

# The Effects of Stereotypical Cues on the Social Categorization and Judgment of Ambiguous-Race Targets

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The current study was conducted to test the hypotheses that categorization and subsequent judgments of ambiguous-race targets would be affected by contextual stereotypical cues, and moderated by personality traits of the perceiver. Participants viewed a social networking profile of an ambiguous-race individual with Black, White, or neutral stereotypical information presented in a between-subjects design. In accordance with hypotheses, results indicated that the ambiguous-race targets were categorized congruently with the stereotypical information. Additionally, several of the subsequent judgments about the target's traits differed as a function of this stereotypic information as well as personality traits of the perceiver, such as prejudice level and authoritarianism. Furthermore, ambiguous-race targets were judged less positively overall and more negatively on work-related traits by individuals high in social dominance and authoritarianism. Implications regarding the social categorization literature along with ramifications for multiracial individuals in the real world are discussed.

*Keywords:* stereotyping, social categorization, person perception, ambiguous targets, prejudice

La présente étude a été menée dans le but de tester les hypothèses suggérant que la catégorisation et les jugements subséquents de cibles raciales ambiguës seraient affectés par des repères contextuels stéréotypés et modérés par les traits de personnalité de l'observateur. Les participants consultaient un profil de réseau social d'un individu de race ambiguë avec de l'information stéréotypée ou neutre présentée dans un design entre-sujets. En accord avec les hypothèses, les résultats indiquent que les cibles raciales ambiguës étaient catégorisées de façon congruente avec l'information stéréotypée. De plus, plusieurs des jugements subséquents à propos des traits de la cible différaient en fonction de l'information stéréotypée et des traits de personnalité de l'observateur, tels que le niveau de préjugés et l'autoritarisme. De plus, les cibles raciales ambiguës étaient jugées moins positivement en général et plus négativement pour les traits reliés au travail chez les individus avec de hauts niveaux de dominance sociale et d'autoritarisme. Les implications concernant la littérature au sujet de la catégorisation sociale et les applications dans le monde réel pour les individus multiraciaux sont discutées.

*Mots-clés :* stéréotypes, catégorisation sociale, perception de la personne, cibles ambiguës, préjugés

Social psychological research on person perception has shown that individuals make rapid judgments about the people they encounter. These judgments are based on the target individual's attributes, typically from readily available physical features (Stangor, Lynch,

Duan, & Glass, 1992). Specifically, upon seeing a novel face, perceivers quickly (Zarate & Smith, 1990) and automatically (Fiske & Neuberg, 1990) categorize the face, often based on visibly salient physical characteristics such as skin color (Brewer & Feinstein, 1999). In fact, studies have indicated that perceivers categorize targets based on race within 200 ms of first perceiving them (Dickter & Bartholow, 2007; Ito & Urland, 2005).

Social categorization can be beneficial because it preserves cognitive resources and simplifies the enormous amount of information in the social world (Bernstein, Young, & Hugenberg, 2007), but it can be detrimental because it also leads to the automatic

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## PERCEPTIONS OF AMBIGUOUS-RACE TARGETS

activation of learned negative social stereotypes (Devine, 1989; Dovidio, Evans, & Tyler, 1986). Thus, activating a social category may lead the perceiver to ascribe certain negative traits commonly associated with the category to the individual being perceived (Darley & Gross, 1983; Fiske & Neuberg, 1990). Consequently, stereotype activation may cause perceivers to form ungrounded or unfair judgments about individuals based solely on group membership; this can affect judgments about, and behavior towards, individual members of that group (e.g., Bargh, Chen, & Burrows, 1996; Correll, Park, Judd, & Wittenbrink, 2002; Jussim, Palumbo, Chatman, Madon, & Smith, 2000; Payne, 2001).

Much research on stereotype activation has focused on individuals who can be visually be placed into unambiguous categories such as “White” or “Black”. Less research, however, has focused on individuals who can be categorized into multiple racial groups or who have racially ambiguous physical features. Although the U.S. has experienced a “biracial baby boom” due in part to the Supreme Court case overturning a ban on biracial marriages in 1967 (Colker, 1996; King & DaCosta, 1996; Root, 1992, 1996), few studies have examined how multiracial individuals are categorized and judged. As the already large number of multiracial individuals in the United States continues to increase (e.g., there were 6.8 million multiracial people living in the United States in 2000; U.S. Census Bureau, 2000), this is becoming a more pertinent issue to study. Historical reports from the period of slavery suggest that a Black-White biracial individual who was born out of a union between a White slave owner and his Black female slave was categorized as Black due to laws, both written and understood, that classified any person with “one drop” of Black blood (i.e., had at least one Black family member in their lineage) as Black; this was known as the “one-drop rule” or “hypodescent” (Banks & Eberhardt, 1998; Leyens & Yzerbyt, 1992; Peery & Bodenhausen, 2008).

An early psychological study investigating the categorization of multiracial individuals showed support for hypodescent principles by demonstrating that Whites categorized racially ambiguous faces as African more so than European (Pettigrew, Allport, & Barnett, 1958). More recent studies have suggested that hypodescent principles may be due to a reluctance to categorize ambiguous-race targets as ingroup members

by the racial majority. That is, there is evidence that social perceivers categorize ambiguous targets as outgroup members more often than ingroup members (Castano, Yzerbyt, Bourguignon, & Seron, 2002; Leyens & Yzerbyt, 1992).

Other research examining the categorization of ambiguous-race individuals has focused on contextual factors that may affect the social categorization process. Contextual factors represent information that is present at the time of categorization and is relevant to the social category. Past research has demonstrated that contextual factors in the form of stereotypical word primes (e.g., “violent”, “intelligent”) affect the categorization of targets who can be categorized in several domains (e.g., Smith & Zarate, 1992). A study by Macrae, Bodenhausen, and Milne (1995), for example, revealed that a Chinese woman was either categorized according to her race (i.e., Asian) or her gender (i.e., female) based on whether participants were primed with words consistent with race or gender. Contextual information, such as stereotypic words, can activate given social categories, and can consequently lead targets to be more easily categorized in stereotype-congruent ways (e.g., Bartholow & Dickter, 2008). In the case of a target who can be categorized into multiple groups, ambiguity may cause discomfort in perceivers who are concerned with accurately placing the individual into an ingroup or outgroup (Blascovich, Wyer, Swart, & Kibler, 1997). Perceivers may use available contextual information to help reduce ambiguity and categorize the target as a member of a particular racial group (Bodenhausen & Peery, 2009). Although research examining this issue is relatively sparse, several researchers have begun to examine how different types of contextual information can affect the social categorization of ambiguous-race individuals. Specifically, studies have examined how biological cues or physical cues affect categorization (MacLin & Malpass, 2001; Shutts & Kinzler, 2007; Peery & Bodenhausen, 2008; Willadsen-Jensen & Ito, 2006, 2008).

Several of these recent studies have suggested that contextual information in the form of biological cues (i.e., information about racial heredity) can affect the categorization of ambiguous-race individuals. Peery and Bodenhausen (2008), for example, found that Black-White biracial targets were more likely to be categorized as Black by non-Black participants when available information suggested that the target was

biracial, compared to when this information was not provided. In another study, Shutts and Kinzler (2007) varied information about the purported biological parents and siblings of a biracial target and found that child participants had better memory for the faces that had siblings of their own race. In addition to biological cues affecting the categorization of ambiguous-race individuals, research has also shown that physical cues (i.e., physical properties of a target) can influence categorization. For example, MacLin and Malpass (2001) manipulated the stereotypicality of an ambiguous-race target's hairstyle by presenting a Black-Hispanic biracial face with either a stereotypical Hispanic hairstyle or a stereotypical Black hairstyle. Results indicated that although the faces were identical, the target was perceived to be a member of the race to which the hair marker was consistent. Interestingly, perceptions of the target were consistent with the group's traits, suggesting that physical racial markers can impact the categorization and subsequent judgment of ambiguous-race targets (MacLin & Malpass, 2001).

### **Current Investigation**

Taken together, the research reviewed above has shown that contextual information, in the form of biological and physical cues, can cause racially ambiguous faces to be categorized in a manner consistent with such cues (MacLin & Malpass, 2001; Shutts & Kinzler, 2007; Peery & Bodenhausen, 2008; Willadsen-Jensen & Ito, 2006, 2008). There is also preliminary evidence to suggest that these cues can, in turn, affect judgments of targets (MacLin & Malpass, 2001). In addition to biological and physical cues, it is possible that there are other contextual cues in the environment that may also affect the categorization of racially ambiguous targets. Research on the social categorization of monoracial White and Black targets, has shown that stereotypical cues such as stereotypical primes can affect how targets are categorized (e.g., Macrae et al., 1995; Smith & Zarate, 1992). To our knowledge, however, no research has examined how stereotypical cues affect the categorization of biracial targets. Given the effects that biological and physical racial cues have on categorization, it was hypothesized that stereotypical cues would also influence categorization in a similar way. In the present research, stereotypical cues are operationally defined as cues that provide information that is consistent with common, learned stereotypes in a given culture. A stereotypical

cue of a Black male target, for example, may suggest that he is athletic while a stereotypical cue of a White male target may suggest that he is intelligent (Macrae et al., 1995). Thus, the current study was designed to explore how the presence of stereotypical cues may lead to stereotype-consistent social categorization in ambiguous-race targets. Additionally, following from MacLin and Malpass's (2001) finding that contextual information caused judgments to be formed in stereotype-consistent ways, it was also hypothesized that categorization would affect stereotype activation and subsequent target judgments.

An additional goal of the present study was to examine the role that personality type plays in the judgments of ambiguous-race individuals. Past research has demonstrated that social dominance orientation (SDO) and right-wing authoritarianism (RWA) both predict prejudice and stereotype activation, but for different reasons (Kreindler, 2005). Social dominant types view the world as a competitive jungle where minorities are seen as opponents trying to gain competitive advantage (Sidanius & Pratto, 1999). Given previous research establishing that ambiguous-race individuals are often judged as outgroup members (e.g., Leyens & Yzerbyt, 1992), it was hypothesized that individuals high in social dominance would view ambiguous-race targets as potentially threatening and thus rate them, as well as the targets categorized as Black, less positively. Authoritarianism, on the other hand, denotes one's willingness to closely follow societal norms and rules coming from an established authority, and to direct negative affect towards minority groups (Altemeyer, 1981). Those who are likely to break or violate rules or norms (e.g., social minority groups) are likely to be perceived as dangerous, as threatening the established social organization, and as less competent. Given their proclivity to direct anger and aggressiveness towards racial outgroups (Altemeyer, 1996), individuals high in authoritarianism were also hypothesized to rate ambiguous-race targets, and especially targets categorized as Black, more negatively than those lower in authoritarianism. Finally, it is also possible that individuals high in self-reported racial prejudice would make more negative judgments about ambiguous-race targets than those low in self-reported prejudice. Because high-prejudice individuals have a higher degree of stereotype activation than low-prejudice individuals (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002), it was expected that high-prejudice

## PERCEPTIONS OF AMBIGUOUS-RACE TARGETS

individuals, like those high in social dominance and authoritarianism, would react more negatively towards the ambiguous-race targets and those categorized as Black. In the current study, self-reported prejudice was measured with the Attitudes Towards Blacks Scale (Brigham, 1993), which was developed as an assessment of racial prejudice against Blacks.

To address the above-mentioned research questions, the present study was designed to manipulate available stereotypical cues during the judgment of an ambiguous-race target. Participants viewed one of three mock online profiles in which a digitally-created, morphed Black-White face was displayed amongst stereotypic information consistent with the racial category of Blacks, the category of Whites, or neither. The following results were expected:

**Hypothesis I.** The categorization of the ambiguous-race targets will vary as a function of the stereotypic information presented such that the target in the stereotypically Black profile would be more often categorized as Black and the same target in the stereotypically White profile would be more often categorized as White. Predictions for the neutral stereotypic profile were less clear, although a hypodescent model would predict that the ambiguous targets would be categorized more often as Black (Banks & Eberhardt, 1998).

**Hypothesis II.** The targets will be judged in a stereotypic way, consistent with the stereotypical cues provided. For example, targets categorized as Black were expected to be judged as having personality traits consistent with Black stereotypes, targets categorized as White were hypothesized to have White stereotypic personality traits.

**Hypothesis III.** High-prejudice, high-social dominance, and high-authoritarian participants will evaluate the ambiguous-race targets more negatively than participants lower in these traits, especially when Black stereotypical cues are present, due to heightened negativity towards a perceived racial outgroup member and general discomfort with ambiguity.

A social networking-type profile was chosen as the paradigm to test these hypotheses because of its important real-world applications. In particular, online profiles such as these are becoming increasingly important in making judgments about others in many

different situations, such as evaluating possible romantic partners or friends on dating websites and reviewing potential employees on employment websites. Thus, understanding how the online perceptions of ambiguous-race individuals can be influenced by stereotypical information as well as characteristics of the perceiver is important.

### Method

#### Participants

Participants included 54 undergraduate students (23 males) at a liberal arts college who completed this study for credit in their Introduction to Psychology course. Participants were between the ages of 18 and 22; the mean age was 19.34 ( $SD = 2.16$ ). There were 35 White/Caucasian participants, 14 Asian/Pacific Islander participants, three Hispanic participants, and one Black/African American participant.

#### Design and Materials

This study utilized a between-subjects design in which features of a mock online profile were manipulated. The document was presented in a format similar to the individual web pages of popular social networking sites such as MySpace ([www.myspace.com](http://www.myspace.com)) and Facebook ([www.facebook.com](http://www.facebook.com)). This format was chosen because the college student participants would be familiar with social networking profiles, and because using a social networking format would make the procedure of the study more consistent with “real-world” judgments that social perceivers often make, based on the availability of limited information.

Three profiles were created; each profile contained the same target face which was displayed in the upper right-hand corner of the document. The picture was a digitally-created 50/50 morph of a Black male and a White male face that was created using Morpheus Software ([www.morpheussoftware.net](http://www.morpheussoftware.net)) and was pilot-tested to be neutral in attractiveness and familiarity, and ambiguous in race (see Pilot Testing section below). Each profile contained identical sections of information, including pictures (mundane landscape pictures), favorite television shows (Sports Center, The Office), favorite movies (James Bond movies, Oceans 11, The Matrix), and activities (watching sports, going

to the gym, playing video games). Thus, all profiles contained the same ambiguous-race face and identical neutral profile information.

The only items that varied in the profiles were the school attended, the name of the target, and the target's major. Three conditions were created: Black stereotypical, neutral, and White stereotypical. The stereotypical conditions were chosen to present race-related contextual information consistent with the category of Blacks or Whites. The neutral condition was chosen to examine how the ambiguous target would be categorized in the absence of any stereotypical information. Howard University was chosen to accompany the stereotypically Black profile because of its status as a well-known historically Black university (as categorized by the U.S. Department of Education, 2010). The student population of Howard University is 50% Black and 1% White (StateUniversity.com, 2010b). American University was chosen as the stereotypically White profile because of the predominant White student population (55% White, 7% Black; StateUniversity.com, 2010a). These schools were also selected because they are good matches on location, cost, national ranking, and size (both schools are small private universities in Washington, D.C. with approximately 10,000 students). Both of these schools are within 120 miles of the school in which the research was conducted and are well-known universities in the area. A control university was used for the neutral profile that matched both schools in terms of location and status but provided no racial information about the student body. The neutral school was described as, "an unnamed private university in Washington, D.C." For the majors listed in the profiles, Black Studies, English, and Sociology were chosen as the majors that were typically made up of Black students, White students, and both, respectively. "Tyrone" was chosen to accompany the stereotypically Black profile, "Jay" was selected for the neutral profile, and "Brett" was the name of the target for the stereotypically White profile. Majors and names were selected from a pilot-testing session described below.

Thus, three profiles were used in the current study. For the stereotypically Black condition, the target's name was Tyrone and he was described as a Black Studies major at Howard University. The neutral condition portrayed Jay, a Sociology major at an unidentified private university in Washington, D.C.

The stereotypically White profile portrayed Brett, an English major at American University.

There were two surveys completed by each participant. The first survey was used to measure judgments of the target, and participants were asked to evaluate statements about the target regarding likeability as well as job-related and stereotyped traits. All items used 7-point Likert-type scales ranging from "strongly disagree" to "strongly agree". These questions were designed to assess various stereotypical and non-stereotypical perceptions of the targets associated with the categories of Black and White Americans, and to assess judgments about the target's potential as a job candidate. To assess likeability, participants were asked how much they would want to befriend the target, confide in him, hang out with him, and work on a group project with him. The stereotypes and the job-related items were used in previous research (see Bartholow & Dickter, 2008; Dickter & Newton, 2010). Stereotypes fell into the following categories: White negative (snobbish, uptight, weak), White positive (wealthy, well-educated, smart), Black negative (aggressive, lazy, stupid), and Black positive (athletic, good dancer). Job-related items asked participants to judge the target as a potential boss, to indicate how likely he was to succeed at a job, to rate how successful he was likely to be, and to indicate how well he would deal with stress in the workplace. Additionally, participants were asked to indicate the race, gender, and sexual orientation of the target. For the race item, participants chose from the following options: American Indian or Alaskan Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or Pacific Islander, Other, White.

The second survey was a battery of personality tests including the Attitudes towards Blacks Scale (ATB; Brigham, 1993;  $\alpha = .88$ ), which is a 16-question survey designed to measure prejudice towards Blacks and contains items such as "I would rather not have Blacks live in the same apartment building I live in". The survey also contained items pertaining to Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994;  $\alpha = .90$ ) such as "Some groups of people are simply not the equal of others", and items that made up the Right Wing Authoritarianism scale (RWA; Altemeyer, 1981;  $\alpha = .90$ ) such as "The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence

## PERCEPTIONS OF AMBIGUOUS-RACE TARGETS

the troublemakers spreading bad ideas”. All personality measures used a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). For each scale, appropriate items were reverse-coded and individual items were averaged to form a composite score.

**Pilot testing of materials.** Pilot Test 1 was conducted to select an ambiguous-race face that was unable to be easily racially categorized, and was rated as average in attractiveness and familiarity. White and Black parent faces were selected from the NimStim database of faces (Tottenham et al., 2009) and random pairs of White and Black male faces were digitally morphed together to create 33 ambiguous-race faces. In a single testing session, 35 participants (with approximately the same gender-race variability as the main study) viewed the Black-White male morphed faces projected on a screen and, in an open-ended format, indicated the race of each face on a piece of paper. Participants rated each face on attractiveness and familiarity on seven-point scales. The target face was chosen because it was rated as being ambiguous in race and neutral in attractiveness ( $M = 4.42$ ,  $SD = 0.91$ ) and familiarity ( $M = 4.32$ ,  $SD = 1.17$ ).

Pilot Test 2 was conducted to select college majors and names associated with Whites and Blacks. To accomplish this, 48 participants (with approximately the same gender-race variability as the main study) viewed a series of 18 academic majors and were asked to indicate the racial make-up of the students who majored in this subject on a seven-point scale, with 1 indicating that the major consisted of “mostly White students” and 7 indicating that the major consisted of “mostly Black students”. Results showed that Black Studies ( $M = 5.87$ ) classes were perceived to be made up of mostly Black students, English ( $M = 2.81$ ) classes were perceived to be made up of mostly White students, and Sociology ( $M = 3.83$ ) classes were perceived to be populated by an equal number of Black and White students, so these majors were selected for the current study. A repeated-measures analysis of variance was conducted to demonstrate that there was a significant effect of major,  $F(2, 92) = 103.95$ ,  $p < .001$ . Post-hoc paired comparisons also showed that the means for each major were statistically significantly different from one another as well ( $ts > 4.68$ ,  $ps < .001$ ). Participants also viewed forty-five first names, which were chosen based on their prevalence in the US population (U.S. Census Bureau, 1990). For the most

common Black, White, and no-difference names, pilot participants indicated whether each name was most typical of Blacks, Whites, Bi-racial individuals, or “no racial association”. Participants indicated that the name Tyrone was associated with Blacks (90%), Jay was neutral (80%), and Brett was associated with Whites (80%). The students in both of these pilot tests were taken from the same population of students in the current study and their demographic make-up was similar to the current sample in terms of age, gender, and race.

### Procedure

Participants completed the experiment in groups of two to four students. Upon arriving at the lab, participants were each seated at a desk with privacy partitions. They were given an informed consent form and written instructions. Each participant was randomly assigned to review one of the three profiles. Participants were given several minutes to review the profile, which was printed out on an 8 x 11 sheet of computer paper. They were then given a survey packet in which they made judgments about the individual in the profile. Finally, participants completed the packet of personality measures. After participants had completed the packets, they were escorted into another room, fully debriefed, and dismissed.

## Results

### Hypothesis I: Categorization

In order to examine whether the stereotypic information affected categorization, the percentage of participants who indicated the race of the target as Black, White, or “other” was computed for each condition. A chi-square analysis revealed that these percentages differed based on condition,  $\chi^2(10) = 27.59$ ,  $p = .002$ . As predicted, this result indicates that participants did categorize the target based on stereotype-consistent cues. Specifically, the stereotypically Black target was categorized as White by 5.3% of participants, Black by 78.95%, and “other” (i.e., biracial, Hispanic, Asian, “none of the above”) by 15.75% of the participants. For the neutral target, 58.82% of the participants judged the race to be White, 17.65% categorized the target as Black, and 23.53% categorized him as “other”. The stereotypically White target was categorized by participants as White

(55.56%), Black (11.11%), and “other” (33.33%). There were no differences in categorization between White and non-White participants.

**Hypothesis II: Traits**

In order to test the hypothesis that judgments of targets would be affected by the stereotypicality of the profile, several one-way Analyses of Variance (ANOVAs) were conducted with profile as the three-factor between-subjects variable and judgments about the targets as dependent variables. ANOVAs with participant gender and participant race as between-subjects factors were conducted, but these analyses revealed no effects of gender or race. Accordingly, these variables were collapsed across the following analyses and all analyses are reported with one-way ANOVAs.

To examine stereotypical judgments, four variables were calculated by averaging ratings on individual items. Items related to each type of stereotype were averaged across conditions for each individual, creating four new categories: White negative (snobbish, uptight, weak;  $\alpha = .53$ ), White positive (wealthy, well-educated, smart;  $\alpha = .56$ ), Black negative (aggressive, lazy, stupid;  $\alpha = .42$ ), and Black positive (athletic, good dancer;  $\alpha = .48$ ). Four one-way ANOVAs, using profile as the independent variable and the stereotypic traits for each of the four categories as the dependent variables, were conducted. Results indicated a significant effect of profile for the White negative stereotypes,  $F(2, 51) = 4.17, p = .021, \eta^2 = .14$ . Follow-up Tukey tests revealed that participants in the stereotypical White condition rated the target as

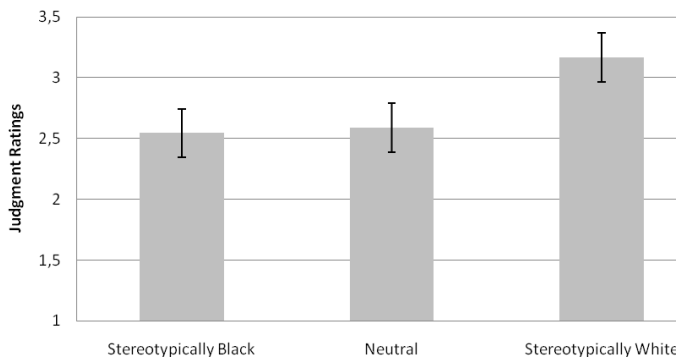


Figure 1. Ratings of white negative stereotype traits by profile.

Note. Error bars represent standard error.

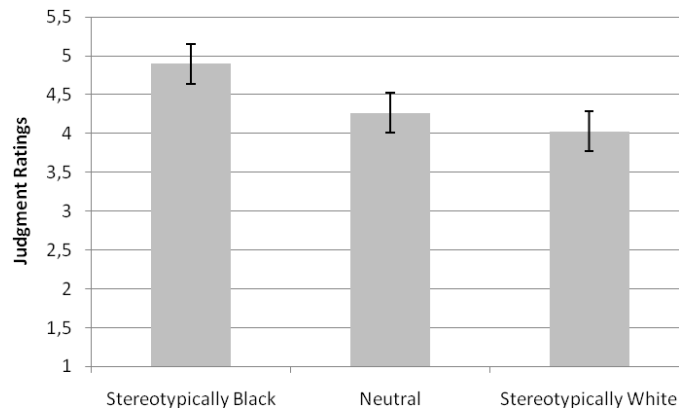


Figure 2. Ratings of black positive stereotype traits by profile.

Note. Error bars represent standard error.

having significantly more White negative traits ( $M = 3.17, SE = 0.17$ ) than participants in the stereotypical Black condition ( $M = 2.54, SE = 0.17$ ; see Figure 1). There were no differences between the neutral condition and any other condition. The ANOVA for the Black positive traits was also significant,  $F(2, 51) = 3.83, p = .028, \eta^2 = .13$ . Tukey tests demonstrated that participants in the stereotypical Black condition rated the target as having significantly more Black positive traits ( $M = 4.90, SE = 0.23$ ) than participants in the stereotypical White condition ( $M = 4.03, SE = 0.23$ ; see Figure 2). There were no differences between the neutral condition and any other condition. There was no effect of profile on either White positive,  $F(2, 51) = 1.46, p = .24$ , or Black negative,  $F(2, 51) = 0.22, p = .80$ , traits. In congruence with the hypothesis, the profile condition did affect the stereotypic judgments of the target. However, this was only true for White negative and Black positive stereotypic traits. Descriptive statistics for each judgment per condition are reported in Table 1.

Additional one-way ANOVAs were conducted with the intent of predicting ratings on individual traits from the three profile conditions. Only three of these individual analyses yielded significant results. Specifically, there was an effect of condition on ratings of “wealthy,”  $F(2, 51) = 4.70, p = .013, \eta^2 = .16$ . Tukey tests showed that the stereotypical Black target ( $M = 3.47, SE = 0.24$ ) was rated as less wealthy than the neutral target ( $M = 4.53, SE = 0.25$ ). The stereotypical White condition was not significantly different from either condition. There was also a significant effect for “snobbish,”  $F(2, 51) = 5.52, p = .007, \eta^2 = .18$ , with

PERCEPTIONS OF AMBIGUOUS-RACE TARGETS

Table 1  
*Mean Stereotypic Judgment Ratings of Each Trait by Condition*

Variables	Stereotypically Black		Neutral		Stereotypically White	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
1. Snobbish	2.37	1.01	2.82	1.01	3.61	1.38
2. Uptight	2.89	1.32	2.47	1.07	2.89	1.08
3. Weak	2.37	0.90	2.47	0.72	3.00	1.03
4. Wealthy	3.47	1.02	4.53	1.33	3.89	0.68
5. Well-educated	4.84	0.83	4.71	1.40	4.83	1.04
6. Smart	4.32	0.95	4.71	1.21	4.22	1.11
7. Aggressive	4.21	0.98	4.71	0.99	4.39	1.09
8. Lazy	3.89	1.15	3.65	1.50	3.11	1.28
9. Stupid	3.68	0.95	3.29	1.21	3.78	1.11
10. Athletic	6.00	0.82	5.75	1.56	5.17	1.47
11. Good dancer	3.79	1.03	2.76	1.25	2.89	1.18

Tukey tests showing that the stereotypically White target ( $M = 3.61, SE = 0.27$ ) was evaluated as more snobbish than the stereotypically Black target ( $M = 2.37, SE = 0.26$ ). The neutral condition did not differ from either White or Black conditions. A significant effect for “good dancer” also emerged,  $F(2, 51) = 4.32, p = .019, \eta^2 = .15$ . Tukey follow-up tests demonstrated that the stereotypically Black target ( $M = 3.79, SE = 0.27$ ) was rated as a better dancer than the neutral ( $M = 2.77, SE = 0.28$ ) and stereotypically White ( $M = 2.89, SE = 0.27$ ) profiles. These analyses, with individual traits, were all consistent with the analyses reported above with the stereotypical traits grouped into categories.

**Hypothesis III: Relationships between Personality Variables and Dependent Variables**

There were no differences in personality variables between conditions and there were no differences in the results when all participants were included compared to analyses conducted with minority participants excluded, so results are reported with the entire sample and all conditions. On the self-reported prejudice measure (Attitudes Towards Blacks Scale; ATB; Brigham, 1993), higher scores indicated more prejudiced attitudes ( $\alpha = .92$ ). Participants generally reported egalitarian values, which is typical of a college sample, with data indicating a positive skew and scores ranging from 1.05 - 6.15 with a mean of 2.59 ( $SD = 0.96$ ). Participants generally indicated low levels of Social Dominance (SDO; Pratto et al., 1994) and the data were positively skewed, with scores ranging from 1.81 – 5.75 with a mean of 3.14 ( $SD =$

0.88), which is also typical of an egalitarian college sample. Right Wing Authoritarian scores (RWA; Altemeyer, 1981) were normally distributed with scores ranging from 2.42 – 5.38 with a mean of 3.82 ( $SD = 0.88$ ). ATB score was significantly positively correlated with RWA,  $r = .65, p < .001$  and SDO,  $r = .75, p < .001$ . Participants’ SDO scores were also significantly positively correlated with the RWA scores,  $r = .65, p < .001$ . These correlations suggest that racial prejudice, authoritarianism, and social dominance are all related constructs; this idea is consistent with previous literature (Duckitt, 1992; Pratto et al., 1994; Webster & Kruglanski, 1994).

In order to examine whether overall perception of the ambiguous-race target was affected by personality variables, correlation and regression analyses were performed to predict judgments of the targets from personality variables and experimental condition. In addition to the four composite stereotype variables created previously, two additional variables were created. The first examined work-related traits, and the second was made up of friend-related behaviors (see Method section for items).

Results indicated that, consistent with the hypothesis, personality type did moderate the judgments of the ambiguous target. SDO was significantly negatively correlated with White positive ratings,  $r = -.30, p = .034$ , such that participants high in SDO attributed fewer White positive stereotypes to the ambiguous-race target than those low in SDO. RWA was significantly negatively correlated with friend-related behavior ratings ( $r = -.29, p = .043$ ) and work



traits ( $r = -.41, p = .004$ ). Thus, high RWA participants judged the ambiguous-race targets as less competent in work-related traits and they were less likely to want to be friendly with the targets. Additionally, ATB was marginally correlated with White positive trait ratings ( $r = -.27, p = .054$ ), suggesting that individuals higher in racial prejudice were slightly less likely to ascribe positive White stereotypes to the targets.

In order to examine whether personality variables would interact with profile condition, multiple regression analyses were conducted predicting each composite dependent variable (Black positive, Black negative, White positive, White negative, work-related, friend-related) from profile, SDO, RWA, and ATB, which were entered at the first step, and the interaction terms of each, which were entered at the second step. Personality variables were centered and treated continuously, while profile was treated as a three-level categorical variable. Analyses revealed that ratings of White positive traits were significantly predicted by the interaction between ATB score and profile,  $\beta = -0.06, t(44) = -2.12, p = .049$ . Examination of the interaction demonstrated that in the Black stereotypical condition, ATB was negatively correlated with ratings of White positive traits (*simple slope* =  $-0.40, t(44) = -2.61, p = .012$ ); the slopes for neutral (*simple slope* =  $0.20, t(44) = 0.84, p = .41$ ) and White (*simple slope* =  $-0.08, t(44) = -0.33, p = .41$ ) stereotypical conditions were not statistically significant. That is, participants with higher prejudice levels rated the target as less consistent with White positive traits, but only for those targets in the Black stereotypical condition. For Black negative traits, there was a main effect of SDO ( $\beta = 1.27, p = .011$ ), such that participants higher in SDO tended to view the ambiguous-race target as possessing more Black negative traits. For White negative stereotypes, there was a main effect of profile ( $\beta = 0.28, p = .027$ ) and RWA ( $\beta = -0.94, p = .017$ ), which was qualified by an RWA x profile interaction,  $\beta = -0.97, t(44) = -3.04, p = .004$ . For the neutral (*simple slope* =  $0.18, t(44) = 0.75, p = .46$ ) and White (*simple slope* =  $-0.03, t(44) = -0.13, p = .90$ ) profiles, there was no relationship between RWA and judgments. For the Black stereotypical condition, however, RWA was negatively related to White negative judgments of the target (*simple slope* =  $-0.79, t(44) = -3.72, p = .001$ ), demonstrating that, in this condition, participants higher in authoritarianism attributed fewer White negative stereotypes to the target. ATB also predicted White negative judgments of the ambiguous target ( $\beta =$

$1.29, p = .008$ ), suggesting that participants higher in racial prejudice rated the targets more negatively overall. There were no significant effects in the regression analyses for the Black positive traits or work-related traits. However, there was a marginal RWA x profile interaction for friend-related traits,  $\beta = -0.87, t(44) = -1.86, p = .07$ . For the Black stereotypical profile, RWA and friend-related judgments were negatively related (*simple slope* =  $-1.01, t(44) = -3.26, p = .002$ ), but the relationships were not significant for neutral (*simple slope* =  $-0.15, t(44) = -0.42, p = .68$ ) and White stereotypical (*simple slope* =  $-0.03, t(44) = -0.09, p = .93$ ) conditions. That is, for the Black profile condition, participants higher in authoritarianism indicated that they were less likely to befriend the target.

## Discussion

This study was designed to explore how the categorization and perception of ambiguous-race individuals differs based on stereotypical cues, and is affected by personality traits of the perceiver. Hypothesis I was supported, in that categorization of the ambiguous-race targets differed based on the stereotypicality of the presented information. Specifically, participants were more likely to categorize the ambiguous target in the stereotypically Black profile as Black and the stereotypically White profile as White, although the pictures were identical. This finding contributes to a small but growing literature demonstrating that contextual cues can affect the categorization of ambiguous race individuals (MacLin & Malpass, 2001; Peery & Bodenhausen, 2008; Shutts & Kinzler, 2007). However, the current study goes beyond previous findings in an important way. Past researchers have manipulated physical or biological information (i.e., racial heritage or hairstyle; MacLin & Malpass, 2001; Shutts & Kinzler, 2007), while the current study demonstrates that altering *stereotypic* information affects categorization when ambiguity is present.

The results of the current study partially support a hypodescent explanation of multiracial categorization (Peery & Bodenhausen, 2008). That is, the stereotypically Black target was more likely to be categorized as Black than the stereotypically White target was to be categorized as White. In fact, the stereotypically White target was categorized as White by only a little more than half of participants. These

## PERCEPTIONS OF AMBIGUOUS-RACE TARGETS

results are consistent with the cultural concept of hypodescent, in which appearing non-White, even when White stereotypical cues are present, may lead to targets being categorized as minority group members (Banks & Eberhardt, 1998). The categorization results, however, did not support a hypodescent account in the neutral condition. Because the target was racially ambiguous and there was no stereotypic information about the target to influence social categorization, the target would be more likely to be categorized as non-White if a hypodescent explanation was supported. In the current study, however, the target in the neutral profile was more often categorized as White than other races. Since most participants were White, this finding suggests that participants were categorizing the ambiguous-race target as an ingroup member, which is inconsistent with previous work (e.g., Pettigrew et al., 1958). Future research should continue to test the hypodescent hypothesis and should perhaps examine categorization when contextual cues do not provide stereotypic information.

The current study is also important because of its implications for stereotype activation. A wealth of research has demonstrated that categorizing a target as belonging to a specific race can lead to the automatic activation of social stereotypes (Devine, 1989; Dovidio et al., 1986), which in turn can affect behavior toward and judgments about that individual (e.g., Jussim et al., 2000). The current results demonstrate some consistency with this concept, partially supporting Hypothesis II. That is, ambiguous-race targets presented with stereotypically White information were rated as possessing negative White traits more so than targets in the stereotypically Black condition. Targets in the stereotypically Black condition were rated as possessing more positive Black traits than participants in the stereotypically White condition, suggesting that stereotypical cues influenced judgments about the ambiguous-race target individuals. Contrary to hypotheses, however, ratings consistent with the Black negative stereotype were not affected by the manipulations. It may be the case that, since these stereotypes are particularly salient in our society and most participants self-reported egalitarian attitudes towards Blacks, participants did not want to respond in a way that would make them appear prejudiced (see Crandall & Eshleman, 2003). Future research should include a self-report measure such as the Motivation to Respond without Prejudice (Plant & Devine, 1998),

which measures internal and external motivations to appear unbiased.

Regression analyses also indicated that judgments of the ambiguous-race targets were moderated by some of the perceiver personality traits, providing support for Hypothesis III, although it was only in the stereotypically Black condition that trait judgments were related to personality variables. That is, in the conditions in which most participants categorized the ambiguous target as Black, participants higher in authoritarianism and racial prejudice were less likely to judge the target as having traits consistent with White stereotypes, compared to those participants lower in authoritarianism and prejudice. Participants higher in authoritarianism also judged the target in the Black stereotypical condition as having less positive friend-related traits. From these results, it appears that personality variables such as authoritarianism and racial prejudice may only affect judgments in conditions where a target is categorized as Black, and only on traits consistent with White or positive stereotypes. Due to the negative affect that authoritarians usually direct towards members of social minority groups who threaten the established social organization (Altemeyer, 1981), it follows that targets categorized as Black by individuals high in authoritarianism would be judged more harshly on positive traits consistent with the social majority, Whites. For high-prejudice individuals who may activate stereotypes to a greater degree than low-prejudice individuals (Devine et al., 2002), negative stereotypes may have been activated about the target they categorized as Black and thus they were less likely to ascribe positive stereotypes associated with Whites to the targets, although still unwilling to rate them as consistent with Black negative stereotypes. Although these results only provide preliminary evidence that personality may affect stereotype activation under certain conditions, future research should continue to explore this relationship.

The results also showed that, regardless of profile condition, individuals higher in social dominance attributed less stereotypically White positive traits to the ambiguous profiles. Such findings imply that people who convey ambiguous racial cues are likely to be considered less educated, less wealthy, and less intelligent by those high in social dominance. These findings suggest that people high in social dominance who have pre-conceived images of who belongs at the

top of the social hierarchy (i.e., the wealthy, smart and educated; Sidanius & Pratto, 1999) may feel that racially ambiguous individuals may not fit into that hierarchy because they represent a combination of higher and lower tier characteristics. Authoritarians, on the other hand, rated ambiguous individuals as less competent on work-related traits, regardless of experimental condition. People high in authoritarianism may have an ideal image that represents the “authority” figure, and racially ambiguous information conveyed from a social networking profile is likely to be incongruent with such an ideal. The current results were consistent with this idea, given the negative relationships in the data between authoritarianism and being a good boss and a good leader ( $r = -.33, p = .02$ ;  $r = -.30, p = .03$ , respectively), although other correlations examining authoritarianism and general competence or responsibility were not significant. Authoritarians may feel that an authority figure should not convey racially ambiguous information, as that would mean that the authority adopts characteristics of the minority, which would be unacceptable (Altemeyer, 1981). Taken together, these results are consistent with previous research suggesting that individuals high in authoritarianism and social dominance may be uncomfortable when confronted with ambiguity (Altemeyer, 1996; Kreindler, 2005; Sibley & Duckitt, 2008; Van Hiel & Mervielde, 2003; Webster & Kruglanski, 1994). These findings have important applications and implications; in particular, simply appearing racially ambiguous seems to carry negative consequences for these individuals when being judged by perceivers who are high in authoritarianism and social dominance. This could have serious consequences for multiracial individuals in situations involving social judgments and, perhaps more importantly (as seen above), in the workplace.

One particular strength of the current study is its application to real-life person perception processes. A social networking profile was chosen as the paradigm in this study because it represents a common source of person-related information. That is, social perceivers often make judgments about individuals based on the limited information provided from their social networking profiles (Weisbuch, Ivcevic, & Ambady, 2009). The design of the current study is unique in that it allowed for the examination of person perception processes on a popular medium (i.e., an online profile) that is instrumental in a variety of areas, including

decisions about starting a friendship with someone or hiring a person for a job. Additionally, the findings of this study are also applicable to other important areas. The stereotypical cues used (i.e., name, major, school) reflect real-world features that are consistent with the basic cues in the environment that are often provided to perceivers in other arenas, such as forming a judgment when meeting someone for the first time or when interviewing someone for a job. In these cases, a perceiver does not have access to biological or cultural information used in previous studies in this area. Thus, the results of this study have real world implications for both social life and the workplace. This research and future research like it can help inform diversity education programs, particularly programs at workplaces and colleges (where about 94% of people use social networking sites like Facebook (Ellison, Steinfield, & Lampe, 2007).

These findings have implications not only for perceptions of ambiguous-race individuals, but also for the self-identity of multiracial individuals. The results of this study support previous research suggesting that (mostly White) perceivers have a propensity to categorize multiracial individuals as monoracial (Peery & Bodenhausen, 2008), although multiracial individuals tend to categorize themselves as multiracial (Suzuki-Crumly & Hyers, 2004). Mislabeled in this way can lead biracial individuals to experience negative consequences as a result of not being able to assert their own racial identity (Sue, 1981; Suzuki-Crumly & Hyers, 2004). Because an individual’s self-esteem is inextricably linked to his/her social identity, miscategorization can lead to a negative self-concept (Helms, 1990; Townsend, Markus, & Bergsieker, 2009). Thus, perceivers may judge a multiracial target based on a category of which the target does not consider him or herself a member, which may harm an individual’s well-being.

Although this study allowed for a better understanding of the perception of ambiguous-race individuals, it had several limitations. First, the majority of the participants were White college students. Past research has demonstrated that it is important to investigate the role of perceiver race during categorization, given the perceiver race differences in processing seen in other research with monoracial (Dickter & Bartholow, 2007) and biracial (Willadsen-Jensen & Ito, 2008) targets. Future research should examine comparative analyses for this study

between White participants and minority participants. Furthermore, target gender was not investigated in the present study. The decision to only include a male target was made because racial stereotypes are often more associated with male than female targets (Gyurovski & Dickter, 2010), but future studies should investigate whether perceptions of ambiguous-race females differ from that of ambiguous-race males. This study was also subject to social desirability bias, as evidenced by the lack of negative Black and positive White stereotype ratings. This may have been caused by participant's discomfort with explicitly relying on stereotypes to make judgments, and future studies should use implicit measures that allow for less biased responding.

In the midst of a biracial baby boom in the United States (Colker, 1996; King & DaCosta, 1996; Root, 1992, 1996) as well as the rising predominance of well-known multiracial individuals, such as Tiger Woods, Halle Berry, and Barack Obama gaining media attention, researchers should recognize the importance of studying issues related to understanding the perceptions of multiracial individuals. As the current study demonstrated, salient contextual cues can vary the categorization of an ambiguous target, which may affect the judgments that are made about these individuals during person perception. This research also suggests that perceivers with a high level of prejudice or with an authoritarian personality may be particularly stereotypical in their judgments, especially after categorizing a multiracial target as Black. Multiracial targets may thus fall victim to stereotyping due to the presence of cues in the social environment and the personality traits of others. The current research suggests potentially serious ramifications for multiracial individuals in social situations and in the workplace, when minimal information is provided from which people must make judgments and hiring decisions. The current work is preliminary, but certainly suggests that researchers should continue to investigate how multiracial individuals are perceived, and should continue to explore the roles that contextual cues and personality variables play in person perception.

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PERCEPTIONS OF AMBIGUOUS-RACE TARGETS

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