

Racial Microaggressions and Daily Well-Being Among Asian Americans

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Although epidemiological studies and community surveys of Asian Americans have found that lifetime occurrences of racial discrimination are associated with increased risk for psychological morbidity, little is known about how exposure to racial discrimination is patterned in everyday life. Extrapolating from previous qualitative research (Sue, Bucceri, Lin, Nadal, & Torino, 2007), this study presents data on the prevalence and psychological correlates of everyday racial microaggressions that reflect the Asian American experience. Measures of positive affect, negative affect, somatic symptoms, and racial microaggressions were completed by 152 Asian Americans each day for up to 14 consecutive days. Approximately 78% of participants reported some form of racial microaggression within the 2-week study period. Multilevel analyses indicated that elevations in daily microaggressions, as well as greater microaggressions on average, predicted increases in somatic symptoms and negative affect. Implications of these findings for racial microaggression research and clinical practice are discussed.

Keywords: Asian Americans, daily, intraindividual, racial microaggressions, well-being

Supplemental materials: <http://dx.doi.org/10.1037/a0031736.supp>

The contemporary image of Asian Americans is that of a “model minority” that has lived the American dream and been highly successful in U.S. society (Sue & Sue, 2013; Yin, 2000).¹ Indeed, popular media and news outlets are filled with banner headlines such as “Asian Americans: A Success Story” and “Asian Americans: Outwhiting Whites.” The success myth of Asian Americans contributes to the belief that unlike other racial/ethnic groups, they have somehow “made it” in society, experience little prejudice and discrimination, and should not be considered an oppressed minority group (Sue & Sue, 2013).

Increasingly, however, investigators have challenged this belief, arguing that Asian Americans experience considerable discrimination (Alvarez, Juang, & Liang, 2006; Sue, Bucceri, Lin, Nadal, & Torino, 2007; Wong & Halgin, 2006) and that these experiences have an eliding effect on mental and physical health (Gee, Ro, Shariff-Marco, & Chae, 2009; Wang, Siy, & Cheryan, 2011; Yoo, Gee, & Takeuchi, 2009).

Accumulating empirical evidence from population-based studies (e.g., Gee, Spencer, Chen, & Takeuchi, 2007; Yip, Gee, & Takeuchi, 2008), large community studies (e.g., Crawley, Ahn, & Winkleby, 2008; Gee, 2002), and cross-sectional samples (e.g., Hwang & Goto, 2008; Lee, 2005; Liang, Li, & Kim, 2004) and longitudinal follow-ups (e.g., Brown, Matthews, & Bromberger, 2006; Greene, Way, & Pahl, 2006) of Asian Americans indicates that discrimination is associated with increased risk for psychological morbidity and physical illness. A recent review of 62 empirical studies provides support for the hypothesis that discrimination is associated with diminished health quality among Asian Americans (Gee et al., 2009). The analysis revealed a robust link between discrimination and mental health problems, an association that was observed in 37 of the 40 studies reviewed. Taken together, these data present a challenge to the stereotype that Asian Americans represent a model minority, protected from the effects of discrimination (Wang, Siy, & Cheryan, 2011; Wong & Halgin, 2006).

This article was published Online First February 18, 2013.

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This research was supported by grants from the Cornell Institute for Social Sciences and the Bronfenbrenner Center for Translational Research. We thank Karl Pillemer and John Eckenrode for helpful comments on an earlier version of this paper. We thank Christian Cerrada, Lauren Cecilio, Tiffany Ku, Rebecca Lee, Donna Li, Mary Maleta, Anna Ng, Mony Sarkar, Wendy Viola, Snezana Vrangalova, and Joyce Zhu for valuable assistance with data collection.

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¹ We use the term *Asian Americans* to refer to people with origins in East Asia, Southeast Asia, or the Indian subcontinent and who reside in the United States.

Beyond focusing on major discriminatory events, researchers are increasingly attending to everyday race-related stressors and their relation to psychological well-being (e.g., Ong, Fuller-Rowell, & Burrow, 2009; Sellers & Shelton, 2003). Drawing on scholarly writings (cf. Pierce, Carew, Pierce-Gonzalez, & Willis, 1978; Solórzano, Ceja, & Yosso, 2000) and prior empirical research (Dovidio & Gaertner, 1996; Steele, Spencer, & Aronson, 2002), Sue, Capodilupo, et al. (2007) proposed a theoretical taxonomy of *racial microaggressions*, or subtle forms of racial bias and discrimination experienced by members of marginalized groups. In its expanded form, the taxonomy includes three broad classifications—*microassaults* (explicit racial derogation, such as referring to an Asian American as a “Jap” or “Chink”), *microinvalidations* (actions that nullify the experiential reality of racial minorities, such as regarding Asian Americans as perpetual foreigners), and *microinsults* (subtle behaviors or communication styles that debase or minimize an individual’s racial heritage, such as assuming that all Asian Americans are good at math and science). Within the context of these broad classifications, Sue (2010) has suggested that microinvalidations may represent the most insidious form of microaggression, both because they undercut rights and opportunities that may be of vital importance to stigmatized groups and because they negate the significance of identity in the lives of marginalized individuals. Moreover, a recent measurement study by Nadal (2011) provides some evidence that microinvalidations that involve themes of xenophobia or being treated as a “perpetual foreigner” (Liang et al., 2004) are the most common class of microaggression experienced by Asian Americans. Similar findings have emerged from content analyses of qualitative data (Sue, Bucceri, et al., 2007). Furthermore, consistent with the notion that microinvalidations can exact psychological and physical tolls on racial minorities (Sue, 2010), a recent cross-sectional study found that among Latino and Asian American adolescents, the experience of being viewed as a perpetual foreigner was associated with more depressive and somatic symptoms (Huynh, 2012).

Despite growing interest, much of the empirical research to date has focused on the assessment of individual differences (e.g., Nadal, 2011; Torres-Harding, Andrade, & Dias, 2012; Yoo, Steger, & Lee, 2010) and situational differences in microaggressions (e.g., Wang, Leu, & Shoda, 2011) and their effects on psychological adjustment (e.g., Mercer, Zeigler-Hill, Wallace, & Hayes, 2011; Torres, Driscoll, & Burrow, 2010) and behavioral health outcomes (e.g., Blume, Thyken, Lovato, & Denny, 2012; Huynh, 2012). Surprisingly little research has examined intraindividual (within-person) associations between racial microaggressions and psychological functioning. The question of how microaggressions influence unfolding adaptational processes is of particular theoretical importance, given that the psychological effects of microaggressions have been purported to result from their subtle, brief, and recurring nature (Pierce, 1995; Solórzano et al., 2000; Sue, Capodilupo, et al., 2007). Crucially needed, therefore, are ecologically valid studies that probe the everyday person–environment transactions that characterize the experience of racial microaggressions in daily life. It is noteworthy that, among the few studies that have captured in vivo accounts of microaggressions and well-being, most have focused on the experiences of African Americans (Burrow & Ong, 2010; Hoggard, Byrd, & Sellers, 2012; Ong et al., 2009; Swim, Hyers, Cohen, Fitzgerald, & Bylsma, 2003) and

Latinas/Latinos (Torres & Ong, 2010). Equally important are investigations of the ongoing racial microaggressions that characterize the everyday experience of Asian Americans (Lin, 2010; Sue, Bucceri, et al., 2007).

The current study aims to extend conceptual understanding of research on Asian American racial microaggressions in four important ways. First, the study provides quantitative data on the types of microaggressions Asian Americans experience and, thus, builds on the conceptual taxonomy proposed in prior qualitative investigations (Sue, Bucceri, et al., 2007; Sue, Capodilupo, et al., 2007). Second, the study adopts a daily process approach (i.e., diary methods) to examine how microaggressions can affect the emotional and physical health of Asian Americans. As suggested earlier, the bulk of quantitative research on microaggressions has employed an individual differences approach to summarizing the lived experiences of racial minorities (Lau & Williams, 2010). The influence of racial microaggressions on well-being, however, may vary both between individuals and within the same individual over time (Burrow & Ong, 2010; Ong et al., 2009; Torres & Ong, 2010). As Tennen, Affleck, Armeli, and Carney (2000) have emphasized, by combining the strengths of nomothetic and idiographic approaches, diary methods offer unique opportunities to take full account of the between- and within-person sources of variation in adaptational processes. Third, the study includes multiple indicators of well-being (i.e., positive affect, negative affect, somatic symptoms) in an effort to capture the breadth and specificity of emotional and physical health outcomes that may be impacted by racial microaggressions (Huynh, 2012). Finally, the study examines whether racial microaggressions have incremental effects on well-being above and beyond shared variance with other demographic predictor variables, including gender (e.g., Capodilupo et al., 2010; Solórzano, 1998), socioeconomic status (e.g., Kessler, Mickelson, & Williams, 1999; Ong, Phinney, & Dennis, 2006), and nativity (e.g., Noh, Kaspar, & Wickrama, 2007; Yip et al., 2008). Neuroticism was also included as a predictor due to its known associations with daily affect (cf. Bolger & Zuckerman, 1995; Zautra, Affleck, Tennen, Reich, & Davis, 2005).

In summary, the present study addresses three research questions. First, we ask whether there is variation in the type of racial microaggressions Asian Americans face. In line with the Sue, Bucceri, et al. (2007) and Nadal (2011) findings discussed earlier, we hypothesized that Asian Americans are more likely to encounter microinvalidations that implicate themes of being treated as a perpetual foreigner or as an “alien in one’s own land” than they are other forms of microaggressions. Second, we examine the overall impact of racial microaggressions both between individuals and within the same individual over time. Extrapolating from previous research (Burrow & Ong, 2010; Ong et al., 2009), we hypothesized that Asian Americans who experience more microaggressions on average would experience higher levels of negative affect (NA) and somatic symptoms and lower levels of positive affect (PA). We further predicted that higher NA and somatic symptoms and lower PA would be experienced on days with more microaggressions. To examine the robustness of these effects to subsequent well-being, we also tested whether higher levels of microaggressions would increase vulnerability to future affective disturbance and somatic symptoms. On the basis of prior research (Torres & Ong, 2010), we hypothesized that daily microaggressions would increase the likelihood of elevations in next-day NA and somatic

symptoms and reductions in PA on subsequent days. Finally, given that direct evidence of differential vulnerability to racial microaggressions among Asian Americans is limited (cf. Huynh, 2012), we tested but made no predictions regarding the extent to which different classes of microaggressions (microinsults vs. microinvalidations) would give rise to emotional and physical health problems.

Method

Participants

One hundred fifty-two Asian American college freshmen (87 male, 65 female) were recruited to participate in a 14-day diary study. All participants lived in Tomkins County, New York, which has a racial makeup of approximately 82.6% White, 8.6% Asian American, 4.0% African American, 4.2% Hispanic or Latino, and 0.4% Native American (U.S. Census Bureau, 2010). Participants included 89 (58.5%) Chinese Americans, 20 (13.2%) Asian Indians, 12 (7.9%) Taiwanese, 9 Koreans (5.95%), 8 (5.3%) Vietnamese, 6 (3.9%) Filipinos, 5 (3.3%) Japanese, and 3 (1.9%) "other Asians" (e.g., Cambodian, Hmong, Malaysian). The average age of the sample was 18.14 years ($SD = 0.55$, range = 16–20 years). The majority of the participants (56.6%) identified as second generation (first born in the United States), followed by 28.3% identifying as 1.5 generation (born in Asia and came to the United States as a child or adolescent) and 8.6% identifying as first generation (born in Asia and came to the United States as an adult). The sample self-reported a median family income between \$75,000 and \$99,999.

Procedure

Data for the study were collected via a secure Internet website, and participants were told how to access the website and provide their responses. Prior to beginning the daily diary portion of the study, participants completed a baseline questionnaire that assessed background information. During daily data collection, participants received an e-mail message each day reminding them to access the diary measures. To minimize variation in reporting times, participants could only log on to the website between the hours of 7:00 p.m. and 12 midnight. For 14 consecutive days, participants completed measures assessing daily life events, affect, and physical health. Participants were compensated up to \$40 for their time: \$2 for each diary completed, with a \$12 bonus if they completed all 14 diaries. The median number of days a participant contributed data was 13 ($M = 11.6$ days, $SD = 2.6$, range = 4–14 days). In total, participants provided 1,770 days of data, and 93% completed at least seven daily diaries.

Measures

Racial microaggressions. Participants provided frequency counts of the daily occurrence of 20 racial microaggressions. The list of microaggressions, shown in Table 1, is based conceptually on Sue, Bucceri, et al.'s (2007) focus group analysis with Asian Americans. In their content analysis, Sue, Bucceri, et al. identified eight specific microaggression themes that reflect the Asian American experience: (a) alien in own land; (b) ascription of intelli-

gence; (c) denial of racial reality; (d) exoticization of Asian American women; (e) invalidation of interethnic differences; (f) pathologizing of cultural values and communication styles; (g) second-class citizenship; and (h) invisibility. In the current study, a subtheme involving "immasculinity of Asian American men" was generated through in-depth focus group discussions that asked Asian American participants to reflect on their own experiences of subtle racism. Instructions for the 20-item checklist were worded to refer to whether the event had occurred that day (e.g., "Today, someone I did not know treated me as if I was stupid and needed things explained to me slowly"). Respondents were given a score of 1 if they had experienced a microaggression event on a particular day and a score of 0 if they had not. Summary scores, based on the number of microaggressions occurring each day, were computed by aggregating responses across the nine specific themes. In addition, a composite score was created for each of the two major microaggression classifications: microinsults and microinvalidations. Two independent raters classified each of the 20 racial microaggression items into one of two, mutually exclusive categories. Conceptual categories included *microinvalidations*, or interpersonal/environmental cues that exclude the thoughts and feelings of racial minorities (e.g., "I noticed that Asian characters in American TV shows either speak bad or heavily accented English"), and *microinsults*, or behaviors/communication styles that minimize an individual's racial heritage (e.g., "I overheard or was told an offensive joke or comment concerning how Asians talk"). Cohen's $\kappa = .83$. Internal consistency reliability of the daily racial microaggression items was not computed, because the experience of one microaggression does not necessarily increase the likelihood of another (see Bollen & Lennox, 1991). Instead, to estimate reliability, test-retest correlations were computed across weeks, yielding a week-to-week correlation of .71 for total microaggressions, .65 for microinsults, and .69 for microinvalidations, respectively.

Somatic symptoms. Daily somatic symptoms were assessed with an abbreviated version of the Larsen and Kasimatis (1991) physical symptom checklist. The seven-item scale assessed the daily occurrence of aches (e.g., "headaches," "backaches," and "muscle soreness"), gastrointestinal symptoms (e.g., "poor appetite," "nausea/upset stomach"), upper respiratory symptoms (e.g., "sore throat," "runny nose"), and other physical discomforts (e.g., "allergies," "hangover"). Somatic symptoms scores were calculated by summing the number of daily symptoms reported. As with the microaggression items, internal consistency reliability was not computed on the somatic symptoms items because the scale was designed to capture nonoverlapping domains of physical symptomatology, such that endorsement of symptoms in one domain is not necessarily indicative of symptoms in other domains (see Larsen & Kasimatis, 1991). The week-to-week test-retest correlation was .75.

Positive affect and negative affect. Daily positive affect (PA) and negative affect (NA) were measured by asking participants to rate how they felt during the day using items traditionally assessed in dimensional measures of positive and negative affect (Watson, Clark, & Tellegen, 1988). For NA, participants rated how "angry," "irritated," "disgusted," "sad," and "hostile" they felt. For PA, participants rated how "enthusiastic," "happy," "energetic," "joyful," and "proud" they felt. Participants responded using a 5-point Likert-type scale, ranging from 1 (*not at all*) to 5 (*a great deal*).

Table 1
Distribution of Racial Microaggressions

Microaggression	Total %	Relative proportion
Microinsults	6.5	24.7
Second-class citizenship	5.1	15.2
Whites stared at me as if I didn't belong in the same place with them.	5.1	12.3
While at a restaurant, I noticed that I was ignored, overlooked, or not given the same service as Whites.	1.2	2.9
Pathologizing cultural values/communications styles	2.2	6.8
I was overlooked or was told an offensive joke or comment concerning how Asians talk.	1.7	4.1
I was teased for not using Western utensils (e.g., fork, knife).	1.1	2.7
Ascription of intelligence	1.1	2.7
I overheard a conversation about Asians being really good at math or science	1.1	2.7
Microinvalidations	14.4	75.2
Alien in own land	7.3	25.2
I was asked where I was born.	5.1	12.3
I noticed that Asian characters in American TV shows either speak bad or heavily accented English.	2.6	6.3
I was told I speak good English.	1.6	3.9
Someone I did not know treated me as if I was stupid and needed things explained to me slowly.	1.1	2.7
Exoticization/immascularity	6.6	25.1
I was told or overheard that Asian women are considered fascinating or exotic by others.	4.1	9.9
I overheard it suggested that many women find Asian men unattractive.	2.4	5.8
I heard it suggested that Asian women are passive.	1.4	3.4
I noticed on TV that a male leading character did not engage in physical contact with a female leading character even when the plot would seem to call for it.	1.3	3.1
I was complimented on my Asian physical features (e.g., smooth skin, straight hair).	1.2	2.9
Invalidation of interethnic differences	3.5	13.8
I overheard someone saying that all Asians look alike.	2.2	5.3
I was mistaken for someone else of my same race.	2.1	5.1
I heard it suggested that all Asian food tastes the same.	1.4	3.4
Invisibility	1.5	3.6
A White person failed to apologize for stepping on my foot or bumping into me.	1.5	3.6
Denial of racial reality	1.3	3.1
I heard it suggested that Asians do not experience as much discrimination as other minorities.	1.3	3.1
Underdeveloped incidents	1.8	4.4
Other	1.8	4.4

Note. $N = 152$. Distribution of broad microaggression classifications and specific themes are shown in bold. The table shows the percentage of days participants reported the occurrence of each microaggression, as well as the relative proportion of events across the study days.

The mean response across the five items provided scores for PA and NA. Within-person estimates of reliability were computed with three-level models in which items were nested within days, which were nested within participants (Bryk & Raudenbush, 1992, pp. 191–196). Using this procedure, the estimated day-level reliability was .89 for the NA scale and .88 for the PA scale, respectively.

Neuroticism. Trait neuroticism was measured with the Mini-IPIP (Donnellan, Oswald, Baird, & Lucas, 2006), a 20-item short form of the 50-item International Personality Item Pool (IPIP). The neuroticism scale consisted of 4 items, each responded to on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). For this sample, the alpha reliability was .69. Donnellan et al. (2006) reported alphas that ranged from .68 to .70.

Gender, socioeconomic indicators (i.e., parental education level and household income), and *nativity status* (immigrant vs. U.S. born) were also assessed. Data on parental education were obtained at baseline, based on participants' reports of the highest level of education obtained by their parents. Participants responded using a 5-point scale, ranging from 1 (*less than high school*) to 5 (*post college degree*). A single index of parental education was obtained by averaging ratings provided for both mother and father. Household income was determined by participants reporting their parents' combined approximate annual income using a 7-point

scale, ranging from 1 (*less than \$7,500*) to 7 (*over \$100,000*). A dichotomous variable was created to indicate whether the participant was "foreign born" or "U.S. born" (0 = foreign born, 1 = U.S. born).

Analytic Strategy

Given the hierarchical data structure (days nested within person), the data were analyzed with a series of multilevel models (MLM; Bryk & Raudenbush, 1992). The flexibility of MLM provides a number of advantages. First, MLM is appropriate for diary data. In the current study, up to 14 daily observations were nested within each of 152 participants. Second, MLM does not require that all individuals be measured at all occasions. Data can be used from participants who entered the study after it began and from participants who have missing data for some occasions of the study. Third, in MLM, more reliable units of observation contribute more to the estimation of parameters than do less reliable units, a process known as precision weighting (for a discussion, see Bryk & Raudenbush, 1992, pp. 32–57). Fourth, a multilevel-modeling approach allows for the simultaneous modeling of within- and between-person effects using maximum likelihood estimation. Level 1 (or within-person) analyses address the question of *when*. For example, when individuals

encounter a racial microaggression, do they also report high levels of negative affect? Level 2 (or between-person) analyses address the question of *who*. They take the following form: Do people who report more racial microaggressions also have higher negative affect? Finally, the major advantage of these models over traditional approaches to analyzing repeated measures data is that they do not require that the data set be disaggregated to the level of individual assessments (which violates the assumption of independence of observations) or that the data be averaged across repeated observations (which would ignore the within-person variation).

To test our main hypotheses, we constructed a series of MLM equations to examine the associations between microaggressions and each of the measures of well-being (NA, PA, somatic symptoms). As an illustration, the basic Level 1 model for somatic symptoms is presented below:

$$\text{Level 1: Symptoms}_{ij} = \beta_{0j} + \beta_{1j}(\text{NA}_{ij}) + \beta_{2j}(\text{PA}_{ij}) + \beta_{3j}(\text{Microaggressions}_{ij}) + r_{ij},$$

where Symptoms_{ij} is an estimate of somatic symptoms on day i for person j ; β_{0j} , the intercept, is the predicted mean day-to-day change in somatic symptoms; β_{1j} and β_{2j} are partial regression slopes representing the effect of that day's NA and PA scores on somatic symptoms; β_{3j} is a partial regression slope representing an individual's level of racial microaggressions on day i ; and r_{ij} is the day-level residual of person j 's score at time i from the overall predicted score.

The Level 2 equation was specified predicting between-person differences in the Level 1 intercepts and slopes. The equation for predicting the intercept can be written as follows:

$$\text{Level 2: } \beta_{0j} = \gamma_{00} + \gamma_{01}\text{Gender}_j + \gamma_{02}\text{Education}_j + \gamma_{03}\text{Income}_j + \gamma_{04}\text{Nativity}_j + \gamma_{05}\text{Neuroticism}_j + \gamma_{06}\text{Average Microaggressions}_j + u_{0j},$$

where person j 's Level 1 intercept (β_{0j}) is predicted as a function of the grand mean (γ_{00}), average level of racial microaggressions (γ_{06}), and a random error component (u_{0j}). A number of other predictors were included in the Level 2 equation to adjust for their known association with microaggressions and affect. They included gender (γ_{01}), parental education (γ_{02}), household income (γ_{03}), nativity status (γ_{04}), and neuroticism (γ_{05}). A second set of Level 2 equations tested individual differences in slopes (i.e., relations between microaggressions and well-being):

$$\text{Level 2: } \beta_{3j} = \gamma_{30} + \gamma_{31}\text{Gender}_j + \gamma_{32}\text{Education}_j + \gamma_{33}\text{Income}_j + \gamma_{34}\text{Nativity}_j + \gamma_{35}\text{Neuroticism}_j + \gamma_{36}\text{Average Microaggressions}_j + u_{1j}$$

In this equation, the slope (β_{3j}) represents the estimated daily relationship between microaggressions and well-being for each participant. The slope parameter is estimated as a function of gender (γ_{31}), parental education (γ_{32}), household income (γ_{33}), nativity status (γ_{34}), neuroticism (γ_{35}), and average level of microaggressions (γ_{36}), respectively. In the present study, all

explanatory variables were standardized (i.e., mean centered and divided by their sample standard deviation), so that each coefficient reflects differences in the outcome per unit of change in the predictor variable.

Results

Frequency of Racial Microaggressions

Table 1 presents data on the frequency of daily racial microaggressions. In particular, the table shows the percentage of days participants reported the occurrence of each microaggression, as well as the relative portion across the 14 study days. Several findings are noteworthy. First, approximately 78% of participants experienced at least one racial microaggression over the 2-week study period. Second, the occurrence of a racial microaggression was reported on 18% of the study days (i.e., approximately once per week). Third, as predicted, microinvalidations were the most common class of microaggressions, occurring on 14% of the study day and accounting for a full three quarters of all daily events. Finally, as shown in bold in Table 1, an approximate majority of all daily microaggressions reported involved the themes of "alien in own land" or "exoticization/immasculinity."

Racial Microaggressions and Well-Being

The next set of analyses used MLM procedures to examine the between- and within-person relations between racial microaggressions and well-being. To guard against the possibility that significant effects might be due to relations of microaggressions with other predictor variables, all analyses adjusted for the effects of demographic and personality predictors (e.g., gender, neuroticism). In addition, to safeguard against obtaining multiple significant effects simply due to shared variance across outcome variables, all models examined the unique effects of microaggressions on well-being (e.g., symptoms) above and beyond shared variance with other well-being variables (e.g., NA and PA). Table 2 shows that maximum-likelihood parameter estimates and standard errors for all multilevel models, adjusted for the effects of demographic and psychological predictors. As shown in Table 2, holding other predictors constant, participants who experienced more microaggressions on average reported higher NA, $\gamma = 0.31$, $t(145) = 9.65$, $p < .001$; lower PA, $\gamma = -0.18$, $t(145) = -5.24$, $p < .001$; and more somatic symptoms, $\gamma = 0.04$, $t(145) = 4.31$, $p < .001$. Examination of the residual variance estimates indicated that average microaggressions accounted for 11%, 23%, and 39% of the between-person variance in somatic symptoms, PA, and NA, respectively.

In contrast to the between-person results, analyses of day-to-day relations among variables revealed a different picture of the microaggression experience. Across all participants, NA scores tended to be higher on days with more microaggressions, $\beta = 0.11$, $t(1,877) = 3.029$, $p < .001$. Similarly, on days of elevated microaggressions, somatic symptoms scores increased as predicted, $\beta = 0.03$, $t(1,877) = 3.72$, $p < .001$. Examination of the residual variance components indicated that inclusion of daily microaggressions explained 44% of within-person variance in NA and 7% of within-person variance in somatic symptoms, respectively. By contrast, PA was unaffected by elevations in daily

Table 2
Effects of Microaggressions on Negative Affect, Positive Affect, and Somatic Symptoms

Fixed effect	Coefficient	SE	<i>t</i>	<i>p</i>
Negative affect				
Average level of negative affect, β_0				
Intercept, γ_{00}	1.512	0.062	24.250	0.000
Average microaggression, γ_{06}	0.312	0.032	9.648	0.000
Positive affect slope, β_1				
Intercept, γ_{10}	-0.079	0.027	-2.830	0.005
Somatic symptoms slope, β_2				
Intercept, γ_{20}	0.047	0.101	0.468	0.641
Microaggression slope, β_3				
Intercept, γ_{30}	0.114	0.037	3.029	0.003
Positive affect				
Average level of positive affect, β_0				
Intercept, γ_{00}	2.818	0.092	30.488	0.000
Average microaggression, γ_{06}	-0.179	0.034	-5.236	0.000
Negative affect slope, β_1				
Intercept, γ_{10}	-0.174	0.054	-3.202	0.002
Somatic symptoms slope, β_2				
Intercept, γ_{20}	-0.444	0.174	-2.548	0.012
Microaggression slope, β_3				
Intercept, γ_{30}	-0.071	0.057	-1.237	0.218
Somatic symptoms				
Average level somatic symptoms, β_0				
Intercept, γ_{10}	0.118	0.015	7.713	0.000
Average microaggression, γ_{06}	0.037	0.008	4.310	0.000
Negative affect slope, β_1				
Intercept, γ_{10}	0.001	0.007	0.269	0.788
Positive affect slope, β_2				
Intercept, γ_{20}	-0.028	0.006	-1.906	0.059
Microaggression slope, β_3				
Intercept, γ_{30}	0.027	0.007	3.716	0.000

microaggressions, $\beta = -0.07$, $t(1,877) = -1.24$, *ns* (adjusting for that day's NA and symptoms). We also examined the possibility that between- and within-person microaggression effects may operate in synergistic fashion to influence daily well-being. Tests of moderating effects, however, revealed that in none of the analyses of microaggressions was there a statistically significant between-person (Level 2) by within-person (Level 1) interaction. Taken together, these data suggest the need for caution in drawing inferences concerning dynamic processes from studies of between-person associations.

Variation in Racial Microaggression Effects

The next set of analyses explored the relative influence of different kinds of racial microaggressions. As shown in Table 3, variation in microaggression effects was found at both the between- and within-person level of analysis. For microinvalidations, the between-person results replicated the pattern observed for overall microaggressions. In particular, after adjusting for the person's mean number of microinsults, individual differences in microinvalidations predicted higher NA, $\gamma = 0.65$, $t(144) = 6.75$, $p < .001$; lower PA, $\gamma = -0.30$, $t(144) = -3.55$, $p < .001$; and more somatic symptoms, $\gamma = 0.05$, $t(144) = 2.36$, $p < .05$. Microinsults, by contrast, predicted only higher NA, $\gamma = 0.32$, $t(144) = 3.43$, $p < .001$ (adjusting for the person's mean number of microinvalidations).

At the within-person level, after adjusting for that day's mean number of microinsults, microinvalidations increased both NA, $\beta = 0.32$, $t(1,867) = 2.18$, $p < .05$, and somatic symptoms, $\beta = 0.03$, $t(1,867) = 3.24$, $p < .01$, whereas microinsults increased only somatic symptoms, $\beta = 0.06$, $t(1,867) = 2.59$, $p < .05$ (adjusting for that day's mean number of microinvalidations). Moreover, examination of the contribution to explained variance revealed that microinvalidations accounted for more than 75% of the explained variance in day-to-day fluctuations in NA. In addition to providing insights into the dynamics of affect under stressful circumstances, these results suggest that among the racial microaggressions considered in this analysis, microinvalidations are an especially deleterious source of race-related stress.

Lagged-Day Analyses of Microaggressions and Well-Being

Because concurrent associations between microaggressions and well-being may in part reflect the effects of well-being on microaggressions, we also examined lagged associations. Lagging predictor variables permits the investigation of whether, for example, microaggressions measured at time $t-1$ exert an effect on NA measured at time t . Using lagged predictors also allows us to make stronger claims about the directionality of effects (e.g., whether the daily fluctuations between microaggressions and well-being are

Table 3
Effects of Microinsults and Microinvalidations on Negative Affect, Positive Affect, and Somatic Symptoms

Fixed effect	Coefficient	SE	<i>t</i>	<i>p</i>
Negative affect				
Average level of negative affect, β_0				
Intercept, γ_{00}	1.532	0.055	27.540	0.000
Average microinsults, γ_{06}	0.323	0.094	3.425	0.000
Average microinvalidations, γ_{07}	0.648	0.095	6.748	0.000
Positive affect slope, β_1				
Intercept, γ_{10}	-0.089	0.028	-3.137	0.002
Somatic symptoms slope, β_2				
Intercept, γ_{20}	0.019	0.100	0.193	0.847
Microinsults slope, β_3				
Intercept, γ_{30}	0.052	0.040	1.289	0.200
Microinvalidations slope, β_4				
Intercept, γ_{40}	0.323	0.148	2.178	0.031
Positive affect				
Average level of positive affect, β_0				
Intercept, γ_{00}	2.822	0.092	30.560	0.000
Average microinsults, γ_{06}	-0.116	0.091	-1.280	0.203
Average microinvalidations, γ_{07}	-0.304	0.085	-3.552	0.000
Negative affect slope, β_1				
Intercept, γ_{10}	-0.183	0.053	-3.401	0.000
Somatic symptoms slope, β_2				
Intercept, γ_{20}	-0.403	0.173	-2.321	0.022
Microinsults slope, β_3				
Intercept, γ_{30}	-0.173	0.143	-1.203	0.231
Microinvalidations slope, β_4				
Intercept, γ_{40}	-0.037	0.065	-0.571	0.569
Somatic symptoms				
Average level of somatic symptoms, β_0				
Intercept, γ_{00}	0.117	0.015	7.602	0.000
Average microinsults, γ_{06}	0.013	0.021	0.627	0.532
Average microinvalidations, γ_{07}	0.049	0.021	2.355	0.020
Negative affect slope, β_1				
Intercept, γ_{10}	0.001	0.007	0.070	0.945
Positive affect slope, β_2				
Intercept, γ_{20}	-0.011	0.006	-1.667	0.098
Microinsults slope, β_3				
Intercept, γ_{30}	0.059	0.022	2.599	0.010
Microinvalidations slope, β_4				
Intercept, γ_{40}	0.031	0.009	3.239	0.002

unidirectional or bidirectional in nature). In addition, multilevel modeling makes it possible to study interindividual differences in the lagged relationships between lower level variables. Thus, for example, we can examine the extent to which individual differences in average levels of microaggressions moderate the impact of prior-day microaggressions on next-day well-being.

To analyze lagged-day effects, we constructed MLM equations that predicted today's well-being from yesterday's microaggressions and yesterday's well-being. Using the association between microaggressions and NA as an example, the lagged-day equation was as follows:

$$\text{Today's NA} = \beta_{0j} + \beta_{1j}(\text{NA}_{i-1j}) + \beta_{1j}(\text{PA}_{i-1j}) + \beta_{2j}(\text{Symptoms}_{i-1j}) + \beta_{3j}(\text{Microaggressions}_{i-1j}) + r_{ij}.$$

We predicted that yesterday's microaggressions would be associated with today's NA after adjusting for yesterday's NA, PA, and symptoms. We further tested the alternative pathway from well-

being to microaggressions in an effort to rule out alternative directional pathways. As an illustration, the basic lagged-day equation for microaggression is presented below:

$$\text{Today's Microaggressions}_i = \beta_{0j} + \beta_{1j}(\text{Microaggressions}_{i-1j}) + \beta_{1j}(\text{NA}_{i-1j}) + \beta_{2j}(\text{PA}_{i-1j}) + \beta_{3j}(\text{Symptoms}_{i-1j}) + r_{ij}$$

Tests of lagged-day associations were performed only for those variables that demonstrated significant associations in the concurrent analyses.

The results shown in Table 4 indicate that many of the concurrent relationships between microaggressions and well-being were still in evidence 1 day later. With other predictors held constant, lagged analyses revealed that on days of elevated microaggressions, both next-day NA scores, $\beta = 0.07$, $t(1,782) = 2.86$, $p < .01$, and next-day somatic symptoms scores, $\beta = 0.02$, $t(1,782) = 2.41$, $p < .05$, increased as predicted. The reverse lead-lag relationship connecting yesterday's NA to today's microaggressions

also garnered statistical support, $\beta = 0.04$, $t(1,782) = 2.18$, $p < .05$. Finally, mirroring the pattern observed in our concurrent analyses, yesterday's microinvalidations increased both today's NA, $\beta = 0.08$, $t(1,782) = 1.98$, $p < .05$, and today's somatic symptoms, $\beta = 0.04$, $t(1,782) = 4.63$, $p < .001$ (see Table 5). In contrast, yesterday's microinsults increased only today's somatic symptoms, $\beta = 0.05$, $t(1,782) = 2.11$, $p < .05$.

Discussion

In describing the psychological state and affective reactions that Asian Americans experience in response to racial microaggressions, Sue, Bucceri, et al. (2007) detailed a labyrinth of responses that involve "feelings of belittlement, anger, rage, frustration, alienation, and of constantly being invalidated" (p. 77). The current study builds on this important research by providing quantitative evidence of the prevalence and correlates of daily racial microaggressions among Asian Americans. The results support several broad conclusions.

First, our findings suggest that exposure to day-to-day microaggressions is common, with approximately 78% of participants in the total sample reporting some form of racial microaggression within a 2-week time frame. Moreover, disaggregating the frequency distributions as a function of content classification revealed that microinvalidations (e.g., the assumption that all Asian Americans are foreign-born) made up the most common class of racial microaggression, a pattern consistent with previous research

Table 4
Effects of Microaggressions on Next-Day Negative Affect, Positive Affect, and Somatic Symptoms

Fixed effect	Coefficient	SE	t	p
Negative affect				
Lag NA slope, β_1				
Intercept, γ_{10}	0.176	0.039	4.455	0.000
Lag PA slope, β_2				
Intercept, γ_{20}	-0.002	0.017	-0.092	0.921
Lag symptoms slope, β_3				
Intercept, γ_{30}	0.289	0.142	2.026	0.045
Lag microaggression slope, β_4				
Intercept, γ_{40}	0.070	0.020	2.863	0.003
Positive affect				
Lag NA slope, β_1				
Intercept, γ_{10}	0.003	0.041	0.075	0.940
Lag PA slope, β_2				
Intercept, γ_{20}	0.250	0.033	7.568	0.000
Lag symptoms slope, β_3				
Intercept, γ_{30}	-0.189	0.145	-1.297	0.196
Lag microaggression slope, β_4				
Intercept, γ_{40}	-0.017	-0.022	-0.791	0.430
Somatic symptoms				
Lag NA slope, β_1				
Intercept, γ_{10}	0.005	0.006	0.848	0.398
Lag PA slope, β_2				
Intercept, γ_{20}	-0.005	0.004	-1.210	0.228
Lag symptoms slope, β_3				
Intercept, γ_{30}	0.212	0.029	7.242	0.000
Lag microaggression slope, β_4				
Intercept, γ_{40}	0.024	0.001	2.413	0.031

Note. NA = negative affect; PA = positive affect.

Table 5
Effects of Microinsults and Microinvalidations on Next-Day Negative Affect, Positive Affect, and Somatic Symptoms

Fixed effect	Coefficient	SE	t	p
Negative affect				
Lag NA slope, β_1				
Intercept, γ_{10}	0.196	0.041	4.739	0.000
Lag PA slope, β_2				
Intercept, γ_{20}	0.003	0.017	0.161	0.873
Lag symptoms slope, β_3				
Intercept, γ_{30}	0.337	0.139	2.406	0.017
Lag microinsults slope, β_4				
Intercept, γ_{40}	0.033	0.048	0.809	0.420
Lag microinvalidations slope, β_5				
Intercept, γ_{50}	0.082	0.021	1.983	0.024
Positive affect				
Lag NA slope, β_1				
Intercept, γ_{10}	-0.001	0.043	-0.008	0.993
Lag PA slope, β_2				
Intercept, γ_{20}	0.245	0.033	7.256	0.000
Lag symptoms slope, β_3				
Intercept, γ_{30}	-0.207	0.143	-1.441	0.152
Lag microinsults slope, β_4				
Intercept, γ_{40}	-0.095	0.101	-0.933	0.352
Lag microinvalidations slope, β_5				
Intercept, γ_{50}	-0.061	0.039	-1.536	0.127
Somatic symptoms				
Lag NA slope, β_1				
Intercept, γ_{10}	0.009	0.007	1.369	0.173
Lag PA slope, β_2				
Intercept, γ_{20}	-0.004	0.004	-1.096	0.275
Lag symptoms slope, β_3				
Intercept, γ_{30}	0.229	0.029	7.805	0.001
Lag microinsults slope, β_4				
Intercept, γ_{40}	0.054	0.012	2.114	0.024
Lag microinvalidations slope, β_5				
Intercept, γ_{50}	0.044	0.001	4.626	0.000

Note. NA = negative affect; PA = positive affect.

(Nadal, 2011; Sue, Bucceri, et al., 2007). These results are important to research on Asian American microaggressions, because they are derived from daily assessments that do not require participants to recollect temporally distant events. Thus, these data illustrate the value in using daily process methods (Tennen et al., 2000) to capture inherently within-person phenomena, thereby providing unique opportunities to test nuanced, process-oriented formulations of the microaggression experience (cf. Pierce et al., 1978; Sue, Capodilupo, et al., 2007).²

Second, findings from our multilevel analyses provide additional insights into how racial microaggressions may be consequential for daily well-being. Whereas our between-person results coincide with previous cross-sectional investigations in demonstrating that individuals who experience more microaggressions also report poorer psychological adjustment (e.g., Mercer et al., 2011; Torres, Driscoll, & Burrow, 2010), our within-person analyses revealed important variability in the effects of daily micro-

² For cogent discussion of racial microaggressions from a critical race theory perspective, see Solórzano (1998); Solórzano et al. (2000); and Solórzano, Allen, and Carroll (2002).

aggressions on well-being. Of significance to microaggression research is the finding that whereas NA and somatic symptoms rose as expected on days with elevated microaggressions (e.g., Ong et al., 2009), contrary to predictions, there was no within-person association between microaggressions and PA. These findings suggest that the person–environmental factors that influence NA may be distinct from those that affect PA.³ Plausible candidate factors that could moderate affective responses to microaggressions include individual differences in racial/ethnic identity. For example, in a daily-diary study of African American doctoral students, Burrow and Ong (2010) found that negative affective reactions to microaggressions were greater to the extent that participants were high in racial centrality. Similarly, Torres and Ong (2010) found that Latinas/Latinos higher in ethnic identity exploration showed greater vulnerability to daily microaggressions. Whereas these studies focused on NA and microaggressions, future studies should be broadened conceptually to include assessments of PA and positive events (Zautra et al., 2005), thereby potentially extending understanding of how racial/ethnic identity influences daily adaptational processes.

Furthermore, our analyses of lagged processes revealed that the unpleasant experience of one daily microaggressive incident tends to follow on the heels of another, thereby ratcheting up subsequent NA and somatic symptoms even higher. Thus, the relations between microaggressions and well-being were not limited to concurrent effects but extended to influence each other as much as 1 day later. These findings lend support to the hypothesis that the subjective experience of daily stressors exerts continual influence on health and well-being over time (DeLongis, Folkman, & Lazarus, 1988; Stone, Neale, & Shiffman, 1993).

Finally, to the best of our knowledge, our analyses of the differential effects of microinsults versus microinvalidations are entirely new and, as such, should be interpreted with caution. Two novel findings highlight the contribution of these analyses. First, our results show that Asian Americans who, on average, experience more microinvalidations also report higher NA, lower PA, and more somatic symptoms. In this way, exposure to repeated discriminatory encounters that negate the experiential reality of Asian Americans can be seen to have a cascade of negative effects on well-being. Second, the unique effects of microinvalidations on well-being are reflected not only in mean levels of exposure but also in how these processes covary on a daily basis. Here, our analyses suggest that microinvalidations likely play a major role in increasing risk for negative affect and somatic symptoms, above and beyond the effects of microinsults.

The effects of microinvalidations observed in the current study are especially significant, given that researchers have suggested that microinvalidations are more detrimental and harmful to people of color than either microassaults or microinsults (Nadal, 2011; Sue, 2010). The fact that microinvalidations are the most frequently experienced class of microaggressions by Asian Americans has implications for the field of mental health. Sue (2010) has suggested that certain classes of microaggressions may have differential impact on targets such that microassaults, microinsults and microinvalidations can be ordered along a continuum of negative impact. With respect to the first class, a deliberate and conscious microassault (delivering a racial epithet, for example) does not require guesswork on the part of the recipient as to the meaning or intent of the comment or action. Although the message

is unpleasant or disturbing, little psychological energy is spent determining its intent. Likewise, the differential impact of microinsults and microinvalidations may arise from their distinctive characteristics: Microinsults are most like common everyday put-downs, slights, and rudeness that almost anyone can experience regardless of race (e.g., an Asian couple being ignored at a restaurant), whereas microinvalidations (e.g., “perpetual foreigner”) directly exclude, negate, or deny the psychological thoughts and feelings of target groups or persons (Sue, Capodilupo, et al., 2007). Wang, Leu, and Shoda (2011), for example, found that everyday slights and insults not associated with race tend to have far less harmful impact than those that are race related. Furthermore, microinvalidations are far more likely to contain contradictory or double messages. On the surface, for example, microinvalidations appear to be a compliment or a positive expression (“You speak excellent English”) that masks an underlying meta-communication (“You are not a true American”). The combination of having one’s racial reality or identity assailed and having to decipher mixed messages is likely to take a greater psychological toll on recipients than either of the two other forms of microaggressions (Huynh, 2012; Sue, Capodilupo, & Holder, 2008; Sue, Capodilupo, et al., 2007).

Future research on the detrimental impact of different classes of microaggressions on the mental health of Asian Americans is needed. Additionally, this study raises an intriguing and important question as to whether these findings may or may not be population specific. For example, would these findings hold for other racial/ethnic groups as well? Are African Americans more likely to experience microinvalidations as do their Asian American counterparts? What about Latino Americans or Native Americans? Some evidence from qualitative studies suggests that different themes appear in the experiences of racial/ethnic minorities. For example, although Asian Americans are more likely to experience microaggressive themes of “alien in one’s own country” (microinvalidation; Sue, Bucceri, et al., 2007), African Americans are more likely to experience microaggressive themes of “assumption of criminality” (microinsult; Sue et al., 2008).

Caveats and Implications

Our conclusions are necessarily limited by some features of our methods and analyses. First, our assessments of racial microaggressions and well-being relied exclusively on self-reports. These measures were completed at the end of the day, and hours could have passed since the occurrence of a microaggression. Moreover, it is well established that mood varies within day and across days (e.g., Watson, Wiese, Vaidya, & Tellegen, 1999). Future investigations, thus, should include ecological momentary assessment approaches (Stone, Shiffman, & DeVries, 1999) that allow for modeling of diurnal and circadian effects of mood. Similarly, because the occurrence of any life change requires some type of readjustment (Monroe & McQuaid, 1994), studies that go beyond consideration of subjective reactions to microaggressions to include coverage of physiological responses, biochemical assessments, and behavioral measures represent a high priority for future

³ A similar conclusion was reached by Reich, Zautra, and Davis (2003) in their review of the literature on daily life events and bivariate/bipolar models of affect.

research (Lau & Williams, 2010). Second, although our taxonomy of daily racial microaggressions combined broad classifications (e.g., microinsults, microinvalidation) with specific themes (e.g., “alien in own land,” “second-class citizenship”), it is possible that there is meaningful variation within theme types that is not adequately captured in our data. Given that our taxonomy consisted of more microinvalidations than microinsults, future studies might examine the predictive validity of including a larger pool of items that tap specific microinsult themes identified in previous research (Sue, Bucceri, et al., 2007). Third, characteristics of our sample raise some caveats in interpreting results. The sample was restricted to Asian American undergraduates at an elite university. Thus, we have suggested that the present sample faces conditions similar to those faced by other Asian American college students. This assertion has yet to be tested, as does the assumption that the results would be similar in other settings with similar conditions. Fourth, the lack of within-person association between microaggressions and PA in the current study may have resulted from the types of items used to assess PA. Because our PA items were relatively high in arousal/activation, whether similar effects would have been obtained with low-arousal emotion items is an empirical question. To the extent that high-arousal PA experiences are less valued among Asian Americans (e.g., Tsai, Knutson, & Fung, 2006), this might be reflected in scores on microaggressions and PA that show low or zero intercorrelation. Thus, future empirical studies that include high and low arousal items for both NA and PA measures would be useful. Fifth, our study focused on the influence of daily microaggressions, but as noted earlier, a number of variables known to have an effect on the stress process were not examined in the current study. Leading theories of stressful life events (e.g., DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Pillow, Zautra, & Sandler, 1996), for example, view daily stressors as constituting an important intervening pathway linking major life events and chronic strains to psychological distress. Moreover, in the Ong et al. (2009) study discussed earlier, daily microaggressions experienced by African Americans fully mediated the relationship between chronic discrimination and depressive symptoms. Whether a similar mechanism governs vulnerability among Asian American remains to be tested. Finally, our findings provide little support for the hypothesis that the relations between microaggressions and well-being within an individual are conditioned by the accretion of microaggressions across people. None of the between-person by within-person microaggression interaction effects were significant. In light of our findings, it is interesting to revisit evidence reported by Ong et al. (2009). Their college student participants were African Americans, and, consistent with the present study, the results of their study suggested that the influence of chronic and daily racism on psychological distress was best characterized by an additive rather than a multiplicative model. Future studies should, therefore, employ more detailed, multidimensional assessments of chronic and daily racial microaggressions in an effort to probe their potential unique and overlapping influences on well-being.

There are several important implications to the helping professions that can be drawn from this study. First, counselors and therapists should recognize that racial microaggressions are a lifelong reality in the lives of Asian Americans. Moreover, because of their daily frequency and chronicity, microaggressions likely have a cumulative, inimical effect on health and well-being. Sec-

ond, their hidden nature is often invisible to perpetrators, and this is compounded by public beliefs that Asian Americans represent a model minority who are not exposed to or are somehow immune to the effects of racism or discrimination. Counselors who are not cognizant of this fact and interact with their Asian American clients may, thus, unintentionally communicate a denial of their racial reality (a form of microinvalidation). Third, given that microaggressions occur in the daily life of Asian Americans, they are also likely to occur in the transactions between Asian American clients and their helping professionals.

Sue (2010) has made a strong case that therapists are not immune from inheriting the racial biases of their forebears, that therapy is often a microcosm of race relations in the United States, and that unintentional microaggressions may act as barriers to effective multicultural counseling leading to premature termination rates among clients of color. It appears that the old adage “physician [therapist] heal thyself” applies to therapists being able to become aware of their own values, biases, and assumptions about human behavior so that they may help clients deconstruct microaggressions and minimize their own role in enabling this.

Concluding Remarks

In 1970, Chester Pierce lamented, “Much of psychotherapy is devoted to understanding and then re-enforcing or loosening defensive mechanisms. There is, however, no emphasis placed on offensive mechanisms” (p. 265). Although he characterized the most injurious of these mechanisms as microaggressions, Pierce (1970) nonetheless voiced optimism in stating, “It is my fondest hope that the day is not far remote when every black child will recognize and defend promptly and adequately against every offensive microaggression. In this way, the toll that is registered after accumulation of such insults should be markedly reduced” (p. 280). In examining how the daily well-being of Asian Americans may be similarly hewn by race-related stressors, we hope that our results are a first step toward closing the gap between psychological theory and clinical practice in the study of racial microaggressions.

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Received September 12, 2012

Revision received December 26, 2012

Accepted December 26, 2012 ■