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# Stereotype Content Model Explains Prejudice for an Envied Outgroup: Scale of Anti-Asian American Stereotypes

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*The Stereotype Content Model hypothesizes anti-Asian American stereotypes differentiating two dimensions: (excessive) competence and (deficient) sociability. The Scale of Anti-Asian American Stereotypes (SAAAS) shows this envious mixed prejudice in six studies. Study 1 began with 131 racial attitude items. Studies 2 and 3 tested 684 respondents on a focused 25-item version. Studies 4 and 5 tested the final 25-item SAAAS on 222 respondents at three campuses; scores predicted outgroup friendships, cultural experiences, and (over)estimated campus presence. Study 6 showed that allegedly low sociability, rather than excessively high competence, drives rejection of Asian Americans, consistent with system justification theory. The SAAAS demonstrates mixed, envious anti-Asian American prejudice, contrasting with more-often-studied contemptuous racial prejudices (i.e., against Blacks).*

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**Keywords:** *prejudice; stereotype; attitude; ambivalent; Asian American*

**T**he status of Asian Americans has run the spectrum from denigrated mid-19th century “coolies” and World War II-era “enemy race” to the respected (but envied and resented) post-1965-educated immigrants and “model minority.”<sup>1</sup> The nature of prejudice against this racial group, however, has not been thoroughly examined because psychological theories typically treat racial prejudice as if it were strictly a Black-White concern. Such an approach invites questions about whether theories and measures based on Whites’ stereotypes about Blacks can best predict the response tendencies of Whites when Asians are the racial target.<sup>2</sup> In part to

broaden the study of prejudice, we investigated attitudes toward Asian Americans and constructed the Scale of Anti-Asian American Stereotypes (SAAAS).

Our primary goal here is not scale construction but theory testing. Other such scales now exist (Ho & Jackson, 2001; Hunt & Espinoza, 2004).<sup>3</sup> Our theory is that the twin interpersonal dimensions of competence and sociability provide the relevant frame for investigating stereotypes underlying anti-Asian prejudice. This two-dimensional scheme was initially detected in person perception research finding that trait ratings configure around intellectual versus social traits (Rosenberg, Nelson, & Vivekananthan, 1968). More recently, systematic patterns of stereotype content also yield competence

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and warmth dimensions (Fiske, 1998; Fiske, Cuddy, Glick, & Xu, 2002; Fiske, Xu, Cuddy, & Glick, 1999). The Stereotype Content Model (SCM) principles assert that outgroups often fall into two mixed clusters: paternalized groups liked as warm but disrespected as incompetent (e.g., traditional women, elderly people, disabled people) and envied groups respected as competent but disliked as lacking warmth (e.g., Asians, Jews, nontraditional women). Whether a group is stereotyped as competent or warm depends on the structural relationships between groups (respectively, status and competition). The reciprocal quality of many outgroup stereotypes shows they may be positive on either competence or warmth, but not on both. For example, traditional women (housewives) appear in the cluster that is liked but disrespected, whereas nontraditional women (female professionals) appear in the cluster that is respected but disliked (Glick & Fiske, 1996, 2001a). Older people also are liked but disrespected (Cuddy & Fiske, 2002). Jews are respected but disliked (Glick, 2002). In the SCM, Asian Americans also appeared in the cluster that is respected but disliked. That this group was stereotyped as high in competence and low in likability suggests a mix of admiration, resentment, and envy. We will return to the mixed nature of this prejudice.

A review of Asian American stereotypes over time further demonstrates that the dominant group tends to characterize Asians along the lines of competence and unsociability. In the classic Katz and Braly (1933) stereotyping study, Japanese were seen as intelligent, industrious, progressive, and shrewd (i.e., competent) but shy and quiet (unsociable); Chinese were sly (implying competence) but conservative, tradition loving, superstitious, and loyal to family (implying deficient mainstream sociability). The combination of positive and negative stereotypes regarding competence and sociability was an early sign that the Asian outgroup can be perceived relatively favorably, at most, on only one dimension. Similar stereotyping trends held during following decades, with Chinese and Japanese Americans being viewed as competent (intelligent, industrious) yet lacking in sociability with the dominant group (loyal to family, quiet, shy) (Karlins, Coffman, & Walters, 1969; Maykovich, 1972). Most recently, in a replication of the Princeton Katz-Braly paradigm (Leslie, Constantine, & Fiske, 2001), both Chinese and Japanese were seen as especially intelligent, industrious, and scientifically minded (highly competent) but also loyal to family ties and reserved (still not sociable with dominant group). Compared to Whites, Asians also have been categorized as more self-disciplined and traditional (again, relatively competent) but as less popular, sexually loose, and materialistic (again, relatively unsociable) (Jackson et al., 1996).

The model minority stereotype is the most contemporary view of Asian Americans; it emphasizes their perceived competence by portraying them as diligent and successful in their economic and educational endeavors. We argue that the popular stereotype, although seemingly positive, actually carries mixed feelings of simultaneous respect and resentment. Asians may be judged favorably on competence because the White ingroup praises and promotes competence. However, given the tendency for positive attributes to be appreciated as assets only when they reflect well on oneself and the ingroup (Brewer & Brown, 1998; Hurh & Kim, 1989), the Asian outgroup's presumed competence could instead engender group threat and competition (see Insko & Schopler, 1998, for a review of assumed intergroup competition). Prejudiced Whites are most likely to interpret the favorable competence characteristics as competitive with the ingroup and the mainstream and therefore subjectively unfavorable. Thus, we can expect racially biased perceivers to consider Asians as excessively and unfairly high in competence. Mixed feelings about the perceived competence of Asian Americans emerges specifically within the context of positive attributes being regarded as negative when the outgroup is believed to possess them. Our reference to mixed feelings, therefore, differs from the conventional view of ambivalence, which necessarily entails evaluative dissimilarity or inconsistency of beliefs (cf. Katz & Hass, 1988; Katz, Wackenhut, & Hass, 1986; Thompson, Zanna, & Griffin, 1995).

The representation of Asians as highly competent hard workers does not allow room for corresponding levels of sociability. Consequently, the "model minority" image reinforces stereotypes of Asian Americans lacking interpersonal skills and not often interacting with others. The low levels of sociability identified with Asians also supports tendencies toward outgroup derogation of Asians. That is, one function of viewing them as competent yet unsociable is to justify a system whereby competence is rewarded but some competent groups are rejected on other grounds, such as lacking sociability (Glick & Fiske, 2001b; Jost, Burgess, & Mosso, 2001).

Asians being stereotyped as competent yet unsociable makes them potential racial targets of a prejudice tinged with envy and discomfort. Anti-Asian American prejudice thus exemplifies envious prejudice, the type directed against outgroups viewed as competent but not warm (Fiske et al., 2002; Glick & Fiske, 2001b). We maintain that the possibility of competitive, threatening relationships between Whites and Asians underlies the tendency to disparage, fear, and discriminate against them. Envied groups including Asians elicit both grudging cooperation and active harm (attack) (Cuddy, Fiske, & Glick, 2004). In sum, the dimensions of competence and

sociability operate together to determine the stereotypic content that is the source of prejudice and discrimination against Asian Americans.

Based on our theoretical assumptions, we conducted six studies to create the SAAAS and demonstrate the viability of a mixed stereotype in which low sociability justifies hostility. Studies 1, 2, and 3 are reported together to minimize space, maximize clarity, and compare results. Study 1 used an exploratory factor analysis to examine the factor structure of the SAAAS items and derive the final SAAAS. Study 2 included a confirmatory factor analysis to confirm the factor structure of the SAAAS obtained in Study 1. Study 3 replicated the results from the Study 2 confirmatory factor analysis in another sample (cross-validation). Study 4, presented separately, tested the scale's validity by examining whether extreme scores could predict everyday social behaviors toward Asian Americans. Study 5 replicates Study 4 at another campus, examining the whole spectrum of scores and separating the impact of each hypothesized subscale, sociability and competence. Study 6 explores whether perceived lack of sociability or perceived excessive competence underlies anti-Asian discrimination in an actual encounter.

#### STUDIES 1-3: SCALE DEVELOPMENT AND INITIAL VALIDATION OF ENVOIOUS PREJUDICE TOWARD ASIAN AMERICANS

##### *Method*

##### *GENERATING SCALE ITEMS*

Seventy-six undergraduates at the University of Massachusetts at Amherst listed any Asian American stereotypes they could call to mind. Sorting their responses according to content similarity revealed that the majority of stereotypes fell along the dimensions of sociability (i.e., lacking thereof), competence (i.e., possessing a competitive work ethic), and foreignness (i.e., not fitting into mainstream U.S. culture). Coding was not formal but would be validated in the six studies that follow using a range of methods and samples. The first and last authors then derived a preliminary set of items on these dimensions. A total of 131 items, approximately 45 per dimension, constituted the preliminary prejudice scale administered in Study 1. Further scale development shortened the SAAAS for Studies 2 and 3.

##### *PARTICIPANTS AND GENERAL PROCEDURE*

The three studies together included 980 individuals. Although recruitment procedures varied, scale administration was consistent across samples. Participants were always in a group environment and instructed to respond to each scale item. Respondents reported their opinions using a 6-point rating scale ranging from 0

(*strongly disagree*) to 5 (*strongly agree*). To control for acquiescence bias, half the items on the 131-item version and almost one third of the items on the 25-item version were reverse-worded. After reversing those items, higher numbers represented prejudice.

*Sample 1.* In Study 1, 296 undergraduates (237 women, 59 men) from the University of Massachusetts at Amherst received extra course credit for participation. The racial breakdown indicated 231 White Americans, 32 non-Asian people of color, 27 Asian Americans, and 6 students not specifying racial identity. A White female research assistant ran participants in groups of up to 10.

*Samples 2 and 3.* Studies 2 and 3 involved White American undergraduates enrolled in lower-level psychology classes at the University of Massachusetts who had taken part in one of two prescreening sessions. Sample 2 comprised 429 students (248 women, 178 men, 3 unspecified sex) and Sample 3 comprised 255 students (158 women, 96 men, 1 unspecified sex). Both samples completed the 25-item SAAAS as part of the prescreening questionnaire among scales submitted by other researchers planning to use the prescreen data for later participant selection. All answers were recorded on computerized optical scan forms.

##### *Results and Discussion*

##### *EXPLORATORY FACTOR ANALYSIS OF SAMPLE 1*

Based on Sample 1, 9 of the 131 items seemed unlikely to distinguish between high- and low-prejudice individuals because they showed low variances and extreme means ( $M < 1$  or  $M > 4$ ); these items were eliminated before any data analyses. In addition, because scale items presumably reflected anti-Asian prejudice, the factor analysis of Sample 1 excluded responses from the 27 Asian participants and the 6 racially unidentified participants.

The remaining 122 items were factor analyzed using a principal components model with varimax rotation. A sociability factor (Factor 1) with an eigenvalue of 29.77 accounted for 24.2% of the variance, and a competence factor (Factor 2) with an eigenvalue of 5.49 accounted for 4.5% of the variance. Factor 3 (eigenvalue = 4.35, accounting for 3.5% of the variance) slightly resembled the dimension of foreignness, as it contained five items about Asian Americans' physical appearance. But too few of the Factor 3 items met the .50 criterion for rotated factor loadings so further versions of the SAAAS omit a foreignness dimension.

None of the other 29 factors with eigenvalues greater than 1.00 included enough items loading at least .50 to be considered as additional factors. Moreover, these minor factors offered no substantial theoretical input to

the scale’s development (each accounted for less than 1.7% of the variance) and, as such, are not reported.

*ITEM SELECTION FOR THE RESTRICTED SCALE VERSION*

Following the initial exploratory analysis, we created a shorter scale from the pool of 122 factor-analyzed items. Only items not cross-loading on other factors and loading .50 or higher on the sociability factor or the competence factor were retained. This process selected 13 sociability items and 12 competence items (see the appendix).

*FACTOR STRUCTURE VERIFICATION*

An unweighted least-square factor analysis determined the factor structure for the 25-item SAAAS. Table 1 shows the factor loadings for the two-factor model resulting from an oblique rotation. A competence factor (Factor 1) with an eigenvalue of 11.07 accounted for 42.31% of the variance, and a sociability factor (Factor 2) with an eigenvalue of 1.96 accounted for 5.82% of the variance. Item loadings for the two factors were in the expected direction and moderately high (.40 or greater). No cross-loading was greater than .26, and the two factors were unambiguous in their item composition.

*PROPERTIES OF THE SOCIABILITY AND COMPETENCE SUBSCALES*

*Reliability.* Sample 1 demonstrated high alpha coefficients for total scores on the sociability ( $\alpha = .91$ ) and competence ( $\alpha = .92$ ) subscales, which indicates that subscale items do measure related concepts. Moreover, the strong alpha coefficients for the entire SAAAS ( $\alpha = .94$ ) suggest that even though an orthogonal rotation was used to construct two subscales, they assess complementary aspects of anti-Asian prejudice.

*Correlations between subscale scores.* In light of the reliability findings, we examined the extent to which the subscales might be related operationally. Correlational analyses of respondents’ scores on each subscale pointed out that for Sample 1, total scores on the competence ( $M = 26.84, SD = 12.16$ ) and sociability ( $M = 24.26, SD = 11.23$ ) subscales were significantly and positively correlated,  $r = .71, p < .001$ . If acquiescence bias contributed to the high correlations between subscales, then before any reverse scoring, the reversed and nonreversed items would have shown an unexpected strong, positive relation to each other. Such was not the case, for as previously reported, respondents were indeed mindful of the two types of items. More probably, the correlations bear out the tendency for the (excessive) competence stereotypes of the Asian outgroup to be directly linked to the (deficient) sociability stereotypes, which produces an overall anti-Asian attitude.

**TABLE 1: Factor Loadings for (Un)Sociability and Competence Items in Study 1**

Scale and Items (Key Phrase)	Study 1 (n = 1,296)	
	Factor	
	1	2
Competence		
Constantly in pursuit of more power <sup>a</sup>	.83	
Obsessed with competition <sup>a</sup>	.79	
Think they are smarter than everyone else	.74	
Striving to become number one	.73	
Motivated to obtain too much power in society	.73	
Compare own achievements to other people’s	.70	
To get ahead of others, can be overly competitive	.69	
Regarding education, aim to achieve too much	.61	
Working all the time	.55	
Mentality stresses gain of economic power	.55	
Enjoy disproportionate economic success	.53	
Can be regarded as acting too smart	.53	
(Un)sociability		
Commit less time to socializing than others do		.83
Dislike being center of attention at gatherings		.75
Do not put high priority on their social lives <sup>a</sup>		.67
Not very vocal		.66
Do not interact smoothly in social situations <sup>a</sup>		.64
Not as social as other groups of people		.63
Do not spend a lot of time at social gatherings <sup>a</sup>		.61
Rarely initiate social events or gatherings		.59
Tend to be shy and quiet		.55
Have less fun compared to other social groups		.52
Do not function well in social situations <sup>a</sup>		.49
Not very “street smart”		.49
Do not know how to have fun and relax <sup>a</sup>		.40

NOTE: Factor loadings smaller than .30 are not reported.  
a. Indicates reverse-worded original item on the final 25-item scale version.

*CONFIRMATORY FACTOR ANALYSIS*

We believe that the two-factor model is necessary for capturing the twin dimensions of Asian stereotypes. However, the results from the exploratory factor analysis and the high correlation between the two factors give an equivocal answer on whether the one-factor or two-factor model is more suitable. Thus, we performed a confirmatory factor analysis to seek further evidence for the two-factor model in Sample 2.

Two sets of LISREL VIII analyses (Jöreskog & Sörbom, 1993) compared a one-factor model with a two-factor model and assessed the overall fit of these two models. The one-factor model is nested within the two-factor model, so we subtracted the smaller from the larger chi-square value and did the same for the degrees of freedom to compare across the two models (Hayduk, 1987). A significant  $\Delta\chi^2(1) = 426.66$  was obtained,  $p < .001$ , indicating a preference for the two-factor model over the one-factor model. Neither model reached statistical nonsignificance by the chi-square method (one-factor

model  $\chi^2[275] = 2479.31$ ,  $p < .001$ , and two-factor model  $\chi^2[274] = 2052.65$ ,  $p < .001$  or by the RMSEA method (one-factor RMSEA = .14, 90% confidence interval for RMSEA = .13 to .14, and two-factor RMSEA = .12; 90% confidence interval .12 to .13, where .08 is acceptable according to Browne & Cudeck, 1993). However, two other goodness of fit indices for both models were acceptable (one-factor NNFI = .93, CFI = .93, and two-factor NNFI = .94, CFI = .94). Although fit was not ideal, it was close, and the two-factor models fit better than the one-factor model.

*Cross-validation.* To seek further support for our proposed two-factor model of the SAAAS, we conducted the same two sets of confirmatory factor analyses for Sample 3. As before, a significant  $\Delta\chi^2(1) = 93.45$  was obtained,  $p < .001$ , indicating that the two-factor model fit better than the one-factor model. Again, neither model reached statistical nonsignificance,  $\chi^2(275) = 1449.49$ ,  $p < .001$ , one-factor model, and  $\chi^2(274) = 1356.04$ ,  $p < .001$ , two-factor model. Again, however, two other goodness of fit indices for the two-factor model were satisfactory (NNFI = .94, CFI = .94) and the third was not (RMSEA = .13, 90% confidence interval for RMSEA = .12 to .14). Although again model fit is not perfect, it fits other published scales with complex preferred models, hierarchical structure, relatively large numbers of items, and generally positive correlations between otherwise distinct subscales (e.g., Glick et al., 2000).

Overall, the results from the confirmatory factor analyses favor the proposed two-factor model over the one-factor model in both Samples 2 and 3. The two-factor model was more suitable than the one-factor model, so the two types of Asian stereotypes apparently represent two distinct factors in the current samples.

#### MEAN SUBSCALE SCORES

Our analysis then proceeded to discover whether the differences were grounded in the belief that Asians are competent but unsociable, as hypothesized. Mean subscale scores for Sample 1 were tested separately against the scale's negative endpoint (0 = *strongly disagree*) for their representation of more or less prejudiced responses. Although respondents tended to disagree with the items conveying anti-Asian prejudice, some disagreed less than did others. Specifically, one third of respondents generated mean competence scores falling above the midpoint, and one fifth generated mean (un)sociability scores also above the midpoint. This is a moderate range of respondents who demonstrated anywhere between slight to strong agreement with the prejudice items. As a whole, the respondents did not disagree with the items to the extent of showing the least amount of prejudice because both sociability ( $M = 1.85$ ) and competence ( $M = 2.24$ ) scores landed significantly

above the scale's negative endpoint,  $t_s(262) > 34.46$ ,  $p_s < .001$ . The implication here is that a subset actually did believe Asians are competent but unsociable, whereas the respondents as a group tended to stand on neutral grounds that would reveal neither blatantly strong agreement nor disagreement with the items. Provided that item endorsement is equivalent to holding such stereotypic beliefs, opting for a moderate position might be anticipated because appearing nonprejudiced is socially desirable (Dovidio & Gaertner, 1991; Pettigrew & Meertens, 1995).

#### CONSTRUCT VALIDITY OF THE SAAAS

To clarify what respondents' item endorsement signified, independent measures of prejudice tested the construct validity of the SAAAS. Along with the SAAAS, participants in Study 2 completed the 22-item Ambivalent Sexism Inventory (ASI), which contains hostile and benevolent sexism subscales that may be combined into an overall measure of ambivalent sexism (Glick & Fiske, 1996). Both the ASI and SAAAS claim that the stereotype dimensions of sociability and competence guide mixed perceptions: Traditional women are viewed as socially warm but incompetent and nontraditional women (professionals, feminists, lesbians) are viewed as competent but not socially warm. As noted, Asian Americans are viewed as unsociable but competent. Both forms of prejudice endorse the outgroup trading off warmth and competence. The correlation demonstrated that the two prejudice scales are highly related,  $r = .54$ ,  $p < .001$ . Ambivalent prejudice among sexist individuals appears to generalize to at least one racial target of envious prejudice.

In Study 3, participants completed the SAAAS and the 10-item Subtle Prejudice Scale (SPS), with Blacks as the target category (Pettigrew & Meertens, 1995). The SPS captures three components of subtle prejudice: defense of the ingroup's traditional cultural values, overstatement of cultural group differences, and denial of positive emotions about the target group. Anti-Asian prejudice may share characteristics with subtle prejudice against Black Americans because both are, theoretically, modern types of racism. Indeed, participants' total scores from both scales showed a high correlation,  $r = .57$ ,  $p < .001$ , indicating modern racists are not confined to anti-Black prejudice. That the degree of item endorsement on the SAAAS clearly predicts levels of anti-Black prejudice is additional robust evidence of the scale's construct validity. People prejudiced against one group are typically prejudiced against others (e.g., Allport, 1954; Sidanius & Pratto, 1999).

Altogether, these multiple phases of scale development offer preliminary findings supporting the scale's validity as an instrument that assesses mixed attitudes

toward Asian Americans. Subsequent validation checks further clarify whether, as predicted, the sociability and competence dimensions reflect varying levels of anti-Asian prejudice.

#### STUDY 4: PREDICTING EVERYDAY SOCIAL BEHAVIOR

The aim of Study 4 was to demonstrate the predictive power of the 25-item SAAAS by considering the real social behavioral consequences of harboring mixed anti-Asian attitudes. Participants' scores on the SAAAS should predict everyday social behavior toward Asian Americans, measured by the frequency and nature of ordinary interactions with Asian Americans, as well as interest in Asian American culture. On modern college campuses, one would not expect a high frequency of overtly aggressive behavior toward any outgroup, so much as a lack of positive behavior toward them (Fiske, 1998). We hypothesized that high- and low-scoring participants would differ in their displays of positive social behavior, with low-scoring participants generally revealing more associations with Asian Americans and Asian American culture, consistent with their lower levels of prejudice.

#### Method

##### PARTICIPANTS

Two hundred fifty-five White American undergraduates attending the University of Massachusetts at Amherst completed the 25-item SAAAS during a general prescreening session. High scores on the sociability and competence subscales represent prejudiced beliefs (Asian Americans are unsociable and excessively competent), whereas low subscale scores represent less prejudiced beliefs (Asian Americans are not unsociable and not excessively competent). A high correlation between respondents' (un)sociability and competence scores ( $r = .81, p < .001$ ) allowed the subscale scores to be combined into a total prejudice score. High-prejudice individuals had total scores falling within the highest third of the prescreening sample distribution of total prejudice scores, whereas low-prejudice individuals had total scores falling within the lowest third. Eighty-five undergraduates (61 women, 24 men) between the ages of 18 and 23 ( $M = 19$ ) participated in exchange for course credit. Forty-one were categorized as high in prejudice and 44 as low.

##### EVERYDAY INTERACTIONS SURVEY

The nine everyday social behavior items embedded in the survey included questions about (a) extent of interactions with Asian Americans (i.e., efforts to socialize with Asians on campus, number of Asian acquaintances, number of Asian close friends, willingness to room with an Asian, ever dated an Asian), (b) level of interest in

social events or cultural contributions involving Asian Americans (i.e., attendance at Asian American events on campus, interest in taking a course in Asian American Studies, number of Asian American authors read in leisure time), and (c) estimated percentage of Asian American undergraduate students attending the University of Massachusetts at Amherst.

##### PROCEDURE

Participants were first recruited in pairs for a separate study investigating how people perform within a quiz game setting. After the game (irrelevant for current purposes), the White research assistant for that experimental session then asked participants to complete our 30-item survey under the pretense that it was for another researcher collecting data for a clinical psychology study. To discourage participants from thinking the social behavior survey was in any way associated with the experiment they had just finished, the survey items were typed in a distinct font and included a brief paragraph describing the study as about social perspectives and life experi



**TABLE 2: Correlations With the Everyday Social Interaction Behaviors Toward Asian Americans**

Sample	SAAAS Dimension								
	Competence			Unsociability			Overall Prejudice		
	RU	PU	Both	RU	PU	Both	RU	PU	Both
Everyday interaction items									
Interest in taking an Asian American course	-.03	-.28*	-.17*	-.06	-.33*	-.21*	-.04	-.32*	-.20*
Number of Asian American authors read	-.21*	-.13	-.15*	-.19	-.17	-.17*	-.21*	-.16	-.17*
Number of Asian American events on campus attended	-.07	-.08	-.05	-.08	-.12	-.06	-.08	-.11	-.06
Choose to be roommates with Asian Americans	-.28*	-.25*	-.26*	-.41*	-.14	-.26*	-.36*	-.20	-.28*
Number of Asian American acquaintances	.01	.02	.02	.06	.06	.07	.03	.05	.05
Number of Asian American close friends	-.07	-.04	-.07	-.02	.00	-.02	-.05	-.02	-.05
Have dated an Asian American	-.03	-.21*	-.09	-.14	-.25*	-.13	-.09	-.24*	-.12
Socialize with Asian Americans on campus	-.20*	-.07	-.16*	-.16	-.00	-.13	-.19	-.04	-.15*
Estimated percentage of Asian American students on campus	.11	.05	.06	.21*	-.02	.05	.16	.02	.06

NOTE: RU = Rutgers University, PU = Princeton University.  
 \* $p < .05$ .

*Interest in Asian American culture.* Overall, scores on the competence, unsociability, and the entire SAAAS all correlated with two of the three items indicating interest in Asian American cultures. Low-prejudice participants showed greater interest in “taking an Asian American Studies course” (at Princeton) and reported reading significantly more books by Asian American authors (especially at Rutgers). No significant difference appeared for attending Asian American cultural events.

*Interactions with Asian Americans.* Scores on the competence, unsociability, and the entire SAAAS all correlated with two of the five items indicating the extent of interactions with Asian Americans. In both samples and overall, low-prejudice participants were more likely to report being willing to room with Asian Americans. At Princeton, on competence, unsociability, and the entire scale, low-prejudice students were more likely to report having dated an Asian American. At Rutgers, low-prejudice students were more likely to report socializing with Asian Americans, although the effect was less reliable. No significant overall correlations were found for number of Asian American acquaintances or close friends.

*Perceived percentage of Asian Americans on campus.* Overall, the level of anti-Asian American attitude was not correlated with the perceived percentage of Asian Americans on campus. However, perceived unsociability correlated with (over)estimating Asian Americans on the Rutgers campus, and on average, the Rutgers sample perceived more Asian Americans on campus ( $M = 28\%$ ) than the actual percentage (19%). This difference was not found in the Princeton sample ( $M = 17\%$  vs. 13%). Princeton students were quite aware of the actual percentage of Asian Americans on campus, perhaps due to the small size of the student body (4,676 for Princeton vs.

35,237 for Rutgers) and frequent discussions of ethnic proportions.

STUDY 6

Based on the SCM assumption that the high-competence and low-sociability stereotypes both affect intergroup interactions, targets of envious stereotyping are respected but not liked. The SCM argues that the negative sociability stereotype enables prejudiced people to reject members of high-competence outgroups while still justifying the meritocratic system. Study 5 showed no difference in the impact of competence and (un)sociability prejudices. However, people’s self-reports of their interactions could have provided a less sensitive, more ideological response than their responses to specific individuals. We conducted another, more personal test of whether envious stereotypes completely follow this SCM trade-off.

We have argued that the stereotypically high competence measured by the SAAAS does not really reflect a positive assessment because the outgroup is seen as excessively competent and competitive. If the envied groups are perceived to have too much competence (too competitive), they might not be respected for their competence. Because of this, the high-competence stereotype might or might not predict how much rejection individual members of envied groups receive. It is important to examine whether the two dimensions of mixed stereotypes predicted by the SCM and indicated by the SAAAS differentially predict interactions with actual individual members of the envied group. Is it the alleged lack of sociability, as a system-justification approach would argue, maintaining the competence as meritocratic, even if envied? Or is it the alleged excessive competence itself that predicts discomfort and avoidance?



Study 6 aims to examine the predictive validity of the SAAAS, especially the consequences of the two dimensions of mixed stereotypes. In particular, we examine whether the two dimensions of the SAAAS differentially predict how much liking and attention individual Asian Americans receive in a minimal acquaintance context. The system-justification hypothesis predicts that the low-sociability stereotype would correlate negatively with impressions of specific Asian Americans, whereas the high-competence stereotype would not.

To test these hypotheses, we asked participants to judge three Asian American female confederates in a first-encounter situation. Each confederate made a brief announcement to assembled groups of participants and then the perceivers were asked to judge the personality of the Asian American confederates and to recognize which announcement each Asian confederate made. Based on judgments of these confederates and recognition accuracy for their announcements, we could assess, respectively, negativity of impressions and degree of attention.

### Method

#### PARTICIPANTS

A total of 103 Princeton University students participated in 16 25-min sessions. All participants were paid \$5 in return for their participation. Of the 103 participants, 27 were excluded from the analyses either because they were Asian Americans ( $n = 15$ ) or because they knew one of the three confederates ( $n = 12$ ). The remaining 76 (47 women) participants all were non-Asians. The mean age of the sample was 19 years ( $SD = 2.10$ ).

#### INSTRUMENTS

To disguise the purpose of the study, participants were told that the study was on "Personality and Attitude." Participants first completed filler questions (Big Five Personality Inventory, John & Srivastava, 1999; the Self-Construal Scale, Gudykunst, Matsumoto, Ting-Toomey, & Nishida, 1996; and the Ten-Item Personality Inventory [TIPI], Gosling, Rentfrow, & Swann, 2003), then matching questions taken from the announcements, and finally the SAAAS.

*Filler questions.* Participants filled out the Big Five Inventory (John & Srivastava, 1999). This 44-item personality inventory provided filler questions on five dimensions—Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism—on a 7-point Likert-type scale. As a bonus measure of validity, anti-Asian prejudice was correlated negatively with self-reported Openness to Experience ( $-.34$  for high competence,  $-.24$  for low sociability,  $-.31$  for overall prejudice, all  $ps < .05$ ). SAAAS prejudice did not relate to the

other Big Five dimensions, all  $r$ s ranging from  $.16$  to  $-.14$ ,  $p > .10$ .

Other filler items came from the Self-Construal Scale (SCS; Gudykunst et al., 1996), which measures participants' independent (individualistic) or interdependent (collectivistic) self-construal. Sample items include the following: "My personal identity is very important to me" and "I consult with others before making important decisions." The SCS did not correlate with the SAAAS.

*Negativity of impressions.* To assess how positively or negatively participants perceived the confederates, they were asked to rate each of the three confederates on the TIPI (Gosling et al., 2003). Two items represent each of the Big-Five dimensions (e.g., dependable, calm, uncreative [reversed], quarrelsome [reversed]); all responses were made on a 7-point Likert scale. To form a single index of impression negativity, we summed all the TIPI responses in the undesirable directions across items and then across confederates (average  $\alpha = .72$ , range =  $.70$  to  $.77$ ). Thus, the higher the score, the more negative the impression.

*Attention.* Attention was operationalized as the number of mistakes on a surprise recognition task about the confederates' announcements. The recognition task consisted of nine choices. The three correct answers were as follows: "discussing diversity issues" for speaker 1, "tutoring math at a mentoring program" for speaker 2, and "working on a population research project" for speaker 3. Incorrect responses included tutoring physics at a mentoring program, working for a public policy project, joining an international student association, supporting affirmative action, and tutoring chemistry at a mentoring program. Participants were asked to match the announcements to the speakers by writing 1 for the first speaker, 2 for the second speaker, and 3 for the third speaker (see Procedure for detail). On average, participants made 1.49 ( $SD = 1.69$ ) mistakes out of the 9 questions.

*Asian American stereotypes.* To measure the endorsement of Asian stereotypes, participants filled out the 25-item SAAAS. Note that all responses were made on a 6-point scale but the anchors (i.e., 1 = *disagree strongly* and 6 = *agree strongly*) slightly differed from those used in Studies 1 to 5 (i.e., 0 = *disagree strongly* and 5 = *agree strongly*). We summed the 12 competence items to index endorsement of high-competence stereotypes ( $\alpha = .86$ ); a high score on this index indicated that the participants perceived Asian Americans to be competent in general ( $M = 39.64$ ,  $SD = 9.14$ ). Similarly, we summed the 13 sociability items to index endorsement of low-sociability stereotypes ( $\alpha = .90$ ); a high score on this index indicated that the participants perceived Asian Americans to be less sociable in general ( $42.81$ ,  $SD = 9.51$ ). We also

computed an overall prejudice index by summing all 25 SAAAS items ( $\alpha = .93$ ), a high score indicated relatively high prejudice toward Asian Americans ( $M = 82.55$ ,  $SD = 17.35$ ). The high-competence and low-sociability stereotypes again were correlated,  $r = .72$ ,  $p < .001$ .

#### PROCEDURE

The same White female experimenter conducted all 16 sessions. As soon as participants settled into the experimental room, the experimenter told the participants that they were about to fill out a questionnaire on personality and attitude. To ensure anonymity, participants were asked not to put their name or other personal identifiers on the questionnaire. Soon after handing out the questionnaires, the experimenter asked the participants not to turn the page until they were told to do so. Shortly thereafter, three Asian American female confederates (apparently unrelated to the questionnaire study) entered the room to make announcements. These three Asian American female confederates appeared somewhat alike. Besides similar skin complexion and similar color hair, they were all around the same height (5 ft, 1 in.), and none of them wore glasses. Despite these similarities, they also differed. For example, the three confederates had different hair lengths; one confederate had long hair, another had short hair, and the third had shoulder length hair. They also had different tone of voice, manner of speaking, and facial contours.

The first speaker knocked and asked the experimenter if the confederates could give several short announcements. The announcements were given in less than a minute a piece, always in the same order. Each speaker spoke 65 words.

In detail, the first speaker (who wore a red sweater) announced the following:

Sorry to interrupt but we would like to make several quick announcements. We will try to make it short since it looks like you guys are in the middle of something. There is a new student group that examines issues of diversity and we need some volunteers for this group. If you are interested in this position, please take a flier after you are done.

Right after the first speaker left information on a nearby desk, the second speaker (in a blue sweater) said,

There is a new mentoring program in the Princeton area and we need several undergraduates to tutor math. The students are all in eighth grade. It would be preferable if you are free from Monday to Thursday from 6 p.m. to 9 p.m. but the time can be flexible. I don't want to take too much of your time so I will also leave the information on the desk.

Last, the third speaker (in a purple sweater) said,

We are looking for a research assistant for a population research project. It would be best, though not necessary, if you have a car because the office is 3 miles away from campus. You should be able to devote at least 8 hours each week. I will also leave the information about this job position on the desk. Thank you very much for your time.

After each announcement, the confederates each left fliers for the announcements on a desk, telling the participants that if they were interested in any one of the projects, they should look at the fliers after they finish their questionnaires.

After the confederates left, students resumed working on the questionnaires. Although participants finished the questionnaires including the SAAAS after exposure to the confederates, all participants saw the same behavior (i.e., no experimental manipulations could be confounding the SAAAS). Moreover, this sample's mean (corrected for response scale) and variance resembled that of the previous samples. And even if seeing these (e.g., competent) confederates influenced SAAAS responses, it would work against our hypotheses by attenuating SAAAS differences. After the participants finished the questionnaires, they were fully debriefed and paid.

#### Results and Discussion

Did the two components of SAAAS mixed stereotypes differentially predict how much liking and attention individual Asian Americans received? As expected, negativity of impressions was correlated with the low-sociability stereotype,  $r(75) = .32$ ,  $p < .01$ . This result reveals a negativity bias, which means that the less sociable the perceivers saw Asian Americans in general, the more negative the perceiver thought these three particular ones to be. This link was not significant for the high-competence stereotype,  $r(75) = .17$ ,  $p > .05$ . In addition, this correlation was significantly smaller than the .32 correlation for the low-sociability stereotype, as shown by a  $t$  test for differences between dependent correlations,  $t(75) = 1.68$ ,  $p < .05$ , for directional test. The size of impression correlation for the entire SAAAS fell between that for the high-competence and low-sociability stereotypes,  $r(75) = .26$ ,  $p < .05$ . Although the correlation between negativity of impressions and the high-competence stereotype was not significant and smaller than that for the low-sociability stereotype, the correlation was in the positive direction, suggesting that perceivers who saw Asian Americans as competent tended to see our confederates negatively.

How about attention? Also as expected, the number of mistakes made during the surprise recall task correlated significantly with the low-sociability stereotype,  $r(75) = .27$ ,  $p < .01$ . This result implies that the less socia-

ble the perceivers saw Asian Americans in general, the less attention they paid to these three particular ones. This relation was not significant for the high-competence stereotype,  $r(75) = .13$ ,  $p > .05$ , which was also significantly smaller than that for the low-sociability stereotype,  $t(75) = 1.76$ ,  $p < .05$ , for directional test. The size of the mistake correlation for the entire SAAAS fell between the two subscales,  $r(75) = .22$ ,  $p = .06$ .

Together, these findings suggest that the low-sociability stereotype is more powerful than the high-competence stereotype in determining the amount of liking and attention that individual envied group members received. These results highlight the complexity of envious stereotyping and the implications of such stereotypes.

## GENERAL DISCUSSION

### *Theoretical Implications*

Consistent with the Stereotype Content Model's previous evidence of the complementary relation between the dimensions of competence and sociability, the findings here show that Asian American stereotypes along these dimensions indeed underlie anti-Asian prejudice and discrimination. Items on the competence dimension capture a sense of aggressive competition involving the drive to secure power and success. They also convey disdain for the Asian outgroup's allegedly adhering too fervently to the work ethic and accumulating supposedly unfair achievements. These negatively imbued competence items account for the tendency of prejudiced White Americans not to regard attributes relating to high competence as positive, even when such attributes place the Asian outgroup in a favorable light. Asians are thus the targets of resentful, envious prejudice: grudgingly respected for their presumed competence but disliked for their alleged lack of sociability.

This conception of mixed prejudice does not represent a conflict between positive versus negative attitudes, as in the racial ambivalence-amplification theory (Katz et al., 1986), and it does not represent reactions to two separate subgroups, as in the ambivalent sexism theory (Glick & Fiske, 1996). Rather, the mixed prejudice refers to Asians being rated as high on one dimension and low on the other, as well as the paradox of perceiving competence as negative when associated with Asian Americans. In this respect, images of Asian Americans resemble images of female professionals as a subgroup (Glick, Diebold, Bailey-Werner, & Zhu, 1997), images of Jews (Glick, 2002), and images of rich people all over the world. Future work could use these items to assess prejudice against these groups, contrasted with the theoretically distinct prejudices against paternalized groups

(older people) or contemptible groups (poor people) (Fiske et al., 2002).

The sociability items tap into stereotypes that Asian Americans are socially awkward and isolated; this subscale derides Asians for their perceived inability to gain social approval. This dimension is critical because it provides the rationale for rejecting or even attacking an outgroup that otherwise plays by the rules of a meritocracy. To justify discriminating against a high-achieving outgroup, stereotyping them as socially inadequate provides a ready excuse. Stereotyped expectations of both low sociability and excessively high competence lead prejudiced perceivers to express their dislike of the Asian outgroup, as illustrated by their higher scores on the SAAAS, their social and cultural avoidance of Asian Americans, and their cognitive ineptness in distinguishing them.

Because the twin dimensions of competence and sociability are so firmly linked, it would be difficult to consider one dimension without the other and still obtain a comprehensive picture of the stereotypes providing the foundation for prejudice against Asian Americans. Although the two-factor model was significantly preferable to the one-factor model—and theoretical and empirical arguments support the two-factor model, despite some uneven fit data—the SCM anticipates the correlation between the two dimensions, so the finding that they are difficult to disentangle empirically is neither surprising nor bad news for the underlying theory. Perceived levels of both competence and sociability must be taken into account when assessing attitudes toward this racial group. Having been conceptualized and validated with this in mind, the SAAAS can be used to measure differences in racial attitudes and contribute insight on the nature of anti-Asian prejudice. The high-competence and low-sociability dimensions are further validated by multiple measures on our samples at three universities, public and private; by parallel results for the group "Asians" in the SCM's U.S. national samples; and by the two other scales of anti-Asian prejudice.

### *Practical Implications*

The SAAAS, which focuses on personality traits, contrasts with two other scales of anti-Asian American prejudice, both of which take a more societal focus to these attitudes. The Ho and Jackson Attitudes Toward Asian Americans (ATA) (2001) focuses on features that are either instrumentally threatening but serve as a positive model for other groups in society (essentially societal implications of our competence dimension), noninstrumental but also a positive model for society (essentially societal implications of being family oriented, missing from our scale), or negative traits (essentially societal implications of being exploitative and anti-

social, akin to being low on our sociability dimension). The Hunt and Espinoza (2004) Prejudice Against Asian Americans (PAA) also includes some positive features (intelligent, academic, excel at math and science, engineering and computer science) but mostly negative ascriptions in society (welfare use, drug use, gang membership, competition, political demands, poverty). Both scales mix traits and societal factors, more than the SAAAS does.

Because of their relative societal focus, attitudes on these scales are likely to correlate with other societal-level prejudice scales, such as Symbolic and Modern Racism, Modern and Neo-Sexism, and Social Dominance Orientation (respectively, Henry & Sears, 2002; McConahay, 1986; Sidanius & Pratto, 1999; Swim, Aikin, Hall, & Hunter, 1995; Tougas, Brown, Beaton, & Joly, 1995). Consistent with this idea, the ATA primes higher scores on the Katz-Hass (1988) Anti-Black scale, whose items also orient to societal issues (social and economic ills, neighborhoods, business opportunities, jobs). And even in predicting social behavior, the focus of the items is general and societal. The ATA correlates with traditional group-level social distance measures, with the positive items predicting less distance and the negative items predicting more distance. Similarly, the PAA-neg correlates with various societally oriented measures of prejudice (Modern Racism [MRS], Anti-Black Scale, Modern Sexism, Attitudes Toward Gays and Lesbians [ATGL], Social Dominance Orientation, Right-Wing Authoritarianism [RWA], Protestant Work Ethic [PWE], Humanitarian-Egalitarian Scale, Universal Orientation [UO]), as does the PAA-pos (MRS, ATGL, RWA, UO, PWE). Thus, the emphasis of these measures is societal group level.

The SAAAS should correlate relatively more strongly with scales that emphasize interpersonal traits over societal relations and social policies. Study 2 shows its robust (.54) correlation with the Ambivalent Sexism Inventory (Glick & Fiske, 1996), which also takes an interpersonal focus on how individuals interact with each other across social categories. Study 3 shows an equally robust correlation (.57) with the Subtle Prejudice Scale (using "Blacks" as the target category; Pettigrew & Meertens, 1995), which contains items related to interpersonal emotions (sympathy, admiration) as well as some soci-

etal items (threat, values, and cultural differences), most often phrased in terms of personal comparison between self and the outgroup. These items thus reflect some interpersonal interaction focus. This distinction is not cut and dried; the ATA and PAA also correlate somewhat with more interpersonal emphases (e.g., the ATA does correlate with personal intergroup contact; the PAA does correlate with the ASI). Nevertheless, the face validity of the respective scale items and their conceptual underpinnings do show a sharper focus on the interpersonal level for the SAAAS and on the societal level for the ATA and PAA.

The central trait assumption of the SAAAS, namely, that Asian Americans are unfairly competent, is grounded in negative cognitions and affect that justify prejudice against the group (Banaji & Greenwald, 1995; Glick & Fiske, 2001a, 2001b; Jost et al., 2001). Rather than encourage amiable interracial ties, these psychological barriers give rise to social relations with Asians that are couched in heightened feelings of intimidation, resentment, or envy. Moreover, the perceived high competence of Asians may lead to beliefs that other, allegedly less achieving racial groups can be blamed for their presumed lack of success ("Asian Americans have made it for themselves. Why can't they?"). Not simply is anti-Asian prejudice directed at Asian Americans but it also fuels interracial conflict more generally. If we more fully comprehend how anti-Asian prejudice functions and relates to other types of prejudice, we can then suggest better methods of reducing racial unrest, prejudice, and discrimination.

### *Conclusion*

The development of the Scale of Anti-Asian American Stereotypes validated predictions of the Stereotype Content Model for one envied outgroup, providing a kind of case study, but also signals progress in exploring the real complexity of racial stereotyping and prejudice, which certainly extends beyond Black-White lines. By following the scale's validation with other related studies on the nature of anti-Asian prejudice and on prejudice reduction, we hope for a greater understanding of attitudes about unique social groups, as well as patterns that cut across specific groups.

**APPENDIX**  
**The Scale of Anti-Asian American Stereotypes (SAAAS)**

Below are a number of statements with which you will agree or disagree. There are absolutely no right or wrong answers. Use the specified scale to indicate the number that best matches your response to each statement.

<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>strongly disagree</i>	<i>moderately disagree</i>	<i>slightly disagree</i>	<i>slightly agree</i>	<i>moderately agree</i>	<i>strongly agree</i>
(C)	1.	Asian Americans seem to be striving to become number one.			
(S)	2.	Asian Americans commit less time to socializing than others do.			
(C)	3.	In order to get ahead of others, Asian Americans can be overly competitive.			
(S)	4.	Asian Americans do not usually like to be the center of attention at social gatherings.			
(C)	5.	Most Asian Americans have a mentality that stresses gain of economic power.			
(C)	6.	Asian Americans can sometimes be regarded as acting too smart.			
(S) <sup>a</sup>	7.	Asian Americans put high priority on their social lives.			
(S)	8.	Asian Americans do not interact with others smoothly in social situations.			
(C) <sup>a</sup>	9.	As a group, Asian Americans are <i>not</i> constantly in pursuit of more power.			
(C)	10.	When it comes to education, Asian Americans aim to achieve too much.			
(S)	11.	Asian Americans tend to have less fun compared to other social groups.			
(C)	12.	A lot of Asian Americans can be described as working all of the time.			
(S)	13.	The majority of Asian Americans tend to be shy and quiet.			
(S)	14.	Asian Americans are not very "street smart."			
(S) <sup>a</sup>	15.	Asian Americans know how to have fun and can be pretty relaxed.			
(S)	16.	Most Asian Americans are not very vocal.			
(C) <sup>a</sup>	17.	Asian Americans are a group <i>not</i> obsessed with competition.			
(S) <sup>a</sup>	18.	Asian Americans spend a lot of time at social gatherings.			
(C)	19.	Oftentimes, Asian Americans think they are smarter than everyone else is.			
(C)	20.	Asian Americans enjoy a disproportionate amount of economic success.			
(S)	21.	Asian Americans are not as social as other groups of people.			
(C)	22.	Asian Americans are motivated to obtain too much power in our society.			
(S) <sup>a</sup>	23.	Most Asian Americans function well in social situations.			
(C)	24.	Many Asian Americans always seem to compare their own achievements to other people's.			
(S)	25.	Asian Americans rarely initiate social events or gatherings.			

NOTE: S = sociability item, C = competence item. Scoring instructions are as follows: Sociability and competence scores on the Scale of Anti-Asian American Stereotypes can be calculated separately by adding up the score for all items on the relevant subscale after reverse-scoring the items listed below. The sociability and competence subscales also can be combined to form a total anti-Asian American prejudice score. Reverse-scored items (0 = 5, 1 = 4, 2 = 3, 3 = 2, 4 = 1, 5 = 0): 7, 9, 15, 17, 18, 23. Sociability score = total of all the sociability items: 2, 4, 7, 8, 11, 13, 14, 15, 16, 18, 21, 23, 25. Competence score = total of all the competence items: 1, 3, 5, 6, 9, 10, 12, 17, 19, 20, 22, 24.

a. Indicates a reverse-scored item.

#### NOTES

1. Because the present research focused on anti-Asian American prejudice, which typically extends to the entire racial group and not to specific ethnicities, we refer to Asian Americans as a single, broad group despite the more than two dozen groups that this term covers.

2. For our research purposes, we use "Asian American," "White American," and "Black American" interchangeably with "Asian," "White," and "Black" to emphasize the racialized identities of these groups.

3. Both scales appeared after we completed scale construction and preliminary validation (Lin, 1999). Nevertheless, each scale differs in emphasis, useful for different purposes. The Attitudes Toward Asian Americans (ATA; Ho & Jackson, 2001) scale focuses on bases of prejudice that are positive and "instrumental" (Asians as intelligent, hard-working, self-disciplined, models for American society), positive noninstrumental (family-oriented, quiet, courteous, also models for society), or negative noninstrumental stereotypic (un-American, exploitative foes in societal context). Positive instrumental and negative noninstrumental ascriptions stimulate societal threat, whereas pos-

itive noninstrumental beliefs do not stimulate negative group-level attitudes.

The Prejudice Against Asian Americans (PAA; Hunt & Espinoza, 2004) scale also focuses on the societal context, assessing some positive ascriptions (intelligent, academic, excel at math and science, engineering and computer science) and negative ascriptions in society (welfare, drug use, gangs, competitive, demanding, poor). Thus, both scales emphasize a societal analysis. Our scale focuses on interpersonal perceptions of personality traits, with implications for interpersonal interaction.

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