asian background”), and cultural makeup of the community (e.g., “I feel that there are not enough Asian people in my living environment”); this 5-factor structure was supported using confirmatory factor analysis in two independent samples including a total of 730 Asian American participants (Miller, Kim, & Benet-Martínez, 2011). Each item is answered using a scale that ranges from 1 (*strongly disagree*) to 5 (*strongly agree*). Prior internal consistency estimates for the RASI total score range from .79 to .87; subscale internal consistency estimates ranged from .68 to .84 (Benet-Martínez & Haritatos, 2005). In three independent studies (Chen, Benet-Martínez & Bond, 2008), RASI scores demonstrated theory consistent relationships with scores on measures of bicultural identity integration ( $r$  ranging from  $-.24$  to  $-.31$ ) and psychological adjustment ( $r$  ranging from  $-.26$  to  $-.56$ ). Because we employed a measure of racism-related stress, we did not use the three RASI discrimination items. Current internal consistency estimates were .82 for the RASI total score, .72 for the Work Challenges, .75 for the Language Skills, .71 for the Intercultural Relations, and .70 for the Cultural Isolation subscale scores.

**Asian American Racism-Related Stress Inventory (AARRSI; Liang et al., 2004)**—The AARRSI, based in part on Harrell’s (2000) model of racism-related stress, is a 29-item self-report measure intended to reflect the multidimensional nature of racism-related stress for the general Asian American population. AARRSI item content includes racism-related life events, vicarious racism experiences, daily racism microaggressions, and collective experiences and reflect Socio-Historical (e.g., “You are told that Asians have assertiveness problems”), General (e.g., “A student you do not know asks you to help in math”), and Perpetual Foreigner (e.g., “You are asked where you are really from”) dimensions of racism faced by Asian Americans and are rated on a 5-point scale from 1 (*This has never happened to me or someone I know*) to 5 (*This event happened and I was extremely upset*). The 3-factor structure was supported using confirmatory factor analysis in a sample of 622 Asian American participants (Miller, Kim, Chen, & Alvarez, in press). Higher scores indicate a higher level of racism-related stress. Convergent evidence was demonstrated by theory-consistent medium to large relations between AARRSI scores and scores on measures of minority status stress and experiences of racism (Liang et al., 2004). AARRSI scores have produced good internal reliability estimates ranging from .90 to .95 (Liang et al., 2004). Prior coefficient alphas for Socio-Historical Racism, General Racism, and Perpetual Foreigner Racism subscales ranged from .82 to .93, .75 to .87, and .84 to .88, respectively. Test–retest reliability coefficients over a 2-week interval ranged from .73 to .

87. Current internal consistency estimates were .95 for the AARRSI total score, .90 for the Socio Historical Racism, .88 for the General Racism, and .86 for the Perpetual Foreigner Racism subscales.

**Bicultural Self-Efficacy Scale (BSE; Miller, Farrell, Grome, Lin, & Ong, 2009)**—The BSE is an author-developed 14-item self-report measure that assesses Asian Americans' confidence in dealing with the interactions and perceived incompatibilities between U.S. and traditional Asian cultures. Items were reviewed by experts in self-efficacy, acculturation, and Asian American psychology and assess efficacy in three domains: Understanding and explaining cultural nuances (“Identify and understand the differences between my Asian culture and European American culture”), bicultural stressors (“Handle the pressure from Asian individuals who feel I am too ‘American’”), and bilingual skills (“Manage language differences between an Asian language and the English language”) and are rated on a 10-point scale from 0 (*no confidence at all*) to 9 (*complete confidence*). Miller, Farrell, et al. provided exploratory and confirmatory factor analytic support for the three-factor structure of the BSE. Prior internal consistency estimates for the BSE total score and Nuances, Stressors, and Bilingual Skills subscale scores ranged from .86 to .92 in three independent studies; BSE scores have also demonstrated theory consistent relationships with scores on measures of bicultural self-efficacy, bicultural identity integration, acculturative stress, and general stress (Miller, Farrell, et al.). Current internal consistency estimates were .90 for the BSE total score, .89 for the Nuances, .90 for the Bilingual Skills, and .87 for the Bicultural Pressures subscales.

**Mental Health Inventory (MHI; Veit & Ware, 1983)**—The MHI is a 38-item measure that assesses both positive and negative psychological health outcomes in general populations. Respondents are asked to report the intensity or frequency of psychological symptoms during the past month. Using four samples of participants ranging in age from 13 to 60 years, Veit and Ware reported a hierarchical factor model that comprised five first-order factors (Anxiety, Depression, Loss of Behavior/Emotional Control, General Positive Affect and Emotional Ties) nested within two higher order factors (Psychological Distress and Psychological Well-Being). With the purpose of reducing participant burden, we selected the Depression and Anxiety subscales of the MHI to operationalize mental health – two common aspects of mental health assessed in racial and cultural health literature. Examples of the MHI items include “during the past month, have you felt downhearted and blue?” (Depression), and “during the past month, have you felt restless, fidgety, or impatient?” (Anxiety). Items were rated on a 6-point scale from 1 (*all of the time*) to 6 (*none of the time*) and adjusted so that higher scores showed the least favorable health. Scores of the MHI have been found to be related with life satisfaction (Pearson, 2008). Convergent validity of MHI scores has been established as positive associations with scores from measures such as the Positive and Negative Affect Schedule and the Dyadic Adjustment Scale (Manne & Schnoll, 2001). Veit and Ware reported Cronbach alphas, ranging from .83 to .91 for scales based on the five second-order factors and .96 for the total score, respectively. Current internal consistency estimates were .91 for the Anxiety and .94 for the Depression scales.

## Data Analysis

Structural equation modeling was employed to test the hypothesized racial and cultural stressors model. Three domain representative item parcels were created and used as observed indicators of each latent construct (see Little, Cunningham, Shahar, & Widaman, 2002, for a review of issues related to item parceling). In order to test the moderation hypothesis with latent factors, we used Marsh, Wen, and Hau's (2004) unconstrained matched-pair strategy for creating interaction indicators. Covariance and asymptotic

covariance matrices were analyzed via LISREL 8.54 (Jöreskog & Sörbom, 1996). The Satorra-Bentler scaled chi-square (Satorra & Bentler, 1994) was selected to adjust for the presence of non-normal data. In addition, the standardized root-mean-square error of approximation (RMSEA), standardized root-mean-square residual (SRMR), and the comparative fit index (CFI) were used to assess model fit. Data analysis was conducted in two steps. In the first step, the hypothesized model of racial and cultural factors was tested in the total sample. In the second step, the hypothesized model was tested across generational statuses. See Table 1 for descriptive statistics and bivariate correlations for observed scores. A table of factor loadings is available from the first author.

## Results

### Step One: Total Sample Analyses

The hypothesized model exhibited a good fit to the full sample data, SB  $\chi^2(80, N = 367) = 103.576, p = .039$ , RMSEA = .028 (90% CI = .011; .042), SRMR = .029, CFI = .990, and the variance accounted for in observed indicators was .55 for acculturative stress, .86 for racism-related stress, .87 for bicultural self-efficacy, .63 for the acculturative stress and bicultural self-efficacy interaction, and .90 for mental health. This model accounted for approximately 12% of the variance in mental health for the total sample. All but five (factor covariance parameters) of the estimated model parameters were significant. One of the six relationships between exogenous factors (racism-related stress and acculturative stress,  $r = .327, p < .001$ ) was significant. Three structural parameters were significant; acculturative stress ( $\gamma = .199, t = 3.037, p < .05$ ), racism-related stress ( $\gamma = .134, t = 2.473, p < .05$ ), and bicultural coping efficacy ( $\gamma = -.183, t = -3.254, p < .05$ ) were all predictive of mental health. The interaction between acculturative stress and bicultural self-efficacy was not predictive of mental health ( $\gamma = -.250, t = -1.793, p > .05$ ).

### Step Two: Generational Analyses

Using their self-identified generational status information, participants were assigned to either an immigrant (those who were born in an Asian country and immigrated to the U.S. including first and 1.5 generation individuals) or U.S.-born (those who were born in the U.S. including second generation and later individuals) sample. The immigrant sample ( $n = 197$ ) consisted of 133 women and 63 men (1 participant did not report this information). The immigrant sample had a mean age of 36.30 ( $SD = 13.00$ ) and the mean number of years lived in the U.S. was 20.70 ( $SD = 11.40$ ). The U.S.-born sample ( $n = 167$ ) consisted of 120 women and 47 men and had a mean age of 28.21 ( $SD = 8.62$ ). Mean years lived in the U.S. for the U.S.-born sample was 26.32 ( $SD = 8.39$ ). U.S.-born ( $M = 1.97, SD = .87$ ) individuals reported higher levels of anxiety and depression symptoms compared to immigrant ( $M = 1.76, SD = .79$ ) individuals,  $F(364) = 6.578, p = .01, d = .27$ . U.S. born ( $M = 3.08, SD = .86$ ) individuals reported higher levels of racism-related stress compared to immigrant ( $M = 2.89, SD = .89$ ) individuals,  $F(364) = 4.596, p = .033, d = .23$ . Immigrant ( $M = 8.34, SD = 1.15$ ) individuals reported higher levels of bicultural self-efficacy compared to U.S.-born ( $M = 7.61, SD = 1.32$ ) individuals,  $F(364) = 31.363, p < .001, d = .59$ .

**Immigrant Sample**—The structural model exhibited a good fit to the immigrant sample data, SB  $\chi^2(80, n = 197) = 79.123, p = .507$ , RMSEA = .011 (90% CI = .010; .039), SRMR = .034, CFI = .994, and the variance accounted for in observed indicators was 55% for acculturative stress, 86% for racism-related stress, 87% for bicultural coping efficacy, 60% for the acculturative stress and bicultural self-efficacy interaction factor, and 90% for mental health. The model accounted for approximately 13% of the variance in mental health for the immigrant sample. All but four (factor covariance parameters) of the estimated model parameters were significant. Two of the six relationships between exogenous factors



(racism-related stress and acculturative stress,  $r = .255, p < .05$ ; acculturative stress and the acculturative stress and bicultural self-efficacy interaction factor,  $r = .418, p < .05$ ) were significant. Two structural parameters were significant, which suggested that acculturative stress ( $\gamma = .238, t = 2.474, p < .05$ ) and racism-related stress ( $\gamma = .211, t = 2.637, p < .05$ ) were predictive of mental health. Bicultural self-efficacy ( $\gamma = -.126, t = -1.803, p > .05$ ) and the interaction between acculturative stress and bicultural self-efficacy ( $\gamma = -.093, t = -.986, p > .05$ ) were not predictive of mental health.

**U.S.-Born Sample**—The structural model exhibited good fit to the U.S.-born sample data, SB  $\chi^2(80, n = 167) = 85.444, p = .318$ , RMSEA = .020 (90% CI = .010; .049), SRMR = .039, CFI = .991, and the variance accounted for in observed indicators was 56% for acculturative stress, 89% for racism-related stress, 85% for bicultural self-efficacy, 66% for the acculturative stress and bicultural self-efficacy interaction factor, and 89% for mental health. The model explained approximately 11% of the variance in mental health for the U.S. born sample. All of the factor loadings and uniqueness terms were significant and one of the six relationships between exogenous factors was significant (racism-related stress and acculturative stress,  $r = .431, t = 3.987, p < .05$ ). Bicultural self-efficacy ( $\gamma = -.202, t = -2.346, p < .05$ ) was predictive of mental health for U.S. born individuals.

In addition, the interaction between acculturative stress and bicultural self-efficacy was predictive of mental health ( $\gamma = -.160, t = -1.989, p < .05$ ) for the U.S.-born sample. To understand the nature of this interaction, we examined the relationship between acculturative stress and bicultural self-efficacy using observed total scores at different levels (i.e., above and below the later generation sample mean) of bicultural self-efficacy. For U.S.-born individuals who scored above the U.S.-born sample mean on the bicultural self-efficacy scale, the relationship between acculturative stress and poorer mental health (i.e., more reported symptoms of depression and anxiety) was nonsignificant ( $r = .162, p = .063$ ), whereas for U.S.-born individuals who scored below the mean the relationship was significant ( $r = .202, p = .039$ ). Thus, bicultural self-efficacy buffered against the negative effects of acculturative stress on mental health only for U.S.-born individuals with above average (compared to the present sample) levels of bicultural self-efficacy.

## Discussion

The aim of this study was to examine the impact of racial and cultural factors on the mental health of Asian Americans. Based on prior conceptual and empirical work, we hypothesized that racism-related stress, acculturative stress, and bicultural self-efficacy would predict mental health. Present findings are consistent with prior research (e.g., Alvarez et al., 2006; David et al., 2009; Hwang & Ting, 2008; Yip et al., 2008) and provide compelling evidence for the plausibility of the racial and cultural factors model, which accounted for approximately 12 percent of the variance in mental health. Not surprisingly, both acculturative stress and racism-related stress were positively related to mental health difficulties. These race and culture specific stressors ultimately tax an individual's mental and physical resources and can lead to a substantial reduction in mental health. In addition, bicultural self-efficacy was negatively related with mental health difficulties in the present study; a finding consistent with prior work in this area (e.g., David et al., 2009). Thus, one's ability to negotiate and cope with perceived incompatibilities between the culture of origin and the second culture facilitated positive adjustment and mental health for Asian Americans. Contrary to study hypotheses, bicultural self-efficacy did not moderate the relationship between acculturative stress and mental health for the total sample.

To gain a more nuanced understanding of Asian American racial and cultural experiences and their relation to mental health, we tested theoretically and empirically derived

generational status moderator hypotheses. Specifically, we tested whether racism-related stress, acculturative stress, and bicultural self-efficacy demonstrated different relationships with mental health across generational status. Consistent with study hypotheses and recent empirical tests of generational status moderator hypotheses (Chang, Tracey, & Moore, 2005; Miller, Yang, et al., in press; Tsai, Ying, & Lee, 2000), we found a differential pattern of significant relationships between racial and cultural factors and mental health across immigrant and U.S.-born samples. For immigrants, racism-related stress and acculturative stress were significant predictors of mental health, whereas bicultural self-efficacy was not. For U.S.-born individuals, bicultural self-efficacy was a significant predictor of mental health, whereas racism-related stress and acculturative stress were not. Ultimately, these findings highlight the potentially unique ways in which racial and cultural factors impact mental health for immigrant and U.S.-born Asian Americans. This differential pattern of significant relationships is consistent with prior research with this population (Yip et al., 2008).

Finally, we tested the hypothesis that bicultural self-efficacy would moderate the relationship between acculturative stress and mental health, such that the negative impact of acculturative stress on mental health would be diminished for individuals with higher bicultural self-efficacy. This hypothesis was partially supported, such that bicultural self-efficacy moderated the relationship between acculturative stress and mental health for U.S.-born individuals but not immigrants. Thus, for U.S.-born individuals with above average bicultural self-efficacy, acculturative stress was not related to mental health, whereas acculturative stress demonstrated a negative impact on mental health for U.S.-born individuals with below average levels of bicultural self-efficacy.

Overall, present findings are consistent with prior theory and research (Kuo, 1995; Lee et al., 2000; Yip et al., 2008) and can be explained, in part, by the different racial and cultural socialization experiences across generational statuses. While immigrant and U.S.-born individuals might be considered bicultural – they have knowledge of and competence in their culture of origin and the U.S. culture – the ways in which they incorporate and integrate these cultures into their daily lives might differ. For example, immigrant individuals (who were socialized in a monocultural milieu during their formative years) might tend to employ a “both and” approach to internalizing the second (U.S.) culture, whereas U.S.-born individuals (who were socialized in a bicultural milieu during their formative years) might tend to employ an “either or” approach to internalizing both cultures (cf. Miller, 2010). These different cultural socialization processes might, at a basic level, shape racial and cultural processes in such a manner that racism-related stress and acculturative stress behave differently across generational statuses. Ultimately, these results highlight the complex nature and the simultaneous impact of racial and cultural factors on Asian Americans’ mental health. These findings also demonstrate the role of generational status in determining the way in which these factors impact the mental health of Asian Americans. Finally, these results suggest that, by including both racial and cultural factors in the model, we gain a more complete understanding of the mental health experiences of Asian Americans.

### Limitations and Future Directions for Research

Present findings should be weighed in light of a number of study limitations. First, given the characteristics of the study sample, we were unable to examine the appropriateness of the model across other important Asian subgroups such as ethnic groups (e.g., Korean, Pakistani or Hmong) and immigration status (e.g., voluntary, involuntary, or refugee). Future research might target these populations in order to test the generalizability of present findings across diverse Asian subgroups. Also, the study sample reported a relatively high (see Table 1) level of bicultural self-efficacy. This range restriction might limit the generalizability of

present findings and may, in part, explain the nonsignificant relationship between bicultural self-efficacy and mental health for Asian immigrants. Because this study employed quantitative descriptive methods, we were unable to test directly the hypothesis that generational status caused the observed differences in the magnitude and significance of relationships between racial and cultural factors and mental health. Future studies might use quasiexperimental methods to test this hypothesis directly and to advance our understanding of how generational status socialization experiences shape and impact behavior across other areas of functioning. Also, while we included a number of theoretically compelling constructs (e.g., acculturation or personality factors such as openness), we were unable to include other potentially important constructs; future research might examine such constructs in order to further understand Asian American mental health. Finally, in order to increase the confidence that our findings were not sample specific, future research is needed to cross-validate present findings.

### Implications for Service Delivery

Present findings also provide some implications for mental health professionals. For example, it might be beneficial for mental health professionals to raise and allocate resources toward prevention efforts aimed at reducing acculturative stress and racism-related stress in the Asian immigrant population. In addition, from an advocacy perspective, mental health professionals might bring their considerable skills (e.g., consultation, outreach, prevention, and education) to bear on eliminating systemic and institutional forms of racism; such efforts might ultimately help to reduce individual experiences of racism-related stress. Mental health professionals might also develop educational community interventions for Asian immigrants that address racial and cultural stressors and also provide strategies for coping with them (e.g., social support systems; Williams & Berry, 1991). Interventions for U.S.-born individuals could target sources of bicultural self-efficacy (cf. Bandura, 1997) such as performance mastery experiences (e.g., developing language skills) and vicarious experiences (e.g., introducing individuals with others who have successfully coped with racial and cultural stressors) in order to facilitate the process whereby Asian Americans develop and bolster confidence in their ability to live successfully in multiple cultures. Ultimately, when working with Asian American clients – regardless of generational status – it is important to consider the within-group diversity of this population and to assess and explore racial and cultural domains of experience on more than one occasion as the salience of these experiences may change over time (Tsai et al., 2000).

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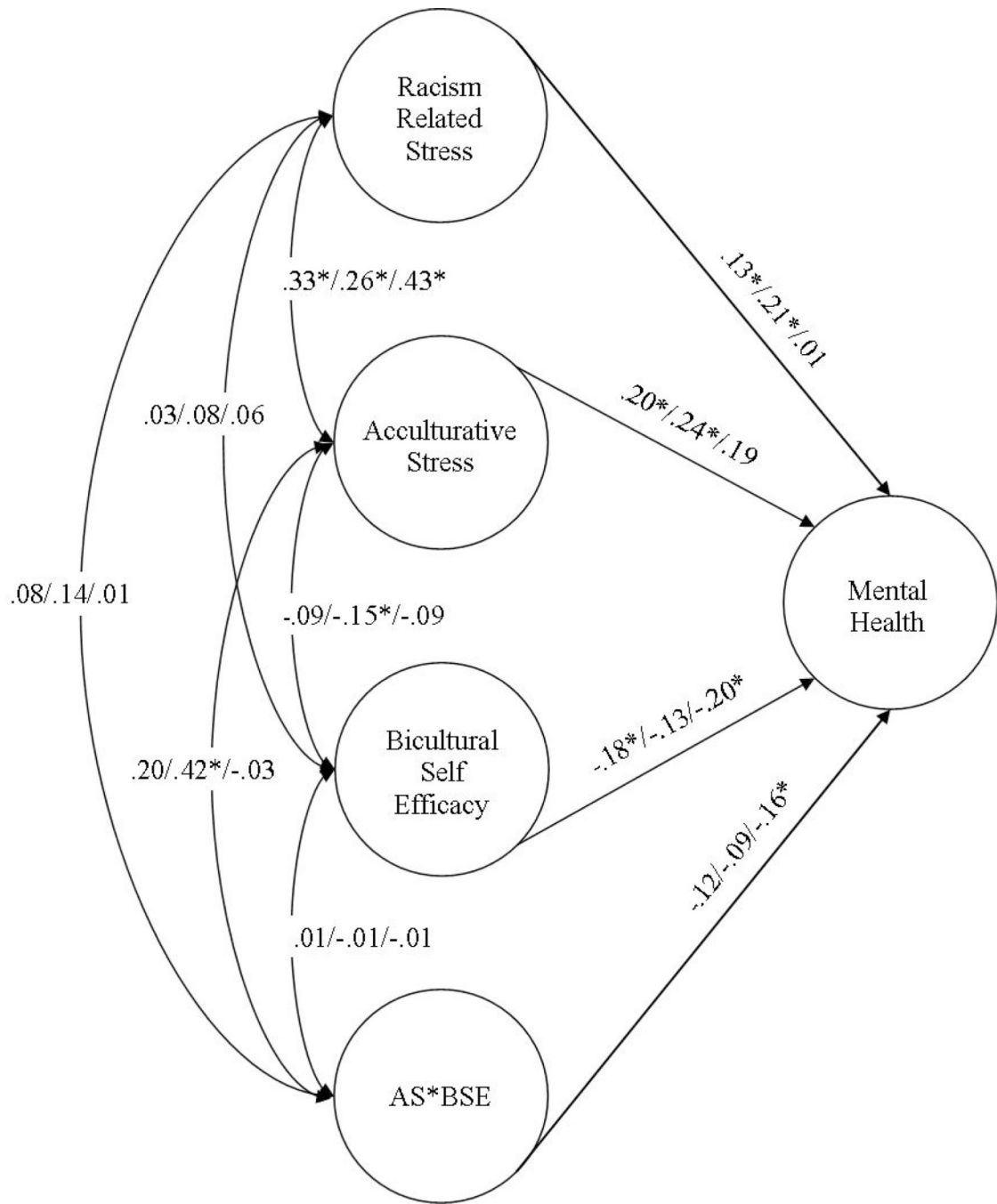
### References

- Alvarez AN, Juang L, Liang CTH. Asian Americans and racism: When bad things happen to ‘model minorities.’ *Cultural Diversity and Ethnic Minority Psychology*. 2006; 12:477–492. [PubMed: 16881751]
- Bandura, A. *Self-efficacy: The exercise of control*. New York, NY: Freeman; 1997.
- Bandura A. Social cognitive theory: An agentic perspective. *Annual Review of Psychology*. 2001; 52:1–26.

- Barry DT, Grilo CM. Cultural, self-esteem, and demographic correlates of perception of personal and group discrimination among East Asian immigrants. *American Journal of Orthopsychiatry*. 2003; 73:223–229. [PubMed: 12769243]
- Benet-Martínez V, Haritatos J. Bicultural identity integration (BII): Components and psychological antecedents. *Journal of Personality*. 2005; 73:1015–1050. [PubMed: 15958143]
- Berry JW, Kim U, Minde T, Mok D. Comparative studies of acculturative stress. *International Migration Review*. 1987; 21:491–511.
- Castillo LG, Cano MA, Chen SW, Blucker RT, Olds TS. Family conflict and intragroup marginalization as predictors of acculturative stress in Latino college students. *International Journal of Stress Management*. 2008; 15:43–52.
- Chang T, Tracey TJG, Moore TL. The dimensional structure of Asian American acculturation: An examination of prototypes. *Self and Identity*. 2005; 4:25–43.
- Chen SX, Benet-Martínez V, Bond MH. Bicultural identity, bilingualism, and psychological adjustment in multicultural societies: Immigration-based and globalization-based acculturation. *Journal of Personality*. 2008; 76:803–838. [PubMed: 18482355]
- Constantine MG, Okazaki S, Utsey SO. Self-concealment, social self-efficacy, acculturative stress, and depression in African, Asian, and Latin American international college students. *American Journal of Orthopsychiatry*. 2004; 74:230–241. [PubMed: 15291700]
- David EJR, Okazaki S, Saw A. Bicultural self-efficacy among college students: Initial scale development and mental health correlates. *Journal of Counseling Psychology*. 2009; 56:211–226.
- Dovidio, JF.; Gaertner, SL., editors. *Prejudice, discrimination, and racism*. San Diego, CA: Academic Press; 1986.
- Essed, P. *Everyday racism: Reports from women of two cultures*. Claremont, CA: Hunter House; 1990.
- Frisbie WP, Cho Y, Hummer RA. Immigration and the health of Asian and Pacific Islander adults in the United States. *American Journal of Epidemiology*. 2001; 153:372–380. [PubMed: 11207155]
- Gee GC, Spencer M, Chen Y, Yip T, Takeuchi DT. The association between self-reported racial discrimination and 12-month DSM-IV mental disorders among Asian Americans nationwide. *Social Science and Medicine*. 2007; 64:1984–1996. [PubMed: 17374553]
- Grossman JM, Liang B. Discrimination distress among Chinese American adolescents. *Journal of Youth Adolescence*. 2008; 37:1–11.
- Guo X, Suarez-Morales L, Schwartz SJ, Szapocznick J. Some evidence for multidimensional biculturalism: Confirmatory factor analysis and measurement invariance analysis on the Bicultural Involvement Questionnaire – Short Version. *Psychological Assessment*. 2009; 21:22–31. [PubMed: 19290763]
- Harrell SP. A multidimensional conceptualization of racism-related stress: Implications for the well-being of people of color. *American Journal of Orthopsychiatry*. 2000; 70:42–57. [PubMed: 10702849]
- Hwang W, Ting JY. Disaggregating the effects of acculturation and acculturative stress on the mental health of Asian Americans. *Cultural Diversity and Ethnic Minority Psychology*. 2008; 14:147–154. [PubMed: 18426287]
- Jöreskog, K.; Sörbom, D. *LISREL 8: User's reference guide*. Lincolnwood, IL: Scientific Software International; 1996.
- Kim, BSK. Acculturation and enculturation. In: Leong, FTL.; Inman, AG.; Ebreo, A.; Yang, LH.; Kinoshita, L.; Fu, M., editors. *Handbook of Asian American psychology*. 2nd ed.. Thousand Oaks, CA: Sage; 2007. p. 141-158.
- Kim BSK, Brenner BR, Liang CTH, Asay PA. A qualitative study of adaptation experiences of 1.5 generation Asian Americans. *Cultural Diversity and Ethnic Minority Psychology*. 2003; 9:156–170. [PubMed: 12760327]
- Kuo WH. Coping with racial discrimination: The case of Asian Americans. *Ethnic and Racial Studies*. 1995; 18:109–127.
- Lee RM, Choe J, Kim G, Ngo V. Construction of the Asian American family conflicts scale. *Journal of Counseling Psychology*. 2000; 47:211–222.

- Liang CTH, Fassinger RE. The role of collective self-esteem for Asian Americans experiencing racism-related stress: A test of moderator and mediator hypotheses. *Cultural Diversity and Ethnic Minority Psychology*. 2008; 14:19–28. [PubMed: 18229997]
- Liang CTH, Li LC, Kim BSK. The Asian American racism-related stress inventory: Development, factor analysis, reliability, and validity. *Journal of Counseling Psychology*. 2004; 51:103–114.
- Little TD, Cunningham WA, Shahar G, Widaman KF. To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling*. 2002; 9:151–173.
- Manne S, Schnoll R. Measuring cancer patients' psychological distress and well being: A factor analytic assessment of the Mental Health Inventory. *Psychological Assessment*. 2001; 13:99–109. [PubMed: 11281043]
- Marsh HW, Wen Z, Hau K. Structural equation models of latent interactions: Evaluation of alternative estimation strategies and indicator construction. *Psychological Methods*. 2004; 9:275–300. [PubMed: 15355150]
- Masgoret, A.; Ward, C. Culture learning approach to acculturation. In: Sam, DL.; Berry, JW., editors. *The Cambridge handbook of acculturation psychology*. New York, NY: Cambridge; 2006. p. 58-77.
- Miller MJ. A bilinear multidimensional measurement model of Asian American acculturation and enculturation: Implications for counseling interventions. *Journal of Counseling Psychology*. 2007; 54:118–131.
- Miller MJ. Testing a bilinear domain-specific model of acculturation and enculturation across generational status. *Journal of Counseling Psychology*. 2010; 57:179–186. [PubMed: 21133569]
- Miller MJ, Farrell JA, Grome R, Lin L, Ong AD. Development and validation of the Bicultural Coping Self-Efficacy Scale. 2009 Unpublished manuscript.
- Miller MJ, Kim J, Benet-Martínez V. Validating the Riverside Acculturation Stress Index with Asian Americans. *Psychological Assessment*. 2011; 23:300–310. [PubMed: 21381836]
- Miller MJ, Kim J, Chen GA, Alvarez AN. Exploratory and confirmatory factor analysis of the Asian American Racism-Related Stress Inventory. *Assessment*. (in press).
- Miller MJ, Yang M, Hui K, Choi N, Lim RH. Acculturation, enculturation, and Asian American college students' mental health and attitudes toward seeking professional psychological help. *Journal of Counseling Psychology*. (in press).
- Mui AC, Kang S. Acculturation stress and depression among Asian immigrant elders. *Social Work*. 2006; 51(3):243–255. [PubMed: 17076122]
- Oh U, Koeske GF, Sales E. Acculturation, stress, and depressive symptoms among Korean immigrants in the United States. *Journal of Social Psychology*. 2002; 142:511–526. [PubMed: 12153126]
- Pak A, Dion KL, Dion KK. Social-psychological correlates of experienced discrimination: Test of the double jeopardy hypothesis. *International Journal of Intercultural Relations*. 1991; 15:243–253.
- Pearson QM. Role overload, job satisfaction, leisure satisfaction, and psychological health among employed women. *Journal of Counseling and Development*. 2008; 86:57–63.
- Redfield R, Linton R, Herskovits MJ. Memorandum for the study of acculturation. *American Anthropologists*. 1937; 38:149–152.
- Royircar-Sodowsky, G.; Maestas, MV. Acculturation, ethnic identity, and acculturative stress: Evidence and measurement. In: Dana, RH., editor. *Handbook of cross-cultural and multicultural personality assessment*. Mahwah, NJ: Lawrence Erlbaum Associates; 2000. p. 131-172.
- Satorra, A.; Bentler, PM. Corrections to test statistics and standard errors on covariance structure analysis. In: von Eye, A.; Clogg, CC., editors. *Latent variables analysis*. Thousand Oaks, CA: Sage; 1994. p. 399-419.
- Soriano, FL.; Colins, B.; Weil, M. Social and cultural skills enhancement training for adolescents: Relevance to intercultural group relations and violence. Paper presented at the meeting of the American Educational Research Association; Chicago, IL. 1999.
- Suarez-Morales L, Dillon FR, Szapocznik J. Validation of the acculturative stress inventory for children. *Cultural Diversity and Ethnic Minority Psychology*. 2007; 13:216–224. [PubMed: 17638478]

- Takeuchi DT, Zane N, Hong S, Chae DH, Gong F, Gee GC, Alegria M. Immigration-related factors and mental disorders among Asian Americans. *American Journal of Public Health*. 2007; 97:84–90. [PubMed: 17138908]
- Tsai JL, Ying Y, Lee PA. The meaning of “being Chinese” and “being American”: Variation among Chinese American young adults. *Journal of Cross-Cultural Psychology*. 2000; 31:302–332.
- U. S. Department of Health and Human Services. Rockville, MD: 2001. *Mental health: Culture, race and ethnicity. A supplement to mental health: A report of the Surgeon General*.
- Utsey, SO.; Bolden, MA.; Brown, AL. Visions of revolution from the spirit of Frantz Fanon: A psychology of liberation for counseling African Americans confronting societal racism and oppression. In: Ponterotto, JG.; Manuel Casas, J.; Suzuki, LA.; Alexander, CM., editors. *The handbook of multicultural counseling* 2nd edition. Thousand Oaks, CA: Sage Publications; 2001. p. 290-310.
- Viet CT, Ware JE. The structure of psychological distress and well-being in general populations. *Journal of Consulting and Clinical Psychology*. 1983; 51:730–742. [PubMed: 6630688]
- Ward C, Kennedy A. The measurement of sociocultural adaptation. *International Journal of Intercultural Relations*. 1999; 23:659–677.
- Williams CL, Berry JW. Primary prevention of acculturative stress among refugees: Application of psychological theory and practice. *American Psychologist*. 1991; 46:632–641. [PubMed: 1952422]
- Ying YW. Variation in acculturative stressors over time: A study of Taiwanese students in the United States. *International Journal of Intercultural Relations*. 2005; 29:59–71.
- Ying YW, Han M. The longitudinal effect of intergenerational gap in acculturation on conflict and mental health in Southeast Asian American adolescents. *American Journal of Orthopsychiatry*. 2007; 77:61–66. [PubMed: 17352586]
- Ying YW, Lee PA, Tsai JL. Cultural orientation and racial discrimination: Predictors of coherence in Chinese American young adults. *Journal of Community Psychology*. 2000; 28:427–442.
- Yip T, Gee GC, Takeuchi DT. Racial discrimination and psychological distress: The impact of ethnic identity and age among immigrant and United States-born Asian adults. *Developmental Psychology*. 2008; 44:787–800. [PubMed: 18473644]
- Zane, N. Asian American Center on Disparities Research: Community-based research on EBPPs. Symposium conducted at the annual convention of the Asian American Psychological Association; San Francisco, CA. 2007. Chair



**Figure 1.** Structural Model of Racial and Cultural Factors Impacting Asian American Mental Health. Circles represent latent factors. Single arrow-headed straight lines connecting latent factors to other latent factors represent structural loadings. Double arrow-headed curved lines connecting latent factors represent factor covariances. Standardized parameters are presented for total, immigrant, and U.S.- born samples, respectively. Statistically significant model parameters ( $p < .05$ ) are displayed with an asterisk. Item parcels (3 for each latent factor) are not displayed.

**Table 1**

## Bivariate Correlations and Descriptive Statistics for Total Sample Observed Scores

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<i>M</i>	<i>SD</i>	<b>Range</b>
1. RASI	-				2.76	.66	1.07 – 5.0
2. AARRSI	.42**	-			2.97	.88	1.21 – 5.0
3. BSE	-.08	.02	-		8.01	1.28	4.36 – 10.0
4. MHI	.20**	.17**	-.19**	-	1.86	.79	1.0 – 4.0

*Note.* RASI = Riverside Acculturation Stress Inventory; AARRSI = Asian American Racism-Related Stress Inventory; BSE = Bicultural Self-Efficacy scale; MHI = Mental Health Inventor.

\*\*  
 $p < .05$ .  $N = 367$ .