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Blood Quantum and Perceptions of Black-White Biracial Targets: The Black Ancestry Prototype Model of Affirmative Action

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Abstract

The present study examined the causal role of amount of Black ancestry in targets' perceived fit with Black prototypes and perceivers' categorization of biracial targets. Greater Black ancestry increased the likelihood that perceivers categorized biracial targets as Black and perceived targets as fitting Black prototypes (e.g., experiencing racial discrimination, possessing stereotypic traits). These results persisted, controlling for perceptions of phenotype that stem from ancestry information. Perceivers' beliefs about how society would categorize the biracial targets predicted perceptions of discrimination, whereas perceivers' beliefs about the targets' self-categorization predicted trait perceptions. The results of this study support the Black ancestry prototype model of affirmative action, which reveals the downstream consequences of Black ancestry for the distribution of minority resources (e.g., affirmative action) to biracial targets.

Keywords

social categorization, biracial identity, affirmative action, multiracial, racial discrimination

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The population of individuals in the United States claiming more than one race has multiplied from 500,000 in 1970 to more than 6.8 million in 2000, with more than 2 million multiracial people indicating racial backgrounds of both White and minority ancestry in 2000 (Jones & Symens Smith, 2001). Despite this growing population and the prominence of biracial figures such as President Barack Obama, there has been relatively little empirical research on biracial populations in psychology (Shih & Sanchez, 2005, 2009) and even less on how biracial people are perceived (Sanchez & Bonam, 2009). The current research aims to explore the effects of Black ancestry on perceivers' (a) racial categorization of biracial targets, controlling for perceptions of phenotype, and (b) judgments of targets' fit with the Black prototype. In addition, the study uses structural equation modeling to explore the link among racial categorization, targets' perceived fit to prototypes, and the distribution of minority resources (i.e., affirmative action) while accounting for perceivers' attitudes toward affirmative action.

Black Ancestry and Racial Categorization

Attending to amount of minority ancestry in biracial populations has a long history in legislation. In the United States, *blood quantum laws* and the *rules of hypodescent* governed minority classification and, therefore, legally defined categorization into Native American and Black groups, respectively. Blood quantum laws required individuals to prove a certain amount of tribal ancestry to be granted tribal membership, and such laws continue to guide classification into Native American tribes to this day, although specific blood quantum levels vary by tribe (Wilson, 1992). Rising to prominence in the United States during the Jim Crow era, the rule of hypodescent (also known as the one-drop rule) dictated that multiracial people of White and Black ancestry were to be legally classified as Black regardless of their phenotype and how much White ancestry they possessed. Blood quantum and the rule of hypodescent suggest two different strategies for categorizing biracial people: Blood quantum laws require proof of greater minority ancestry for minority categorization, whereas the rule of hypodescent states that *any* amount of minority ancestry results in minority

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categorization. In other words, the rule of hypodescent makes it impossible for biracial persons ever to be considered White.

In the present study, we examine how blood quantum (i.e., amount of Black ancestry) guides the racial categorization of biracial Black-White targets for perceivers. Given the erroneous yet common belief that race has biological and genetic underpinnings (Williams & Eberhardt, 2008), amount of minority ancestry may influence perceivers' categorization and perception of biracial targets in important ways not captured by the rule of hypodescent. Specifically, we predict that biracial people's blood quantum will dictate the degree to which they are categorized as Black relative to White. Moreover, we expect that blood quantum will influence Black categorization beyond perceivers' expectations of phenotype; perceivers will not categorize targets based simply on their Black physical appearance but also on their ancestry.

Studying the categorization of biracial people is inherently more complicated than studying the categorization of monoracial people for several reasons. First, biracial people categorize themselves and are categorized by others into multiple racial categories (Rockquemore & Brunsma, 2002). Ambiguity arises in the case of biracial categorization because perceivers contend with multiple racial categories (e.g., Black, White, biracial) in which to include biracial targets. For perceivers, the ambiguity of multiple choices may lend itself to more difficulty when categorizing multiracial people, resulting in more deliberative processes when categorizing multiracial people. Recent evidence suggests that perceivers categorizing multiracial targets tend to use more deliberative processes when given enough time to do so (Peery & Bodenhausen, 2008).

Second, because of the ambiguity inherent in categorization of biracial targets, perceivers may draw on multiple perspectives to inform their categorization such as how they think targets would self-identify and how others would categorize them. In novel or ambiguous situations, individuals consider the opinions and beliefs of others to improve accuracy (Baron, Vandello, & Brunsman, 1996). In the present study, we consider perceivers' beliefs about the self-categorization of targets and societal categorization of targets to explore the complexity inherent in the categorization of biracial populations. Specifically, we predicted that greater amount of Black ancestry would predict perceivers' racial categorization of targets (i.e., personal categorization), perceivers' beliefs about how society would view the targets' race (i.e., societal categorization), and perceivers' inferences about how targets would self-identify (target self-categorization). Because of the prominent history of the rule of hypodescent for Black populations in America, we expected that perceivers would view society as most likely to adhere to one-drop rules and, therefore, most likely to categorize predominantly White biracial targets as Black.

Racial Ancestry and Perceived Fit to Black Prototypes

Racial ancestry may also influence perceivers' beliefs about how well targets fit with Black prototypes. Research on afrocentricism or racial phenotypicality bias suggests that Black individuals with more prototypical Black features (e.g., dark skin) experience more discrimination, prejudice, and stereotyping than Black individuals with less prototypical features (Blair, Chapleau, & Judd, 2004; Blair, Judd, Sadler, & Jenkins, 2002; Livingston & Brewer, 2002; Maddox, 2004; Maddox & Gray, 2002). Black individuals with high afrocentricity activate automatic negative stereotypes more quickly and elicit more negative attitudes about Blacks compared to those with low afrocentricity (e.g., Livingston & Brewer, 2002). Therefore, perceivers may assume that biracial targets with greater Black ancestry have more prototypically Black physical features and, therefore, be more likely to view targets with more Black ancestry as fitting Black prototypes. Previous work on afrocentricity did not explicitly consider the role of having biracial ancestry. It is therefore unclear whether perceivers make assumptions about biracial ancestry based on phenotype. It is similarly unclear how biracial ancestry (independent of phenotype) affects racial judgments of prototypicality. Because ancestry does not perfectly predict phenotype in social reality (e.g., consider the variability of phenotype among biological siblings), examining the role of ancestry may reveal an additional factor that influences how biracial populations are perceived. At the same time, it is also important to control for perceiver's phenotype impressions when examining the role of ancestry.

Past research on racial prototypicality among Black populations has not focused on biracial populations; therefore, it is unclear how strongly perceivers' categorization, societal categorization, and inferences about targets' self-categorization link with prototype fit. We predicted that levels of categorization would differentially predict targets' perceived fit to Black prototypes. Specifically, we expected that prototypes consisting of strongly dispositional content (e.g., traits) would stem primarily from perceivers' assessments of how targets self-categorize because self-categorization reflects the perceivers' beliefs about the targets' preferences. Therefore, targets' self-categorization should tie to perceivers' beliefs about what traits targets possess. We expected prototypes that consist of situational information (i.e., how targets are treated by others) to stem from perceivers' societal categorization of targets. In addition, we expected perceivers' categorization (personal categorization) of targets to predict Black prototypes because participants' categorization would reflect their personal attitudes and, thus, play an independent and influential role in impression formation. In the present study, we examined biracial targets' fit to Black prototypical traits (i.e., superior athleticism; Hall, 2001) and experiences (i.e., racial discrimination).

Because the present study examined deliberate categorization and prototypic fit (not automatic categorization and stereotyping), we chose to focus on the more positive and relatively benign Black stereotype of athleticism, which would be unlikely to elicit social desirability concerns. Intelligence stereotypes would have been more relevant to affirmative action domain, but pilot testing revealed that participants do not explicitly hold intelligence stereotypes about Black or biracial Black targets (see also Sanchez & Bonam, 2009). We also focused on discrimination perceptions to examine how the biracial targets' perceived fit to the Black prototype of experiencing discrimination would predict their treatment with regard to affirmative action decisions, a gap in the current literature on biracial populations and social issues. We predicted that greater Black ancestry would correspond to greater perceived fit to Black prototypes for biracial targets.

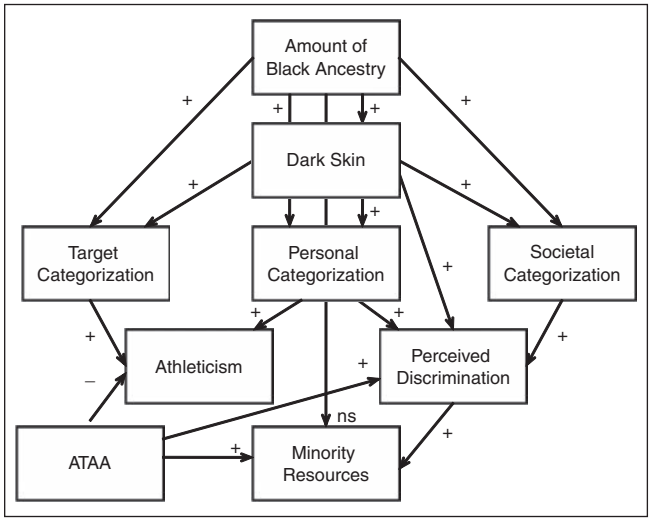

Figure 1. The Black ancestry prototype model of affirmative action

Racial Ancestry and the Distribution of Minority Resources

Institutional commitments to improving racial diversity via affirmative action policies do not have clear guidelines regarding how to consider biracial ancestry in affirmative action (e.g., Bossuyt, 2002; Sanchez & Bonam, 2009). Minority resources such as affirmative action are reserved for ethnic minorities (and women), yet it is unclear whether biracial people of part-White ancestry are considered "minority enough" for minority resources (Sanchez & Bonam, 2009). For example, in an experimental paradigm, Black-White biracial and Asian-White biracial student applicants were perceived as less appropriate to receive minority scholarships compared to their monoracial counterparts with the same qualifications (Sanchez & Bonam, 2009). This may result from perceivers' tendency to look for prototype fit when assessing whether candidates are minority enough for affirmative action resources (Sanchez & Chavez, 2010). Indeed, biracial minorities themselves may be reluctant to use such minority resources because they do not view themselves as minority enough (Good, Chavez, & Sanchez, 2010). Thus, we predicted that greater Black ancestry would coincide with greater appropriateness for minority resources.

Determining whether biracial populations should receive affirmative action may depend on whether people believe that biracial individuals experience discrimination. Research on attitudes toward affirmative action suggests that those who favor affirmative action policies are more likely to recognize that minorities experience discrimination, prejudice, and reduced economic opportunities (Harrison, Kravitz, Mayer, Leslie, & Lev-Arey, 2006; Jacobson, 1985). Accordingly, those who have more favorable attitudes toward affirmative action may more readily recognize the discrimination faced by biracial people and, therefore, be more likely to give biracial people minority resources. In addition, those who have more favorable attitudes toward affirmative action may be least likely to endorse even benign racial stereotypes because they often hold less prejudicial attitudes (Dovidio, Mann, & Gaertner, 1989; Jacobson, 1985; McConahay, 1986; Sidanius, Pratto, & Bobo, 1996). Thus, in the present article, we simultaneously tested whether individuals with more positive attitudes toward affirmative action would show greater recognition of discrimination aimed at biracial targets, greater likelihood of distributing minority resources to biracial targets, and lower likelihood of perceiving biracial targets as fitting Black prototypes (see Figure 1).

The Current Study

The overall aim of this study was to demonstrate the causal role of amount of Black ancestry in the racial categorization of biracial Black-White targets as well as their perceived fit to racial prototypes. Thus, we compared perceivers' ratings of biracial targets' fit to Black prototypes and relative Black-White categorization, including perceptions of their self-categorization and societal categorization of biracial targets as a function of amount of Black ancestry (controlling for the effect of perceptions of phenotype). In addition, we examined the causal role of ancestry in determining whether perceivers view biracial targets as appropriate for minority resources, including whether attitudes toward affirmative action would relate to perceptions of biracial targets, especially with regard to the distribution of minority resources.

A secondary aim of this project was to test the downstream consequences of Black ancestry in categorization and judgments of biracial targets for affirmative action (the Black ancestry prototype model of affirmative action; see Figure 1). As illustrated in Figure 1, we examined a full model of the proposed judgments that flow from Black ancestry for

biracial targets starting with the direct relations between Black ancestry to greater perceptions of dark skin and greater Black categorization of biracial targets at the society, personal, and targets levels. In addition, we tested the relations from the different levels of categorization to perceived fit to Black prototypes with the expectation that societal categorization would predict discrimination perceptions (situational-based prototype), whereas target self-categorization would predict athleticism (trait-based prototype). In addition, we expected discrimination perceptions to predict biracial targets' greater appropriateness for minority resources. As illustrated in Figure 1, we also expected preexisting individual differences in attitudes toward affirmative action to predict perceived fit to Black prototypes and willingness to distribute minority resources to biracial targets. Specifically, we expected that attitudes toward affirmative action (ATAA) would predict greater beliefs that biracial targets experience discrimination, less endorsement of Black stereotypes for biracial targets, and greater endorsement of minority resources for biracial targets.

Method

Participants

The participants were 317 undergraduates enrolled in a large state university (118 men, 192 women, 7 did not specify gender) who received extra credit in their psychology class in exchange for their participation. The average age was 18.57 years old (SD = 1.43). Racial composition was as follows: 50.2% White or Caucasian, 35.0% Asian, 9.1% Hispanic or Latino, 2.5% multiracial, 2.5% other, and 0.6% American Indian or Alaskan. Because this study was about the use of Black prototypes and stereotypes in impression formation of Black-White biracial targets, Black participants (n = 34) were excluded from analyses; the use of Black prototypes and stereotypes by ingroup members has different meanings and implications.

Materials and Procedure

Before coming to the lab, participants in the psychology subject pool completed measures of attitudes toward affirmative action as part of a prescreening questionnaire for participant recruitment. Participants were then recruited from the psychology subject pool, and responses from the prescreening questionnaire were retained. In a large group testing session in the laboratory, participants were given brief written descriptions of two students and were asked to answer questions about their first impression of each student for a study about impression formation. The first student was presented only as filler to bolster our cover story. The second student, the target student, was randomly presented as either 100% White/0% Black, 75% White/25% Black, 50% White/50% Black, 25% White/75% Black, or 0% White/100% Black. Thus, a between-subjects design was used. The student was described as male because of the possibly additive effect of gender in affirmative action decisions.[1] Following the written descriptions, we asked participants to complete the measures in the temporal order of our a priori predictions. First, participants completed measures regarding expectations of phenotype (along with filler items about other aspects of physical appearance), the targets' perceived fit to Black prototypes (along with filler items about other personality traits), categorization (participant followed by self-categorization and society), and distribution of minority resources. Participants were then debriefed and thanked for their participation.

Attitudes toward affirmative action. To measure participants' ATAA, we administered the six-item Attitudes Toward Affirmative Action Scale (Kravitz & Platania, 1993) along with three additional items we created. A sample item from the original scale is "The goals of affirmative action are good." We added three additional items: "Affirmative action is fair to ethnic minorities," "Minorities benefit from affirmative action policies," and "Affirmative action promotes diversity on campus." Responses were indicated on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*); scale reliability was good (α = .86).

Student descriptions. Each student was described as male, currently in the 12th grade, with a grade point average (GPA) of 2.9. Students' race was not listed; however, their parents' races were indicated to manipulate the amount of White and minority ancestry of each student. For example, if one parent's race was listed as Black and the other parent's race was listed as biracial Black-White, the resulting student had predominantly Black ancestry and would correspond to the 25% White/75% Black condition. By manipulating each parent's race, we created five students of differing degrees of Black ancestry (100% White/0% Black, 75% White/25% Black, 50% White/50% Black, 25% White/75% Black, 0% White/100% Black). Additionally, for each student, filler information was listed regarding the mother's and father's age, height, city of birth, high school GPA, and hobbies. Participants were randomly assigned to view one of the five possible student descriptions, using a between-subjects design.

Skin tone. Participants were asked to rate the skin tone of the student ("This student likely has dark skin") on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*).

Racial categorization. Racial categorization was measured at three levels: participants' categorization of targets (personal level), participants' beliefs about the target's own categorization (target level), and participants' beliefs about the societal categorization of targets (societal level). To measure *personal level of categorization* of targets, participants indicated the extent to which they considered the target to be Black and White using the following four items: "To what extent do you view this student as Black?" "To what extent do you think of this student as Black?" "To what extent do

you view this student as White?" and "To what extent do you think of this student as White?" Responses were indicated on a scale of 1 (*not at all*) to 7 (*very much*). Black and White categorization demonstrated good scale reliability (Black categorization $r = .89$, $p < .001$; White categorization $r = .87$, $p < .001$). Moreover, Black categorization and White categorization at the personal level were negatively correlated ($r = –.75$, $p < .001$). Thus, a difference score was calculated by subtracting White categorization from Black categorization such that greater values indicate that participants considered the target to be more Black than White.

To measure *self-categorization of targets*, participants indicated the extent to which they thought the target considered himself to be Black or White using the following four items: "To what extent do you think this student views himself as Black?" "To what extent do you think this student identifies himself as Black?" "To what extent do you think this student views himself as White?" and "To what extent do you think this student identifies himself as White?" Responses were indicated on a scale of 1 (*not at all*) to 7 (*very much*). Black and White categorization demonstrated good scale reliability (Black categorization $r = .90$, $p < .001$; White categorization $r = .88$, $p < .001$). Moreover, Black categorization and White categorization at the target level were negatively correlated ($r = –.57$, $p < .001$). Therefore, a difference score was calculated by subtracting White categorization from Black categorization such that greater values indicate that participants believed that targets considered themselves to be more Black than White.

To measure *societal categorization*, participants indicated the extent to which they thought society considered the target to be Black and White using the following four items: "To what extent do you think society views this student as Black?" "To what extent do you think society would categorize this student as Black?" "To what extent do you think society views this student as White?" and "To what extent do you think society would categorize this student as White?" Responses were indicated on a scale of 1 (*not at all*) to 7 (*very much*). Black and White categorization demonstrated good scale reliability (Black categorization $r = .91$, $p < .001$; White categorization $r = .92$, $p < .001$). Moreover, Black categorization and White categorization at the societal level were negatively correlated ($r = –.80$, $p < .001$). Therefore, a difference score was calculated by subtracting White categorization from Black categorization such that greater values indicate that participants thought society considered the target to be more Black than White.

Perceived discrimination. Participants were asked to indicate the extent to which they believed the target student had experienced racial discrimination using the following items: "This student has likely experienced a lot of racial discrimination," "This student probably encounters a lot of racial prejudice," and "In his lifetime, this student has likely experienced racial discrimination." Responses were indicated on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). The measure of perceived discrimination was reliable ($\alpha = .95$).

Athleticism. Participants were asked to indicate the likelihood that the student was athletic to measure consistency with the Black stereotype of superior athleticism (Hall, 2001). Participants indicated the extent of their agreement with the following statements, "This student likely plays sports" and "This student is likely athletic," using a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). The measure was reliable ($r = .87$, $p < .001$).

Minority resources. Following the preceding questions, participants were told that the target student had applied to attend Rutgers University in the fall. Specifically, participants read:

> This student has applied to attend Rutgers in the Fall. Each year, Rutgers grants scholarships to some *exceptional* students based on their academic merit. These scholarships cover tuition, books, room and board, and student fees. As you may know, Rutgers places a high value on diversity within its student body, faculty, and staff. In order to maintain its commitment to diversity, Rutgers has reserved a portion of the merit scholarships described above to be awarded to students who are ethnic minorities. In order to receive one of these Diversity Scholarships, students must be ethnic minorities who demonstrate exceptional academic merit. Think about the candidate described above and indicate (using the scale below) whether you think he or she should receive a Diversity Scholarship from Rutgers.

Participants then rated the extent to which they thought the target student deserved a minority scholarship using the following items: "This student is deserving of a Diversity Scholarship" and "I think this student should receive a Diversity Scholarship." Responses were indicated on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*), and the measure was reliable ($r = .94$, $p < .001$).

Results

Effects of Black Ancestry on Phenotype

Means and standard deviations for all study variables are presented in Table 1, zero-order correlations in Table 2, and linear effects by amount of Black ancestry in Figures 2 and 3. To investigate whether amount of Black ancestry caused perceivers to think of more stereotypically Black-appearing targets, a 5 (amount of White ancestry: 100% White/0% Black, 75% White/25% Black, 50% White/50% Black, 25% White/75% Black, 0% White/100% Black) × 2 (participant race: White, minority) between-subjects ANOVA was conducted on perceptions of skin tone. A significant main effect of Black ancestry on ratings of dark skin tone was found,

Table 1. Means and Standard Deviations for All Study Variables Presented by Target Condition

	Amount of Black ancestry									
	100% White (n = 66)		75% White/25% Black (n = 67)		50% White/50% Black (n = 61)		25% White/75% Black (n = 60)		100% Black (n = 63)	
Skin tone	1.64	$(0.87)_a$	3.60	$(1.22)_b$	4.41	$(1.23)_c$	5.72	$(1.66)_d$	6.25	$(1.28)_e$
White	1.61	(0.74)	3.59	(1.27)	4.34	(1.10)	5.96	(1.22)	6.27	(1.15)
Minority	1.66	(0.97)	3.60	(1.19)	4.52	(1.44)	5.52	(1.09)	6.24	(1.38)
Target categorization	–4.76	$(1.69)_a$	–0.66	$(2.30)_b$	1.13	$(1.61)_c$	2.68	$(1.97)_d$	5.02	$(1.31)_e$
White	–4.95	(1.73)	–0.05	(2.24)	1.26	(1.65)	2.87	(2.01)	5.40	(0.83)
Minority	–4.62	(1.68)	–1.21	(2.24)	0.91	(1.56)	2.52	(1.96)	4.75	(1.52)
Personal categorization	–5.02	$(1.51)_a$	–1.31	$(1.89)_b$	0.72	$(1.51)_c$	2.88	$(1.63)_d$	4.62	$(1.58)_e$
White	–5.25	(1.69)	–1.11	(1.78)	0.74	(1.62)	3.17	(1.65)	5.08	(1.13)
Minority	–4.84	(1.35)	–1.50	(2.00)	0.67	(1.34)	2.64	(1.59)	4.31	(1.77)
Societal categorization	–5.28	$(1.65)_a$	–0.70	$(2.72)_b$	2.48	$(1.76)_c$	4.33	$(1.52)_d$	5.38	$(1.14)_e$
White	–5.00	(2.26)	–0.11	(2.79)	2.62	(1.83)	4.26	(1.50)	5.74	(0.60)
Minority	–5.49	(0.95)	–1.24	(2.58)	2.26	(1.65)	4.38	(1.57)	5.13	(1.35)
Athleticism	5.01	$(0.99)_a$	4.75	$(1.19)_{a,b}$	5.21	$(1.03)_{a,c}$	5.33	$(1.10)_{a,c}$	5.52	$(1.02)_c$
White	4.95	(0.92)	4.78	(1.18)	4.99	(0.95)	5.50	(0.73)	5.38	(0.92)
Minority	5.05	(1.04)	4.73	(1.20)	5.59	(1.07)	5.18	(1.32)	5.62	(1.09)
Perceived discrimination	1.68	$(0.84)_a$	3.63	$(1.38)_b$	4.61	$(1.51)_c$	4.89	$(1.07)_c$	4.86	$(1.28)_c$
White	1.48	(0.70)	3.61	(1.37)	4.31	(1.47)	4.75	(0.93)	4.79	(1.46)
Minority	1.82	(0.91)	3.65	(1.41)	5.10	(1.47)	5.00	(1.17)	4.90	(1.16)
Minority resources	1.58	$(0.84)_a$	2.66	$(1.48)_b$	2.96	$(1.35)_{b,c}$	3.26	$(1.53)_c$	2.80	$(1.76)_{b,c}$
White	1.55	(0.87)	2.39	(1.27)	2.79	(1.38)	2.87	(1.48)	2.56	(1.76)
Minority	1.59	(0.82)	2.91	(1.62)	3.24	(1.27)	3.58	(1.52)	2.97	(1.77)

Standard deviations are presented in parentheses. Means sharing the same subscript do not differ at $p < .05$ (post hoc least significant difference comparisons). All variables are on scale of 1 to 7. Categorization variables represent difference scores such that higher scores indicate greater categorization as Black than as White with a range of scores from –6 to 6.

Table 2. Zero-Order Correlations for All Study Variables in the Biracial Black Ancestry Conditions

	1	2	3	4	5	6	7	8
1. Skin tone	—							
2. Personal categorization	.59**	—						
3. Target categorization	.46**	.72**	—					
4. Societal categorization	.55**	.77**	.72**	—				
5. Athleticism	.36**	.15*	.21**	.21**	—			
6. Perceived discrimination	.36**	.36**	.28*	.40**	.27**	—		
7. Minority resources	.13	.12	.03	.09	.07	.30**	—	
8. Attitude toward affirmative action	–.10	.03	–.02	.03	.04	.17*	.17*	—

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

$F(4, 307) = 156.44$, $p < .001$, $\eta^2 = .67$. We found a significant linear trend, $F(1, 307) = 599.81$, $p < .001$, $\eta^2 = .66$, such that the more Black ancestry of the student, the more participants rated the student as having dark skin (see Figure 2). Each ancestry condition significantly differed from the others (see Table 1). No other main effects or interactions were found. Analyzing the biracial conditions, we found that the amount of residual variance not accounted for by the linear trend was nonsignificant, $F(2, 187) = 0.58$, $p = .56$, *ns*. Because skin tone was related to Black ancestry, and thus many of the effects could arguably stem from phenotype perceptions alone, we added phenotype as a covariate in an ANCOVA following each ANOVA analysis.

Effects of Black Ancestry on Racial Categorization of Biracial Targets

We next tested whether degree of Black ancestry and participant race affected ratings of the racial categorization of

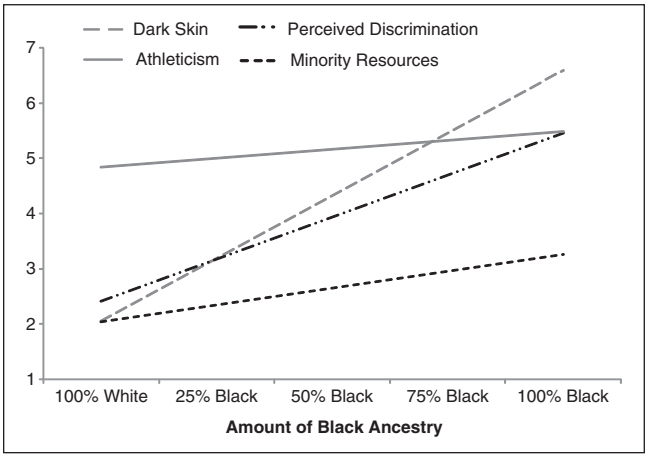

Figure 2. Significant linear trends for Black ancestry on ratings of dark skin, perceived discrimination, athleticism, and minority resources

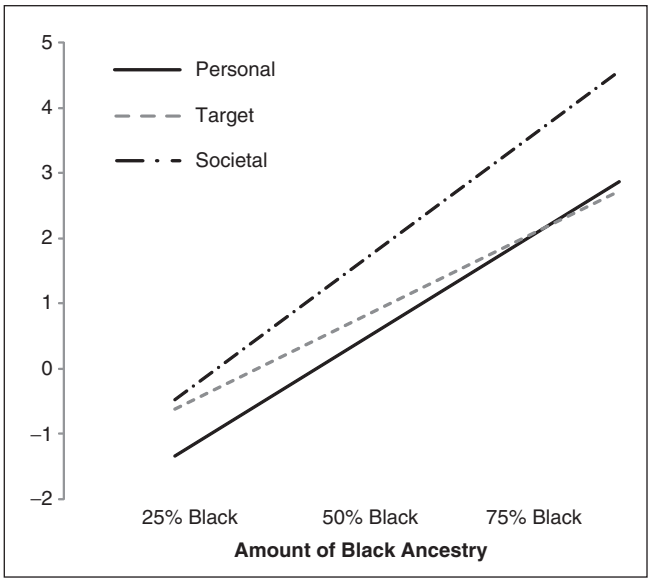

Figure 3. Significant linear trends of amount of Black ancestry on ratings of personal-, target-, and societal-level racial categorization
Categorization was measured with a difference score, such that higher values indicate categorization as more Black than White.

targets. Because we were primarily interested in racial categorization of biracial targets and we had multiple categorization levels (personal, self, and societal), we focused the analysis on the biracial targets for the sake of parsimony. In other words, we analyzed the linear effect within the 25%, 50%, and 75% Black target conditions (see Figure 3). We performed a 3 (Black ancestry: 75% White/25% Black, 50% White/50% Black, 25% Black/75% White) × 2 (participant race: White, minority) × 3 (racial categorization level: personal, self, societal) mixed ANOVA with repeated measures on the racial categorization factor. The analyses showed significant main effects of Black ancestry condition, $F(2, 181) = 107.82$, $p < .001$, $\eta^2 = .54$; participant race, $F(1, 181) = 3.93$, $p = .05$, $\eta^2 = .02$; and racial categorization level, $F(2, 181) = 46.47$, $p < .001$, $\eta^2 = .20$. The more Black ancestry of the student, the more he was categorized (across all three levels) as Black rather than White, $F(1, 181 = 214.09$, $p < .001$, $\eta^2 = .54$. Each of the three biracial Black ancestry conditions differed significantly from the others (see Table 1). Examining the linear trend for each categorization level (personal, self, and societal) separately, the remaining residual variance was not significant for self-categorization or personal categorization, Fs$(2, 187) < 0.45$, ps $> .64$. Unexpectedly, we found a significant amount of variance remaining that did not explain the linear trend for societal categorization, $F(2, 187) = 6.44$, $p = .003$.[2]

Results also revealed that White participants ($M = 1.52$, $SE = .17$) were more likely to categorize the targets as more Black than White (across all types of categorization) than were minority participants ($M = 1.05$, $SE = .17$). Orthogonal planned contrasts revealed that societal racial categorization significantly differed from both target racial categorization, $F(1, 181) = 46.05$, $MS = 174.56$, $p < .001$, and personal racial categorization, $F(1, 181) = 87.86$, $MS = 288.95$, $p < .001$. In other words, participants believed that society would be most likely to categorize the biracial targets as Black compared to all other levels of categorization.

Qualifying the main effects, we found an interaction between Black ancestry condition and categorization level, $F(4, 362) = 8.19$, $p < .001$, $\eta^2 = .08$. To examine this interaction, we looked separately at each of the three biracial Black ancestry conditions. For the 25% Black condition, a main effect of racial categorization level was found, $F(2, 130) = 4.10$, $p = .02$, $\eta^2 = .06$, such that participants were least likely to categorize the targets as Black compared to societal and target levels of categorization (see Table 1). For the 50% Black condition, a main effect of racial categorization level was also found, $F(2, 116) = 44.47$, $p < .001$, $\eta^2 = .43$, with participants themselves rating the target as less Black ($M = 0.72$) than they believed the target would rate himself ($M = 1.13$), which was less Black than they believed society would rate the 50% Black target ($M = 2.48$). Finally, for the 75% Black condition, a significant main effect of racial categorization level was found, $F(2, 116) = 27.43$, $p < .001$, $\eta^2 = .32$, with society most likely to categorize 75% Black targets as Black. Overall, categorization varied by type in the biracial Black ancestry conditions. Specifically, perceivers believed that society would be most likely to categorize biracial targets as Black at high levels of Black ancestry (i.e., 75% and 50%) whereas participants viewed themselves as least

likely to categorize biracial targets as Black at lower levels of Black ancestry (i.e., 25% and 50%; see Figure 3).

When controlling for the significant effect of skin tone using an ANCOVA, $F(1, 180) = 17.12$, $p < .001$, $\eta^2 = .09$, the linear effect of Black ancestry condition, $F(2, 180) = 50.24$, $\eta^2 = .36$, remained significant and participant race was marginal, $F(1, 180) = 3.66$, $p = .06$, $\eta^2 = .02$. Categorization was no longer significant, $F(2, 360) = 1.80$, $p = .17$, $\eta^2 = .01$, suggesting that phenotype perceptions may explain why society was expected to be more likely to categorize all biracial targets as Black. The interaction of categorization type and Black ancestry condition remained significant, $F(4, 360) = 4.66$, $p = .001$, $\eta^2 = .05$.

Effects of Black Ancestry on Targets' Perceived Fit to Black Prototype

To test whether amount of Black ancestry caused changes in targets' perceived fit to Black prototypes, we conducted a 5 (Black ancestry condition) × 2 (participant race) ANOVA on athleticism. The predicted main effect of Black ancestry was found, $F(4, 307) = 5.01$, $p = .001$, $\eta^2 = .06$, such that targets with greater Black ancestry were rated as more athletic. The linear effect was significant, $F(1, 307) = 14.07$, $p < .001$, $\eta^2 = .04$ (see Figure 2 and Table 1). No other significant effects were found. The effect of Black ancestry condition, $F(4, 306) = 2.81$, $p = .03$, $\eta^2 = .04$, on athleticism remained after controlling for skin tone, $F(1, 306) = 17.16$, $p < .001$, $\eta^2 = .05$. After accounting for the linear effect of Black ancestry among the biracial targets, the residual variance was not significant, $F(2, 187) = 1.20$, $p = .30$.

Results for the 5 × 2 ANOVA for perceived discrimination followed predictions. Main effects of Black ancestry, $F(4, 307) = 79.22$, $p < .001$, $\eta^2 = .51$, and participant race, $F(1, 307) = 4.76$, $p = .03$, $\eta^2 = .02$, were found. Black ancestry coincided with increased perceptions of discrimination in a linear fashion, $F(1, 307) = 242.04$, $p < .001$, $\eta^2 = .44$ (see Figure 2). Minority participants rated the target as experiencing more discrimination ($M = 3.98$, $SD = 1.76$) than did White participants ($M = 3.80$, $SD = 1.71$). No other effects were significant. After accounting for the linear effect of Black ancestry in the biracial conditions, the amount of remaining residual variance was small but significant, $F(2, 187) = 3.36$, $p = .03$ (see Note 2). The effect of Black ancestry condition, $F(4, 306) = 19.79$, $p < .001$, $\eta^2 = .21$, on perceived discrimination persisted when controlling for skin tone, $F(1, 306) = 16.73$, $p < .001$, $\eta^2 = .05$.

Finally, results for the 5 × 2 ANOVA on ratings of the target's deservingness of minority resources showed significant main effects of both Black ancestry condition, $F(4, 307) = 12.84$, $p < .001$, $\eta^2 = .14$, and participant race, $F(1, 307) = 7.02$, $p = .008$, $\eta^2 = .02$. Black ancestry predicted linear increases in deservingness for minority resources, $F(1, 307) = 27.46$, $p < .001$, $\eta^2 = .08$ (see Figure 2 and Table 1). The residual variance after accounting for the linear trend of Black ancestry for biracial targets was not significant, $F(3,287) = .01$, $p = .99$. Minority participants rated the target as more deserving of a minority scholarship ($M = 2.80$, $SD = 1.59$) than did White participants ($M = 2.45$, $SD = 1.43$). When controlling for skin tone, the significant main effect of Black ancestry condition remained, $F(4, 306) = 5.88$, $p < .001$, $\eta^2 = .07$, and skin tone did not significantly predict minority resources, $F(1, 306) = 0.31$, $p = .58$, $\eta^2 = .00$.

The Black Ancestry Prototype Model of Affirmative Action

Another aim of this article was to test the Black ancestry prototype model of affirmative action whereby we explore the downstream consequences of perceived fit to Black prototypes for minority resource distribution that flow from different categorization levels for biracial targets. In addition, we hypothesized that attitude toward affirmative action would predict targets' perceived fit to Black prototypes and distribution of minority resources (see Figure 1). Analyses were conducted with EQS 6.1 software (Multivariate Software, Encino, CA) using maximum likelihood estimation, and the model was specified such that cases with missing data were deleted, which resulted in five cases being removed from analyses. According to past research on model fit (see Hu & Bentler, 1999), models with good fit have comparative fit index (CFI) and nonnormed fit index (NNFI) values that exceed .95.

We conducted the path model using only the three biracial target condition (see Figure 1).[3] The hypothesized model fit the data well, $\chi^2(16) = 40.01$, $p = .001$, CFI = .96, normed fit index (NFI) = .94, NNFI = .92, Akaike information criterion (AIC) = 8.01. We examined Lagrange statistics to determine whether paths for ATAA to other factors in the model should be added. This resulted in an additional path from ATAA to perceptions of skin tone, suggesting that more favorable attitudes toward affirmative action coincided with biracial targets being perceived fit as having lighter skin. This resulted in the best fitting model (indicated by the lower AIC scores), $\chi^2(15) = 35.31$, $p = .002$, CFI = .97, NFI = .95, NNFI = .92, AIC = 5.31 (see Figure 4). As predicted, amount of Black ancestry significantly predicted phenotype perceptions but also independently predicted the three levels of racial categorization. As expected, societal categorization predicted perceived discrimination, while target categorization predicted athleticism. Finally, perceived discrimination predicted distribution of minority resources. ATAA predicted perceptions of lighter skin for the biracial targets and greater discrimination perceptions; ATAA's path to distribution of minority resources did not reach statistical significance, though it was in the expected direction.

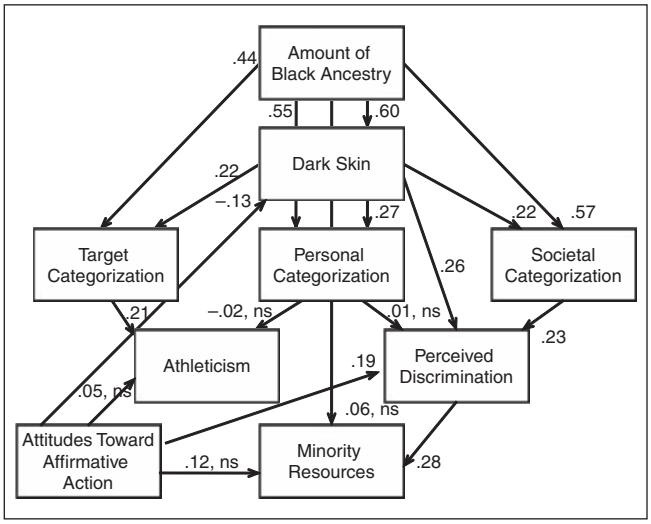

Figure 4. Results of path analyses for the Black ancestry prototype model of affirmative action with the added path from attitudes toward affirmative action to perceptions of skin tone
Standardized coefficients are presented. The β values are significant at $p < .05$ unless noted otherwise.

Discussion

The present study demonstrates the causal role of Black ancestry in the categorization of biracial targets at multiple levels (personal, societal, and self-categorization) and the targets' perceived fit of biracial targets to Black prototypes. Comparing the effect sizes for the linear trends, the effect of Black ancestry is weakest for the use of Black stereotypes and minority resources, whereas the linear trends appear strongest for perceptions of discrimination, categorization, and phenotype perceptions (see Figures 2 and 3). As expected, the Black ancestry model suggests that societal categorization predicts perceptions of discrimination, whereas targets' presumed self-categorization predicts trait perceptions. Finally, participants who held more positive attitudes toward affirmative action viewed biracial targets as having less prototypical Black appearance and perceived them as having experienced more racial discrimination.

Blood quantum laws suggest that the categorization of Black-White biracial targets depends on their amount of Black ancestry, whereas the one-drop rule (rule of hypodescent) suggests that all biracial targets who are of Black-White descent will be categorized as Black at the same rate and to the same degree. The results of the present study suggest that when information about biological parents' ancestry is available, perceivers attend to amount of Black ancestry in their categorization and perceived Black prototype fit for biracial targets. Specifically, perceivers were more likely to categorize targets with predominantly Black ancestry as Black (especially at the societal level) than those of predominantly White ancestry. In addition, perceivers were more likely to view targets with predominantly Black ancestry as having prototypically Black stereotype traits and experiences. These results replicate previous work on Black Americans with low afrocentric features (Blair et al., 2002; Blair et al., 2004; Livingston & Brewer, 2002; Maddox, 2004; Maddox & Gray, 2002). Yet the effect of Black ancestry in perceptions of biracial targets persists when controlling for perceptions of phenotype, suggesting that ancestry, independent of phenotype, plays an important role in perceptions of biracial targets.

An additional contribution of the present research is the demonstration of multiple levels of racial categorization and their effect on the Black prototype fit of biracial targets. Participants' responses to amount of Black ancestry depended on the level of categorization assessed (personal, target, or societal). Participants believed that society would be most likely to categorize biracial targets as Black, but societal categorization also conformed to a linear pattern such that societal categorization as Black increased as a result of increased Black ancestry. In addition, responses to personal level of categorization demonstrated that participants believed themselves to be the least likely (compared to society and the targets themselves) to categorize biracial candidates with 50% or less Black ancestry as Black. This pattern of results may reflect perceivers' desire to appear nonprejudiced and nonexclusive about who they consider White. Previous research suggests that Whites believe it is more social desirable to be color-blind and underplay their ability to racially categorize Black and White targets from each other (Norton, Sommers, Apfelbaum, Pura, & Ariely, 2006). When categorizing biracial targets, the historical tradition of exclusivity with regard to White categorization such as historic policies like the one-drop rule may be viewed as more racist and reflective of a socially undesirable legacy of Black discrimination. Recent findings suggest that the desire to appear nonprejudiced can motivate those who formerly exclude biracial from White categorization to include them as White during a memory task (Pauker et al., 2009).

Not only did categorization of biracial targets vary between each level of categorization by condition, but also each level of categorization (societal vs. self-categorization) was differentially predictive of biracial targets' perceived fit to Black prototypes. Specifically, perceivers' estimations of the degree to which targets experienced discrimination appear to follow from societal-level categorization, whereas stereotypic trait prototypes were predicted by perceived self-categorization of targets. This research suggests that how perceivers believe biracial targets racially categorize themselves may play an important role in the use of stereotypes. Future research should examine the causal role of targets' perceived self-categorization (compared to other levels) in the activation and use of stereotypic traits.

The effect of biracial targets' perceived self-categorization on impression formation represents an important and

understudied area of research. Most research examining the categorization of biracial or ambiguous faces has provided racial labels or context cues (e.g., Pauker & Ambady, 2009; Peery & Bodenhausen, 2008), but the meaning of the context cues or the source of the racial labels did not explicitly cue self-categorization of biracial targets. The present study represents an important first step in demonstrating the significance of perceivers' beliefs about the self-categorization of biracial targets; however, causal conclusions cannot yet be drawn.

The present study also represents a departure from the usual categorization tasks. Although most research on the categorization of biracial targets and Black individuals with low afrocentricity examines automatic categorization processes or the activation of implicit and automatic stereotypes (Peery & Bodenhausen, 2008), the present study looks at explicit categorization on the Black–White continuum, allowing the opportunity to examine the deliberative processes. Although we believe this represents an important aspect of impression formation of biracial individuals, the use of only an explicit deliberation task leaves open the question of whether blood quantum affects automatic categorization as well. Research conducted on the automatic categorization of Black-White targets suggests a tendency to conform to rules of hypodescent, but this research compared ambiguous Black and White phenotypical faces with nonambiguous Black faces (Livingston & Brewer, 2002; Peery & Bodenhausen, 2008). This research has not examined whether different levels of Black ancestry (beyond 50% Black and 50% White faces) effect the automatic categorization of biracial targets.

The present study suggests that those who favor affirmative action are more likely to recognize discrimination aimed at biracial targets and less likely to apply Black physical appearance stereotypes to biracial targets. This is consistent with previous research on ATAA suggesting that those who favor ATAA are less prejudicial and more likely to recognize the prejudice that minorities face (Harrison et al., 2006; Jacobson, 1985). Thus, future research should also examine the role of racial prejudice toward monoracial groups in the categorization and biracial targets' perceived fit to Black prototypes.

The present study examined Black and White categorization as opposites on a continuum because the majority of the participants in this study responded in this fashion (Black categorization and White categorization were negatively correlated), suggesting they believed that Black categorization and White categorization represent opposite ends on a continuum. However, individuals may differ in their tendency to view Black and White categorization in this fashion. For example, biracial individuals or those who believe that race is a social construction may be more likely to view Black categorization and White categorization as independent constructs. Previous research suggests that biracial people resist being viewed as half and half but rather view their self-categorization with one ancestry as positively (rather than negatively) associated with their other ancestry, even when they are of both White and minority descent (Good et al., 2010). Future research should examine individual differences in the construal of race and racial categorization as they relate to biracial categorization.

Limitations

Although this study demonstrates important first steps in examining the link between amount of ancestry in perceptions and categorization of biracial targets, it is not without limitations. For example, the measures were presented in the theoretical temporal order. Therefore, the answers to some questions may have influenced responses to latter questions. For example, participants were asked about phenotype before categorizing targets. Therefore, the procedure may have cued participants to think of graduations of skin tone in the categorization of biracial targets. That being said, previous research on biracial targets' disadvantage in receiving minority resources (Sanchez & Bonam, 2009) and pilot testing using similar measures without raising issues of phenotype have replicated these effects (Sanchez, Good, & Chavez, 2010). Ideally, future research should use experimental paradigms to examine whether phenotype interacts with ancestry to predict targets' perceived fit to Black prototypes.

Although this study demonstrated links among societal categorization, target self-categorization, and targets' perceived fit to prototypes, participants' categorization of targets (though related to the other categorization measures) was not directly predictive of targets' perceived fit to Black prototypes. This finding was surprising but may reflect social desirability concerns on the part of perceivers. As mentioned earlier, perceivers (especially White perceivers) may believe it is more socially desirable to be color-blind (i.e., not quick to distinguish Black from White targets; Norton et al., 2006). Moreover, people generally underplay their personal endorsement of stereotypes while freely recognizing that others in society hold stereotypes (Devine, 1989). Thus, the absence of findings for participants' personal categorization of biracial targets may reflect similar tendencies to underplay the role of the one-drop rule in their personal judgments for social desirability reasons. Thus, future studies should compare automatic and deliberate racial categorization as well as automatic and controlled judgments of biracial targets that stem from amount of ancestry. Both automatic and controlled judgments and categorization play an important role in predicting attitudes and behaviors toward racial groups; thus, the present study represents an important step in understanding how Black ancestry changes perceptions of biracial targets.

Conclusion

The present study examined the causal role of amount of Black ancestry in the categorization of Black-White biracial targets and their perceived fit to Black prototypes. Greater Black ancestry increased the likelihood that biracial targets would be categorized as Black at all three levels, that they would be viewed as possessing stereotypically Black attributes, and that they would be assumed to experience racial discrimination. These results persisted controlling for perceptions of phenotype, suggesting that amount of Black ancestry conveys more information than just phenotype. In addition, the current study tested and found support for a multilevel categorization model of biracial targets wherein societal-level categorization predicted perceptions of discrimination, whereas targets, presumed self-categorization predicted trait perceptions. These findings support the importance of amount of Black ancestry and categorization at multiple levels when considering perceptions of biracial individuals.

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Notes

1. Pilot testing revealed no differences in target ratings when presented as male or female.
2. Although the linear effect of Black ancestry was significant for both societal categorization and discrimination, further analysis revealed a significant quadratic effect for societal categorization and a marginally significant quadratic trend for discrimination that accounted for the remaining residual variance. Examination of the quadratic effects suggested that perceivers believed that the discrimination experienced by 50% and 75% Black biracial targets was relatively similar (see Table 1). For societal categorization, the quadratic trend suggested that perceivers' societal categorization of 50% and 75% Black biracial targets was relatively similar (see Table 1).
3. Because of potential shared variance, the error variances for personal, target, and societal categorization were allowed to covary, rs < .5, ps < .05. Because the Black ancestry manipulation was created to be equal intervals (25% Black, 50% Black, 75% Black), we treated this variable as continuous for the purpose of model testing. Best practices in model estimations include at least 5 cases per estimated model parameter (Bentler & Chou, 1987). The Attitudes Toward Affirmative Action model includes 29 parameter estimates (18 paths, 3 covariances, and 8 error variances); therefore, our sample included 188 participants, exceeding the necessary 145 participants.

References

Baron, R. S., Vandello, J. A., & Brunsman, B. (1996). The forgotten variables in conformity research: Impact of task importance on social influence. *Journal of Personality and Social Psychology, 71,* 915-927.

Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. *Sociological Methods & Research, 16*, 78-117.

Blair, I. V., Chapleau, K. M., & Judd, C. M. (2004). The use of Afrocentric features as cues for judgment in the presence of diagnostic information. *European Journal of Social Psychology, 34,* 1-10.

Blair, I. V., Judd, C. M., Sadler, M. S., & Jenkins, C. (2002). The role of Afrocentric features in person perception: Judging by features and categories. *Journal of Personality and Social Psychology, 83*, 5-25.

Bossuyt, M. (2002). *Prevention of discrimination: The concept and practice of affirmative action*. Final Report by the Special Rapporteur in accordance with Sub-Commission Resolution 1998/5. Economic and Social Council. E/CN/Sub.2/2002/21.

Devine, P. G. (1989). Stereotyping and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology, 56,* 5-18.

Dovidio, J. F., Mann, J. A., & Gaertner, S. L. (1989). Resistance to affirmative action: The implication of aversive racism. In F. A. Blanchard & F. J. Crosby (Eds.), *Affirmative action in perspective* (pp. 83-102). New York, NY: Springer-Verlag.

Good, J. J., Chavez, G. F., & Sanchez, D. T. (2010). Sources of self-categorization as minority for mixed race individuals: Implications for affirmative action entitlement. *Cultural Diversity and Ethnic Minority Psychology, 60*, 453-460.

Good, J. J., Sanchez, D. T., & Chavez, G. (2010). White ancestry in perceptions of Black/White biracial individuals: Implications for affirmative action contexts. Unpublished manuscript.

Hall, R. E. (2001). The ball curve: Calculated racism and the stereotype of African American men. *Journal of Black Studies, 32*, 104-119.

Harrison, D. A., Kravitz, D. A., Mayer, D. M., Leslie, L. M., & Lev-Arey, D. (2006). Understanding attitudes towards affirmative action programs in employment: Summary and meta-analysis of 35 years of research. *Journal of Applied Psychology, 91,* 1013-1036.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Jacobson, C. K. (1985). Resistance to affirmative action: Self-interest or racism? *Journal of Conflict Resolution, 29*, 306-329.

Jones, N. A., & Symens Smith, A. (2001, November). *The two or more races population: 2000* (Census 2000 Brief No. C2KBR/01–6). Washington, DC: U.S. Census Bureau.

Kravitz, D. A., & Platania, J. (1993). Attitudes and beliefs about affirmative action: Effects of target and of respondent sex and ethnicity. *Journal of Applied Psychology, 78,* 928-938.

Livingston, R. W., & Brewer, M. B. (2002). What are we really priming? Cue-based versus category-based processing of facial

stimuli. *Journal of Personality and Social Psychology, 82*, 5-18.

Maddox, K. B. (2004). Perspectives on the racial phenotypicality bias. *Personality and Social Psychology Review, 8,* 383-401.

Maddox, K. B., & Gray, S. A. (2002). Cognitive representations of Black Americans: Reexploring the role of skin tone. *Personality and Social Psychology Bulletin, 28,* 250-259.

McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91-125). Orlando, FL: Academic Press.

Norton, M. I., Sommers, S. R., Apfelbaum, E. P., Pura, N., & Ariely, D. (2006). Colorblindness and interracial interaction: Playing the "political correctness game." *Psychological Science, 17,* 949-953.

Pauker, K., & Ambady, N. (2009). Multiracial faces: How categorization affects memory at the boundaries of race. *Journal of Social Issues, 65,* 69-86.

Pauker, K., Weisbuch, M., Ambady, N., Sommers, S. R., Adams, R. B., Jr., & Ivcevic, Z. (2009). Not so Black and White: Memory for ambiguous group members. *Journal of Personality and Social Psychology, 96*, 795-810.

Peery, D., & Bodenhausen, G. V. (2008). Black + White = Black: Hypodescent in reflexive categorization of racially ambiguous faces. *Psychological Science, 19*, 973-977.

Rockquemore, K. A., & Brunsma, D. L. (2002). Socially embedded identities: Theories, typologies, and processes of racial identity among Black/White biracials. *Sociological Quarterly, 43*, 335-356.

Sanchez, D. T., & Bonam, C. M. (2009). To disclose or not to disclose biracial identity: The effect of biracial disclosure on perceiver evaluations and target responses. *Journal of Social Issues, 65,* 129-149.

Sanchez, D. T., & Chavez, G. (2010). Are you minority enough? Language ability affects targets' and perceivers' assessments of a candidate's appropriateness for affirmative action. *Basic and Applied Social Psychology, 32,* 99-107.

Shih, M. J., & Sanchez, D. T. (2005). Perspectives and research on the positive and negative implications of having multiple racial identities. *Psychological Bulletin, 131*, 569-591.

Shih, M., & Sanchez, D. T. (2009). When race becomes more complex: Towards understanding the landscape of multiracial identity and experiences. *Journal of Social Issues, 65,* 1-11.

Sidanius, J., Pratto, F., & Bobo, L. (1996). Racism, conservatism, affirmative action, and intellectual sophistication: A matter of principled conservatism or group dominance? *Journal of Personality and Social Psychology*, *70*, 476-491.

Williams, M., & Eberhardt, J. (2008). Biological conceptions of race and the motivation to cross racial boundaries. *Journal of Personality and Social Psychology, 94,* 1033-1047.

Wilson, T. (1992). Blood quantum: Native American mixed bloods. In M. P. P. Root (Ed.), *Racially mixed people in America* (pp. 108-125). Newbury Park, CA: Sage.