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When Being a Model Minority Is Good . . . and Bad: Realistic Threat Explains Negativity Toward Asian Americans

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The current research explores the hypothesis that realistic threat is one psychological mechanism that can explain how individuals can hold positive stereotypical beliefs toward Asian Americans yet also express negative attitudes and emotions toward them. Study 1 demonstrates that in a realistic threat context, attitudes and emotions toward an anonymous group described by only positive, "model minority" attributes are significantly more negative than when the group was described using other positive attributes. Study 2 demonstrates that realistic threat significantly mediates the relationship between (a) the endorsement of the both the positive and negative stereotypes of Asian Americans and (b) subsequent negative attitudes and emotions toward them. Studies 3 and 4 conceptually replicate this effect in experimental situations involving interactions with Asian Americans in realistic threat contexts. Implications for understanding the nature of stereotyping and prejudice toward Asian Americans and other minority groups are discussed.

Keywords: *Asian Americans; model minorities; prejudice; realistic threat; emotions; attitudes*

Asian Americans are typically thought of as being America's "model minority" (Ho & Jackson, 2001; Wong, Lai, Nagasawa, & Lin, 1998; Yee, 1992). In other words, Asian Americans are perceived as a group that tends to do well educationally and economically, and one that stays out of trouble. Data from the U.S. Census Bureau offers some empirical support for this perception: As of 2002, Asian Americans had the highest median income and the highest high school and college graduation rates of any ethnic group in America, whereas incarceration rates for Asian Americans were the lowest of any ethnic group, including Whites, Blacks, Hispanics, and Native Americans (U.S. Census Bureau, 2003). In addition, many scholars have noted that perceptions of Asian Americans from the perspective of other groups are qualitatively and fundamentally different from the perceptions of most other racial minority groups (Fong, 1998; Lee, 1996; Tuan, 1998).

Recent psychological research strongly supports the existence of a positive or model minority stereotype regarding Asian Americans, comprising such traits as being intelligent, capable, ambitious, hard-working, mathematical,

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skillful, and self-disciplined, all of which fall in the domain of competence or agency (Cuddy, Fiske, & Glick, 2007; Fiske, Cuddy, Glick, & Xu, 2002; Ho & Jackson, 2001; Kao, 2000; Lin, Kwan, Cheung, & Fiske, 2005; Yee, 1992). Even in what was arguably the first psychological study of stereotype content, White American respondents rated Japanese people as intelligent and industrious (Katz & Braly, 1933). The stereotype of Asian American competence has also been demonstrated through relatively indirect measures. For example, priming participants with the Asian stereotype can boost even non-Asians' performance on certain academic tasks (Shih, Pittinsky, & Ambady, 1999). However, stereotypes of Asian Americans are not uniformly positive; negative perceptions about Asian Americans also exist. Asian Americans tend to be viewed as cunning, sly, selfish, nerdy, and lacking interpersonal warmth and kindness (Cuddy et al., 2007; Fiske et al., 2002; Ho & Jackson, 2001). The recent Scale of Anti-Asian American Stereotypes (Lin et al., 2005) includes highly endorsed items such as "Do not interact smoothly in social situations," "Do not know how to have fun and relax," and "Commit less time to socializing than other groups."

Given the ambivalent nature of stereotypes about Asian Americans, it is not surprising that attitudes and emotions toward Asian Americans are also ambivalent (Cuddy et al., 2007; Fiske et al., 2002; Ho & Jackson, 2001; Lin et al., 2005). However, although endorsement of negative stereotypes about Asian Americans has been shown to be linked to negative (but not positive) attitudes, emotions, and behaviors (e.g., Lin et al., 2005), endorsement of the positive stereotype of Asian American competence has been shown to be associated with *both* positive and negative attitudes and emotions toward them (Ho & Jackson, 2001). For example, endorsement of stereotypes of Asian Americans as highly competent but not sociable is related to envious prejudice, which involves both respect (positive) and resentment (negative; e.g., Lin et al., 2005). In addition, people who indicated that they believed Asian Americans had traits consistent with the model minority stereotype (intelligent, ambitious, obedient) indicated that they admired and respected Asian Americans but also reported feeling hostile and jealous (Ho & Jackson, 2001).

Although it is relatively clear why positive stereotypical traits would be associated with positive attitudes and emotions toward Asian Americans, it is less obvious why such positive traits would also be associated with negative attitudes and emotions. However, most groups who are stereotyped as competent and cold are socioeconomically or professionally successful minority groups (e.g., Asians, Jewish individuals, and career women in the United States), and such groups may be perceived by some as a threat to the status and stability of the majority (Insko & Schopler, 1998). In fact, it has been suggested that in certain historical contexts, groups viewed as highly competent competitors, such as Jewish people in World War II era Germany, often act as scapegoats for a society's troubles and are the mostly likely victims of genocides (Glick 2005; Staub, 1996). Thus, although people may agree that Asian Americans possess positive characteristics, they may also feel they are not comparing favorably with Asian Americans, particularly in organizational settings such as the classroom or the workplace.

Negative attitudes and emotions may arise from positive stereotypical characteristics, then, because of the perception that Asian Americans and other so-called model minority groups pose a realistic threat to the success, status, or welfare of other groups. Thus, the high socioeconomic status of Asian Americans suggests that negativity may arise because Asian Americans are considered to have too many of these positive qualities (too intelligent, too ambitious, too hard working). Such perceptions may lead to unfavorable social comparisons (e.g., Festinger, 1954), which in an intergroup context may produce feelings of competition, threat, and prejudice (Esses, Jackson, & Armstrong, 1998; Sherif & Sherif, 1979; Tajfel & Turner, 1986; Vanneman & Pettigrew, 1972; Zárate, Garcia, Garza, & Hitlan, 2004). Indeed, according to the classic work regarding realistic group conflict theory (Bobo, 1983; Levine & Campbell, 1972; Sherif, 1966), prejudice against outgroups can result when groups come into direct competition with each other for finite resources, or when the physical or material well-being of a group is threatened. Similarly, the perception that high-status outgroups are competing with mainstream society for finite resources can lead to envy, anger, and active forms of harm, such as harassment (Cuddy et al., 2007; Fiske et al., 2002). This idea is also consistent with intergroup emotions theory (Mackie, Devos, & Smith, 2000), which describes how negative intergroup emotions are often rooted in appraisals that an outgroup poses a threat to the ingroup.

Thus, the main goal of the current research was to identify an important underlying mechanism that could account for the relationship between negative attitudes and emotions that result from stereotypes of Asian Americans specifically and the content of the model minority stereotype more generally. Based on social comparison theory and realistic group conflict theory, we hypothesized that realistic threat could be one important mechanism underlying the relationship between the positive contents of the model minority stereotype and the associated negative affective and evaluative reactions to these groups. The perceived success of Asian Americans and other model minorities may create a sense that they have become too successful or that possession of certain positive traits (i.e., intelligence, competence) can, in certain situations, psychologically pose

a threat to the welfare of other groups, which in turn causes negative attitudes and emotions. Thus, we predicted that the model minority stereotype leads to a sense of realistic threat, which in turn activates negative attitudes and emotions toward Asian Americans.

We explored this hypothesis across four studies. First, we expected that the specific content of the model minority stereotype would act as a discreet cause of negative attitudes and emotions toward Asian Americans. Thus, in Study 1 we assessed participants' attitudes and emotions toward an anonymous (i.e., unidentified) group in a realistic threat context that was described by either model minority traits or other positive traits. Studies 2 through 4 focused on perceptions of Asian Americans specifically. Study 2 explored the mediating role of realistic threat in a broad survey measuring participants' endorsement of stereotypical traits regarding Asian Americans, as well as participants' global attitudes and emotions directed toward them. Studies 3 and 4 directly manipulated realistic threat in the laboratory and examined the effect of such contexts on participants' subsequent global evaluations and emotions toward Asian Americans. Across all four studies, we obtained reliable evidence supporting the idea that realistic threat can explain how the model minority stereotype causes negative attitudes and emotions.

Study 1

Study 1 was a preliminary study designed to demonstrate that, irrespective of the identity of target group, the content of the model minority stereotype acts as a cause of increased negative attitudes and emotions toward a group in situations involving realistic threat. To test this idea, we described a competition in which the participants' own university was presented as competing for resources against another university, whose identity remained anonymous. We manipulated realistic threat by either describing the other (unknown) university with positive characteristics stereotypical of Asian Americans or positive characteristics stereotypical of African Americans. Thus, Study 1 presented a situation involving competition with an outgroup whose specific characteristics were known but whose identity was not. We predicted significantly more negative attitudes and emotions toward the anonymous target group described by model minority stereotype traits than toward the group described by other positive traits.

Method

Participants

Seventy-six undergraduates (25 males, 51 females) at Northwestern University voluntarily signed up for participation on a university research Web site in exchange for a monetary payment of $10.

Procedure

Participants were randomly assigned to one of two conditions: a realistic threat condition or a no realistic threat condition. In both conditions, participants read the same scenario, which was derived from scenarios used in previous work to induce a feeling of competition and threat between groups (e.g., Alexander, Brewer, & Hermann, 1997). The information was constructed to be as relevant as possible to our undergraduate student sample.

Scenario. Participants read a paragraph explaining that although Northwestern University is a private university, it often receives federal subsidies, but that this money is in jeopardy because of recent federal budget cuts. The scenario explained that losing this funding would mean higher tuition costs, less scholarship money, and possibly even more stringent graduation requirements as the university would have to seek ways to make up for the lost money. The scenario further explained that Northwestern is often compared with one other university when the government is deciding where to allocate money, and whether Northwestern receives this money is often determined by how favorably its students compare with students at this other university (the university was not explicitly identified).

Manipulation of realistic threat. In both conditions participants were subsequently told that students at the unidentified university were known to have certain characteristics to a greater degree than Northwestern students. In the realistic threat condition, these characteristics consisted of six of the positive traits taken from the Asian American stereotype: ambitious, hardworking, intelligent, obedient, self-disciplined, and serious (Ho & Jackson, 2001). In the no realistic threat condition, the characteristics consisted of six positive traits that are perceived to be stereotypical of African Americans: athletic, creative, musical, fun-loving, outgoing, and loyal (Judd, Park, Ryan, Brauer, & Kraus, 1995). No negative traits were listed in either condition.

Dependent measures. Following the manipulation of realistic threat, participants were asked, "If Northwestern were compared to this particular university, how likely it would be to receive the federal money?" Responses were provided on a 7-point bipolar scale ranging from 1 (*very unlikely*) to 7 (*very likely*), with 4 marked as a neutral point.

Subsequent questions assessed attitudes and emotions toward students at this anonymous university as well as how threatened participants felt by this group.

For the attitude items, the difference of two opposing evaluative items (Zanna & Rempel, 1988) was used as our assessment of overall attitudes. Participants were asked, "How much do you like/dislike students from this university?" Responses were provided on 5-point unipolar scales ranging from 1 (*not at all*) to 5 (*very much*). To measure the emotion item, participants were asked to complete a feeling thermometer, indicating on a scale from 0 to 100 (0 = *very cold*, 100 = *very warm*) how warmly or coldly they felt toward the students. Finally, participants were asked how threatened they felt by these students. Answers were provided on a 5-point unipolar scale ranging from 1 (*not at all*) to 5 (*very much*).

Results and Discussion

Manipulation Checks

To examine whether our experimental manipulation had the intended effect, we first examined whether perceptions of felt threat and participants' estimated likelihood that Northwestern would receive the federal money differed by experimental condition. Results indicated that participants felt more threatened in the realistic threat condition ($M = 2.36$, $SD = 1.13$) than in the no realistic threat condition ($M = 1.85$, $SD = 1.03$), $F(1, 75) = 4.29$, $p = .042$, $\eta_p^2 = .055$. Participants in the realistic threat condition ($M = 4.36$, $SD = 1.82$) also estimated a significantly lesser likelihood of receiving the federal money than did participants in the no realistic threat condition ($M = 5.33$, $SD = 1.62$), $F(1, 75) = 5.95$, $p = .017$, $\eta_p^2 = .074$. Thus, our manipulation of realistic threat was successful.

Analysis of Attitudes and Emotions

We predicted that general attitudes and emotions toward students at the comparison university would be more negative in the realistic threat condition than in the other condition. Consistent with predictions, attitudes toward students in the realistic threat condition ($M = 0.29$, $SD = 0.69$) were significantly more negative than those in the no realistic threat condition ($M = 0.84$, $SD = 0.86$), $F(1, 75) = 9.21$, $p = .003$, $\eta_p^2 = .121$ (see Figure 1). Emotions were also significantly more negative toward students in the realistic threat condition ($M = 59.98$, $SD = 24.93$) than in the no realistic threat condition, ($M = 72.92$, $SD = 16.99$), $F(1, 75) = 7.11$, $p = .009$, $\eta_p^2 = .088$. Thus, these results demonstrate the importance of the actual content of the positive Asian American (i.e., model minority) stereotype, irrespective of the identity of the comparison group, in causing negative attitudes and emotions in situations involving realistic threat.

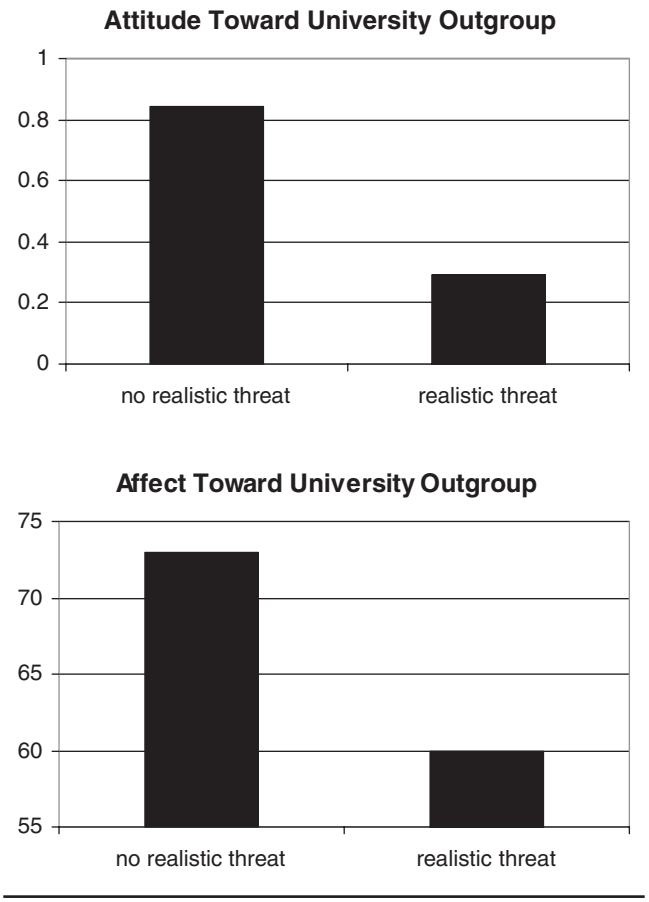

Figure 1 Attitudes and affect toward university outgroup as a function of experimental condition, Study 1.
NOTE: Higher numbers indicate more positive attitudes and affect.

Study 2

Study 2 was designed to expand the results from Study 1 in two ways. First, we wished to focus on a specific group of model minorities—in particular, Asian Americans—to show that the content of the model minority stereotype regarding Asian Americans leads to negative attitudes and emotions. Second, we wished to demonstrate that realistic threat, in particular, is an underlying psychological mechanism for the way positive stereotypical qualities are translated into negative attitudes and emotions. To this end, Study 2 involved a broad survey of participants' attitudes, emotions, and endorsement of stereotypes about Asian Americans, as well as various items assessing realistic threat felt from Asian Americans. Overall, we predicted that realistic threat would mediate the relationship between the model minority stereotype and negative attitudes and emotions toward Asian Americans.

Method

Participants

One hundred and five students in an introductory psychology class at Ohio State University participated in exchange for partial class credit. All participants were citizens of the United States; 6 participants of Asian ethnic backgrounds were excluded from the main analysis. This left the data from 99 participants (42 males, 57 females) for formal analysis.

Procedure

Participants were brought into the laboratory in groups of 5 and seated at IBM-compatible computers. The instructions on the screen began with a brief introduction indicating the experiment was concerned with "groups in society" and that the group we were interested in was Asian Americans. Participants were asked to answer questions about their perceptions of Asian Americans and were told that their answers were confidential and anonymous. The questionnaire was presented and responses were recorded using MediaLab® programming software (Jarvis, 2002). Following the their completion of the questionnaire, participants were debriefed and thanked for their participation.

Questionnaire items. Participants completed a series of questions about Asian Americans, including items assessing negative stereotypes, positive stereotypes, positive emotions, negative emotions, and overall attitude.

Stereotypes. Stereotype items were taken directly from Ho and Jackson (2001), who identified and validated several traits related to the positive and negative stereotypes of Asian Americans. Participants were given a list of nine negative traits (antisocial, cold, cunning, deceitful, narrow-minded, nerdy, pushy, selfish, sly) and eight positive traits (ambitious, hardworking, intelligent, mathematical, obedient, self-disciplined, serious, traditional) and asked to rate how typical each was of Asian Americans. Responses were provided on 5-point unipolar scales ranging from 1 (*not at all typical*) to 5 (*extremely typical*).

Emotions. Participants read a list of 6 positive emotions and 13 negative emotions and were asked to what degree they felt these emotions about Asian Americans. The 19 emotion items were grouped into four emotion subcategories that Ho and Jackson (2001) have shown to be relevant to Asian Americans: admiration (admiration, curious, encouraged, inspired, proud, respect), hostility (anger, annoyed, disgust, distrust, frustrated, hostile, irritated, resentment), fear (afraid, fearful, threatened), and envy (jealous, envious). Participants were asked, "How often do you feel the following emotion toward Asian Americans," and provided responses on a 6-point unipolar scale ranging from 1 (*never*) to 6 (*always*).

Attitude. The difference of two opposing evaluative items (Zanna & Rempel, 1988) was used as our assessment of overall attitudes toward Asian Americans. Participants were asked, "How much do you like/dislike Asian Americans," and provided responses on 5-point unipolar scales ranging from 1 (*not at all*) to 5 (*very much*).

Realistic threat. Participants responded to 12 questions measuring realistic threat felt from Asian Americans. Items assessed realistic threats in various domains, including educational, economic, and political threats. Realistic threat items were adapted from the items previously shown to be relevant to realistic threat from African Americans (Stephan et al., 2002). Items were modified to be relevant to Asian Americans (see the appendix). Responses were provided on 7-point bipolar scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), with 4 (*neither*) as the neutral point.

Results and Discussion

Scale Reliabilities

Reliability for the 12 items constituting the realistic threat scale was very high ($\alpha = .93$). Reliablities for the emotion items were also acceptable (admiration: $\alpha = .84$; hostility: $\alpha = .95$; fear: $\alpha = .78$; envy: $\alpha = .81$), and reliabilities for the stereotype items were high (negative stereotype: $\alpha = .84$; positive stereotype: $\alpha = .87$). Given the high reliabilities of these scales, aggregate variables were constructed and used to assess the relationship between realistic threat toward Asian Americans and endorsement of stereotypes, emotions, and attitudes.

Descriptive Statistics

Mean levels of emotional responses and endorsement of stereotypes are presented in Table 1. Intercorrelations between emotion items yielded strong positive correlations within the three negative emotional subcategories: fear, envy, and hostility. The single positive emotion subcategory, admiration, was strongly and negatively correlated with hostility, weakly and positively correlated with envy, and was not correlated with fear (see Table 2).

Regression and Mediation Analyses

In line with recommendations for mediation analyses (Baron & Kenny, 1986), a series of regression equations were performed to test for the mediational effects of realistic threat. We first tested our main prediction that the

TABLE 1: Means and Standard Deviations for Scale Subgroups, Study 2

Subscale	M	SD
Realistic Threat[c]	3.05	1.24
Positive Stereotype[a]	3.68	0.70
Negative Stereotype[a]	2.21	0.66
Attitude[a]	2.00	1.76
Admiration Emotion[b]	3.41	0.84
Hostility Emotion[b]	2.18	0.96
Fear Emotion[b]	1.48	0.67
Envy Emotion[b]	2.16	1.04

[a]5-point scale.
[b]6-point scale.
[c]7-point scale.

relationship between the positive (model minority) stereotype and negative attitudes would be mediated by realistic threat. The analyses indicated support for this prediction (see Figure 2). The model minority stereotype was significantly but negatively correlated with the attitude measure, indicating the model minority stereotype predicted negative attitudes. However, this relationship between the model minority stereotype and negative attitudes became nonsignificant when controlling for realistic threat (p > .93), the effect of which remained significant ($B = -.603$, $t = -6.47$, $p < .001$). In addition, the Sobel test (Sobel, 1982; see also Preacher & Leonardelli, 2003) indicated that realistic threat significantly mediated the relationship between the model minority stereotype and negative attitudes ($z = 2.02$, $p = .043$).

We also conducted mediation analyses to investigate whether realistic threat mediated the relationship between the model minority stereotype and the three negative emotion subscales: hostility, fear, and envy. The model-minority stereotype was found to be a significant predictor of all three. In addition, evidence that realistic threat acted as a mediator of these effects was found for all three negative emotion subscales (see Figure 2). The effect of the model minority stereotype as a predictor became nonsignificant when controlling for realistic threat (ps > .20), whereas the effect of realistic threat remained significant for hostility ($B = .628$, $t = 7.00$, $p < .001$), fear ($B = .397$, $t = 3.67$, $p < .001$), and envy ($B = .252$, $t = 2.29$, $p = .024$). In addition, the Sobel test indicated the mediational effects of realistic threat were significant for the relationship between the model minority stereotype and hostility ($z = 2.56$, $p = .011$) and between the model minority stereotype and fear ($z = 2.26$, $p = .033$). The Sobel test was marginally significant for the relationship between the model minority stereotype and envy ($z = 1.70$, $p = .089$). Thus, overall the evidence indicates that realistic threat mediates the relationship between positive stereotypes on the one hand and negative attitudes and three types of negative emotions on the other.

As was the case with positive stereotypes, negative stereotypes were significantly associated with negative attitudes, as well as the emotional subscales of hostility and fear but not envy (see Table 2). Interestingly, subsequent analyses indicated that realistic threat also meditated the relationships between negative stereotypes and negative attitudes and emotions toward Asian Americans (see Figure 3). When controlling for realistic threat, negative stereotypes no longer significantly predicted attitudes or any of the three emotion subscales (ps > .17), whereas the effect of realistic threat remained significant for attitudes ($B = -.603$, $t = -6.44$, $p < .001$), hostility ($B = .538$, $t = 4.75$, $p < .001$), and fear ($B = .315$, $t = 2.24$, $p = .028$). The Sobel tests indicated that realistic threat significantly mediated the relationship between negative stereotypes and attitudes ($z = 3.31$, $p < .001$), between negative stereotypes and hostility ($z = 3.76$, $p < .001$), and marginally between negative stereotypes and fear ($z = 1.84$, $p = .065$). The Sobel tests were not significant for envy ($p = .13$) or admiration ($p = .25$).

Thus, overall, realistic threat acted as a mediating mechanism for the relationship between both positive and negative stereotypes toward Asian Americans on the one hand and negative attitudes and emotions on the other. This is compelling evidence consistent with our hypothesis that realistic threat plays an important role in the expression of negative attitudes and emotions toward Asian Americans, arguably the group most commonly thought of as America's model minority. In particular, this study shows realistic threat as a specific and concrete mechanism in which positive stereotypes can be translated into negative, rather than positive, attitudes and emotions.

STUDY 3

The main goal of Study 3 was to provide experimental support for the present hypothesis. Although results from Study 2 were consistent with those of Study 1 and supported our hypothesis that realistic threat is an important underlying mechanism responsible for negative attitudes and emotions toward model minorities, the correlational nature of Study 2 did not allow us to address realistic threat as a causal mechanism leading to negative attitudes and emotions toward Asian Americans. Although Study 2 provided clear and compelling theoretical support for our proposed and supported sequence of causality (i.e., model minority stereotype → realistic threat → negative affect and evaluations), alternate

TABLE 2: Correlations Among Realistic Threat, Stereotypes, Attitudes, and Emotions, Study 2

	Realistic Threat	*Negative Stereotype*	*Positive Stereotype*	*Attitude*	*Hostile*	*Admire*	*Fear*	*Envy*
Realistic threat	1.0							
Negative stereotype	.67**	1.0						
Positive stereotype	.35**	.35**	1.0					
Attitude	–.61**	–.50**	–.22*	1.0				
Hostile	.64**	.53**	.27**	–.85**	1.0			
Admire	–.33**	–.29*	.12	.43**	–.32**	1.0		
Fear	.40**	.30**	.20*	–.44*	.55**	.02	1.0	
Envy	.27**	.17	.28**	–.24*	.39**	.18	.49**	1.0

*$p < .05$. **$p < .01$.

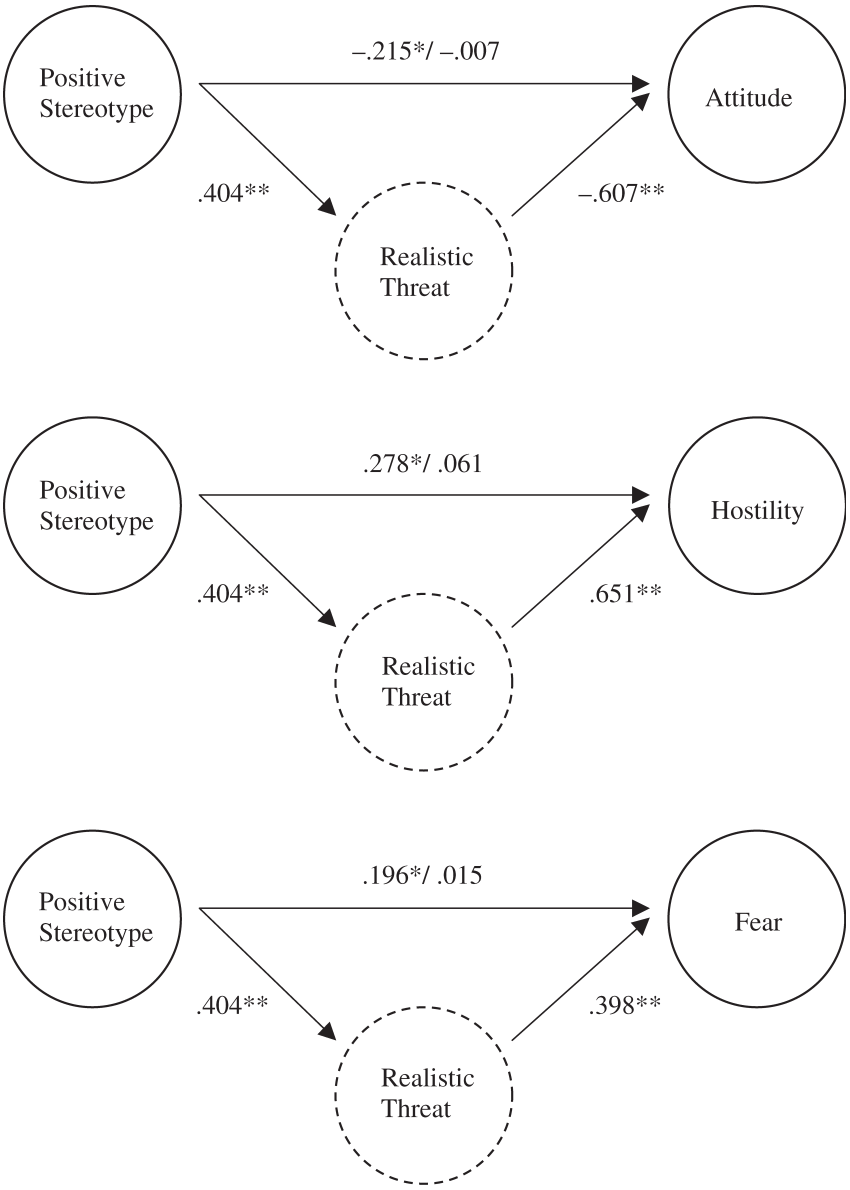

Figure 2 Mediation analyses, positive (model minority) stereotypes, Study 2.
*$p < .05$. **$p < .01$.

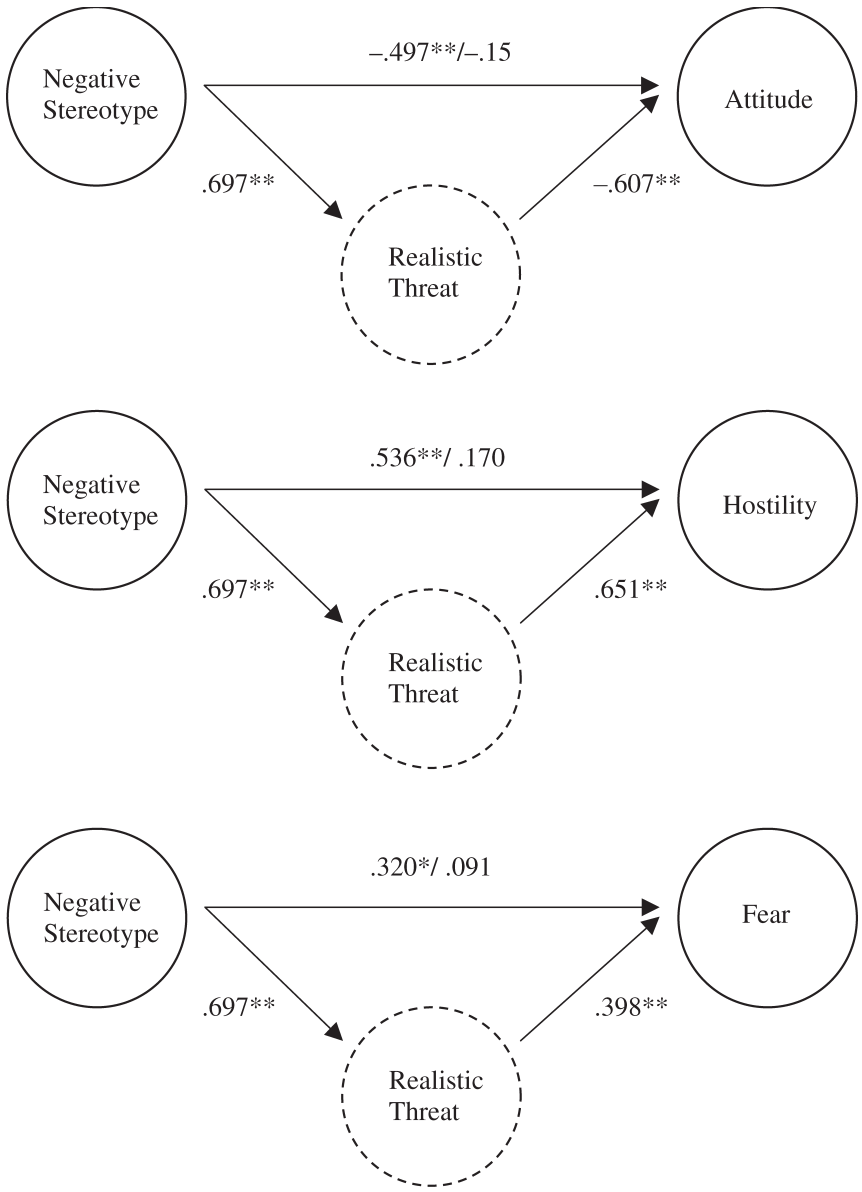

Figure 3 Mediation analyses, negative stereotypes, Study 2.
*$p < .05$. **$p < .01$.

directions are also possible, and clear experimental tests of the relationship are necessary as complementary evidence. Thus, Study 3 tested the causal nature of the relationship between realistic threat and negative attitudes and emotions toward Asian Americans. In Study 3 we experimentally manipulated realistic threat by presenting participants with a scenario designed to either induce or dispel a sense of realistic threat from Asian Americans. We predicted that compared to participants' general attitudes and emotions toward Asian Americans in a situation that did not involve realistic threat, participants' attitudes and emotions toward Asian Americans in

general following a situation explicitly involving realistic threat would be significantly more negative.

Method

Participants

Forty students (21 females, 19 males) in an introductory psychology class at Ohio State University participated in exchange for partial class credit. All participants were citizens of the United States and indicated their ethnic background as White or Caucasian.

Procedure

Participants were told they would be participating in a series of unrelated experiments. The first experiment involved the experimental manipulation of realistic threat, which was followed by a filler task, and then an assessment of global attitudes and emotions toward Asian Americans.

Manipulation of realistic threat. In the first phase of the experiment, participants were instructed to read a scenario and told that they would be answering questions about it later. The hypothetical scenario involved a project in a chemistry class, a class consistent with the stereotype of Asian Americans doing well in science classes (e.g., Kao, 2000). In addition, the class demographics were explicitly presented as being predominantly Asian American. Two experimental conditions were created, and participants were randomly assigned to one of two conditions. The instructions read as follows:

> You are assigned a project in your Chemistry class. Your professor has said the project will be very challenging. The class is graded on a curve, so you are competing against the rest of the class. The class is composed of 62% Asian-American, 29% Euro-American, 5% African-American, and 4% Hispanic American students. The project is worth a significant portion of your grade, so it may determine what you get in the class. Your professor then divides your class into pairs, and you are placed with a student named ____. You and ____ will receive a single grade based on your combined performance. Please take a moment and think about how you think you will do on the project.

In the no realistic threat condition, participants were told they were to be assigned to a partner named Yoshi, a stereotypically Asian American name. In this condition, realistic threat was expected to be absent because the Asian American partner should be seen as an advantage in achieving a good grade. In the realistic threat condition, participants were told they would be assigned to a partner named Jamal, a name that implies an African American individual (e.g., Greenwald, McGhee, & Schwartz, 1998). Because African Americans are a group that, based on the predominant cultural stereotype, does more poorly in academics than Asian Americans (e.g., Devine & Elliot, 1995), this condition was intended to make participants feel that having such a partner would make it difficult to achieve a good grade on the project in a predominantly Asian American class (and in a subject that is consistent with the stereotype of Asian Americans being good in science); in other words, it was intended to induce a sense of realistic threat from Asian Americans.

A subsequent question assessed the extent to which participants thought their partner would either help or hurt their performance. This served as our manipulation check of realistic threat. Responses were provided on a 7-point bipolar scale ranging from 1 (*hurt performance a lot*) to 7 (*help performance a lot*), with 4 as the neutral point. Following the scenario and the manipulation check, participants were then instructed to turn to the next experiment.

Filler task. Following the experimental manipulation of realistic threat, participants were told the next task was an unrelated experiment on verbal ability. Participants were asked to unscramble 10 sentences containing four words each that were designed to be neutral and innocuous in content (i.e., "Mark walked to work"). This task was designed to disguise the fact that the experimental manipulation of realistic threat and the subsequent items assessing attitudes and emotions toward Asian Americans were related.

Measures of attitudes and emotions. Following the filler task, participants were told that a third experiment concerned perceptions of "groups in society" and that one of the groups we were interested in was Asian Americans. Participants were first to respond to how much, in general, they liked or disliked Asian Americans using a 7-point bipolar scale ranging from 1 (*dislike very much*) to 7 (*like very much*), with 4 marked as a neutral point. This item served as our main attitude measure. To measure affect, participants were asked to complete a feeling thermometer, indicating on a scale from 0 to 100 (0 = *very cold,* 100 = *very warm*) how warmly or coldly they felt toward Asian Americans. Following these items participants were debriefed and thanked for their time.

Results

Manipulation Check

As predicted, participants in the realistic threat condition indicated that their partner (Jamal) would provide significantly less help on the project (M = 4.32,

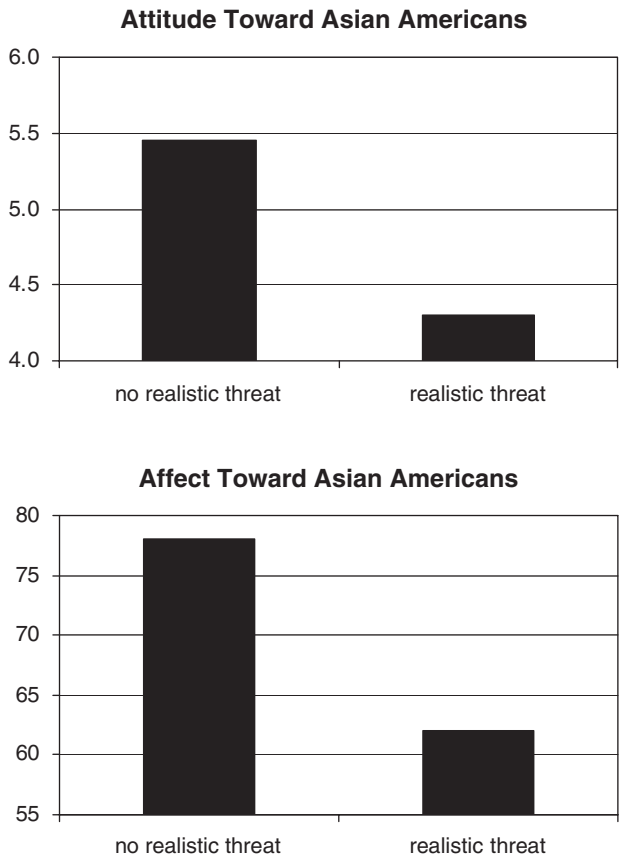

Figure 4 Attitudes and affect toward Asian Americans as a function of experimental condition, Study 3.
NOTE: Higher numbers indicate more positive attitudes and affect.

SD = 1.10) compared to participants in the no realistic threat condition (partner: Yoshi, *M* = 5.23, *SD* = 1.48), $F(1, 39) = 4.89$, $p = .033$.

Attitudes and Affect Toward Asian Americans

Consistent with our hypothesis, global attitudes and affect toward Asian Americans differed depending on the experimental condition. Global attitudes toward Asian Americans were significantly more negative in the realistic threat condition (partner: Jamal, *M* = 4.37, *SD* = 1.50) than in the no realistic threat condition (partner: Yoshi, *M* = 5.43, *SD* = 1.29), $F(1, 39) = 5.79$, $p = .021$, $\eta_p^2 = .132$ (see Figure 4). These results were replicated on our feeling thermometer measure: Global affect toward Asian Americans was significantly more negative in the realistic threat condition (partner: Jamal, *M* = 62.11, *SD* = 22.91) than in the no realistic threat condition (partner: Yoshi, *M* = 78.57, *SD* = 17.90), $F(1, 39) = 6.48$, $p = .015$, $\eta_p^2 = .146$ (see Figure 4).

Thus, experimentally inducing realistic threat led to significantly more negative attitudes and affect toward Asian Americans on a subsequent task than when this threat was explicitly reduced. This was the case even though our manipulation involved only a hypothetical situation in which participants simply were asked to imagine the class project. In addition, inducing realistic threat in this way was enough to significantly influence global attitudes and affect toward Asian Americans in general. This provides evidence that realistic threat is an important underlying factor responsible for negativity toward Asian Americans and demonstrates how positive stereotypical traits (i.e., being good at academics) can result in negativity in certain situations if those positive traits in others are likely to produce negative consequences for oneself or one's group.

STUDY 4

The main goal of Study 4 was to present participants with a stronger experimental scenario than the explicitly hypothetical scenario in Study 3. One potential drawback with the design of Study 3 was that the manipulation of realistic threat (hypothetical classroom project) may not have been sufficiently powerful, particularly given that there was no real (or even perceived) interaction with an Asian American individual. A second issue with Study 3 was that, with only two conditions, it is difficult to ascertain where the locus of the effect was. Although the results were consistent with derogation of Asian Americans in the realistic threat condition, an alternative interpretation of the results is that attitudes and emotions toward Asian Americans may have become more positive when participants were cooperating with Asian Americans (rather than attitudes and emotions toward Asian Americans becoming more negative when participants were competing against Asian Americans).

Therefore, a second goal of Study 4 was to present participants with a situation designed to induce a stronger and more realistic sense of competition with Asian Americans than in Study 3, and to demonstrate that the locus of our effects clearly represent a derogation of Asian Americans in realistic threat situations. Specifically, in Study 4 we created a situation in which participants had something tangible to gain or lose (money) based on how well they performed on a trivia test relative to another individual. We created realistic threat by manipulating both who their opponent was (Asian American or European American) and what topic the trivia test covered (science or pop culture). Given that the predominant cultural stereotype of Asian Americans is that they perform especially well in science domains (Kao, 2000), we predicted that competing with an Asian American on a trivia test involving the physical sciences would induce a sense of realistic threat

compared to the other three conditions and would lead to the most negative attitudes and emotions toward Asian Americans as a group.

A third goal of Study 4 was to assess global attitudes and emotions toward other groups in addition to Asian Americans. This was done to ensure that our induction of realistic threat was not producing a tendency toward general and diffuse derogation toward other outgroups but rather specific reactions to Asian Americans. Thus, in Study 4 we included dependent measures assessing attitudes toward groups other than Asian Americans.

Method

Participants

Ninety-seven undergraduates at Northwestern University performed the experiment; all participants voluntarily signed up for participation on a university research Web site in exchange for a monetary payment. Participation was restricted to American citizens of European descent. Five participants (all female) reported suspicions as to the cover story of the experiment, or correctly guessed the purpose of the experiment during debriefing, and these participants were excluded from the final analyses. This left 92 participants (54 females, 38 males) in the final sample.

Procedure

Participants entered the lab and were ushered into individual cubicles and seated at an IBM-compatible computer. The experiment was presented and responses were recorded using MediaLab® programming software (Jarvis, 2002). The instructions on the screen began with a brief introduction indicating that we were interested in assessing the decision-making process and participants' cognitive ability for a variety of different topics. The instructions indicated that the computer would randomly choose one of several topics—including movies, pop culture, the physical sciences, and current events—but that they would be asked to answer questions on only one of these topics.

To give participants the sense that they had something tangible to gain or lose based on their performance in the experiment, as part of the cover story the instructions went on to say that it was very important for participants to perform to the best of their ability. To provide an incentive to perform as well as possible, we told participants that we would score their answers and compare their performance with that of another participant—someone who had participated in an earlier session and had been tested on the same question topic (this person was thereafter referred to as the "opponent"). We told participants that if they outperformed their opponent on these questions, they would double their money, receiving a total of $20 at the conclusion of the experiment. If they scored lower than their opponent, they would receive only their typical participant fee of $10. In actuality, participants' responses were not compared with those of another individual, but participants were led to believe they would be throughout the experiment.

Manipulation of realistic threat. Participants were then asked to enter their gender, age, nationality, and ethnic background. The instructions as to the monetary incentive for performance were then repeated, after which the computer paused for 5 s and indicated that it was randomly selecting the topic and the opponent. The computer then randomly assigned participants to one of two types of trivia topics, either pop culture or the physical sciences, and one of two types of opponents, a European American or Asian American opponent. Thus, participants were assigned to one of four possible conditions in a 2 (topic: pop culture vs. physical sciences) × 2 (opponent type: European American vs. Asian American) between-subjects design.

The next screen appeared and listed the topic chosen and the opponent. Categories of characteristics of the opponent were the same as what the participants had entered for themselves. For age, gender, and nationality, the computer listed the same characteristics in all conditions: gender was male, age was 20, and nationality was American. However, for the two Asian American conditions, the ethnic background of the opponent was listed as Asian. For the two European American conditions, the ethnic background of the opponent was listed as White. Thus, in this design we paired participants with either an Asian American or a European American opponent and had them compete on one of two trivia tasks (pop culture or the physical sciences), giving them a tangible monetary incentive as a reward to perform well.

Trivia tests. Participants then were asked to answer 15 questions on the topic to which they were assigned.[1] Questions were selected based on difficulty assessed in a pretest to be as equivalent as possible across conditions.[2] Items in the pop culture condition included "Which movie did Robert Redford win an Oscar for?" "Who is the 2nd richest person in the world?" and "Name the two founders of Google." Items in the science condition included "What part of a cell stores food and waste?" "What is the simplest organic compound?" and "Name the two discoverers of DNA." The order of these questions was randomly presented for each participant in each condition.

Measures of attitudes and emotions. Following the completion of the trivia questions, the instructions

indicated that the computer would now download participants' responses, compare them with others' responses, and save them to our servers. Participants were told the process would take a few minutes. As part of the cover story, participants were then asked to answer some questions we were ostensibly pretesting for use in future studies. These questions involved "groups in modern society," and we presented participants with attitude and feeling thermometer items for two sets of groups. The first set of questions (always presented first but in random order) concerned three relatively innocuous groups: students, professors, and the elderly. This set was always presented first to disguise the fact that our critical measures concerned Asian Americans. The second set of groups included Asian Americans, European Americans, and African Americans. This set of groups was always presented second, but the order in which the groups were presented was randomly determined. For all groups, participants were first asked how much, in general, they liked or disliked each group. This item was assessed on a 7-point bipolar scale ranging from 1 (*dislike very much*) to 7 (*like very much*), with 4 as a neutral point. This item served as our main attitude measure. To measure affect, participants were asked to complete a feeling thermometer, indicating on a scale from 0 to 100 (0 = *very cold*, 100 = *very warm*) how warmly or coldly they felt toward each group.

Following these items participants were extensively queried by the experimenter as to any suspicions about the cover story or their perceptions of the true nature of the experiment. As indicated previously, participants who disbelieved the cover story or correctly guessed the actual purpose of the experiment were noted, and their data were excluded from the final analyses. Participants were then debriefed as to the true purpose of the experiment. All individuals (regardless of condition and actual performance on the trivia tasks) were paid $15 for their participation.

Results

Actual Performance

We first scored participants' responses on the trivia questions and compared performance across experimental conditions. We predicted that actual performance would not differ significantly across conditions, consistent with our pretest results suggesting questions were of relatively equal difficulty. Results supported this prediction. A one-way ANOVA indicated that actual correct results did not differ across the four experimental conditions (overall M correct = 2.87 out of 15, overall $SD = 1.84$), $F(3, 90) = 1.26$, $p > .29$.

Attitudes and Affect Toward Asian Americans

Although actual performance of participants did not differ across conditions, we expected that in the condition in which participants were competing for money against an Asian American individual on the science trivia questions (the realistic threat condition), this would be experienced as the most difficult situation in which to secure the tangible incentive to outperform an opponent and therefore the most threatening. For this reason, we predicted that this condition would produce significantly more negative global attitudes and emotions toward Asian Americans compared to the other three conditions.

Emotions toward Asian Americans were submitted to a 2 (ethnicity of partner: Asian vs. White) × 2 (topic: pop culture vs. science) between-subjects ANOVA. The results indicated a significant main effect of partner, $F(1, 87) = 7.40$, $p = .008$, $\eta^2_p = .080$, and a significant main effect of topic, $F(1, 87) = 8.27$, $p = .005$, $\eta^2_p = .088$. However, these lower order effects were qualified by a significant 2 (partner) × 2 (topic) interaction, $F(1, 87) = 9.77$, $p = .002$, $\eta^2_p = .102$. Planned comparisons indicated that, as predicted, overall emotions toward Asian Americans were significantly more negative in the realistic threat condition (Asian American opponent, science condition, $M = 63.64$, $SD = 17.95$), than in all three other conditions (see Figure 5): the Asian American, pop culture condition ($M = 70.81$, $SD = 15.97$), $F(1, 43) = 18.01$, $p < .001$, $\eta^2_p = .295$; the European American, pop culture condition ($M = 74.00$, $SD = 18.16$), $F(1, 42) = 12.91$, $p = .001$, $\eta^2_p = .240$; and the European American, science condition ($M = 76.88$, $SD = 14.78$), $F(1, 42) = 15.87$, $p < .001$, $\eta^2_p = .274$.

Attitudes toward Asian Americans were also submitted to a 2 (ethnicity of partner: Asian vs. White) × 2 (topic: pop culture or science) between-subjects ANOVA. The results indicated a significant main effect of partner, $F(1, 87) = 7.15$, $p = .009$, $\eta^2_p = .009$, and a marginal main effect of topic, $F(1, 87) = 3.02$, $p = .086$, $\eta^2_p = .034$. The 2 (partner) × 2 (topic) interaction was marginally significant, $F(1, 87) = 3.15$, $p = .069$, $\eta^2_p = .035$. Planned comparisons indicated that, as predicted, global attitudes toward Asian Americans were significantly more negative in the realistic threat condition (Asian American opponent, science condition, $M = 4.91$, $SD = 1.18$) than in all three other conditions (see Figure 5): the Asian American, pop culture condition ($M = 5.30$, $SD = 1.27$), $F(1, 43) = 9.94$, $p = .003$, $\eta^2_p = .188$; the European American, pop culture condition ($M = 5.61$, $SD = 1.32$), $F(1, 42) = 8.74$, $p = .005$, $\eta^2_p = .172$; and the European American, science condition ($M = 5.61$, $SD = 1.09$), $F(1, 42) = 5.97$, $p = .019$, $\eta^2_p = .124$.

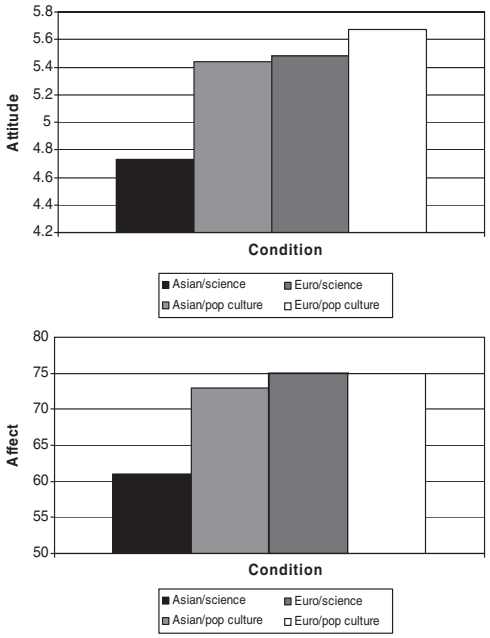

Figure 5 Attitudes and affect toward Asian Americans as a function of experimental condition, Study 4.
NOTE: Higher numbers indicate more positive attitudes and affect.

Attitudes and Emotions Toward Non-Asian American Groups

We then examined attitudes and emotions toward groups other than Asian Americans. As indicated previously, to rule out the possibility that previous effects simply reflected a tendency of individuals in realistic threat situation to show derogation toward other groups in general, we assessed participants' attitudes and emotions toward the elderly, students, professors, European Americans, and African Americans following the trivia task. However, results indicated no significant differences in attitudes or emotions toward any of these five groups across conditions (all Fs < 1.6, ps > .19). Thus, results do not support a general derogation effect, suggesting that Asian Americans are the target of enhanced negativity in such realistic threat situations.

GENERAL DISCUSSION

Little psychological research has focused on prejudice toward so-called model minorities, minority groups that are typically perceived as having relatively more positive than negative characteristics and traits. Although previous research has demonstrated that perceptions toward groups such as Asian Americans are ambivalent (Cuddy et al., 2007; Fiske et al., 2002; Ho & Jackson, 2001; Lin et al., 2005), the major goal of the current research was to explicate one important underlying mechanism responsible for the negative attitudes and emotions associated with the model minority stereotype in particular. We hypothesized that negativity arises because people often feel realistic threat from groups that are perceived as model minorities such as Asian Americans. In other words, the perception that Asian Americans or other groups have certain model minority traits—including being hardworking, intelligent, and ambitious—leads to a sense that such groups pose a threat to other groups in terms of educational, economic, and political opportunities, and that such a sense of realistic threat may lead to negative attitudes and emotions.

In support of this hypothesis, Study 1 provided evidence that such a relationship emerges based on the content of the model minority stereotype and not on the identity of a particular group. Study 2 demonstrated that, in a broad survey of perceptions about Asian Americans, realistic threat mediated the relationship between stereotypes (both positive and negative) toward Asian Americans on the one hand and negative attitudes and emotions on the other. In Study 3, experimentally inducing a sense of realistic threat in a hypothetical scenario led to significantly more negative global attitudes and emotions toward Asian Americans compared to when this sense of threat was not present. Finally, Study 4 replicated this effect in a situation involving tangible incentives for performance and ruled out general derogation as a plausible alternative explanation.

These results demonstrate the importance of realistic threat in explaining the existence of negative attitudes and emotions toward Asian Americans, particularly the ability of realistic threat to account for the way endorsement of even positive stereotypical qualities (but also negative stereotypic qualities) can translate into negative affect and evaluations. Although the importance of realistic threat in accounting for prejudice toward outgroups is well established in the literature (Bobo, 1983; Levine & Campbell, 1972; Sherif, 1966), the present research offers the first demonstration that realistic threat can explain the ambivalent perceptions toward model minorities generally and Asian Americans specifically. Indeed, previous research has found that affective constructs (i.e., threat) are particularly strong predictors of negative attitudes (e.g., Haddock, Zanna, & Esses, 1993), suggesting that evaluations of groups may be especially dependent on affective rather than cognitive processes (e.g., Fabrigar & Petty, 1999). The present results also suggest that in the positive-to-negative translation, positive traits may have a meaningful and harmful effect on oneself or one's group. In other words, the belief that Asian Americans or other model minorities are intelligent and ambitious may actually be considered negative when such traits are associated with

negative outcomes for oneself or one's group (i.e., fewer jobs, poorer grades). By contrast, positive qualities that present little in the way of realistic threat in the academic domain, such as athleticism or musicality, fail to form the basis of negative evaluations of the group possessing those positive stereotypic attributes. Given the fact that results from Study 2 demonstrated that both positive and negative stereotypes led to realistic threat, and that realistic threat mediated the relationship between stereotypes and negative attitudes, the emphasis is shifted from the valence of a stereotype to the projected implication of the stereotype to the perceiver's self or group, or both. However, it should be reiterated that the significant results of our mediation analyses do not definitively confirm that this is the only causal sequence among the variables of interest. Although there is clear theoretical support for our proposed sequence of causality (i.e., model minority stereotype → realistic threat → negative affect and evaluations), alternate directions are possible. For example, realistic threat may lead to attributions of competence. Thus, future research should examine alternate models by manipulating each variable independently and assessing its effects on the others.

Based on the historical emphasis in social psychological research on prejudice as one-dimensional antipathy (for more recent exceptions, see Alexander et al., 1997; Cottrell & Neuberg, 2005; Cuddy et al., 2007; Fiske et al., 2002), recommended strategies for prejudice reduction or prevention have focused on decreasing or eliminating negativity or adopting the belief (at both the implicit and explicit levels) that all groups should be considered equal. However, the current research emphasizes that prejudice can result when minority groups are perceived relatively positively and that the reasons or basis for prejudice may simply shift when outgroups obtain equal or higher status than one's own group. In these cases, prejudice may result because groups that are doing well in certain comparison domains now represent a source of competition. This may be particularly true when competition exists in domains that tend to be valued by one's own group, in which case social comparison cannot be avoided or shifted to other domains (i.e., students in an academic environment; Crocker & Major, 1989; Tesser, 1988). Thus, the current results serve as a stark reminder that prejudice is a multifaceted construct that is not necessarily reduced or eliminated once groups are perceived relatively positively. Rather, in such cases the basis for prejudice may simply shift from one of derogation of groups perceived as inferior to one of competition with a group perceived as equal or superior, particularly if such groups are interacting in an environment involving limited and valuable resources, such as grades, money, or jobs.

However, despite our primary focus on negativity toward model minorities in the current research, we want to emphasize the contextually dependent nature of our effects. As noted in the introduction, groups who are stereotyped as competent and cold are typically socioeconomically or professionally successful minority groups (e.g., Asians, Jews, and career women in the United States). Our results offer additional emphasis for the complex nature of prejudice and in particular the power of contextual variables to shift evaluations depending on the implications for certain groups (e.g., Barden, Maddux, Petty, & Brewer, 2004; Maddux, Barden, Brewer, & Petty, 2005; Wittenbrink, Park, & Judd, 2001). For example, Barden, Maddux, and colleagues have demonstrated that even automatic or unconscious evaluations of target individuals of various racial groups can be reversed depending on the context in which target individuals are presented. It is important to emphasize that the present research focused on situations involving realistic threat to demonstrate that depending on the salient context, attitudes and affect toward outgroups can vary depending on the contextual implications for those target individuals or groups. Clearly, in other types of situations, for example, those involving cooperation or other contexts not explicitly involving competition for finite resources, significantly less negativity toward Asian Americans is likely to be observed.

Although results from the current studies help shed light on the reasons for negativity resulting from the model minority stereotype, it remains possible that in addition to realistic threat, other types of threat also play a role in attitudes and emotions toward Asian Americans. For example, Stephan et al.'s (2002) integrated threat theory suggests that symbolic (or cultural) threat as well as intergroup anxiety may also act as mediators between stereotypes and prejudice toward various groups. Thus, future research should examine the extent to which a variety of threats may play a role in the stereotype–prejudice relationship with regard to Asian Americans.

The current research is also limited in the fact that we explored the perceptions of only one model minority group, Asian Americans. Given that our results demonstrate that whether one is good (and bad) rests not only on one's stereotypic qualities but also on the meaning of those qualities for competition or cooperation, future research should examine what other types of groups are seen as model minorities. For example, research has demonstrated the possibility that other groups or subgroups that are perceived as highly competent, such as Jewish people, Black professionals, and career women (Cuddy et al., 2007; Fiske et al., 2002; Glick, 2005) may be seen as sharing similar model minority traits with Asian Americans. In addition, groups considered model minorities will vary from country to country, and

it behooves researchers to investigate similar effects regarding model minorities outside the United States as well. Thus, to demonstrate the existence of general mechanisms that translate positive stereotypic traits into negativity in a potentially threatening domain, future research should explore attitudes and emotions toward other such groups in realistic threat situations. These and other explorations will yield a more complete understanding of the dynamic and complex nature of stereotypes and prejudice toward Asian Americans and other model minorities.

APPENDIX: REALISTIC THREAT ITEMS, STUDY 2

Please indicate the extent to which you agree or disagree with the following statements.

1. Asian Americans hold too many positions of power and responsibility in this country.
2. Asian Americans dominate American society more than they should.
3. When Asian Americans are in positions of authority, they discriminate against non Asian Americans when making hiring decisions.
4. Education benefits Asian Americans over non Asian Americans more than it should.
5. Asian Americans have more economic power than they deserve in this country.
6. Asian Americans make it harder for non Asian Americans to get into good schools.
7. Asian Americans make it harder for non Asian Americans to get good grades.
8. Asian Americans make it harder for non Asian Americans to get good jobs.
9. Many companies believe Asian Americans are more qualified than non Asian Americans.
10. Asian Americans have more political power than they deserve in this country.
11. Asian Americans make it harder for non Asian Americans to have a good quality of life.
12. The legal system lets Asian Americans get away with more than non Asian Americans.

NOTES

1. Instructions indicated that no partial credit was to be given, and answers were later scored accordingly.
2. In both conditions in the pretest ($N = 10$), participants correctly answered 14% of questions and gave difficulty ratings of 4.39 (pop culture) and 4.40 (science) on a 5-point scale ranging from 1 (*low difficulty*) to 5 (*high difficulty*).

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