

# Intersecting race and gender stereotypes: Implications for group-level attitudes

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## Abstract

Two studies examined the relationship between explicit stereotyping and prejudice by investigating how stereotyping of minority men and women may be differentially related to prejudice. Based on research and theory related to the intersectional invisibility hypothesis (Purdie-Vaughns & Eibach, 2008), we hypothesized that stereotyping of minority men would be more strongly related to prejudice than stereotyping of minority women. Supporting our hypothesis, in both the United Kingdom (Study 1) and the United States (Study 2), when stereotyping of Black men and women were entered into the same regression model, only stereotyping of Black men predicted prejudice. Results were inconsistent in regard to South Asians and East Asians. Results are discussed in terms of the intersectional invisibility hypothesis (Purdie-Vaughns & Eibach, 2008) and the gendered nature of the relationship between stereotyping and attitudes.

## Keywords

attitudes, gendered race, intersectionality, prejudice, stereotyping

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Stereotypes are defined as beliefs about the attributes associated with a group and prejudice is defined as a negative attitude or evaluation of a group (Dovidio, Brigham, Johnson, & Gaertner, 1996). It is often presumed that stereotypes like “members of Group A are dirty, hostile, lazy, . . .” should lead to prejudice such as “I don’t like A’s” (Smith, 1993, p. 299). However, the literature is inconsistent in support of a close relationship between the constructs of stereotyping and prejudice (e.g., Amodio & Devine, 2006; Brigham, 1971; Esses, Haddock, & Zanna, 1993). For

example, Dovidio et al. (1996) conducted a meta-analysis on the relationship between overtly

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expressed or explicit forms of stereotyping and prejudice and found only a moderate relationship ( $r = .25$ ). However, there is considerable variability. For example, one study found the correlation between stereotyping and prejudice could be quite strong, as high as  $r = .61$  (Esses et al., 1993).

The intersectional invisibility hypothesis (Purdie-Vaughns & Eibach, 2008) and research on the gendered nature of race (Carpinella, Chen, Hamilton, & Johnson, 2015; Goff, Thomas, & Jackson, 2008; Johnson, Freeman, & Pauker, 2012; Thomas, Dovidio, & West, 2014) suggest that the strength of the relationship between stereotyping and prejudice may be influenced by whether participants are stereotyping men or women. According to the model of intersectional invisibility (Purdie-Vaughns & Eibach, 2008), because of societal standards of heterocentrism (the assumption that the typical person is heterosexual), ethnocentrism (the assumption that the typical person belongs to the dominant racial group), and androcentrism (the assumption that the typical person is male), the prototypical person is conceptualized as a heterosexual White male (see also Ghavami & Peplau, 2012). Individuals with multiple subordinate identities (e.g., racial minority women) are considered to be nonprototypical and may be less likely to be categorized as group members (Thomas et al., 2014). Under this model, men are seen as prototypical exemplars of racial groups, and racial minority women are notably absent in their social representations. Therefore, social cognition about men (and not women) may be overrepresented in group-level beliefs. For example, stereotypes about the men and women of various nationalities (Eagly et al., 1987) and ethnic groups (Ghavami & Peplau, 2012) differ from one another. And research has found that stereotypes about the men of a group tend to be more similar to stereotypes about the group as a whole compared to stereotypes about the women of the group. Specifically, Ghavami and Peplau (2012) found 12 of the top 15 most frequently listed stereotypes about Black men and the category Black were the same whereas only five of the top 15 most frequently listed stereotypes

about Black women and the category Black were the same.

In contrast, theorizing on the gendered nature of race emphasizes the associative links between racial groups and gender. Importantly, research suggests that while many racial groups including Blacks may be more strongly associated with men (Goff et al., 2008; Johnson et al., 2012; Schug, Alt, & Klauer, 2015; Thomas et al., 2014), other racial groups such as East Asians may be more strongly associated with women (Galinsky, Hall, & Cuddy, 2013; Johnson et al., 2012; Schug et al., 2015). For example, participants tend to think of a Black man rather than a Black woman when asked to imagine a Black person (Schug et al., 2015) and are quicker to associate Black men with the category “Black” compared to Black women (Thomas et al., 2014). Furthermore, Carpinella et al. (2015) found that as the masculinity of a face increased, the more likely participants were to categorize it as Black. However, Johnson et al. (2012) demonstrated that gender-ambiguous Asian faces were more likely to be categorized as female compared to gender-ambiguous White and Black faces. Moreover, the categorization of female faces was facilitated for Asian compared to White and Black faces, particularly for individuals who held stronger Asian–female and Black–male implicit associations. Further, Asians are more likely to be attributed feminine rather than masculine traits (Galinsky et al., 2013; Hall, Phillips, & Townsend, 2015) and participants subliminally primed with the racial category Asian, compared to Black or White, responded more quickly to feminine words (Galinsky et al., 2013). Due to the overlap between racial categories and sex typing (i.e., “Asian” and “feminine,” “Black” and “masculine”), Asian targets were perceived to be more hireable for feminine occupations (e.g., campus librarian) compared to Blacks, who are more likely to be selected for masculine occupations (e.g., campus security patrol; Hall et al., 2015; see also Galinsky et al., 2013, for other examples).

The present research is designed to test competing hypotheses derived from the intersectional invisibility and the gendered nature of race

models about how stereotypes should be related to prejudice. Specifically, the intersectional invisibility hypothesis suggests that for all racial minority groups, stereotypes about men (rather than women) should be more strongly related to prejudice against that group. Furthermore, under the intersectional invisibility hypothesis, we expect participants to generate more stereotypes about the men (vs. women) of racial minority groups. Alternatively, the gendered nature of race account suggests that whereas stereotypes about Black men should be more strongly related to group-level prejudice against Blacks, stereotypes about East Asian women should be more strongly related to group-level prejudice against East Asians. We are the first to examine the person construal of South Asians under the gendered-race hypothesis and, therefore, do not make specific hypotheses about this category.

## Measuring Stereotypes

According to the unified theory of social cognition (UT; Greenwald et al., 2002), stereotypes (defined as associative links between groups and attributes) should influence prejudice (defined as associative links between groups and positive or negative evaluations) via the evaluative associations linked to each stereotype. Thus, if most of the stereotypes associated with a group are negative, we would expect prejudice against that group to be stronger (and vice versa if most of the stereotypes associated with a group are positive). Therefore, we sought a method of measuring stereotypes that not only allowed participants to freely nominate the stereotypes associated with each group, but also to indicate the valence they personally associate with each nominated stereotype. This is important because people may disagree about the valence of specific traits. In addition, we are not interested in the extent to which participants endorse society-wide stereotypes but in how the stereotypes they believe are associated with each group influence their personal prejudice against that group.

Esses et al. (1993) developed a stereotyping measure that meets these requirements. They

used three tasks in which participants first generated stereotypes about groups, then indicated how strongly those stereotypes were related to the groups, and finally evaluated how positive or negative each trait was. Measuring how strongly each stereotype is associated with each group is important because not every stereotype should have an equal relationship with prejudice; stereotypes more strongly related to the group should be more strongly related to prejudice. By summing the valence of each trait multiplied by its strength of association with the group, Esses et al. (1993) calculated a numerical value for how positively or negatively groups were stereotyped by individual participants. Using this measure, they found that correlations between stereotypes of ethnic groups and attitudes towards those groups ranged from  $r = .37$  (English Canadian) to  $r = .61$  (Jewish). Notably, this study did not examine how stereotyping of men and women may be differentially related to group-level prejudice. Thus, the goal of the current research was to examine whether gender specificity in racial stereotyping would predict categorical prejudice against racial groups. In doing so, we will gain important insight into the variables that may moderate the relationship between stereotyping and prejudice. This research will have implications for both theory and applied research. For example, interventions designed to improve intergroup relations, such as policy-based interventions aimed at the integration of diverse racial groups may disproportionately target Black men by not accounting for differences in how Black women may be stereotyped (e.g., Thomas et al., 2014). Thus, it is important to understand how different components (e.g., gender-specific stereotypes) might feed into group-level attitudes.

## Overview

In two studies, we used a modified version of Esses et al.'s (1993) stereotyping task to assess stereotyping of White, Black, East Asian, and South Asian men and women. We also measured attitudes with evaluation thermometers that assess how warm or favorable participants feel toward

the aforementioned groups. We had two sets of hypotheses for this research. One was based on the intersectional invisibility model where we expected that stereotypical biases against Black, East Asian, and South Asian men would be better predictors of racial prejudice than stereotypical bias against the women of those groups. Our second hypothesis was based on theorizing related to the gendered nature of race where we expected associative links between racial categories and sex typing to drive the relationship between stereotyping and group-level prejudice. Specifically, this account predicts that stereotyping of Black men would predict prejudice towards Blacks, but that stereotyping of East Asian women would predict prejudice towards East Asians. We did not make specific hypotheses about the pattern of results related to South Asians.

## Study 1

Study 1 utilized a sample of students from a university located in the north of the United Kingdom (UK) and examined how stereotypical bias against minority men and women predicted prejudice against the respective racial groups. We assessed stereotyping of UK White men, UK White women, Black men, Black women, East Asian men, East Asian women, South Asian men, and South Asian women as well as attitudes toward UK Whites, Blacks, East Asians, and South Asians. We chose to add the qualification “UK” before Whites to ensure all participants were generating stereotypes related to the dominant racial group within the UK, as opposed to potentially generating stereotypes related to White European immigrant groups (or some combination of both). This same precaution was not taken with the other racial groups (i.e., participants were asked about Blacks rather than UK Blacks) because we did not want to prime any ingroup affiliation with racial minorities.

## Method

*Participants.* We offered potential participants partial course credit in exchange for participation

via the participant pool at a large university in Northern England. In total, 52 participants completed all the measures relevant to the present hypotheses. Of these, 45 were White, 2 were South Asian, 1 was East Asian, 1 was Black, 1 had a mixed-race background, 1 responded “other,” and 1 did not respond. We conducted analyses on the White participants (36 female, nine male,  $M_{age} = 19.36$ ,  $SD_{age} = 2.28$ ).

*Procedure.* Upon logging in to the experiment website and providing informed consent, participants completed a series of tasks to assess their stereotyping and attitudes as well as a number of tasks unrelated to the present hypotheses.<sup>1</sup>

*Stereotyping.* Participants were informed that the researchers were interested in the “stereotypes that are generally associated with various social groups by the media and society in general” rather than their personal beliefs. After reading a request to “answer all of these questions as honestly as you can” participants completed the stereotype listing, stereotype strength, and stereotype valence tasks.

*Stereotype listing task.* Following Esses et al. (1993), participants were instructed to type as many stereotypes as they could about a series of social groups (UK White men, UK White women, Black men, Black women, East Asian men, East Asian women, South Asian men, and South Asian women). Each social group was presented on the screen by itself and after participants had listed corresponding stereotypes, they pressed a button to move onto the next group. Participants were not required to provide at least one stereotype for each social group. The social groups were presented in random order.

*Stereotype strength task.* Participants were then asked to indicate how strongly *society* associated their generated stereotypes with the corresponding social groups using a Likert scale that ranged from 1 (*not at all strongly*) to 7 (*very strongly*). For example, if participants listed the trait “strong” as a stereotype for UK White men, they would be

**Table 1.** Means and standard deviations of stereotyping scores by study and gender.

	Study 1 (UK sample; N = 45)		Study 2 (U.S. sample; N = 54)	
	Male	Female	Male	Female
White (Study 1)/race not specified (Study 2)	<i>M</i> = 20.28 <i>SD</i> = 10.60	<i>M</i> = 21.10 <i>SD</i> = 10.10	<i>M</i> = 28.95 <i>SD</i> = 12.22	<i>M</i> = 23.95 <i>SD</i> = 11.34
Black	<i>M</i> = 13.69 <i>SD</i> = 9.56	<i>M</i> = 22.21 <i>SD</i> = 10.03	<i>M</i> = 18.92 <i>SD</i> = 10.38	<i>M</i> = 21.09 <i>SD</i> = 11.21
East Asian	<i>M</i> = 27.61 <i>SD</i> = 8.11	<i>M</i> = 23.74 <i>SD</i> = 9.34	<i>M</i> = 31.81 <i>SD</i> = 11.16	<i>M</i> = 27.40 <i>SD</i> = 11.14
South Asian	<i>M</i> = 16.01 <i>SD</i> = 9.03	<i>M</i> = 17.92 <i>SD</i> = 8.60	<i>M</i> = 19.15 <i>SD</i> = 12.57	<i>M</i> = 19.71 <i>SD</i> = 12.44

*Note.* Stereotyping scores were created by summing the product of valence and association strength for each trait generated by participants. Higher scores represent more positive stereotyping.

asked, “How strongly does society associate the trait, *strong*, with UK *White men*?”

*Stereotype valence task.* Finally, participants were again presented with each stereotypic trait generated in the stereotype listing task, but this time asked to rate how positive or negative the stereotypes were using a Likert scale that ranged from 1 (*very negative*) to 7 (*very positive*).

*Evaluation thermometers.* To assess personally held attitudes held toward different social groups, participants were asked to indicate how favorable they were toward UK Whites, Blacks, East Asians, and South Asians using an evaluation thermometer that ranged from 0 (*no favorable feelings*) to 100 (*very favorable feelings*).

*Demographics and debriefing.* Participants were asked to answer open-ended questions about their age and gender as well as a close-ended question about their race. In addition, participants were invited to speculate on our research questions. Finally, participants were shown a debriefing screen that explained our hypotheses and thanked for their time.

## Results

*Stereotyping.* Separate stereotyping scores were calculated for each social group (see Table 1). The

average number of stereotypes generated for each group is presented in Table 2. A race (White, Black, East Asian, South Asian)  $\times$  Gender (male, female) repeated measures analysis of variance on the stereotype scores revealed a significant main effect of race,  $F(3, 132) = 17.12, p < .001, \eta_p^2 = .28$ . Simple within-subjects contrasts revealed that Blacks were stereotyped marginally more negatively than Whites  $F(1, 44) = 3.07, p = .09, \eta_p^2 = .07$ , East Asians were stereotyped more positively than Whites,  $F(1, 44) = 18.14, p < .001, \eta_p^2 = .29$ , and South Asians were stereotyped more negatively than Whites,  $F(1, 44) = 5.40, p = .03, \eta_p^2 = .11$ . There was also a significant main effect of gender indicating that women were stereotyped more positively than men,  $F(1, 44) = 4.33, p = .04, \eta_p^2 = .09$ .

Importantly, these main effects were qualified by a significant interaction between race and gender,  $F(3, 132) = 12.11, p < .001, \eta_p^2 = .22$ . The interaction reflects the fact that in regard to Blacks, participants stereotyped Black men more negatively than White men,  $F(1, 44) = 10.74, p = .002, \eta_p^2 = .20$ , but there were no differences in valence between stereotyping of Black and White women,  $F(1, 44) = 0.35, p = .56, \eta_p^2 = .01$ . In regard to East Asians, participants stereotyped East Asian men more positively than White men,  $F(1, 44) = 22.12, p < .001, \eta_p^2 = .34$ , but East Asian women were stereotyped only marginally more positively than White women,

**Table 2.** Mean number of stereotypes generated.

	Study 1 (UK sample; N = 45)		Study 2 (U.S. sample; N = 54)	
	Male	Female	Male	Female
White (Study 1)/race not specified (Study 2)	<i>M</i> = 3.82 <i>SD</i> = 1.67	<i>M</i> = 3.29 <i>SD</i> = 1.70	<i>M</i> = 6.81 <i>SD</i> = 2.80	<i>M</i> = 6.85 <i>SD</i> = 3.23
Black	<i>M</i> = 3.42 <i>SD</i> = 1.64	<i>M</i> = 2.98 <i>SD</i> = 1.39	<i>M</i> = 5.70 <i>SD</i> = 2.98	<i>M</i> = 4.50 <i>SD</i> = 2.75
East Asian	<i>M</i> = 3.13 <i>SD</i> = 1.60	<i>M</i> = 3.18 <i>SD</i> = 1.48	<i>M</i> = 4.02 <i>SD</i> = 2.55	<i>M</i> = 3.43 <i>SD</i> = 1.72
South Asian	<i>M</i> = 2.96 <i>SD</i> = 1.85	<i>M</i> = 3.29 <i>SD</i> = 1.34	<i>M</i> = 2.52 <i>SD</i> = 1.99	<i>M</i> = 2.31 <i>SD</i> = 1.77

*Note.* In Study 1 a Race (White, Black, East Asian, South Asian) × Gender (male, female) repeated measures analysis of variance on the number of stereotypes participants generated found a main effect of race,  $F(3, 132) = 3.67, p = .01, \eta_p^2 = .08$ , but not a main effect of gender,  $F(1, 44) = 1.12, p = .30, \eta_p^2 = .03$ . The main effect of race indicates that participants generated more stereotypes about Whites than Blacks,  $F(1, 44) = 9.17, p = .004, \eta_p^2 = .17$ , East Asians,  $F(1, 44) = 6.43, p = .02, \eta_p^2 = .13$ , or South Asians,  $F(1, 44) = 9.34, p = .004, \eta_p^2 = .18$ .

Importantly, the interaction between race and gender was significant,  $F(3, 132) = 4.23, p = .01, \eta_p^2 = .09$ . This interaction reflects the fact that participants generated more stereotypes for White men compared to White women,  $F(1, 44) = 5.25, p = .03, \eta_p^2 = .11$ , as well as Black men compared to Black women,  $F(1, 44) = 5.83, p = .02, \eta_p^2 = .12$ , but not East Asian men compared to East Asian women,  $F(1, 44) = 0.05, p = .82, \eta_p^2 = .001$ , nor South Asian men compared to South Asian women,  $F(1, 44) = 1.53, p = .22, \eta_p^2 = .03$ .

In Study 2, a Race (not specified, Black, East Asian, South Asian) × Gender (male, female) repeated measures analysis of variance on the number of stereotypes participants generated found a significant main effect of gender,  $F(1, 53) = 15.49, p < .001, \eta_p^2 = .23$ , indicating that participants generated more stereotypes about men than women. In addition, there was also a main effect of race,  $F(3, 159) = 91.38, p < .001, \eta_p^2 = .63$ . This main effect of race reflects the fact that participants generated fewer stereotypes about Blacks,  $F(1, 53) = 35.19, p < .001, \eta_p^2 = .40$ , East Asians,  $F(1, 53) = 152.77, p < .001, \eta_p^2 = .74$ , and South Asians,  $F(1, 53) = 184.33, p < .001, \eta_p^2 = .78$ , than men and women whose race was not specified.

Notably, these main effects were qualified by an interaction between gender and race,  $F(3, 159) = 3.28, p = .02, \eta_p^2 = .06$ . Participants generated more stereotypes for Black men than Black women,  $F(1, 53) = 19.86, p < .001, \eta_p^2 = .27$ , East Asian men than East Asian women,  $F(1, 53) = 5.88, p = .02, \eta_p^2 = .10$ , but not men than women,  $F(1, 53) = 0.01, p = .93, \eta_p^2 < .001$ , nor South Asian men than South Asian women,  $F(1, 53) = 1.28, p = .26, \eta_p^2 = .02$ .

$F(1, 44) = 3.41, p = .07, \eta_p^2 = .07$ . In contrast, South Asian men were stereotyped more negatively than White men,  $F(1, 44) = 4.63, p = .04, \eta_p^2 = .10$ , but South Asian women were stereotyped only marginally more negatively than White women,  $F(1, 44) = 2.92, p = .10, \eta_p^2 = .06$ .

*Attitudes.* A race (White, Black, East Asian, South Asian) repeated measures ANOVA on explicit evaluations of each social group was significant,  $F(3, 132) = 21.42, p < .001, \eta_p^2 = .33$ . Simple within-subjects contrasts demonstrated that Blacks,  $F(1, 44) = 23.87, p < .001, \eta_p^2 = .35$ , East Asians,  $F(1, 44) = 27.06, p < .001, \eta_p^2 = .38$ , and South Asians,  $F(1, 44) = 30.66, p < .001, \eta_p^2 = .41$ , were each evaluated more negatively

than Whites. See Table 3 for the means of each group.

*Relation between stereotyping and attitudes.* Because racial bias is often defined as preference for one group (Whites) relative to another (Blacks; Greenwald, McGhee, & Schwartz, 1998), we examined the relationship between stereotyping and attitudes using difference scores between stereotyping and attitudes of UK White men and UK White women and Black, East Asian, and South Asian men and women. Specifically, stereotypic bias against Black men, East Asian men, and South Asian men was calculated by subtracting the stereotyping score for the men of each minority group from the stereotyping score for UK

**Table 3.** Means and standard deviations of attitude scores by study and gender.

	Study 1 (UK sample; $N = 45$ )	Study 2 (U.S. sample; $N = 54$ )	
	Group-level attitudes	Male	Female
White (Study 1)/race not specified (Study 2)	$M = 77.58$ $SD = 19.59$	$M = 6.98$ $SD = 1.46$	$M = 7.19$ $SD = 1.52$
Black	$M = 65.27$ $SD = 20.75$	$M = 5.43$ $SD = 1.94$	$M = 5.67$ $SD = 1.94$
East Asian	$M = 63.11$ $SD = 21.77$	$M = 5.57$ $SD = 1.57$	$M = 6.02$ $SD = 1.74$
South Asian	$M = 55.80$ $SD = 26.31$	$M = 5.44$ $SD = 1.66$	$M = 5.87$ $SD = 1.47$

*Note.* Higher scores represent more positive attitudes.

White men. Similarly, stereotypic biases against Black women, East Asian women, and South Asian women were calculated by subtracting the stereotyping score for the women of each minority group from the stereotyping score for UK White women. Higher scores represent more positive stereotyping of Whites relative to minorities for men and women, respectively.

When the relative stereotyping scores of Black men and Black women were entered into a regression model together to predict relative attitudes toward Blacks, relative stereotyping of Black men,  $B = .37$ , 95% CI  $[-0.002, 0.73]$ ,  $p = .05$ , was a significant predictor of prejudice against Blacks, but relative stereotyping of Black women was only a marginal predictor,  $B = .34$ , 95% CI  $[-0.06, 0.73]$ ,  $p = .09$ . In regard to East Asians, neither stereotyping of men,  $B = .28$ , 95% CI  $[-0.28, 0.84]$ ,  $p = .32$ , nor women,  $B = .12$ , 95% CI  $[-0.50, 0.73]$ ,  $p = .71$ , were significant predictors of group-level attitudes. In contrast, stereotyping of South Asian men,  $B = .55$ , 95% CI  $[-0.08, 1.18]$ ,  $p = .09$ , was a marginal predictor of attitudes toward South Asians whereas stereotyping of South Asian women,  $B = .22$ , 95% CI  $[-0.46, 0.89]$ ,  $p = .52$ , was not.

### Discussion

Study 1 provided evidence that stereotypic bias against Black men was more strongly related to

evaluative bias against Blacks than stereotypic bias against Black women. However, stereotyping of East and South Asians, whether it is directed toward men or women, was not significantly related to prejudice at the group level. Stereotyping of South Asian men was marginally related to prejudice against South Asians. Thus, in regard to Blacks these results support both the intersectional and gendered nature of race accounts, but in regard to East and South Asians these results do not provide support for either the intersectional invisibility hypothesis or the gendered nature of race account.

### Study 2

Study 2 utilized a sample of students from a university located in the Southeastern United States and examined how stereotypical bias against racial minority men and women was related to prejudice against racial minority men and women rather than group-level prejudice. This allowed us to investigate two possible reasons that stereotyping of Black women was not related to group-level prejudice against Blacks in Study 1. The first possibility is that stereotyping of racial minority women is unrelated to group-level prejudice because it is unrelated to prejudice against racial minority men. If true, this would suggest that prejudice against Black, East Asian, and South Asian men should be predicted by stereotyping

of the men of each respective group but not the women of each respective group. In contrast, prejudice against Black, East Asian, and South Asian women should be predicted by stereotyping of the women of each racial group but not the men.

The second possibility is that the schemas for the women of racial minority groups are not well developed and, therefore, stereotyping of racial minority women cannot contribute to prejudice. Importantly, if true, this would suggest that stereotyping of racial minority women would not even contribute to prejudice against racial minority women and, cognitively speaking, they would be not just “invisible” but “absent.”

It is important to note that in Study 2 we assessed attitudes and stereotyping toward “men” and “women” rather than “White men” and “White women.” Part of the rationale behind this decision was to provide a comparison group for Blacks, East Asians, and South Asians that was not explicitly an ingroup. Thus, we were able to examine whether White participants show biases against Blacks, East Asians, and South Asians without overt ingroup labeling.

## Method

*Participants.* Seventy-one participants completed all measures relevant to the present hypotheses and received partial course credit at a university in the Southeastern United States. Of these, 55 were White, 6 were Black, 5 were Hispanic, 2 were Asian, 2 were Native American, and 1 was Indian. We conducted analyses on the White participants (four male, 50 female, zero trans;  $M_{\text{age}} = 21.62$ ,  $SD_{\text{age}} = 3.47$ ).

*Procedure.* Upon logging on to the experiment website and providing informed consent, participants completed a series of tasks to assess their explicit stereotyping and attitudes toward Blacks and Whites, as well as measures unrelated to the present hypotheses.<sup>2</sup>

*Stereotyping.* Participants completed the same stereotype measurement tasks as those in Study

1 with the following changes. The social groups were always presented in the following order: men, women, Black men, Black women, East Asian men, East Asian women, South Asian men, and South Asian women. In addition, participants were required to provide at least one trait for each group and the stereotype strength task asked participants to respond on a scale from 1 to 9 instead of 1 to 7.

*Attitudes.* On a scale of 0 (*very cold or unfavorable feeling*) to 9 (*very warm or favorable feeling*), participants were asked to indicate “How warm or cold” they felt toward each of the social groups presented during the stereotyping tasks. The social groups were presented in the same order as before.

*Demographics and debriefing.* Participants were asked to answer open-ended questions about their race, ethnicity, age, and gender. Also, they were provided with large text boxes to speculate on our research questions. Finally, participants were shown a debriefing screen that explained our hypotheses and thanked them for their time.

## Results

*Stereotyping.* We calculated separate stereotyping scores for men, women, Black men, Black women, East Asian men, East Asian women, South Asian men, and South Asian women (see Table 1). The mean number of stereotypes generated for each group are presented in Table 2. Specifically, for each group we summed the product of stereotype strength and stereotype valence for each trait participants listed about that group (Esses et al., 1993); higher scores indicate more positive stereotyping of that group. A Race (not specified, Black, East Asian, South Asian)  $\times$  Gender (male, female) repeated measures analysis of variance on the stereotype scores revealed significant main effects of race,  $F(3, 159) = 21.58$ ,  $p < .001$ ,  $\eta_p^2 = .29$ , and gender,  $F(1, 53) = 5.65$ ,  $p = .02$ ,  $\eta_p^2 = .10$ . The main effect of race indicates that Blacks,  $F(1, 53) = 25.09$ ,  $p < .001$ ,  $\eta_p^2 = .32$ , and South Asians  $F(1, 53) = 22.75$ ,  $p < .001$ ,  $\eta_p^2 = .30$ , were stereotyped more



negatively than race-not-specified groups whereas East Asians were evaluated more positively,  $F(1, 53) = 4.78, p = .03, \eta_p^2 = .08$ . The main effect of gender demonstrated that men were stereotyped more positively than women.

Importantly, the interaction between race and gender was also significant,  $F(3, 159) = 5.80, p = .001, \eta_p^2 = .10$ . Breaking down the interaction, we found that participants stereotyped Black men more negatively than “men,”  $F(1, 53) = 32.17, p < .001, \eta_p^2 = .38$ , but stereotyped Black women only marginally more negatively than “women,”  $F(1, 53) = 2.77, p = .10, \eta_p^2 = .05$ . A different pattern was found for the stereotyping of East Asians. There were no differences in valence between stereotyping East Asian men and “men,”  $F(1, 53) = 2.25, p = .14, \eta_p^2 = .04$ , whereas East Asian women were stereotyped more positively than “women,”  $F(1, 53) = 4.22, p = .05, \eta_p^2 = .07$ . In regard to South Asians, South Asian men were stereotyped more negatively than “men,”  $F(1, 53) = 25.76, p < .001, \eta_p^2 = .33$ , and South Asian women were stereotyped more negatively than “women,”  $F(1, 53) = 6.73, p = .01, \eta_p^2 = .11$ .

*Attitudes.* A Race (not specified, Black, East Asian, South Asian)  $\times$  Gender (male, female) repeated measures analysis of variance on the attitude scores (see Table 3) revealed significant main effects of race,  $F(3, 159) = 29.77, p < .001, \eta_p^2 = .36$ , and gender,  $F(1, 53) = 11.67, p = .02, \eta_p^2 = .10$ , but the interaction was not significant,  $F(3, 159) = 0.54, p = .66, \eta_p^2 = .01$ . The main effect of race indicates that Blacks,  $F(1, 53) = 46.98, p < .001, \eta_p^2 = .47$ , East Asians,  $F(1, 53) = 43.37, p < .001, \eta_p^2 = .45$ , and South Asians,  $F(1, 53) = 58.66, p < .001, \eta_p^2 = .53$ , were evaluated more negatively than race-not-specified groups. The main effect of gender indicates that men were evaluated more negatively than women.

*Relation between stereotyping and attitudes.* Following the logic described in Study 1, we created scores of stereotypic bias by subtracting the stereotyping scores of racial minority men and women from the stereotyping scores of “men”

and “women.” We followed an identical procedure to create scores of attitudinal bias against the men and women of each racial minority group. A linear regression demonstrated that, as expected, attitudinal bias against Black men was predicted by stereotypical bias against Black men,  $B = .05, 95\% \text{ CI } [0.02, 0.09], p = .005$ , but not Black women,  $B = -.01, 95\% \text{ CI } [-0.05, 0.03], p = .51$ . Attitudinal bias against Black women, however, was not related to stereotypical bias against Black men,  $B = .04, 95\% \text{ CI } [-0.01, 0.08], p = .12$ , or Black women,  $B = .02, 95\% \text{ CI } [-0.02, 0.07], p = .31$ .

Attitudinal bias against East Asian men was not related to stereotypical bias against East Asian men,  $B = .01, 95\% \text{ CI } [-0.03, 0.05], p = .56$ , or women,  $B = .01, 95\% \text{ CI } [-0.04, 0.05], p = .80$ . Nor was attitudinal bias against East Asian women related to stereotypical bias against East Asian men,  $B = .01, 95\% \text{ CI } [-0.03, 0.06], p = .59$ , or women,  $B = -.01, 95\% \text{ CI } [-0.06, 0.04], p = .61$ . Finally, following the same pattern as that found with Blacks, attitudinal bias against South Asian men was predicted by stereotypical bias against South Asian men,  $B = .04, 95\% \text{ CI } [0.003, 0.07], p = .03$ , but not South Asian women,  $B = -.01, 95\% \text{ CI } [-0.05, 0.03], p = .70$ ; but attitudinal bias against South Asian women was not predicted by stereotypical bias against South Asian men,  $B = .02, 95\% \text{ CI } [-0.02, 0.05], p = .36$ , or women,  $B = .02, 95\% \text{ CI } [-0.03, 0.06], p = .40$ .

## Discussion

The results of Study 2 provide evidence in support of the hypothesis that the schemas for Black and South Asian women are not well developed because two of their components (stereotyping and prejudice) are not related to one another. This suggests that participants may be generating stereotypes and attitudinal judgments about Black and South Asian women independently and online rather than recalling well-learned associations with either group. Consequently, the valence of the generated stereotypes does not contribute to the valence of the group. This scenario is distinct from the alternative hypothesis that the

schemas for Black and South Asian women are well formed but not associated with the memory structures for the men of their respective racial groups. Thus, this pattern of results supports the conclusion that Black and South Asian women are not thought of as different from Black and South Asian men—they are not thought of at all.

## General Discussion

The goal of this research was to empirically examine how stereotypes about the men and women of racial minority groups are related to category-level attitudes toward those groups. Predictions from two competing models (intersectional invisibility and gendered race) were tested. According to the intersectional invisibility model, stereotypes about racial minority men should be better predictors of group-level prejudice as compared to racial minority women. Based on the gendered-race account, we made similar predictions for Blacks. However, under this model we anticipated that stereotypes about East Asian women (rather than men) would be better predictors of East Asian prejudice, and that participants would be able to generate more stereotypes about East Asian women because of the strong links between Black and male as well as East Asian and female. We did not make specific predictions about South Asians based on the gendered race model. Our results provide partial support for the intersectional invisibility and gendered nature of race models.

Across two distinct cultural contexts, with samples from the United Kingdom (Study 1) and the United States (Study 2), we found evidence that stereotyping of Black women was not related to prejudice. However, for East Asians stereotyping of both men and women was unrelated to prejudice. In addition, the findings of Study 2 also provide evidence that stereotyping of South Asian men is related to prejudice against South Asian men but stereotyping of South Asian women is not.

Importantly, we did not make assumptions about the content of the stereotypes participants hold nor about the valence of those stereotypes.

Rather, participants generated, weighted, and evaluated their own stereotypes, providing us with insight into their schemas associated with social groups and it was the valence of these individualized schemas that was related to prejudice in distinct ways. Importantly, Study 2 provides evidence that the schemas of racial minority women are not only weakly associated with group-level schemas but that those schemas may not be well developed at all.

Like Esses et al. (1993), who described their surprise that participants in the early 1990s were willing to generate negative stereotypes about ethnic groups, we found ourselves surprised that in the second decade of the 21st century, Blacks, East Asians, and South Asians were explicitly *evaluated* more negatively than Whites. To provide additional context for these surprising findings, we analyzed differences in explicit Black and White evaluations collected over a 10-year period from Project Implicit (Xu, Nosek, & Greenwald, 2014). We found close to a medium effect size for explicit prejudice against Blacks among White residents of Florida ( $M_{Whites} = 7.15$ ,  $SD_{Whites} = 2.12$ ,  $M_{Blacks} = 6.16$ ,  $SD_{Blacks} = 2.12$ ,  $d = .48$ , 95% CI [0.47, 0.49]), and a small effect size among White residents of the United Kingdom ( $M_{Whites} = 6.43$ ,  $SD_{Whites} = 1.89$ ,  $M_{Blacks} = 5.92$ ,  $SD_{Blacks} = 1.94$ ,  $d = .27$ , 95% CI [0.25, 0.28]). We caution against too strong an interpretation of the data showing that anti-Black prejudice is stronger in Florida than the UK because it may be that some of the difference in explicit attitudes between Florida and UK residents may be due to cultural differences in how attitude scales are interpreted.

The present research conceptually replicates previous research showing a moderate correspondence ( $r = .31$ ) between the explicit stereotyping of Black men and prejudice against Blacks at a group level (Rudman, Ashmore, & Gary, 2001). It is important to note that, as called for by Sesko and Biernat (2010), we extended the limited body of empirical research on intersectional invisibility by investigating stereotyping and attitudes toward additional dual-subordinate groups (East Asian women, South Asian women). One notable consequence of this is that we did not

find the same pattern of results for East Asian and South Asian men and women as we did for Black men and women. This underscores the importance of not assuming the pattern of results for one minority racial group generalizes to others.

A potential avenue for future research is to investigate the relationship between gendered stereotyping and prejudice with implicit measures. A meta-analysis found that implicit social cognition was a better predictor of behavior during intergroup interactions compared to explicit measures (Greenwald et al., 2009). Implicit prejudice and stereotyping are often measured with versions of the Implicit Association Test (IAT; Greenwald et al., 1998) that present participants with photos of both Black men and women (e.g., Kawakami, Phillips, Steele, & Dovidio, 2007). Creating additional versions of the prejudice and stereotyping IATs that exclusively present photos of men or women would provide evidence for the relationship between gendered stereotyping and prejudice at the implicit level and may be better predictors of intergroup behaviors.

### *Limitations and Future Directions*

In order to provide a test of competing hypotheses, we have focused solely on the intersection of gender and race. However, we would like to note that this is a limited test of the intersectional invisibility model and there are many other subordinate identities that are worthy of research attention (e.g., [dis]ability, class, religion, age). Future research examining nonprototypical members of other marginalized groups is needed in order to better understand the mechanisms underlying these processes and the experience of social invisibility across a range of social categories.

Reflecting the demographics of the departments through which undergraduates were recruited, the majority of participants in the present research identified as female (80% in Study 1, 93% in Study 2). This could have potential implications for our results. For example, female participants could have been more hesitant to

provide negative stereotypes related to their own social group. However, we believe socially desirable responding may have been limited because participants were asked about their knowledge rather than endorsement of societal stereotypes. Furthermore, the overrepresentation of females in our sample may not have strongly influenced our pattern of results because men and women are equally exposed to the same cultural stereotypes within their respective contexts and previous research examining intersecting identities has not found stereotyping to differ by participant gender (e.g., Galinsky et al., 2013; Ghavami & Peplau, 2012; Hall et al., 2015; Thomas et al., 2014). Nevertheless, future research should strive to include more males and participants belonging to ethnic/racial minority groups. By diversifying research samples, we will gain a more comprehensive picture of how intergroup relations unfold in a society that is growing increasingly diverse. In addition, future research may also benefit from attempting to directly assess stereotype endorsement via implicit measures which reduce the influence of social desirability motives.

Though the present research focused on the valence of stereotypical beliefs about minority men and women because of the connection between that valence and prejudice against those groups, it is important to remember that participants may consider a stereotype to be positive but it may still lead to unequal treatment or discrimination. For example, positively stereotyping women as “warm” may lead to negative discrimination in the context of choosing someone for a leadership position.

Overall, the present research provided an important test of two competing theories explaining the intersecting role of race and gender in intergroup cognition. We provide initial support for the intersectional invisibility hypothesis: we found stereotyping of Black women to be a worse predictor of prejudice against Blacks than stereotyping of Black men. Not only did we find support for this hypothesis but we provided empirical evidence for continued explicit biases against racial minorities even among young college students.

In addition, we also found evidence that the schemas of racial minority women are not well developed which should aid and contribute to our understanding of diversity, inclusion, and bias by suggesting future directions for bias reduction strategies. Specifically, researchers may find it fruitful when attempting to reduce stereotyping of Blacks or South Asians as a group to focus on reducing stereotyping of men and women separately or to directly target women in addition to men because much of the published research may inadvertently be targeting stereotypes of Black and South Asian men. Specifically, even though they continue to experience prejudice and discrimination, racial minority women may be “invisible” when people bring to mind group-level beliefs. Thus, they are at risk of being left out of interventions designed to improve intergroup relations in real-world settings.

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### Notes

1. Participants also read and answered questions about stereotypes of other groups, an ambiguously aggressive individual (Devine, 1989), the Motivation to Respond Without Prejudice Scale (Plant & Devine, 1998), the Multi-Group Ethnic Identity Measure (Phinney, 1992), and completed a race IAT (Greenwald et al., 1998). Due to a programming error, only 32 participants were presented with and completed the race IAT. Among those participants explicit stereotyping of Black men and Black women were not significant predictors of implicit prejudice against Blacks ( $ps > .33$ ).
2. Participants also answered questions about an ambiguously aggressive individual, and completed a race IAT prior to completing the tasks related to explicit stereotyping and attitudes. At the conclusion of those tasks participants also answered questions about their motivation to respond without prejudice, their ethnic identity, a self-esteem IAT, and an explicit self-esteem scale.

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