

# Biracial Perception in Black and White: How Black and White Perceivers Respond to Phenotype and Racial Identity Cues

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**Objectives:** This study investigates how racial identity and phenotypicality (i.e., racial ambiguity) shape the perception of biracial individuals in both White and Black perceivers. We investigated complex racial categorization and its downstream consequences, such as perceptions of discrimination. **Method:** We manipulated racial phenotypicality (Black or racially ambiguous) and racial identity (Black or biracial) to test these cues' influence on Black and White race categorizations in a sample of both White ( $n = 145$ ) and Black ( $n = 152$ ) identified individuals. **Results:** Though racial identity and phenotypicality information influenced deliberate racial categorization, White and Black participants used the cues in different ways. For White perceivers, racial identity and phenotypicality additively influenced Black categorization. For Black perceivers, however, racial identity was only used in Black categorization when racial ambiguity was high. Perceived discrimination was related to White (but not Black) perceivers' distribution of minority resources to targets, however Black categorization related to perceived discrimination for Black perceivers only. **Conclusion:** By demonstrating how Black and White individuals use identity and phenotype information in race perceptions, we provide a more complete view of the complexities of racial categorization and its downstream consequences.

**Keywords:** biracial, racial categorization, person perception

**Supplemental materials:** <http://dx.doi.org/10.1037/cdp0000103.supp>

In the past decade, the mixed-race population in the United States has grown 32% to over 9 million Americans (Humes, Jones, & Ramirez, 2011). By the year 2050, Census-based projections suggest that 1 in 5 people will identify as mixed-race in the United States (Farley, 2004), with the largest segment of the multiracial population identifying as a combination of White and minority racial backgrounds (Humes et al., 2011). Understanding how perceivers categorize biracial individuals is paramount to fully understanding race and interpersonal perception and interaction in our multiracial future. Furthermore, as racial categorization is a vital step in numerous facets of person perception, studying the downstream consequences (e.g., perceptions of discrimination and interpersonal liking) of complex racial categorization is essential to formulating a comprehensive view of person perception and building a solid foundation for diversity science (Plaut, 2010).

Initial research on this topic has overwhelmingly explored how White perceivers make race-related judgments of biracial individ-

uals, leaving unexplored questions concerning how racial/ethnic minorities make these same evaluations. As social constructs, race and racial cues are shaped by cultural concepts that are associated with racial groups, including socioeconomic status (Freeman, Penner, Saperstein, Scheutz, & Ambady, 2011; Penner & Saperstein, 2008; Young, Sanchez, & Wilton, 2015), language (Sanchez & Chavez, 2010; Wilton, Sanchez, & Chavez, 2013), hairstyles (MacLin & Malpass, 2001), and facial expressions (Hugenberg & Bodenhausen, 2004). In addition to concepts attached to the racial group, racial categorization is further shaped by individual differences in perceivers. Essentialist beliefs (Chao, Hong, & Chiu, 2013), racial bias (Ho, Roberts, & Gelman, 2015), motivations to control prejudice (Chen, Moons, Gaither, Hamilton, & Sherman, 2014), and social context (Krosch, Berntsen, Amodio, Jost, & Van Bavel, 2013), to name a few, can all impact the racial categorization process. Thus, by neglecting the impact of perceiver race on racial categorization processes, current understandings of racial categorization are confounded by a focus on White majority perceivers (Willadsen-Jensen & Ito, 2008). Thus, one gap this article seeks to address is how Black (compared with White) perceivers categorize and evaluate Black/White biracial targets. An exploration of how Black perceivers respond to Black/White biracial targets is essential for understanding how race-related judgments operate in different racial groups as well as reveal how social status and underrepresentation may moderate biracial perception.

Research exploring White perceptions of biracial targets has also primarily explored how single cues—including phenotype and

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This article was published Online First June 6, 2016.

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racial identification—influence these processes *individually* (e.g., Chen & Hamilton, 2012; Ho et al., 2011; Pauker et al., 2009; Peery & Bodenhausen, 2008). However, identity and phenotype vary independently in the environment, and biracial individuals do not necessarily self-identify in ways that parallel their phenotype. That is, for example, a Black/White biracial person may identify as biracial while phenotypically presenting as Black (Rockquemore & Brunnsma, 2002; Rockquemore, Brunnsma, & Delgado, 2009; Sanchez, Good, & Chavez, 2011). Thus, a secondary goal of the article is to address how multiple cues operate for both Black and White perceivers. Because of the complexities involved in perceiving a biracial person, it is necessary to understand how multiple cues concomitantly influence the racial categorization of biracial targets. Thus, mapping these two cues in tandem, for both White and Black perceivers, is particularly relevant to understanding the changing racial landscape.

### Phenotype and Identity in Complex Racial Categorization for White and Black Perceivers

Research has not yet systematically tested how minority perceivers use identity in conjunction with phenotype cues when categorizing others. For White perceivers, both racially ambiguous appearance and biracial identification (indicated by a racial label) additively and equally decreased Black categorization on a Black/White continuum compared with phenotypical appearance and monoracial Black identification (Young, Sanchez, & Wilton, 2013). Black perceivers could use phenotype and identity cues additively, mirroring the pattern of White perceivers. However, evidence suggests that Black perceivers will weight identity and phenotype cues differently than White perceivers in the racial categorization process.

As members of a lower status and numerical minority group, Black perceivers are less motivated to protect their group through exclusion, and more likely to gain status by inclusion of biracial group members (Gaither, Pauker, Slepian, & Sommers, 2016). Phenotype cues do not impact Black perceivers' categorization process as strongly as White perceivers' (Pauker et al., 2009). That is, Black perceivers may categorize both prototypical and racially ambiguous individuals as Black (see also, Chen & Ratliff, 2015). Identity, however, may be a strong categorization cue. For White perceivers, Black/White biracial identity may be seen as claiming White identification (Young et al., 2013). Black perceivers may also view biracial identity as a claim to White status, resulting in less Black categorization. However, when making White categorizations Black perceivers may ignore biracial identity cues unless more than one biracial cue is present (e.g., biracial identity and racial ambiguity).

### Downstream Consequences of Complex Racial Categorization for White and Black Perceivers

Categorizing an individual as Black has different downstream consequences than categorizing a person as White (and vice versa), and these outcomes may be different for Black versus White perceivers. Indeed, recent research suggests that Black and White perceivers' categorization processes leads to different evaluations of biracial targets (Chen & Ratliff, 2015). In the present research, we explored how Black categorization and White categorization influence the race-related perceptions of interpersonal evaluations, diversity aid, and discrimination perceptions, for White and Black evaluators.

In general, research using White American perceivers has found that targets who are more consistent with Black prototypes (e.g., darker skin) experience more prejudice, stereotyping, and discrimination in a wide variety of settings from the courtroom to the workplace (Blair, Chapleau, & Judd, 2005; Blair, Judd, & Chapleau, 2004; Blair, Judd, Sadler, & Jenkins, 2002; Eberhardt, Goff, Purdie, & Davies, 2004; Kaiser & Pratt-Hyatt, 2009; Maddox, 2004; Maddox & Gray, 2002). Therefore, cues that lead to less Black, or more White, categorization of biracial individuals may result in less negative evaluations by White perceivers. The negative relationship between Black racial categorization and positive evaluations may be reversed for Black perceivers. According to social identity theory, people tend to favor members of their ingroup (Mullen, Brown, & Smith, 1992). Thus, Black perceivers should view targets they categorize as more Black, or less White, positively.

In addition to general interpersonal consequences, personal impressions can influence other interpersonal outcomes, such as hiring (Barrick, Swider, & Stewart, 2010; Remedios, Chasteen, & Oey, 2012). Though Black categorization may lead to negative evaluative consequences by White perceivers, affirmative action may be a potential benefit of Black categorization (Sanchez et al., 2011). Among White perceivers, greater minority categorization of a target corresponds with an impression that the target is disadvantaged (Good, Sanchez, & Chavez, 2013; Sanchez & Chavez, 2010) and engages in more prototypical cultural practices (Young et al., 2015). These impressions, in turn, suggest that a target is more deserving of diversity related financial aid (Good et al., 2013; Sanchez & Chavez, 2010; Young et al., 2015). Thus, for White perceivers we expect an indirect effect of both greater Black, and less White, categorization on diversity distribution through perceptions of discrimination, cultural practice, interpersonal impressions and merit evaluations.

The relationship between racial categorization and diversity support may be different for Black perceivers. Specifically, Black perceivers may not view discrimination as a condition of diversity-related financial aid. White perceivers tend to hold a *corrective* model of race-based affirmative action use for African Americans such that recognition of discrimination aimed at Black Americans predicts interest in distributing minority resources such as diversity-related financial aid (e.g., Swim & Miller, 1999; Tuch & Hughes, 1996). For example, the election of Barack Obama decreased support for policies like affirmative action because White perceivers no longer believed that discrimination was an issue in the United States (Gaither, Wilton, & Young, 2014; Kaiser, Drury, Spalding, Cheryan, & O'Brien, 2009). More pertinent to the current studies, when White perceivers assume that a specific Black target has experienced racial discrimination, they tend to distribute more minority resources to him (Good et al., 2013; Sanchez et al., 2011). Black Americans tend to have higher overall support of affirmative action type programs and diversity-related aid compared with White Americans (Jones, 2005; Parker, Baltes, & Christiansen, 1997); thus, it is unlikely that believing a target has experienced discrimination is a necessary step to recommend diversity-related aid for Black perceivers. We hypothesize that for White, but not Black, perceivers discrimination will relate to diversity aid decisions.

**Research Overview**

This study tests the impact of phenotype and identity on Black and White racial categorization for Black and White perceivers. Racial categories are often conceptualized as either a binary or a continuum; however, conceptualizing racial categories as separate axes (i.e., *complex racial categorization*) can provide deeper insight into how perceivers form the racial categorization of biracial individuals (Tskhay & Rule, 2015; Willadsen-Jensen & Ito, 2006). Consistent with previous work on White perceivers (Young et al., 2013), we hypothesized that biracial identification and racially ambiguous physical appearances will additively predict less Black categorization, and more White categorization for White perceivers. However, because complex categorization has not yet been examined, it is possible that differences will emerge for these two categorizations (Tskhay & Rule, 2015). As phenotype and identity cues have not yet been tested in concert for Black perceivers, we do not have a strong a priori prediction for Black perceivers. Evidence suggests that Black perceivers will weight identity cues more than phenotype cues, at least when making Black categorizations. When making White categorization, however, Black perceivers may require multiple biracial cues to impact categorization.

The current study further examines whether the downstream evaluative and behavioral consequences of Black and White categorization identified in the prototype model of affirmative action, such as cultural practice and merit (Good et al., 2013; Sanchez et al., 2011; Wilton et al., 2013; Young et al., 2015), are similar for White and Black perceivers (see Figure 1). Consistent with analyses for the original prototype model examining White perceivers, the questions in the current study are explored using multigroup path modeling (Sanchez et al., 2011). Multigroup path modeling allows us to test the same model for both White perceivers and Black perceivers, as well as explore whether the strength and direction of the paths are moderated by perceiver race.

It is critical to note that, in keeping with prior work on prototype cues (Sanchez et al., 2011; Young et al., 2015), we expected direct

effects of racial cues on racial categorization, and indirect effects of racial categorization on diversity-related aid, from Black and White perceivers. Specifically, we predicted that greater Black categorization and lower White categorization would be associated with less favorable interpersonal evaluations by White perceivers, whereas greater Black categorization and lower White categorization would be associated with more positive evaluations by Black perceivers (see Figure 1). We further hypothesized that, in keeping with research on ingroup favoritism, greater Black categorization and lower White categorization would be associated with less favorable interpersonal evaluations for White perceivers, and more favorable interpersonal evaluations among Black perceivers. In keeping with previous research on interpersonal evaluations and hiring (Barrick et al., 2010), these impressions will be related to financial aid decisions.

**Method**

**Participants**

The sample consisted of 145 White (46% women) and 152 Black (68% women) participants (total  $N = 128$  men, 169 women). The mean age of the sample was 24.40 ( $SD = 9.25$ ). One hundred and eighty-one participants were recruited from a subject pool at a large university in the northeast in exchange for research participation points. An additional 116 participants were recruited using Mechanical Turk (MTurk), a source of both inexpensive and quality human subjects data (Buhrmester, Kwang, & Gosling, 2011; Paolacci & Chandler, 2014), and paid \$0.50 for their participation. Sixty-six percent of the Black participants and 50% of the White participants were recruited from MTurk. In general, participants recruited from Mturk and the subject pool were largely similar on all study variables. However, significant differences did emerge on age,  $F(1, 246) = 209.62, p < .001$  and interpersonal evaluation,  $F(1, 246) = 4.54, p = .03$ , with Mturk workers being older and less

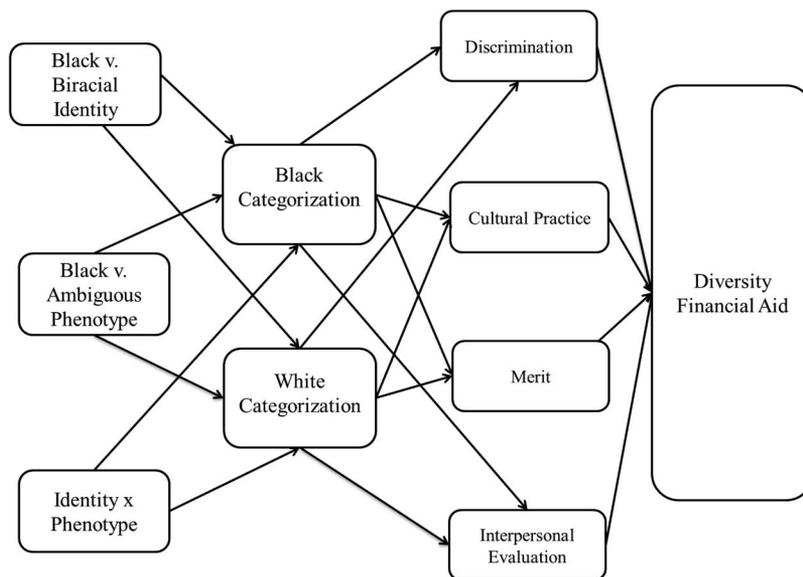


Figure 1. Hypothesized model pathways for Black and White perceivers.

interested in being friends with the target than the student population. Participants were only chosen to participate if they self-identified (racial categories were check-one only) as Black or White, and prescreen criteria were not revealed to participants.

## Materials and Procedure

In line with past research on perceptions of biracial and minority targets (Sanchez & Bonam, 2009; Sanchez & Chavez, 2010), the study was described as an examination of the criteria that people think are important in deciding exceptional job candidates for an undergraduate research internship at a state university. Participants' task was to evaluate a typed resume created by a potential applicant. The applicant was designed to be of average quality, with a grade point average (GPA) of 2.5 overall and 2.8 in psychology. The resume also included 2 years of experience working in psychological research laboratories and other filler information, and was accompanied by a photo of the applicant.

Most critically, the resume manipulated two key variables: the target's phenotype (photo: racially ambiguous or prototypically Black) and identity (as either Biracial or Black identified). In the biracial condition the candidate indicated their ethnicity as "Black/White Biracial." In the monoracial condition the candidate indicated their ethnicity as "Black." This format explicitly denotes self-identification, as opposed to racial labels used in previous research that could reflect societal designations (Pauker et al., 2009; Young et al., 2013). After an examination of the resume, all participants were asked to evaluate the targets and answer the questions described in the measures section. Participants were also asked to report their essentialist beliefs (Williams & Eberhardt, 2008) at the end of the survey as a potential predictor of racial categorization. However, it could not be used as a predictor as people's essentialist beliefs were found to vary by resume condition in ways consistent with published research (Sanchez, Young, & Pauker, 2015; Young et al., 2013). Participants were also asked filler questions about the candidate such as their neighborhood, background, hobbies, and traits.

**Photographic stimuli.** Biracial Black/White photos were taken from prior research using real (not morphed) monoracial Black and biracial Black/White faces (Minear & Park, 2004; Pauker et al., 2009). Though these photos were already selected from a pretested database of ambiguous and Black appearing candidates matched on attractiveness, we confirmed with independent raters ( $n = 21$ ) that target photos varied in appearance, but not attractiveness. These raters evaluated 12 photos by responding to two statements on a scale from 1 (*not at all*) to 7 (*extremely*): "How typical does this candidate appear compared to other Black/African Americans?" and "How attractive is this candidate?" The three selected Black/African American photos were rated significantly higher on Black perceived prototypicality of appearance than the three selected racially ambiguous photos ( $M_{Black} = 5.47, SD_{Black} = 1.03$  vs.  $M_{Ambiguous} = 3.22, SD_{Ambiguous} = 0.90, t(23) = 7.52, p < .001$ ), but similarly on level of attractiveness ( $M_{Black} = 2.93, SD_{Black} = 1.73$  vs.  $M_{Ambiguous} = 3.09, SD_{Ambiguous} = 1.30, t(23) = 0.90, p = .38, ns$ ).

## Evaluative Outcomes

**Complex racial categorization.** Racial categorization was measured using four items (Sanchez et al., 2011); two items

measured White categorization ("To what extent do you view this applicant as," "To what extent do you think of this applicant as";  $r = .90, p < .001$ ), and two identical items measured categorization as Black,  $r = .83, p < .001$ . Each item was rated on a scale from 1 (*not at all*) to 5 (*very much*) with no other anchor points. Higher scores for White racial categorization indicate higher White categorization, and higher scores for Black racial categorization indicate higher Black categorization. White categorization and Black categorization were negatively correlated ( $r = -.30, p < .001$ ).

**Perceived discrimination.** Perceived racial discrimination ( $\alpha = .91$ ) was measured using three items from Sanchez et al. (Sanchez et al., 2011). On a scale from 1 (*strongly disagree*) to 7 (*strongly agree*), participants responded to items such as, "This student has likely experienced a lot of racial discrimination."

**Cultural practices.** Using four items, participants reported on the perceived cultural practices and commitments of the candidate on a scale from 1 (*not likely*) to 7 (*highly likely*). Three items measuring cultural practices were, "This applicant likely prefers to listen to radio programs that have mostly Black/African American hosts," "In general, this applicant likely celebrates Black History month," and "This applicant likely watches TV shows that have mostly Black/African American characters." In the fourth item, participants estimated the percentage of the applicants' friends who were Black/African American on a scale from 1 (0%) to 6 (100%). These items were standardized and then averaged to create the *cultural practices* index ( $\alpha = .75$ ).

**Merit.** Participants were asked to evaluate the merit of the candidate for the job with five items such as, "I think this applicant is very strong," "I think this applicant is likely one of the best students applying for the internship," ( $\alpha = .95$ ) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Notably, diversity was not mentioned as a criterion of evaluation for the University internship.

**Interpersonal evaluation.** Based on items from Williams and Eberhardt (Williams & Eberhardt, 2008), participants were asked five questions to assess interpersonal liking ( $\alpha = .95$ ). For example, on a scale from 1 (*not at all motivated*) to 7 (*extremely motivated*), they were asked, "if you met the applicant in real life, how motivated would you be to become good friends" and "how motivated would you be to become close friends."

**Diversity-related financial assistance.** After previous research on the prototype model (Sanchez et al., 2011), participants were told that the University has merit scholarships to assist in the tuition and expenses at the University for women and racial minority students who demonstrate merit. Participants were then asked to evaluate the candidate for one of the diversity awards at the University. Thus along with merit, diversity was described as a plus factor to consider for this evaluation. On a scale from 1 (*strongly disagree*) to 7 (*strongly agree*), participants were asked about the scholarship two questions, "I think this student should receive a Diversity Scholarship" and "This student should be considered for a Diversity Scholarship" These two items held together reliably to create an index,  $r = .77, p < .001$ .

## Results

### Data Analysis Strategy

To test how the race of perceiver impacted both phenotype and identity use in racial categorization and the downstream conse-

quences of racial categorization, we conducted group model comparisons to Test Figure 1 for both Black and White participants (see Table 1 for correlations; see supplemental Table 1 for results of preliminary analysis of variances [ANOVAs]). This allows us to (a) test the relative importance of identity and phenotype for both Black and White categorization, (b) test the relationship between Black and White categorization and the downstream consequences of this process, and (c) test whether the models are moderated by participant race (group comparison model).

Testing a group comparison model involves three model tests (Kline, 2011). One, testing the common model, in which all paths are allowed to vary between groups to examine model fit. Two, testing a path-invariant model in which all paths are constrained to be equal across groups. Then, if model fit suffers inspect modification indices. Paths that are significantly different between groups and are theoretically sound are then released, allowing them to vary between groups. This final model allows differences between groups to be investigated, and should have a similar fit to the common model. For this analysis, we planned to focus on the differences in cue use between participant race; thus, the pathways between cue use and categorization were specifically considered as potential pathways to be released (i.e., observe moderation). All endogenous variables were standardized before running path analysis.

### Path Analysis

**Group comparison model.** We first tested the fit of the covariance matrices for both Black and White participants in a common model, with no paths constrained to be equal (Bentler, 2006; Byrne, 1994). In accordance with past research on model fit, good fitting models have a nonsignificant chi square, a root mean square error of approximation (RMSEA) < 0.08, an upper confidence interval of the RMSEA < 0.10, comparative fit index (CFI) at or above 0.95, and a nonnormed fit index (NNFI) values at or above 0.95 (Hu & Bentler, 1998; Kline, 2011). As expected, this common model met all fit criteria,  $\chi^2 = 21.95$ ,  $df = 34$ ,  $p = .95$ ,  $ns$ , CFI = 1.0, NNFI = 1.11, RMSEA < .001 (90% confidence interval [CI] [.000, .010]). Constraining the model so that paths were not allowed to vary between groups caused the model fit to suffer,  $\chi^2_{diff} (18) = 49.15$ ,  $p < .01$ , suggesting that, as hypothe-

sized, participant race moderated the model (i.e., there were differences in model fit between White and Black perceivers).

Next, modification analyses were inspected with special attention paid to the priori hypotheses. Based on the modification analyses and a priori hypotheses, seven paths were released. Specifically, the relationship between (a) phenotype, identity\*phenotype, and White and Black categorization, (b) White categorization and liking, (c) Black categorization and discrimination, (d) discrimination and diversity scholarship, and (e) Black categorization and merit, were allowed to vary between Black and White participants. The resulting model was a good fit to the data,  $\chi^2 = 35.08$ ,  $df = 44$ ,  $p = .95$ ,  $ns$ , CFI = 1.0, NNFI = 1.03, RMSEA < .001 (90% CI [.000, .037]; see Figure 2), and was not significantly different from the common model,  $\chi^2_{diff} (10) = 13.133$ ,  $p > .05$ . The following section details the theoretically interesting findings from the final model.

In addition to fitting the model to both the whole sample, as well as the White and Black participant groups (only path coefficients, not the existence of the paths themselves, are modified), we further validated our findings by running a series of N-1 simulations (Leave One Out Cross-Validation) on the two group model to ensure that no outliers were unduly affecting our model fit (Bentler, 2006). All simulated models ( $N = 119$ ) indicated good model fit.

**Categorization.** The model was moderated by participant race such that Black and White perceivers used cues differently for both White and Black categorization. For White perceivers, identity and phenotype additively influenced Black categorization. That is, Whites categorized the target as less Black when he presented biracial cues either in terms of phenotype or identification, and these results mirror previous research. Black perceivers, on the other hand, relied on identity, but not phenotype in making Black categorizations. That is, the target was categorized as less Black when identifying as biracial, but not when presenting as racially ambiguous. In other words, White perceivers used both identity and phenotype in Black categorization, whereas Black perceivers only used identity cues.

For White categorization, however, phenotype did not influence White perceivers ratings. In other words, racially ambiguous and prototypical phenotype targets were seen as equally White, though

Table 1  
Correlations Among All Study Variables for Black and White Perceivers

Variables	1	2	3	4	5	6	7	8	9
1. Black vs. biracial self-identity	—	-.141	-.032	.323**	.038	-.092	.005	-.002	.05
2. Black vs. ambiguous phenotype	-.129	—	-.413**	.341**	-.293**	-.265**	.011	-.098	-.028
3. Black categorization	-.252**	-.359**	—	-.246**	.391**	.300**	.008	.107	.095
4. White categorization	.508**	.152	-.361**	—	-.136	-.260**	-.015	-.172	-.015
5. Discrimination	0	-.131	.134	-.211*	—	.306**	-.121	.148	.084
6. Cultural practices	-.11	-.223*	.375**	-.214*	.270**	—	.133	.269**	.141
7. Merit	-.123	-.023	.179*	-.119	.108	-.026	—	.328**	.384**
8. Interpersonal evaluation	.106	.041	-.154	.15	.04	-.045	.314**	—	.273**
9. Diversity-related financial aid	.041	-.086	.06	-.013	.404**	.102	.310**	.352**	—

Note. Listwise case deletion was used to mimic path modeling approach that requires listwise case deletion. White/Europeans shown below the diagonal, Black/African Americans shown above the diagonal. Black vs. biracial self-identity and minority vs. ambiguous appearance are coded as 0 for Black, 1 for Biracial.

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

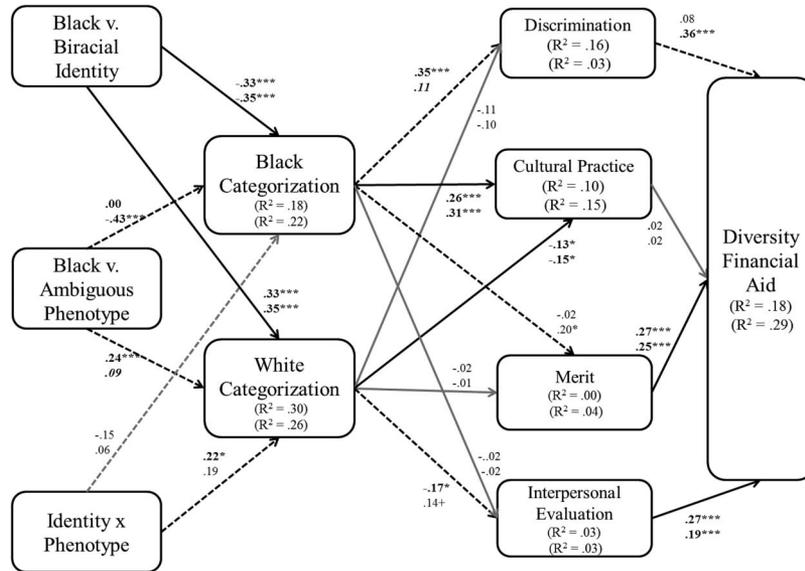


Figure 2. Results of multigroup path identity and phenotype cues model for Black and White perceivers. Standardized βs for Blacks shown on top and White standardized βs shown below. Solid lines were constrained between racial groups; dashed lines were free to vary. We correlated the error terms between Black and White categorization. Error terms for cultural practices, discrimination, merit, and evaluation were also correlated. In addition, identity, phenotype, and the interaction term were correlated. +  $p < .10$ . \*  $p < .05$ . \*\*\*  $p < .001$ .

biracial identified targets were seen as more White than Black identified targets. For Black perceivers, however, the interaction between phenotype and identity was significant such that biracial self-identification emerged as a stronger predictor of White categorization when the target was racially ambiguous ( $b = 1.18, p < .001$ ; see Figure 3) compared with when the target was nonambiguous in appearance ( $b = .33, p = .15$ ). In other words, White perceivers used identity cues regardless of phenotype in White categorization, whereas Black perceivers only used identity cues when a target was racially ambiguous.

**Downstream consequences.** As hypothesized, greater White categorization was associated with lower interpersonal liking for

Black perceivers, but greater interpersonal liking for White perceivers, though the latter relationship for White participants was only marginally significant. White categorization also negatively predicted cultural practice perceptions. White categorization did not significantly predict either merit or perceived discrimination. There were, however, several downstream consequences of Black categorization, and many of these were also moderated by participant race. Unexpectedly, there was no relationship between Black categorization and interpersonal evaluation for either Black or White participants. For White (but not Black) perceivers, Black categorization was positively associated with merit perceptions. For Black (but not White) perceivers, Black categorization was

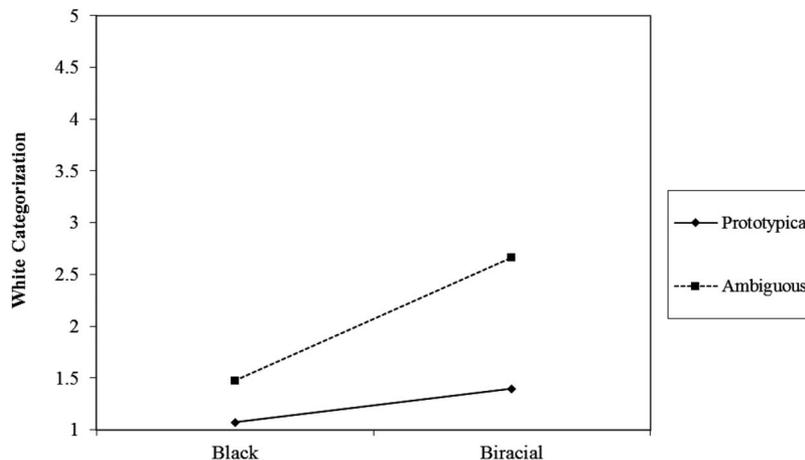


Figure 3. Simple slopes White categorization results for Black perceivers. White categorization was rated on a scale from 1 to 5.

associated with greater perceived discrimination, but only White perceivers used perceived disadvantage to determine the distribution of diversity-based financial aid (see Figure 2).

**Summary.** Results from the path analysis model suggested the following key findings: (a) for Black perceivers, biracial identity predicted White (but not Black) categorization when the target had a racially ambiguous (not prototypical) appearance, (b) White perceivers use phenotype and identity additively for Black categorization, however only identity influenced White categorization, (c) White (but not Black) categorization was associated with less interpersonal liking from Black (but not White) perceivers, and (d) the distribution of diversity aid was in part determined by the perceived discrimination of the target for White perceivers, though only Black perceivers viewed Black categorization as related to discrimination.

### Ancillary Analyses

Though path analysis tests our hypothesized model, it does not allow us to test if the effect of identity and phenotype is larger for White or Black categorization. To supplement and mirror the path analysis, exploratory models were created for Black and White perceivers. Thus, Black and White categorization was submitted to two, 2 (Phenotype)  $\times$  2 (Identity)  $\times$  2 (within; Categorization Race) mixed-model ANOVAs, one for White and one for Black participants. These ANOVAs identified several interactions of interest (see Table 2 for complete results). For White perceivers, identity had a stronger impact on White ( $M_{\text{biracial}} = 2.33$ ,  $M_{\text{Black}} = 1.27$ ) than Black ( $M_{\text{biracial}} = 3.80$ ,  $M_{\text{Black}} = 4.46$ ) categorizations,  $F(1, 121) = 44.73$ ,  $p < .001$ ,  $\eta_p^2 = .27$  and phenotype had a stronger impact on Black ( $M_{\text{ambiguous}} = 3.70$ ,  $M_{\text{prototypical}} = 4.67$ ) than White ( $M_{\text{ambiguous}} = 2.02$ ,  $M_{\text{prototypical}} = 1.58$ ) categorizations,  $F(1, 121) = 25.98$ ,  $p < .001$ ,  $\eta_p^2 = .18$ . For Black perceivers, identity and phenotype interacted to influence Black and White categorization differently,  $F(1, 120) = 5.49$ ,  $p = .02$ ,  $\eta_p^2 = .04$ . For prototypical targets, Black perceivers did not

shift their Black ( $M_{\text{biracial}} = 4.52$ ,  $M_{\text{Black}} = 4.55$ ) or White ( $M_{\text{biracial}} = 1.44$ ,  $M_{\text{Black}} = 1.11$ ) categorization in response to identity. However, for ambiguous targets, White categorization ( $M_{\text{biracial}} = 2.70$ ,  $M_{\text{Black}} = 1.51$ ) shifted in response to identity, while Black categorization did not ( $M_{\text{biracial}} = 3.34$ ,  $M_{\text{Black}} = 3.73$ ), see Figure 4. Overall, these exploratory results suggest that (a) phenotype and identity have different impacts on complex racial categorization for White perceivers and (b) for Black perceivers, identity has a stronger impact on White than Black categorization, but only when the target has a racially ambiguous phenotype.

### Discussion

This study provides preliminary evidence that Black and White perceivers use biracial cues differently in the process of complex racial categorization. Furthermore, phenotype and identity differently impact Black and White racial categorization. In addition, though the downstream effects of racial categorization appear to be largely similar for Black perceivers and White perceivers, there are important exceptions such as interpersonal liking and the role of discrimination in diversity aid allocation.

### Complex Racial Categorization

This study operationalized White and Black categorization as nonbinary, nonexclusive outcomes making it possible to untangle if, for White and Black perceivers, biracial phenotype and identity cues decreased Black categorization, increased White categorization, or both. For White perceivers, phenotype and self-identification operated as independent predictors of Black categorization. These findings replicate the prototype model showing that each biracial cue decreases the likelihood of categorization as Black (Sanchez et al., 2011; Young et al., 2013). For White categorization, only identity, not phenotype, predicted categorization for White perceivers. For Black perceivers, identity, but not

Table 2  
Mixed ANOVA (Identity  $\times$  Appearance  $\times$  Racial Category) Results for Black and White Perceivers

Participant race	Effect	<i>F</i>	<i>p</i>	$\eta_p^2$
Black participants	Between subjects			
	Identity	5.20	.02	.04
	Phenotype	.49	.49	.00
	Identity * Phenotype	1.14	.29	.01
	Within subjects			
	Race category	331.61	.00	.73
	Identity * Race Category	14.16	.00	.11
	Phenotype * Race Category	50.89	.00	.30
	Identity * Phenotype * Race Category	5.49	.02	.04
	White participants	Between subjects		
Identity		3.60	.06	.03
Phenotype		4.15	.04	.03
Identity * Phenotype		.27	.60	.00
Within subjects				
Race category		329.70	.00	.73
Identity * Race Category		44.73	.00	.27
Phenotype * Race Category		25.98	.00	.18
Identity * Phenotype * Race Category		.00	.98	.00

Note. Listwise case deletion was used to mimic path modeling approach that requires listwise case deletion.

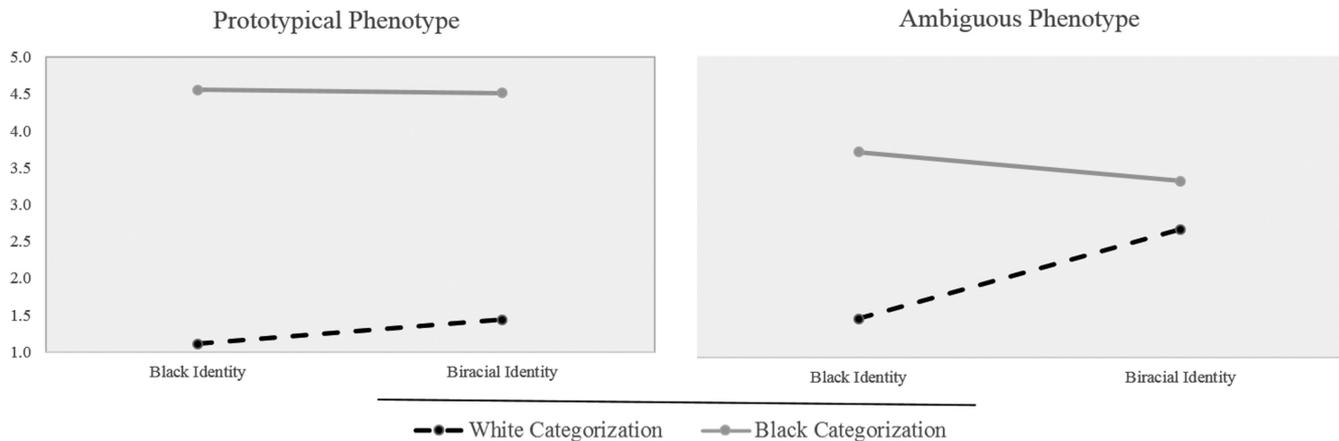


Figure 4. The differential impact of phenotype and identity on Black and White Categorization for Black perceivers. White and Black categorization were rated on a scale from 1 to 5.

phenotype, influenced Black categorization. Phenotype and identity interacted such that identity influenced White categorization, but only when the target was racially ambiguous. These results support conceptualizing racial categorization as nonbinary, though understanding the implications of these results is complex.

Considering the role of ingroup and outgroup categorization may shed light on the different cue use and categorization outcomes between White and Black perceivers. When making ingroup racial categorizations, both Black and White perceivers use identity, not phenotype. This suggests that claims of identity impact categorization when determining ingroup members. For outgroup categorizations, Black and White perceivers use different cue-use strategies that reflect their minority and minority group status. As majority group members, White perceivers use all available cues to make outgroup categorizations by incorporating both phenotype and identity in outgroup racial categorization. However, in line with research suggesting minority perceivers are not motivated to increase outgroup categorization (Gaitner et al., 2016), Black perceivers only shift outgroup White categorization when two biracial cues are present suggesting they have a higher threshold for outgroup categorization.

### Downstream Consequences of Racial Categorization

Many of the downstream consequences of racial categorization were different for Black perceivers and White perceivers. Consistent with predictions, Black perceivers who categorized targets as White were less favorable toward those targets. However, Black categorization was not related to liking for either Black or White participants. There was also a marginal trend such that greater White categorization was associated with greater favorability for White perceivers. These findings are consistent with work on potential costs of outgroup categorization and benefits of ingroup categorization (Castelli, De Amicis, & Sherman, 2007; Mullen et al., 1992). However, it is important to note that we cannot compare these ingroup/outgroup processes equivalently for White perceivers because we did not include comparable experimental conditions for White perceivers with biracial targets who identified as White or whom had White phenotypes. Thus, future research

should examine whether these results for Biracial/Black cues and appearances would hold when White cues and appearances were included.

Hypothesized differences in the perceptions of discrimination, and their relationship to distribution of minority resources also emerged. Black, but not White, perceivers expected that Black categorization would be related to discrimination experiences. However, only White perceivers' perception of target disadvantage predicted their distribution of diversity-related financial aid. In contrast, Black perceivers' perception of target disadvantage was unrelated to the distribution of financial aid. These findings suggest that White perceivers need to see evidence of disadvantage to justify diversity-based financial aid while Black perceivers solely rely on liking and merit. This is consistent with work that suggests that White perceivers must first recognize the discrimination aimed at Black Americans (as a group) and White privileges before they support distributing minority resources such as diversity policies and affirmative action (Kaiser et al., 2009; Swim & Miller, 1999; Tuch & Hughes, 1996), evidenced here by the relationship between discrimination perceptions and diversity-aid favorability. Black Americans typically have greater awareness of White privilege and racial discrimination and may not require the recognition of racial discrimination to support diversity-related financial aid for targets. Thus, for Black perceivers, diminished access may largely function through lower interpersonal liking but for White perceivers, diminished access may largely occur through lower discrimination perceptions. These findings should be explored in future research to determine why and when discrimination perceptions influence affirmative action support for Black perceivers and White perceivers.

Despite these differences, several similarities between White and Black perceivers emerged. For example, greater Black categorization was associated with greater perceptions of minority cultural practices for both groups. Similarly, White categorization was associated with less perceived engagement in cultural practices. These findings are consistent with previous research suggesting that identity cues and incumbent categorization predict

perceptions of target's behaviors and commitment to relevant racial groups (Wilton et al., 2013; Young et al., 2015). However, unlike previous research, these cultural cues did not predict distribution of financial aid. The previous research focused on Latino targets, suggesting differences in impression formation between minority groups. That is, cultural practices (i.e., speaking Spanish) may be an important indicator of discrimination (and thus, diversity aid) for Latinos, but not for Black Americans. Finally, merit and liking were additional significant predictors of the distribution of diversity-related financial aid by both Black and White perceivers.

### Limitations and Future Directions

By including Black perceivers and conceptualizing racial categorization as a complex process this study provides important expansions to previous work on person perception. Despite these contributions to extant literature, it is not without limitations. This study did not examine the effects of identity and phenotype in conjunction with biracial Black/White perceivers, White phenotypes, or White self-identification, or, limiting the ability to interpret results from an ingroup/outgroup lens. In previous research, biracial perceivers typically fail to incorporate self-identification in categorization research using memory paradigms (Pauker & Ambady, 2009). This has been connected to the tendency for Black/White biracial individuals to hold less essentialist beliefs and more growth mindsets that in turn produce less predictable and more inclusive incorporation of others into the ingroup (Bonam & Shih, 2009; Shih, Bonam, Sanchez, & Peck, 2007). This research suggests that Black/White biracial perceivers may not use biracial cues in the same ways as monoracial perceivers. However, a full exploration of these is particularly important in light of the findings suggesting different cue use for ingroup versus outgroup categorizations. Why might identity claims speak to ingroup status more so than phenotype? It may be that identity implies autonomous loyalty (or distancing from) the ingroup, opening up new avenues for considering group identity in categorization research.

The study also focuses on deliberate racial categorization that may be more likely to encourage categorization of biracial individuals as members of two groups. For example, research has shown that lessening time constraints can increase the categorization of biracial targets as multiracial (Chen & Hamilton, 2012). Thus, using deliberate categorization may limit our ability to account for implicit biases that operate in evaluations. However, measuring racial categorization in a deliberate way exposed different cue use for Black and White categorization, reiterating the importance of understanding deliberate racial categorization processes.

In addition, the present study utilizes a resume paradigm which address whether perceivers attend to information provided rather than examining whether perceivers seek out such information. Resumes proved an appropriate manipulation of identity and phenotype because this study focused on evaluation contexts where resume information would be standard; however, the findings may be limited to these similar contexts.

Lastly, while the present study utilized an experimental design, many of the paths were not examined causally. For example, we did not manipulate discrimination, so it is not possible to determine

the causal relationship between discrimination and diversity related aid. However, alternative causal models were tested, included one in which discrimination, liking, merit, and cultural practices predicted categorization, with categorization as the sole predictor of diversity awards. This and other alternative models were found to be a poor fit to the data.

### Conclusion

This study adds to emerging, yet limited, literature on the perception of biracial individuals (Shih & Sanchez, 2005, 2009). Black and White perceivers use phenotype and identity cues differently in complex racial categorization, highlighting the importance of considering group status, including majority/minority and ingroup/outgroup, in person perception research. Furthermore, cues have different impacts on Black and White categorization, suggesting that important information can be revealed by considering racial categorization beyond a binary designation. Finally, the downstream consequences of complex racial categorization differ between White and Black perceivers. To build a strong scientific basis for person perception in changing population, the complexities of perceivers, individuals, and racial categorization must be considered.

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