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Essentialism and Racial Bias Jointly Contribute to the Categorization of Multiracial Individuals

Arnold K. Ho*, Steven O. Roberts*, and Susan A. Gelman

University of Michigan

Abstract

Categorizations of multiracial individuals provide insight into the psychological mechanisms driving social stratification, but few studies have explored the interplay of cognitive and motivational underpinnings of these categorizations. In this paper, we integrate research on racial essentialism (i.e., the belief that race demarcates unobservable and immutable properties) and negativity bias (i.e., the tendency to weigh negative entities more heavily than positive entities) to explain why people might exhibit biases in the categorization of multiracial individuals. As theorized, racial essentialism, both dispositional (Study 1) and experimentally induced (Study 2), led to the categorization of Black-White multiracial individuals as Black, but only among individuals evaluating Black people more negatively than White people. These findings demonstrate how fundamental cognitive and motivational biases interact to influence the categorization of multiracial individuals.

Keywords

multiracial person perception; essentialism; negativity bias; hypodescent; social categorization

In the U.S., Black-White multiracial individuals are often categorized as Black (Davis, 1991; Ho, Sidanius, Levin, & Banaji, 2011; Peery & Bodenhausen, 2008). Research on the underpinnings of this categorization bias, often called *hypodescent*, has focused primarily on social motivations, demonstrating that among White adults, beliefs about equality, threats to the hierarchical status quo, racial biases, and political ideology undergird hypodescent (Chen, Moons, Gaither, Hamilton, & Sherman, 2014; Ho, Sidanius, Cuddy, & Banaji, 2013; Krosch & Amodio, 2014; Krosch, Berntsen, Amodio, Jost, & Van Bavel, 2013, Kteily, Cotterill, Sidanius, Sheehy-Skeffington, & Bergh, 2014; Rodeheffer, Hill, & Lord, 2012). Less research has identified cognitive biases that contribute to hypodescent (but see Halberstadt, Sherman, & Sherman, 2011) and we are aware of no research that has identified the interplay of cognitive biases and social motivations. Thus, the social psychological examination of hypodescent has primarily detected cognitive *or* motivational antecedents, in isolation, offering little insight into whether such factors might work together to bias social

*Equal contributions

Author Contributions

A. K. Ho developed the study concept. All authors contributed to the study design. Testing and data collection were performed by A. K. Ho and S. O. Roberts. A. K. Ho and S. O. Roberts performed the data analysis. A. K. Ho drafted the manuscript, and S. O. Roberts and S. A. Gelman provided critical revisions. All authors approved the final version of the manuscript for submission.

categorization. Here we focused on psychological essentialism and anti-Black bias, and examined how these factors might jointly influence the categorizations of Black-White multiracial individuals.

Psychological essentialism is the belief that members of a group share hidden, inborn, and inalterable “essences” that grant them their categorical identity, and that those identities exist within sharp (i.e., discrete) boundaries (Gelman, 2003; Haslam, Rothschild, & Ernest, 2000; Prentice & Miller, 2007). The idea that category boundaries are discrete follows from the definitive nature of essences (i.e., one either has the essence or not; Dennett, 1995) as well as viewing essences as inherited and immutable (see Gelman, 2003; Haslam et al., 2000, for a review of evidence that essences are construed in this manner). A belief in category discreteness is empirically linked to essentialism with regard to both individual differences (i.e., those who more highly endorse other aspects of essentialism also more highly endorse discreteness; Haslam et al., 2000) and category differences (i.e., essentialized categories such as basic-level animal kinds are treated as having absolute category membership, whereas non-essentialized categories such as artifact kinds are not treated as such; Rhodes & Gelman, 2009; Rhodes, Gelman, & Karuza, 2014). In the context of race, category discreteness implies that people who endorse racial essentialism understand that someone could have one Black parent and one White parent, but their rigid concepts of race result in a tendency to categorize this person as Black rather than both Black and White (Chao, Hong, & Chiu, 2013). In other words, they tend to treat racial category membership as all-or-none, and to resist classifying individuals into multiple categories (Haslam et al., 2000). Yet racial essentialism alone cannot explain why Black-White multiracial individuals¹ are categorized as Black: why might the “Black essence” be weighted more heavily than the “White essence”?

We argue that individuals who are biased against Blacks will disproportionately weight Black ancestry in the evaluations of Black-White multiracials. Such a negativity bias, whereby people give greater weight to entities they view as negative, compared to equivalent entities they view as positive (Rozin & Royzman, 2001), has been found across of variety of domains. For example, monetary losses are weighted more heavily than equivalent monetary gains, and negative events have a greater impact on mood than positive events (Kahneman & Tversky, 1979; Taylor, 2001).

Integrating research on essentialism and negativity bias, we predicted that essentialist thinking would lead to the categorization of multiracial individuals as Black, but only among individuals who evaluated Black people more negatively than White people because they would more heavily weight Black ancestry or phenotype in their categorizations. Study 1 examined whether individuals who were high on racial essentialism were more likely to categorize multiracial individuals with known ancestry as Black than White. Study 2 examined whether inducing people to think of race as biological increased the likelihood that racially ambiguous individuals were perceived and categorized as Black.

¹Hereafter we refer to these as “multiracial individuals”.

STUDY 1

Method

Participants—White U.S. adults ($N = 149$, 54% female, $M_{\text{age}} = 35.9$, $SD = 12.3$) were recruited through Amazon's Mechanical Turk. Based on our experience with correlational research on racial categorization involving statistical interaction analyses, and our expectation that approximately 75% of the participant pool would be White, we recruited 200 participants (see supplemental online materials for analyses with non-Whites). We focused on White adults, the highest status group in the U.S. (Kahn, Ho, Sidanius, & Pratto, 2009), because they have been shown to exhibit higher levels of pro-White/anti-Black bias (Bar-Anan & Nosek, 2014) and because the interrelationships among intergroup biases, attitudes, and behaviors are strongest among members of high status groups (Sidanius, Levin, & Pratto, 1996; Sidanius & Pratto, 1999).²

Materials and Procedure—Participants first completed a measure of racial essentialism (the Race Conceptions Scale (RCS), Williams & Eberhardt, 2008), followed by a feeling thermometer and 20 personality items included as a distractor (e.g., “I enjoy looking at maps of different places.”). The measures of hypodescent followed the distractor items. We chose the RCS because it was designed to measure a conception of race as biological, which is what we theorized would be most related to beliefs about the intergenerational transmission of racial traits. Although the scale validation paper (Williams & Eberhardt, 2008) did not find theoretically coherent factors, our factor analysis with the current sample revealed that the RCS comprised two primary factors explaining 41% of the variance – one representing race as a biological concept and the other representing racial categories as historically stable (e.g., “in 200 years, society will use basically the same racial categories”). Because of our a priori interest in biological conceptions of race, we computed a scale composed of items from the first factor (e.g., “Racial groups are primarily determined by biology”; 1 = Strongly disagree to 7 = Strongly agree; $\alpha = .75$, $M = 5.40$, $SD = 1.23$).³ Pro-White/anti-Black bias was assessed by subtracting how warmly participants felt toward Blacks from how warmly they felt toward Whites (1 = Very cold to 7 = Very warm). Positive scores indicated a relatively negative evaluation of Blacks ($M_{\text{White-Black}} = 0.58$, $SD = 1.31$).⁴ We had two measures of hypodescent – the first assessed whether participants had a lower threshold for considering a Black-White multiracial target as Black than as White, by comparing the extent to which a target with one Black grandparent and three White grandparents was considered Black with the extent to which a target with one White grandparent and three Black grandparents was considered White. We subtracted the latter rating from the former to index a threshold bias reflecting hypodescent (i.e., $\frac{1}{4}$ Black and $\frac{3}{4}$ White target “Blackness” minus $\frac{1}{4}$ White and $\frac{3}{4}$ Black target “Whiteness”; 1 = “Completely Black”, 4 = “Equally Black and White”, 7 = “Completely White” scale (reverse-scored) used for both targets; $M_{\text{difference}} = 0.14$, $SD = 1.09$). We additionally asked

²Results with Black respondents were generally supportive of our hypotheses, but the sample sizes were too small to draw any conclusions involving interaction analyses ($n = 15$ in Study 1 and $n = 10$ in Study 2).

³One item (People who are of different races may look quite similar to each other) fell on this dimension in the factor analysis but was not used because it proved to be unrelated to the other items (r 's = $-.01$ to $.05$) and brought the reliability of this subscale down from $\alpha = .75$ to $\alpha = .66$.

⁴Essentialism and bias were uncorrelated ($r = .10$, $p = .23$).

respondents the extent to which they saw a target with two Black grandparents and two White grandparents as Black or White (1 = “Completely Black”, 4 = “Equally Black and White”, 7 = “Completely White” (reverse-scored); $M = 4.13$, $SD = 0.51$; Ho et al., 2011). For both hypodescent measures, scores above the midpoint (i.e., 0, 4, respectively) indicated a tendency to categorize targets as Black. One dichotomous dependent variable regarding the aforementioned ½ Black – ½ White target (“If the child needed to check only one census box for “race,” should he/she check “Black” or “White?”) was included for exploratory purposes and will not be discussed further.⁵ Finally, participants reported how seriously, carefully, and honestly they took the study (1 = Not at all to 5 = Very; 3 items; $M = 4.86$, $SD = .30$, $\alpha = .78$), and the primary analyses reported below were based on those who scored 5 on this composite measure, indicating a high degree of attention ($n = 117$).⁶

Results

To examine if racial essentialism was related to hypodescent, particularly among individuals who exhibited relatively high levels of pro-White/anti-Black bias, we conducted a multiple regression analysis in which we regressed hypodescent on racial essentialism and intergroup bias (both mean-centered) and its interaction term. We did this first with our hypodescent threshold bias index, which revealed no main effects for racial essentialism or bias. Critically, however, we found a significant interaction between racial essentialism and bias ($B = .16$, $SE B = .08$, $\beta = .25$, $t = 2.05$, $p = .04$; see Figure 1). Simple slopes analyses revealed that at low levels of intergroup bias, there was no relationship between racial essentialism and hypodescent ($B = -.18$, $SE B = .12$, $\beta = -.21$, $t = -1.53$, $p = .13$ ⁷; all simple slopes analyses referencing low and high levels refer to -1 and $+1$ SD below and above the mean, respectively). In contrast, at high levels of bias, there was a marginally significant positive relationship between racial essentialism and hypodescent ($B = .26$, $SE B = .15$, $\beta = .30$, $t = 1.76$, $p = .08$). We also examined the simple slopes with essentialism as the moderator, revealing that bias was not related to hypodescent at low levels of essentialism ($B = -.08$, $SE B = .16$, $\beta = -.10$, $t = -.50$, $p = .62$), but was at high levels ($B = .33$, $SE B = .09$, $\beta = .41$, $t = 3.65$, $p < .001$). Our hypodescent measure of categorizations of half-Black/half-White multiracial targets revealed a similar pattern. That is, the racial essentialism \times bias interaction was marginally significant ($B = .07$, $SE B = .04$, $\beta = .24$, $t = 1.90$, $p = .06$), such that at low levels of bias there was no racial essentialism-hypodescent relationship ($B = -.06$, $SE B = .06$, $\beta = -.14$, $t = -1.01$, $p = .32$) and at high levels, the same relationship was positive and marginally significant ($B = .14$, $SE B = .07$, $\beta = .33$, $t = 1.95$, $p = .054$). Examining the simple slopes of this interaction with essentialism as the moderator revealed that at low levels of essentialism, negativity bias was unrelated to hypodescent ($B = -.04$, $SE B = .08$, $\beta = -.10$, $t = -.50$, $p = .62$), whereas at high levels of essentialism, bias was positively related ($B = .14$, $SE B = .04$, $\beta = .37$, $t = 3.29$, $p = .001$). Study 1 demonstrates

⁵We thought this question would be interesting to explore, but it may not be theoretically justifiable to represent explicit racial categorization as strictly dichotomous (Ho et al., 2011, Chen & Hamilton, 2012).

⁶The results remain unchanged when this attention measure is not used as a filter. Results with all participants are reported in supplemental online materials.

⁷Although this is not significant, the negative slope is consistent with the theoretical expectation that those showing anti-White bias (at 1 SD below the mean, affect toward Whites minus affect toward Blacks = -0.80) should be biased toward White categorizations. It is also important to note that the distribution of bias is in fact not symmetrical: whereas 32.9% of the sample exhibited pro-White/anti-Black bias, only 5.1% of the sample exhibited pro-Black bias.

that racial essentialism relates to hypodescent, but only to the extent that Black people are evaluated more negatively than White people (see supplemental online materials for analyses with non-Whites, who were not included in the primary analyses for theoretical reasons introduced above).

STUDY 2

Study 2 experimentally manipulated whether participants thought of race as biological or socially constructed. We also developed a new task that assessed categorizations based on phenotype alone. This complemented Study 1, which focused on categorizations based on racial ancestry alone. Intergroup bias was assessed one to three weeks before the essentialism experiment and categorization task, to provide a stringent test of whether individuals predisposed to assess Black people more negatively were more influenced by information suggesting race is biological – by measuring intergroup bias in a separate session, we avoid cuing social desirability concerns when participants are completing the racial categorization task, a common problem in cross-sectional survey research.

Method

Participants—The final sample consisted of 121 White U.S. adults recruited on Amazon Mechanical Turk (62% female, $M_{age} = 38.1$, $SD = 12.9$).

Materials and Procedure—Participants completed a brief survey in Part 1, providing demographic information and reporting on their feelings toward Whites and Blacks (i.e., feeling thermometer as in Study 1; $M_{White-Black} = 0.37$, $SD = 1.34$). A 4-item measure of ethnic identity was also included in Part 1 for exploratory purposes and will not be discussed further.⁸ Of the 601 Whites who participated in Part 1, 364 provided email addresses to be contacted for Part 2, and 178 completed Part 2 one to three weeks later.⁹ Because this was the first test of how this manipulation of exposure to essentialist beliefs might influence racial categorization and how it might interact with intergroup bias, we could not estimate the observed effect size. Furthermore, due to our two-part design, we were unsure of what the attrition rate might be. Therefore, we aimed to recruit 100 Whites initially to examine if we would observe any effect of this experimental manipulation. Following this initial data collection, and based on the observed rate of attrition, we aimed to recruit enough participants for Part 1 to yield approximately 50 more Whites completing both parts. To examine the effects of sample attrition, we compared the feeling thermometer responses between participants who completed only Part 1 and participants who completed both Parts 1 and 2. A one-way ANOVA revealed that participants who completed only Part 1 ($M = 4.77$, $SD = 1.40$) were significantly less warm toward Black people than participants who completed Part 2 ($M = 5.11$, $SD = 1.32$), $F(1, 599) = 6.00$, $p = .02$, $\eta_p^2 = .01$. Critically,

⁸Ethnic identity is a variable we measured in combination with the demographic question concerning the participant's race/ethnicity, as it is often relevant to intergroup relations research. However, the intergroup bias measure we used is much more appropriate for our negativity bias hypothesis – that is, it corresponds directly to the hypothesis that more negativity expressed toward Blacks *relative to* Whites should lead to the greater “weighing” of the Black “essence”. The intergroup bias measure is also more appropriate for drawing a direct comparison to Study 1, where we did not measure ethnic identity.

⁹Due to a clerical error, some non-White respondents who left their email in Part 1 were invited to participate in Part 2. As in Study 1, analyses including these respondents are reported in the supplemental online material.

given that the final sample was relatively warmer toward Black people, Study 2 provided a conservative test of the effect of racial bias. Because we expected that the essentialism manipulation would only affect those who paid attention and believed the material they were presented with, we also included questions at the end of Part 2 concerning how seriously, carefully, and honestly participants took the study (1 = Not at all to 5 = Very; 3 items; $M = 4.78$, $SD = .39$, $\alpha = .83$) and whether they “didn’t believe some parts of the study” (1 = Strongly disagree to 5 = Strongly agree; $M = 2.53$, $SD = 1.01$, $\alpha = .75$). On the basis of these quality checks, 56 participants were not included in the final analysis: 55 who scored below 5 on the attention scale and 1 who scored 5 on the distrust scale.¹⁰

The second part began with random assignment to either a racial essentialism condition ($N = 63$), in which participants read a fictitious article claiming that “Scientists Pinpoint Genetic Underpinning of Race,” or a control condition ($N = 59$), in which participants read an article claiming that “Scientists Reveal That Race Has No Genetic Basis” (taken from Williams & Eberhardt, 2008). Participants then completed a manipulation check (Bastian & Haslam’s (2006) 8-item biological basis of race scale; e.g., “The kind of person someone is can be largely attributed to their genetic inheritance”; 1 = Strongly disagree to 7 = Strongly agree; $M = 4.10$, $SD = 1.24$), followed by the categorization task, in which they were asked to categorize 20 faces as Black, Black-White multiracial, or White. All participants were debriefed and told that the articles were fictitious. Faces were morphed photographs of monoracial Black and White males created with Morpheus Photo Morpher. All faces were forward facing, had neutral expressions, and were presented in grayscale (see Figure 2). The number of Black-categorizations was taken as the dependent variable ($M = 6.30$, $SD = 3.66$).

Results

First, we found that the experimental manipulation was successful in changing people’s biological notion of race (experimental: $M = 4.54$, $SD = 1.13$; control: $M = 3.63$, $SD = 1.18$; $t = -4.38$, $p < .001$, $r = .37$). As in Study 1, we examined the interactive effects of racial bias and essentialism by regressing Black categorizations on bias (zero-centered), racial essentialism condition, and its interaction term. Once again, this revealed that neither racial bias nor essentialism (experimental condition) had a main effect, but the two interacted significantly to predict the number of Black categorizations ($B = 1.06$, $SE B = .48$, $\beta = .20$, $t = 2.19$, $p = .03$; see Figure 3). Simple slopes analyses revealed that among individuals low on intergroup bias, racial essentialism was unrelated to Black-categorizations ($B = -.86$, $SE B = .92$, $\beta = -.12$, $t = -.94$, $p = .35$).¹¹ However, in line with expectations, and conceptually replicating Study 1, individuals high in intergroup bias and in the racial essentialism condition were significantly more likely to categorize target faces as Black than those high in intergroup bias in the control condition ($B = 1.99$, $SE B = .92$, $\beta = .28$, $t = 2.16$, $p = .03$). With condition as the moderator in this interaction analysis, bias was unrelated to hypodescent for participants in the non-genetic condition ($B = -.25$, $SE B = .34$, $\beta = -.09$, t

¹⁰Alternatively, we reach the same conclusion if we only exclude 2 respondents out of 177 who scored below 4 on the attention scale, and model the effect of attention by including it as a moderator of the critical essentialism \times bias interaction. This analysis is reported in supplemental online materials.

¹¹Again, the distribution of bias was not symmetrical: Whereas 33.3% of respondents showed anti-Black bias, only 8.3% of respondents showed anti-White bias.

= $-.75$, $p = .46$). In contrast, bias was positively related to hypodescent for participants in the genetic condition ($B = .81$, $SE B = .35$, $\beta = .30$, $t = 2.33$, $p = .02$). Thus, we again found that the relationship between racial essentialism and the categorizations of multiracial targets as Black hinged on racial bias. In contrast, making salient a concept of race as genetic versus non-genetic did not influence the categorization of ambiguous targets as White or as multiracial at any level of intergroup bias (see supplementary online analyses).

GENERAL DISCUSSION

Racial essentialism entails the belief that categories are inherited, non-overlapping, and immutable. Those who endorse racial essentialism tend to categorize individuals with Black and White parentage as Black relative to White (Chao et al., 2013). However, essentialism alone cannot explain this categorization bias. We reasoned that intergroup bias would interact with essentialism, such that people who endorsed more racial essentialism and felt negatively toward Black people would categorize multiracial individuals as Black. In Study 1, a priori individual differences in racial essentialism interacted with intergroup bias to predict a lower threshold for minority categorization – quarter-Black targets were categorized as Black more often than quarter-White targets were categorized as White. In Study 2, an experimental induction of racial essentialism led individuals who were previously known to exhibit intergroup biases to categorize ambiguous faces as Black.

Racial essentialism is related to stereotyping, perceptions of outgroup homogeneity, and decreased desire to help disadvantaged groups (Bastian & Haslam, 2006; Prentice & Miller, 2007; Williams & Eberhardt, 2008). Our data demonstrate that racial essentialism also plays a role in the categorization of multiracial individuals, but furthermore, that essentialism does not act alone. Negatively evaluated groups are disproportionately weighted by those with essentialist beliefs, leading to categorization biases. Although previous work has typically focused on cognitive *or* motivational underpinnings of hypodescent in isolation, our data reveal that the interplay of these processes may be critical in racial categorization. Indeed, social motivations may similarly augment other cognitive biases that have been shown to undergird hypodescent (e.g., greater attention to minority group phenotype; Halberstadt et al., 2011). Likewise, cognitive biases might facilitate the effects of motivational biases on hypodescent. For example, the pervasive cognitive bias toward believing that race is biological may enable those who are motivated to dislike Blacks to similarly impugn the character of Black-White multiracials, and consequently engage in hypodescent.¹² Our findings demonstrating effects with *either* essentialism *or* anti-Black bias as the *moderating* variable would support this view.

Since racial essentialism develops with age (Kinzler & Dautel, 2012), it is no surprise that adults but not children endorse hypodescent when categorizing multiracial individuals (Roberts & Gelman, in press). Additional work is needed to uncover when in development racial essentialism emerges and interacts with racial biases to produce hypodescent. Future work would also do well to examine this phenomenon among non-White participants (see

¹²Also see Chen and Ratliff (in press), which demonstrated implicit attitude transfer from Black to Black-White biracials among White respondents. Interestingly, our studies suggest that essentialist beliefs may facilitate such transfers.

supplemental online materials) and with targets mixing other backgrounds (e.g., Latino-White). Additional research will no doubt reveal more about this important orientation to social others. For now, the current studies—grounded in prior theorizing on racial essentialism, negativity bias, and hypodescent—reveal how cognitive and motivational biases can interact to drive social stratification when people are confronted with individuals who blur traditional notions of social group boundaries.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

References

- Bar-Anan Y, Nosek BA. A comparative investigation of seven indirect attitude measures. *Behavior Research Methods*. 2014; 46:668–688. [PubMed: 24234338]
- Baron A, Banaji M. Evidence of system justification in young children. *Social and Personality Psychology Compass*. 2009; 3:918–926.
- Bastian B, Haslam N. Psychological essentialism and stereotype endorsement. *Journal of Experimental Social Psychology*. 2006; 42:228–235.
- Chao MM, Hong Y, Chiu C. Essentializing race: Its implications on racial categorization. *Journal of Personality and Social Psychology*. 2013; 104:619–634. [PubMed: 23397967]
- Chen JM, Hamilton DL. Natural ambiguities: Racial categorization of multiracial individuals. *Journal of Experimental Social Psychology*. 2012; 48:152–164.
- Chen JM, Moons WG, Gaither SE, Hamilton DL, Sherman JW. Motivation to control prejudice predicts categorization of multiracials. *Personality & Social Psychology Bulletin*. 2014; 40:590. [PubMed: 24458216]
- Chen JM, Ratliff K. Implicit attitude generalization from Black to Black-White Biracial group members. *Social Psychological and Personality Science*. in press.
- Davis, FJ. Who is Black? One nation's definition. In: Plous, S., editor. *Understanding prejudice and discrimination*. New York: McGraw-Hill; 1991. p. 49-62.
- Dennett, DC. *Darwin's dangerous idea: evolution and the meanings of life*. New York: Simon & Schuster; 1995.
- Gelman, SA. *The essential child: origins of essentialism in everyday thought*. New York: Oxford University Press; 2003.
- Haslam N, Rothschild L, Ernst D. Essentialists beliefs about social categories. *British Journal of Social Psychology*. 2000; 39:113–127. [PubMed: 10774531]
- Halberstadt J, Sherman SJ, Sherman JW. Why Barack Obama is Black: A cognitive account of hypodescent. *Psychological Science*. 2011; 22:29–33. [PubMed: 21106887]
- Ho AK, Sidanius J, Cuddy AJC, Banaji MR. Status boundary enforcement and the categorization of Black–White multiracials. *Journal of Experimental Social Psychology*. 2013; 49:940–943.
- Ho AK, Sidanius J, Levin DT, Banaji MR. Evidence for hypodescent and racial hierarchy in the categorization and perception of multiracial individuals. *Journal of Personality and Social Psychology*. 2011; 100:492–506. [PubMed: 21090902]
- Kahn K, Ho AK, Sidanius J, Pratto F. The space between us and them: Perceptions of status differences. *Group Processes & Intergroup Relations*. 2009; 12:591–604.
- Kahneman D, Tversky A. Prospect theory: An analysis of decision under risk. *The Econometric Society*. 1979; 47:263–292.
- Kinzler KD, Dautel JB. Children's essentialist reasoning about language and race. *Developmental Science*. 2012; 15:131–138. [PubMed: 22251299]
- Krosch AR, Amodio DM. Economic scarcity alters the perception of race. *Proceedings of the National Academy of Sciences*. 2014; 111:9079–9084.

- Krosch AR, Berntsen L, Amodio DM, Jost JT, Van Bavel JJ. On the ideology of hypodescent: Political conservatism predicts categorization of racially ambiguous faces as Black. *Journal of Experimental Social Psychology*. 2013; 49:1196–1203.
- Peery D, Bodenhausen GV. Black + White = Black: Hypodescent in reflexive categorization of racially ambiguous faces. *Psychological Science*. 2008; 19:973–977. [PubMed: 19000204]
- Prentice DA, Miller DT. Psychological essentialism of human categories. *Current Directions in Psychological Science*. 2007; 16:202–206.
- Rhodes M, Gelman SA. Five-year-olds' beliefs about the discreteness of category boundaries for animals and artifacts. *Psychonomic Bulletin & Review*. 2009; 16:920–924. [PubMed: 19815799]
- Rhodes M, Gelman SA, Karuza JC. Preschool ontology: The role of beliefs about category boundaries in early categorization. *Journal of Cognition and Development*. 2014; 15:78–93. [PubMed: 24611032]
- Roberts SO, Gelman SA. Do children see in black and white? Children's and adults' categorizations of multiracial individuals. *Child Development*. in press.
- Rodeheffer CD, Hill SE, Lord CG. Does this recession make me look black? The effect of resource scarcity on the categorization of multiracial faces. *Psychological Science*. 2012; 23:1476. [PubMed: 23085641]
- Rozin P, Millman L, Nemeroff C. Operation of the laws of sympathetic magic in disgust and other domains. *Journal of Personality and Social Psychology*. 1986; 50:703–712.
- Rozin P, Royzman EB. Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review*. 2001; 5:296–320.
- Sidanius J, Levin S, Pratto F. Consensual social dominance orientation and its correlates within the hierarchical structure of American society. *International Journal of Intercultural Relations*. 1996; 20:385–408.
- Sidanius, J.; Pratto, F. *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press; 1999.
- Taylor SE. Asymmetrical effects of positive and negative events: the mobilization-minimization hypothesis. *Psychological Bulletin*. 1991; 110:67. [PubMed: 1891519]
- Williams MJ, Eberhardt JL. Biological conceptions of race and the motivation to cross racial boundaries. *Journal of Personality and Social Psychology*. 2008; 94:1033–1047. [PubMed: 18505316]



Figure 1. Interaction between essentialism and intergroup bias in predicting hypodescent in Study 1. Low bias and high bias lines represent simple slopes at -1 and $+1$ SD around the mean of intergroup bias.



Figure 2.
Sample images from the racial categorization task in Study 2.

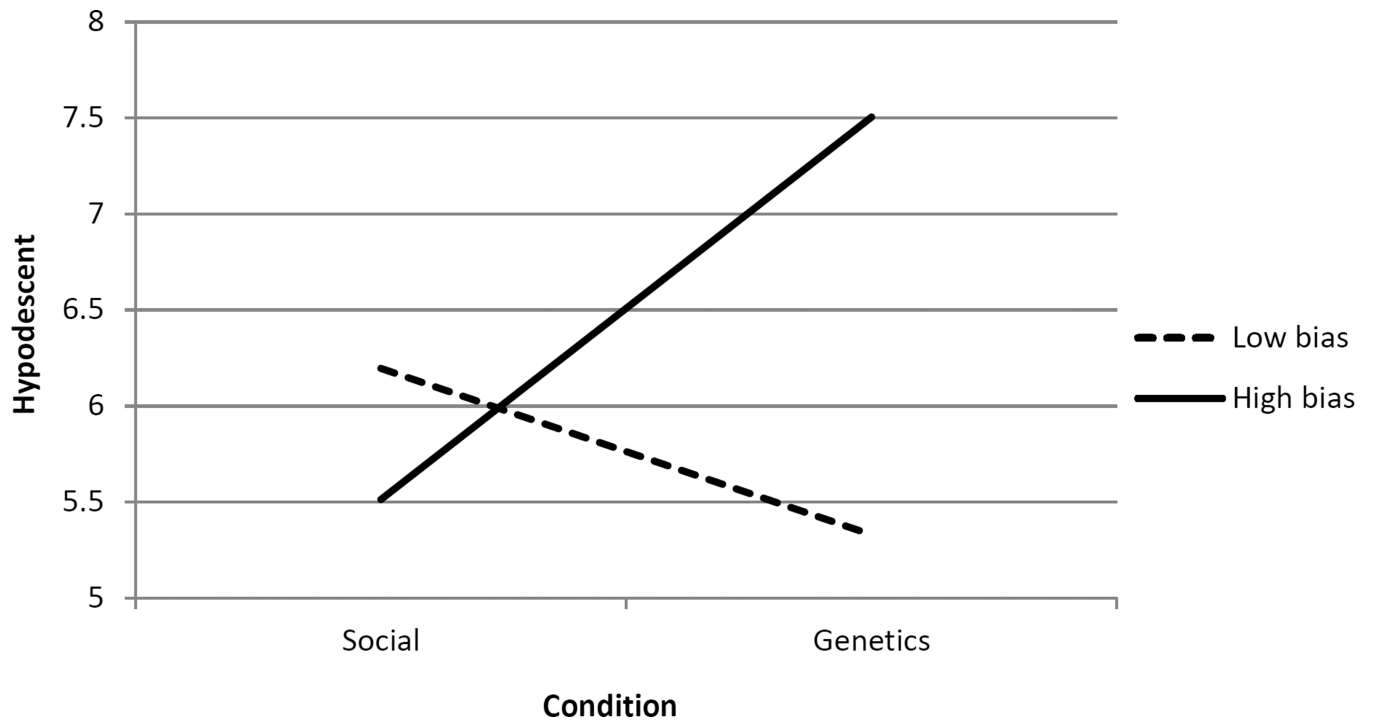


Figure 3. Interaction between essentialism condition and intergroup bias in predicting racial categorization in Study 2. Low bias and high bias lines represent simple slopes at -1 and $+1$ *SD* around the mean of intergroup bias.