

White ancestry in perceptions of Black/White biracial individuals: implications for affirmative-action contexts

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Abstract

The present studies examine how White ancestry influences perceivers' minority categorization of Black/White biracial individuals, as well as the implications of minority categorization for distribution of minority resources and stereotype use. Study 1 suggests that people are less likely to categorize those of Black/White biracial descent as minority and thus are less likely to view them as appropriate recipients of affirmative action than those of Black monoracial or Black/Native American descent. Study 2 tests a model in which Black/White biracial individuals with a greater amount of White ancestry are perceived as experiencing less discrimination and are less likely to be categorized as minority; therefore, they are judged as less appropriate for minority resources.

Prominent multiracial figures (e.g., President Barack Obama) have raised public awareness of multiracial identity. In addition, the multiracial population has increased dramatically from 500,000 in 1970 to 6.8 million in 2000 (Jones & Symens Smith, 2001). The growing biracial population reflects an increasing number of interracial marriages between Whites and Minorities, particularly among younger adults (Joyner & Kao, 2005; Qian, 1997). Despite this growing biracial population and the public focus on multiracial issues, relatively little empirical research exists on perceptions of biracial people of White and minority backgrounds, especially with regard to affirmative-action type decisions (Sanchez & Bonam, 2009). For example, it is unclear whether biracial people of part-White ancestry are considered ethnic minorities by perceivers and, therefore, appropriate for affirmative action.

Politicians have long debated about how to determine who should be considered an ethnic minority and, hence, be eligible for race-based affirmative action (Foderaro, 2010). For example, in their special report on affirmative-action policies, the United Nations' Commission on Human Rights struggled to determine whether children of racially mixed marriages should be considered ethnic minorities (Bossuyt, 2002). These dilemmas highlight the need to research whether perceivers consider biracial individuals to be ethnic minorities and, thus, deserving of access to resources reserved for ethnic minorities, such as affirmative action. Given the

growing number of biracial people—particularly those of White and minority descent (Jones & Symens Smith, 2001)—research on the perceived minority categorization of biracial populations may have important public policy implications.

Perceptions and categorization of part-White biracial individuals

In the United States, part-White biracial individuals have traditionally been viewed through the lens of their minority racial identity (Hollinger, 2003). Rising to prominence during the Jim Crow era, the hypodescent principle (i.e., the "one-drop rule") stated that mixed people of White and Black ancestry should be considered Black (Banks & Eberhardt, 1998), indicating that multiracial individuals were to be legally defined by their minority racial identity (Hollinger, 2003). New evidence has suggested that the White heritage of biracial individuals is also considered during impression formation and racial categorization (Brunsma, 2005; Peery & Bodenhausen, 2008; Sanchez & Bonam, 2009). For example, part-White biracial individuals are categorized as biracial when under no time constraints (Peery & Bodenhausen, 2008).

Because of the growing recognition of multiracial populations, coupled with the successful multiracial movement to allow for multiracial self-definition in the U.S. Census and

elsewhere, the use of biracial and multiracial self-labels may be increasingly common and, therefore, increasingly normative (Lee, 2008). The recognition of multiracial identity may make the one-drop rule seem antiquated. Indeed, participants did not apply the one-drop rule when given time to process information about biracial targets, categorizing them as biracial, rather than monoracial (Peery & Bodenhausen, 2008). Additionally, participants are less likely to apply the hypodescent rule when trying to appear less prejudicial. When given an explicit motivation to be inclusive, Whites were more likely to categorize biracial targets of part-White ancestry as members of their in-group (Pauker et al., 2009).

However, lay theories of biological essentialism still persist. Genetic differences are perceived to underscore racial differences, particularly between Blacks and Whites (Rushton & Jensen, 2005). Individuals who believe in a genetic basis for racial differences express more prejudicial attitudes toward Blacks (Jayaratne et al., 2006). Thus, beliefs about multiracial individuals' genetic heritage may still influence perceivers' racial categorization. Rather than simply applying a one-drop rule, perceivers may consider what amount of minority ancestry an individual possesses in deciding how to categorize that person. For example, the one-drop rule would predict that all part-White, part-minority multiracial individuals would be categorized as minority. However, essentialist views of racial differences might predict that an individual with more White ancestry than minority ancestry would be categorized as White, and an individual with more minority ancestry than White ancestry would be categorized as minority. Thus, in the present research, we consider not just how knowledge of biracial status, but also the amount of White and minority ancestry influences perceivers' categorization of multiracial targets.

In addition to racial categorization, perceivers may also make judgments about part-White multiracial individuals' experiences with racial discrimination, and their eligibility for resources reserved for minorities based on amount of minority ancestry. Examining perceptions of part-White biracial individuals in affirmative-action contexts, Sanchez and Bonam (2009) found that participants rated Asian/White and Black/White biracial college applicants as less appropriate for minority scholarships than Asian and Black monoracial applicants. These findings indicate that part-White biracial individuals are not solely defined by their minority ancestry, but that their White ancestry affects how they are perceived as minorities. Having part-White ancestry has real-world consequences for biracial individuals who are aiming to access resources reserved for ethnic minorities (i.e., race-based affirmative action). The current research directly addresses whether White ancestry diminishes the ability of multiracial and biracial individuals to obtain minority resources, and it identifies the processes that may account for these effects.

Determinations of minority categorization may depend on the extent to which participants perceive individuals as having experienced disadvantages. In other words, perceivers may categorize individuals as minorities based on whether perceivers view targets as having experienced ethnic discrimination and prejudice. While research has suggested that minorities who have more racially prototypical attributes and identities experience more racial discrimination (Kaiser & Pratt-Hyatt, 2009; Maddox, 2004), it is unclear whether perceivers themselves recognize that more prototypical minority-group members receive a disproportionate amount of discrimination. If perceivers recognize such disparities in discrimination, they may view biracial individuals with greater White ancestry as having fewer experiences of discrimination. In the present studies, we expect that biracial minorities with greater White ancestry will be perceived as having experienced less discrimination and thus will be less likely to be categorized as minority. These individuals, therefore, will be given less access to minority resources, such as race-based affirmative action.

The current studies

To follow up on the findings of Sanchez and Bonam (2009), which showed that biracial minority/White targets were viewed as less deserving of minority scholarships than were monoracial minority targets, Study 1 tests the prediction that Black/White biracial people will be viewed as less deserving of resources reserved for minorities (e.g., race-based affirmative action) than will Black monoracial individuals, by virtue of not being categorized as minority. To distinguish between perceptions of biracial targets' overall atypicality (i.e., that biracial targets, both part-White and not, are far less common and less normative members of the Black community) from specific impressions based on biracial targets' part-White backgrounds, we also compared perceptions of Black/White biracial targets to perceptions of Black/Native American biracial targets. Some research has suggested that people view atypical and less normative group members more negatively than prototypical group members (Hogg & Haines, 1996; Marques & Páez, 1994; Rudman & Fairchild, 2004). Thus, it is important to rule out the possibility that all types of biracial minorities, because of their non-normative racial makeup in general, alter perceptions of affirmative-action deservingness. We expect that perceivers will view the Black/White and Black/Native American targets as atypical for their racial group, compared to Black monoracial targets. Yet, we predict that White ancestry will specifically influence perceptions such that perceivers will uniquely categorize the Black/White target as less minority and will view them as less deserving of minority resources than both the Black monoracial and Black/Native American targets.

Table 1 Means for Variables Presented by Target Applicant Race: Study 1

Variable	Black target		Black/Native American target		Black/White target		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Minority characterization	5.58 _a	1.14	5.66 _a	1.02	4.09 _b	1.38	6.27**
Prototypicality	3.79 _a	1.19	3.35 _b	0.98	3.26 _b	1.36	3.04†
Minority resources	4.57 _a	1.33	4.50 _a	1.32	3.65 _b	1.34	7.59**

Note. Means with differing subscripts within each row differ significantly based on planned contrasts (all $ps < .05$). For all *F* values, degrees of freedom are 1 and 155.

† $p = .05$. ** $p < .01$.

In Study 2, we replicate these effects using a different paradigm, exploring the influence of White ancestry by varying the amount of White ancestry in the biracial target's background. We also test a model in which perceived racial discrimination among the biracial Black/White targets explains the extent to which participants categorize the targets as minority and, therefore, judge the targets as deserving of minority resources.

Study 1

Method

Participants

Study 1 participants were 158 undergraduates (68 men, 90 women) who were recruited from introductory psychology classes (M age = 18.7 years). The students received extra credit for their participation. Racial composition was as follows: 47.5% White/Caucasian, 30.4% Asian, 8.9% Black, 5.7% Hispanic/Latino, and 6.3% "other" (1.3% of participants did not indicate their race).¹

Materials and procedure

In a large group testing setting, participants were given the résumés of two student applicants to evaluate for college admission, one of whom was the target student, and the other was filler. Participants were randomly assigned to evaluate either a Black target applicant, a Black/White target applicant, or a Black/Native American target applicant.

Student descriptions

Each target student was described as male, living in Indiana, and currently in 12th grade, with a GPA of 4.0. Other filler information about extracurricular activities and academic background was included. The target's race was listed on the application as either Black/White biracial, Black/Native

American biracial, or Black. All other information was held constant across conditions.

Minority categorization

The participants were asked to indicate their agreement with the following statements: "This candidate should be considered an ethnic minority," and "This candidate is not a racial minority" (reverse-scored). Responses were rated on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).² A mean score was calculated ($r = .71$, $p < .001$).

Minority resources

Participants were asked to indicate their agreement with the following items: "This is the kind of candidate that deserves affirmative action," "I believe this candidate is the kind of target that should receive affirmative action," and "I don't think this is the kind of candidate that deserves affirmative action" (reverse-scored). A mean score was calculated (Cronbach's $\alpha = .87$).

Prototypicality

Participants were asked to indicate their agreement with the following items: "This target seems similar to other minorities," and "This target strikes me as a typical racial minority." The two items were averaged ($r = .62$, $p < .001$).

Results and discussion

To test whether the Black/White biracial target was less likely to be categorized as minority and thus viewed as less deserving of minority resources than the identically described Black and Black/Native American targets, we first conducted ANOVAs on all dependent measures described previously, followed by planned contrasts with the following coefficients: $-2 =$ Black/White; $1 =$ Black/Native American; $1 =$ Black. As expected, the ANOVAs were significant for minority categorization and minority resources (see Table 1). Consistent with

²All of the scale items for both studies were rated on the same 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

¹No effects of participant race were found in Study 1.

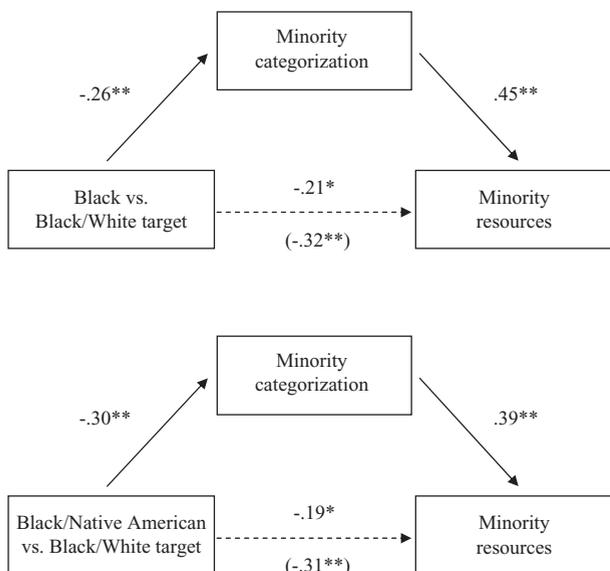


Figure 1 Significant partial mediation accounting for the disadvantage of Black/White target for minority resources, compared to Black target (above) and Black/Native American target (below). The Black/White target was always coded as "1," while the Black target (above) and Black/Native American target (below) were coded as "0." Standardized regression coefficients are presented; dashed line indicates mediated path. $*p < .05$. $**p < .01$.

the hypotheses, planned contrasts reveal that the Black/White target was categorized as less minority, $t(157) = 3.54, p < .001$; and less deserving of minority resources, $t(157) = 3.88, p < .001$, than were the Black and Black/Native American targets (see Table 1 for means). The third ANOVA also reveals that perceived prototypicality differed across the three targets (see Table 1). We conducted planned contrasts with contrast coefficients of $-1, -1, \text{ and } 2$ to examine whether the Black/White and Black/Native American targets were viewed as less prototypical than was the Black target. The results confirm the expectation that the biracial targets were viewed as less prototypical than was the Black target, $t(157) = 2.44, p = .02$.

As expected, minority categorization was positively correlated with greater deservingness of minority resources ($r = .47, p < .001$). To test whether perceivers' differential ratings of the minority resource deservingness of the Black target and the Black/Native American target relative to the Black/White target were mediated by minority categorization, we used hierarchical linear regression to test the last steps of mediation (Baron & Kenny, 1986; see Figure 1). Regression analyses suggest that the effect of having a Black/White biracial background versus a Black monoracial background on deservingness of minority resources was partially explained by minority categorization (Sobel's $Z = -2.47, p = .01$; Sobel, 1982; see Figure 1 for betas). Regression analy-

ses also suggest that the effect of having a Black/White biracial background versus a Black/Native American background on deservingness of minority resources was partially explained by minority categorization (Sobel's $Z = -2.49, p = .01$; see Figure 1 for betas).

To rule out the alternative possibility that the greater perceived prototypicality of the Black target might explain part of the advantage that the Black target had over the Black/White target in deservingness of minority resources, we conducted regressions with prototypicality as the mediator. In this analysis, the race of the target was still a significant predictor of minority resources, while prototypicality was not, ruling out the possibility that racial prototypicality could act as an alternative mediator.

The findings of Study 1 suggest that people who have Black/White biracial backgrounds are categorized as less minority and, thus, are viewed as less appropriate for minority resources than are monoracial Black individuals. Study 1 suggests that part of the reason previous research has found that perceivers view Black/White biracial targets as less minority-scholarship worthy (Sanchez & Bonam, 2009) may be that Black/White targets are categorized to a lesser extent as minority. In addition, although Black/White targets are generally viewed as less prototypical members of their racial group, this aprototypicality could not reliably explain differences in minority-resource deservingness. Finally, as expected, the Black/Native American target was categorized as "more minority" than was the Black/White target, suggesting that White ancestry specifically—not being biracial or a generally atypical minority—influenced judgments of minority categorization.

Study 2

While Study 1 suggested that perceivers are less likely to categorize Black/White biracial targets as minorities, it is unclear whether perceivers view Black/White individuals as less stereotypical and less likely to experience discrimination, relative to Black individuals. Black/White individuals may be less likely to be categorized as minority because they are viewed as having experienced fewer instances of racial discrimination. Minorities who possess more racially prototypical attributes and identities tend to experience more racial discrimination (Kaiser & Pratt-Hyatt, 2009; Maddox, 2004). Perceivers may be aware of this effect and, therefore, partly base their decisions of minority categorization on the extent to which they believe biracial targets have experienced discrimination. In Study 2, we test whether Black/White targets are viewed as experiencing less racial discrimination and, therefore, are less likely to be categorized as minority.

In addition, it is unclear whether perceivers attend to the degree of White ancestry (rather than the identity label of Black/White biracial) in forming impressions of Black/White

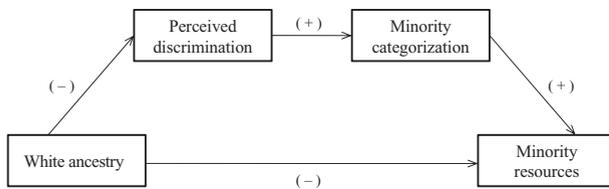


Figure 2 Hypothesized path model.

individuals. Although a hypodescent rule may no longer govern racial categorization (Pauker et al., 2009; Peery & Bodenhausen, 2008), perceivers may still consider amount of ancestry in racial categorization because of the longstanding misconception that biology underscores racial differences (Goodman, 2000; Jayaratne et al., 2006; Rushton & Jensen, 2005; Williams & Eberhardt, 2008; Zack, 1995). Thus, we predict that participants will attend to targets' specific amount of White ancestry when racially categorizing targets. Previous research has shown that more prototypically Black individuals experience more discrimination, prejudice, and stereotyping than do Black individuals with less prototypical features (Blair, Chapleau, & Judd, 2004; Blair, Judd, Sadler, & Jenkins, 2002; Livingston & Brewer, 2002; Maddox, 2004; Maddox & Gray, 2002). Perceivers may view targets with a greater amount of Black ancestry as more prototypically Black and, therefore, see them through a more stereotypical lens, as well as perceive them to have experienced more racial discrimination.

If merely having any Black ancestry influences judgments of minority categorization (i.e., the one-drop rule), then degree of White ancestry should not play a significant role in judgments. However, we predict that perceivers attend to the amount of White ancestry a person possesses (when such information is available), and that perceivers' judgments of Black targets will vary by how much White ancestry targets possess. Thus, Study 2 examines whether greater White ancestry (as manipulated by parents' races) is related to less minority categorization, less use of Black stereotypes in forming impressions of Black targets, and less deservingness of minority resources in the form of minority scholarships. Moreover, Study 2 tests a model of deservingness of minority resources based on degree of White ancestry (see Figure 2 for the hypothesized model). We expect that White ancestry will be associated with less perceived discrimination and, therefore, less minority categorization and deservingness of minority resources.

Method

Participants

The participants were 131 undergraduates (57 men, 70 women, 4 did not specify their gender) who were enrolled in a

large state university and who received extra credit in their psychology class in exchange for their participation (M age = 19.8 years). Racial composition was as follows: 38.9% White/Caucasian, 34.4% Asian, 7.6% Hispanic/Latino, 6.1% Black/African American, 6.1% Other, 3.8% multiracial, 0.8% American Indian/Alaskan, and 2.3% did not indicate their ethnicity.³

Materials and procedure

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 0% White/100% Black, 25% White/75% Black, 50% White/50% Black, or 75% White/25% Black. Participants then completed measures of stereotypic ratings and minority categorization of the student, along with filler trait questions. Next, the participants indicated the extent to which the student had experienced racial discrimination in the past, and rated how deserving the student was of a minority scholarship. The participants were then debriefed and thanked for their participation.

Student descriptions

Each student was described as male⁴ and currently in the 12th grade, with a GPA of 3.5. Students' race was not listed; however, their parents' races were indicated to manipulate the amount of White/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 50% Black/50% White, the resulting student was 25% White/75% Black. By manipulating each parent's race, we created four students of differing degrees of minority ancestry (0% White/100% Black, 25% White/75% Black, 50% White/50% Black, and 75% White/25% 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 (information was counterbalanced across ethnic makeup of student). Participants were randomly assigned to view one of the four possible student descriptions, utilizing a between-subjects design.

Stereotypic ratings

After each student description, the participants were asked to indicate the likelihood that the student would possess several traits in order to measure consistency with Black stereotypes

³Study 2 results did not differ when Black or multiracial participants were excluded from the analyses.

⁴Pilot testing revealed no differences in the way male versus female targets were categorized.

Table 2 Means for All Variables Presented by Amount of White Ancestry and Participant Race: Study 2

Variable	Amount of White ancestry							
	0% White (N = 29)		25% White (N = 32)		50% White (N = 34)		75% White (N = 36)	
Athleticism	5.34 _a	1.08	5.19 _{ab}	0.98	5.04 _{ab}	1.16	4.71 _b	1.07
White	5.17	1.29	5.23	1.08	5.28	0.81	4.57	0.85
Minority	5.39	1.05	5.18	0.97	4.83	1.48	4.81	1.21
Aggressiveness	4.30 _a	0.87	3.85 _{ab}	1.10	3.90 _{ab}	1.36	3.41 _{bc}	1.02
White	4.25	0.42	4.00	1.02	3.81	1.19	3.25	1.05
Minority	4.32	0.97	3.79	1.19	4.00	1.61	3.52	1.01
Intelligence	5.52 _a	0.97	5.58 _a	0.91	5.37 _a	1.10	5.33 _a	0.82
White	5.50	1.15	5.59	0.63	5.31	1.26	5.23	0.84
Minority	5.52	0.93	5.68	1.02	5.47	0.93	5.40	0.82
Perceived discrimination	4.60 _a	1.27	4.31 _{ab}	1.49	3.88 _b	1.54	3.14 _c	1.68
White	4.93	1.24	4.23	0.98	4.28	1.48	2.97	1.42
Minority	4.50	1.29	4.47	1.74	3.40	1.57	3.26	1.87
Minority categorization	5.25 _a	1.54	4.66 _a	1.33	3.82 _b	1.77	3.01 _c	1.36
White	5.92	0.80	4.68	1.27	4.14	1.46	3.07	1.36
Minority	5.07	1.65	4.68	1.43	3.43	2.12	2.98	1.40
Minority resources	4.79 _a	1.62	4.35 _a	1.52	3.49 _b	1.62	2.53 _c	1.45
White	4.64	1.65	3.82	0.75	3.61	1.55	2.40	1.45
Minority	4.84	1.64	4.66	1.76	3.30	1.78	2.62	1.48

Note. Means sharing the same subscript within each row do not differ at $p < .05$ (post hoc least significant difference comparisons).

of superior athleticism (Hall, 2001), greater aggressiveness (Maddox & Gray, 2002), and less intelligence (Devine & Elliot, 1995). Two items assessed each stereotype. For athleticism, we used the statements “This student likely plays sports,” and “This student is likely athletic.” For aggression, we used the statements “This student is probably aggressive,” and “This student is likely to act in a dominant way.” Finally, for intelligence, we used the statements “This student is likely intelligent,” and “This student will probably attend college.” The measures of athleticism ($r = .88, p < .001$), aggressiveness ($r = .78, p < .001$), and intelligence ($r = .72, p < .001$) were reliable.

Perceived discrimination

The 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,” and “This student probably encounters a lot of racial prejudice.” The two items were averaged ($r = .88, p < .001$).

Minority categorization

The extent to which participants categorized the target student as a racial minority was assessed with the following items: “This student should be considered a racial minority,” and “This student is a racial minority.” These items were highly correlated ($r = .75, p < .001$) and thus were averaged.

Table 3 Correlations Among Study Variables: Study 2

Variable	1	2	3	4	5
1. Athleticism	—				
2. Aggressiveness	.53**	—			
3. Intelligence	.29**	-.15	—		
4. Perceived discrimination	.22*	.51**	.02	—	
5. Minority categorization	.29**	.49**	.10	.72**	—
6. Minority resources	.31**	.34**	.27**	.59**	.69**

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

Minority resources

Participants were told that “Some exceptional students are granted scholarships on the basis of academic merit and minority status.” They were then asked to rate how deserving each student was of a minority scholarship using the following items: “This student is deserving of a minority scholarship,” and “I think this student should receive a minority scholarship.” The two items were averaged ($r = .93, p < .001$).

Results and discussion

Testing the direct effects of white ancestry

Means and standard deviations for all study variables are presented in Table 2, while zero-order correlations are presented in Table 3. To investigate whether amount of White ancestry would impact ratings of race-stereotypic traits, we conducted

Table 4 Fit Statistics for All Models Tested: Study 2

Model	χ^2	df	p	CFI	NFI	NNFI	AIC
Hypothesized model	13.53	2	.00	.94	.94	.83	9.53
Revised hypothesized model	3.61	1	.06	.99	.98	.92	1.61
Alternative Model A	9.35	2	.01	.96	.96	.89	5.35
Alternative Model B	67.15	2	.00	.68	.68	.03	63.15

Note. Robust fit statistics are presented. CFI = comparative fit index; NFI = normed fit index; NNFI = non-normed fit index; AIC = Akaike's information criterion.

separate 4 (Amount of White Ancestry: 0% White/100% Black, 25% White/75% Black, 50% White/50% Black, or 75% White/25% Black) \times 2 (Participant Race: White vs. Minority) between-subjects ANOVAs on ratings of the student's athleticism, aggressiveness, and intelligence. No significant main effects or interactions were found for athleticism or intelligence; however, a significant main effect of White ancestry on aggressiveness was found, $F(3, 118) = 2.78$, $MS = 3.58$, $p < .05$. Greater White ancestry was associated with lower aggressiveness ratings, $F_{\text{linear}}(1, 24) = 8.70$, $MS = 10.77$, $p < .01$.

Next, we tested whether amount of White ancestry would influence ratings of the student's perceived experience of discrimination and minority categorization, using the same analytic strategy as discussed previously. A significant main effect of White ancestry was found for perceived discrimination, $F(3, 120) = 5.96$, $MS = 13.82$, $p < .001$, such that greater White ancestry was associated with less perceived racial discrimination, $F_{\text{linear}}(1, 127) = 16.39$, $MS = 37.47$, $p < .001$. No other significant effects were found for discrimination. For minority categorization, only a main effect of White ancestry was found, $F(3, 118) = 12.56$, $MS = 29.35$, $p < .001$, such that greater White ancestry was associated with lower ratings of minority categorization, $F_{\text{linear}}(1, 24) = 38.87$, $MS = 88.91$, $p < .001$.

Finally, we computed the same 4×2 ANOVA with minority resources as the dependent variable. A significant main effect of amount of White ancestry was found, $F(3, 120) = 11.09$, $MS = 27.11$, $p < .001$, but no other main effects or interactions were significant. Trend analysis reveals that participants viewed target students with greater White ancestry as less deserving of minority resources, $F_{\text{linear}}(1, 125) = 39.24$, $MS = 94.19$, $p < .001$.

Model testing

We next tested the theoretical model outlined in Figure 2. Because we did not find any main effects or interactions with participant race in the previously mentioned ANOVAs, we collapsed across participant race for the purposes of testing the hypothesized model. Analyses were conducted with EQS 6.1 software using maximum likelihood estimation, and the model was specified such that cases with missing data were

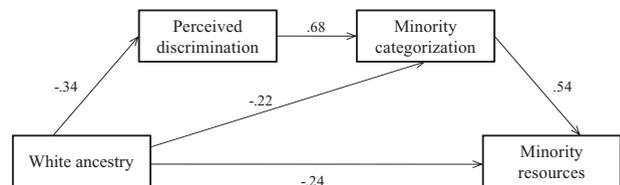


Figure 3 Results of path analysis testing revised hypothesized model. Standardized coefficients are presented. β values are significant at $p < .05$, unless otherwise noted.

deleted, which resulted in 5 cases being removed from analyses. According to past research on model fit (see Hu & Bentler, 1999), good fitting models have comparative fit index (CFI) and non-normed fit index (NNFI) values that exceed .95.

A path model was specified with the hypothesized paths illustrated in Figure 2.⁵ Best practices in model estimations include 5 to 10 cases per estimated model parameter (Bentler & Chou, 1987). The hypothesized model includes 8 parameter estimates (4 paths and 4 error variances), necessitating a sample of 40 to 80 participants. The hypothesized model fit the data adequately (see Table 4), however Lagrange modification indexes suggested that we add an additional path between White ancestry and minority categorization. The revised hypothesized model fit the data well, and significantly better than the hypothesized model, $\chi^2\Delta(1) = 9.92$, $p = .002$ (see Figure 3 and Table 4). As predicted, amount of White ancestry negatively predicted ratings of the target's perceived discrimination, which positively predicted categorizing the target as minority. Minority categorization then positively predicted ratings of deservingness of minority resources. Additionally, amount of White ancestry directly negatively predicted minority categorization.

Alternative models

Because the data are correlational, causal paths between dependent variables cannot be definitively determined from this experiment alone. However, we can test whether the data

⁵Because the White ancestry manipulation was created to be equal intervals (0% White, 25% White, 50% White, 75% White), we treated this variable as continuous for the purpose of model testing.

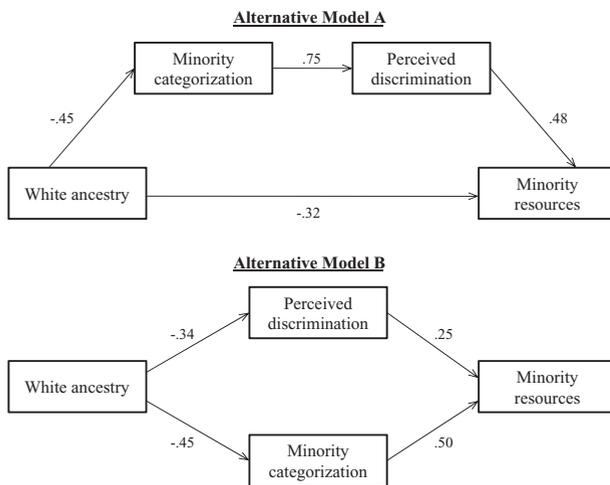


Figure 4 Results of path analysis testing alternative models. Standardized coefficients are presented. β values are significant at $p < .05$, unless otherwise noted.

collected fit the hypothesized model better than alternative ones. One theoretically compelling possibility may be that information about racial ancestry immediately cues racial categorization. Because we gave participants relatively explicit information about the target students' racial heritage, judgments of minority categorization may have been based solely on that information. Once participants racially categorized the targets, they may have then made judgments about perceived discrimination. Thus, Alternative Model A was specified such that amount of White ancestry predicted minority categorization, which, in turn, predicted ratings of perceived discrimination and then deservingness of minority resources. This model fit the data well (see Figure 4 and Table 4).

Another possibility is that information about racial ancestry cues judgments of minority categorization and perceived discrimination simultaneously, which both independently predict deservingness of minority resources. Thus, Alternative Model B was specified such that amount of White ancestry predicted minority categorization and perceived discrimination, which both predicted deservingness of minority resources. This model fit the data poorly (see Figure 4 and Table 4). Because the alternative models and the revised hypothesized model are not nested, a chi-square difference test cannot be conducted to compare the fit of the models. However, in cases of nonhierarchical models, fit comparisons can be made using Akaike's information criterion (AIC; Kline, 2005). For a set of models, the model with the lowest AIC value has a better fit to the data. As can be seen in Table 4, the revised hypothesized model had a lower AIC value (1.61) than did both alternative models, suggesting that the revised hypothesized model was a superior fit to the data. However,

one must be mindful that path modeling does not rule out the possibility of reciprocal causality.

In Study 2, participants categorized a target student as less deserving of minority resources when he had greater White ancestry. The results show that when the target student was portrayed as having greater White ancestry, he was viewed as having experienced less racial discrimination in the past. Perceived discrimination predicted minority categorization, which appeared to drive ratings of how deserving the target was of minority resources.

General discussion

Overall, across two studies, we found evidence that individuals with both Black and White ancestry are less likely to be categorized as minority and are thus viewed as less appropriate for resources reserved for minorities (e.g., race-based affirmative action) than are monoracial Black individuals. The lower minority categorization of Black/White individuals compared to Black individuals could not be accounted for by having a biracial background alone (or being an uncommon ethnic minority-group member) because Black/Native Americans were more likely to be categorized as minority than were Black/White individuals (Study 1). However, the results of Study 2 suggest that perceivers' racial categorization of biracial Black/White candidates is based partially on expectations of past discrimination.

The present studies suggest that having a partial White background is associated with being considered less of an ethnic minority in the eyes of both White and minority perceivers. In a sense, categorization as minority requires establishing a certain amount of *blood quantum*, a term used in Native American communities to describe the amount of tribal ancestry sufficient for tribal citizenship (Wilson, 1992). In the context of minority categorization, *blood quantum* refers to the amount of minority ancestry necessary to be considered an ethnic minority if one has partial White ancestry. As an important ethnic marker conveying minority ancestry, blood quantum has implications for person perception. Specifically, blood quantum appears to be associated with expectations about the discrimination individuals experience and whether or not they are essentially "minority enough" to deserve resources reserved for minorities.

While the present studies tend to find that White ancestry among biracial candidates is associated with less racial stereotyping (aggression) and the belief that they experience less discrimination, it is important to note that experimental work on impressions of Black/White individuals suggests that they do experience some bias. Perceivers tend to evaluate those of Black/White descent as less warm and trustworthy, as well as more confused and socially awkward than their monoracial peers (Chelsey & Wagner, 2003; Jackman, Wagner, & Johnson, 2001; Sanchez & Bonam, 2009). Thus, it would be

premature to conclude that Black/White individuals face little bias when bias was operationalized and measured differently in the present studies than in past research.

In testing the theoretical model outlined in Study 2, we found that minority categorization was driven by expectations of past racial discrimination. However, other factors may also play a role in minority categorization of biracial White candidates. One important factor may be the extent to which perceivers believe that the Black/White biracial candidate identifies with his or her White or Black background. Black/White biracial candidates who are viewed as highly identified with their Black racial group (as opposed to their White or multiracial racial group) may be more likely to be treated and viewed as ethnic minorities.

Additionally, previous evidence has suggested that highly racially identified Black individuals receive a disproportionate amount of racial discrimination, compared to their less identified peers, in part because of some of the assumptions that perceivers make about the racial attitudes of highly racially identified Black individuals (Kaiser & Pratt-Hyatt, 2009). Should perceivers be aware of this link between racial/ethnic identification and experiences of discrimination, it is likely that they will perceive highly Black-identified biracial targets as having experienced more discrimination and, hence, view them as more deserving of affirmative-action type resources. It may also be interesting to examine how minority (e.g., Black monoracial) compared to majority (White monoracial) in-group members react to minority-identified part-White biracial individuals. The answers to these questions would have important implications not only for affirmative-action contexts, but for in-group interpersonal situations as well.

Future research should also examine how people respond to biracial individuals who have multiple ethnic markers. The current studies show that White ancestry leads perceivers to make judgments about minority categorization. However, further studies might test the hypothesis that multiple ethnic markers (darker skin color and full minority ancestry) relate to minority categorization, either additively or interactively. For example, would a target who is both Black/White biracial and dark-skinned be similarly categorized as a Black (monoracial) target with dark skin? Examining multiple ethnic markers represents an important next step in understanding minority categorization in the context of affirmative action and in person perception more generally.

The present studies compared minority and White perceivers' responses to biracial Black/White targets. However, we did not have a large enough sample of Black participants to specifically compare White perceivers to Black perceivers. Thus, it is unclear whether members of the Black community would be as likely to base perceptions of Black/White biracial individuals on their amount of White ancestry. Members of the Black community may respond more harshly toward

in-group members who threaten the distinctiveness of their in-group (Hogg & Haines, 1996; Marques & Páez, 1994) by having White ancestry and blurring the lines between racial groups. Therefore, future research should explore Black perceivers' impressions of biracial candidates.

Some considerations should be noted with regard to our use of a relatively ethnically diverse student population in a racially diverse university setting. The university setting where this study took place proudly boasted a new incoming freshman class that was the first to be majority ethnic minority (not majority Caucasian/White, like many other universities). The participants in these studies may be routinely exposed to and interact with individuals of varying ethnic and cultural backgrounds. Given these experiences, the present research may actually underestimate the extent to which White ancestry is used as the basis for impressions of biracial individuals within the general public. We would expect that a sample of people with less exposure to ethnic diversity may be more likely to form impressions of minority categorization and affirmative-action deservingness based on the factors identified in the present work.

Additionally, instructing participants to make decisions about race-based aid is a relatively unnatural situation for college students. Though appropriate for the current studies' aims (namely, how perceivers categorize and react to part-White biracial targets), future research focused directly on how affirmative-action evaluators make decisions should attempt to sample individuals who determine eligibility for race-based aid. Such research programs might be interested in whether admissions counselors and committees are sensitive to the complexities of biracial backgrounds, or are more likely to base their decisions on a candidate's degree of White ancestry. Sampling the professionals who must use brief, incomplete snapshots of candidates to determine eligibility for race-based resources would provide a more complete picture of the full implications of the processes outlined here.

A final limitation of the current studies is that we only collected data on perceptions of Black/White biracial targets. We cannot determine whether the same processes would be found with Asian/White or Latino/White biracial targets. Given the historical context of Black–White race relations in the U.S., we might expect that perceivers are most sensitive to White ancestry among Black targets. Furthermore, recent studies have indicated that Asian Americans experience “invisibility” when it comes to ethnic minority issues and that they are often not viewed as ethnic minorities (Sue, Bucceri, Lin, Nadal, & Torino, 2007). It is likely that perceivers react in different ways to different White/minority biracial individuals, depending on their views about which groups (as well as which individuals) should be considered ethnic minorities.

While the present studies have some limitations, the results represent an important advancement in understanding

perceivers' categorization of Black/White populations. This work has practical implications for those of biracial descent when they consider the implications of disclosing biracial backgrounds. Biracial people have several identity options and often choose different racial identities in different contexts (Rockquemore, Brunnsma, & Delgado, 2009; Sanchez, Shih, & Garcia, 2009). Yet, perhaps despite their choices,

biracial individuals may be categorized based on their parents' racial ancestry, and amount of minority ancestry may influence perceivers' judgments and use of stereotypes. Our results highlight the power of racial ancestry on the perception of biracial individuals, yet it is only one piece of the puzzle in understanding how people react to mixed-race individuals in an increasingly multiracial world.

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