Stereotypes of Social Class and Race in the United States: A Social Sampling Account

Salvador Vargas Salfate[1], Chadly Stern[1], and Benedek Kurdi[1]

[1] Department of Psychology, University of Illinois Urbana–Champaign

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Author Note

Salvador Vargas Salfate ⓘD https://orcid.org/0000-0003-3306-4134

Chadly Stern ⓘD https://orcid.org/0000-0001-8720-584X

Benedek Kurdi ⓘD https://orcid.org/0000-0001-5000-0584

Correspondence concerning this article should be addressed to Salvador Vargas Salfate,

Department of Psychology, University of Illinois Urbana–Champaign, 603 E. Daniel St.,

Champaign, IL 61820, United States. Email: sev4@illinois.edu

Abstract

Across five studies ($N = 7{,}075$) we use the Implicit Association Test (IAT) to document a stereotype linking White Americans to the trait "rich" and Black Americans to the trait "poor" among Americans of various racial groups. Building on an unexpected finding of stronger White–rich/Black–poor stereotyping among third-group individuals (e.g., Latine and Asian Americans) relative to Black and White Americans, we hypothesized that biased social sampling from network homophily might produce this stereotype. Supporting this possibility, we observed that (*a*) contact with Black people explained racial group differences in stereotyping and, crucially, (*b*) exposing participants to counterstereotypic (Black–rich and White–poor) exemplars decreased the degree of stereotyping across a number of procedural variations and to similar degrees across racial groups. Overall, these findings suggest that social relationships are critical to understanding how individuals form and maintain stereotypes about groups that are unequal in wealth and status.

Keywords: counterstereotypes, race, social class, social sampling, stereotypes

Stereotypes of Social Class and Race in the United States: A Social Sampling Account

In the United States (U.S.), White Americans typically have more power, economic resources, and status than Black Americans (Saperstein & Penner, 2012), all of which are components of social class (Stephens et al., 2024). Do Americans hold stereotypes consistent with these differences? Few studies have directly examined this question.

The limited preexisting research on this topic suggests that stereotypes about racial and social class groups overlap (Moore-Berg & Karpinski, 2019) and that people might differentially associate racial groups with social class groups (Dupree et al., 2021). For instance, people generate representations of poor individuals that look more Black and less White, in comparison to representations of non-poor individuals (Brown-Iannuzzi et al., 2017; Lei & Bodenhausen, 2017; see also Brown-Iannuzzi et al., 2019; Freeman et al., 2011). As such, the first key aim of the present research was to replicate these findings by examining whether individuals in the U.S. stereotype White people as rich and Black people as poor using a methodological approach relying on an indirect (response time-based) measure (Studies 1a–c).

A second key aim of the project was to newly probe whether White–rich/Black–poor stereotypes vary when comparing participants from different racial groups. In an initial study (Study 1a), we unexpectedly observed that third-group participants (including Asian and Latine Americans) exhibited stronger stereotyping in comparison to both White and Black participants, whereas White and Black participants did not significantly differ from each other. This chance finding gave us the opportunity to initially explore, and then more directly test, a specific mechanism giving rise to race–social class stereotypes. Providing evidence for this mechanism was the third, and final, key aim of the present work.

Specifically, we reasoned that differences in stereotyping across racial groups could be attributed to social sampling processes (Galesic et al., 2018, 2012). Given that people tend to have homophilic social networks (e.g., Mollica et al., 2003; Paik et al., 2023), we surmised that White and Black Americans would have more contact with White and Black individuals relative to third-group individuals. This increased contact affords the opportunity to interact with a more diverse sample of White and Black individuals (e.g., Pettigrew & Tropp, 2008), including counterstereotypic exemplars (i.e., those who disconfirm stereotypes). In other words, increased contact can lead to less stereotypic responding via exposure to counterstereotypic individuals. We tested this idea in Studies 1a–c correlationally by examining whether contact with Black people decreased racial group differences in White–rich/Black–poor stereotypes. We then experimentally tested the same idea in Studies 2–3 by manipulating exposure to White and Black counterstereotypic exemplars.

Given that the explicit endorsement of social group stereotypes is counternormative, especially in the context of race (Crandall et al., 2002), we used versions of the Implicit Association Test (IAT; Greenwald et al., 1998) as the main dependent measure in all present studies. In addition to the key measure of stereotyping, we also included measures of White/Black–good/bad social group attitudes in Studies 1a–c. Because the trait "rich" is semantically positive and "poor" is semantically negative, we sought to eliminate the possibility that the intended measure of stereotyping was simply indexing social group attitudes. In addition, these studies speak to the substantive issue of whether relatively automatic forms of social group stereotypes and attitudes can meaningfully dissociate from each other (Amodio & Devine, 2006; Gawronski et al., 2022; Kurdi et al., 2019).

In summary, in this research we (*a*) examine whether people in the U.S. stereotype White people as rich and Black people as poor, (*b*) document differences across participant race in the degree of stereotyping, and (*c*) provide several convergent tests of one potential mechanism (biased social sampling) from which racial group differences in stereotyping could emerge.

Transparency and Openness

We report how we determined sample sizes, as well as all data exclusions, all manipulations, and all measures. All data, analysis code, preregistrations, and research materials are available at https://osf.io/8v529/?view_only=64f1d1071ecc49bcafbcdd9f9be56370. Data were analyzed using *R* (version 4.4.2; R Core Team, 2024). All studies were preregistered, and all deviations from preregistration plans are reported in the Online Supplementary Material (OSM, Table S1; Willroth & Atherton, 2024). In the main text, we present the results directly relevant to the main hypotheses. All other analyses are reported in the OSM.

Studies 1a–c

In Studies 1a–c, we tested whether Americans exhibited White–rich/Black–poor stereotypes using a version of the IAT (Greenwald et al., 1998). We also examined whether individuals from different racial groups varied in the degree to which they exhibited these stereotypes. We preregistered Study 1a using an exploratory framework, whereas we preregistered Studies 1b–c as replications of Study 1a. Given the similarity in their designs, we report these studies using an integrative data analysis approach (Curran & Hussong, 2009).

Method

Participants

Participants were volunteers at the Project Implicit website (https://implicit.harvard.edu; final *N*s = 1023, 591, 1468). Preregistered exclusions across all studies are fully reported in the

OSM (p. 6). In Study 1a, we sought to recruit a large number of participants, given that prior work provided no strong basis for power calculations, especially with respect to participant race effects. In Study 1b, we conducted an a priori power analysis to determine a sample size that would allow us to replicate results observed in Study 1a (OSM, p. 4). In Study 1c, we recruited an even larger sample to maximize statistical power to detect differences in stereotyping across participant race.

Across all studies, we recruited only participants living in the U.S. (M_{age} = 34.32, SD = 14.41; 71.7% women, 26.1% men, 2.3% other). Given our interest in differences across participant race, we recruited similar proportions of participants who identified as White (33.7%), Black (33.3%), and neither White nor Black (33.0%; i.e., Asian, Hispanic, Middle Eastern, Multiracial, Native American, or Pacific Islander). Full details on the distribution of the race variable can be found in the OSM (p. 5).

Measures

In this section, we report a brief description of the main measures used in Studies 1a–c. All details about these measures, as well as exploratory measures across all studies, are reported in the OSM (pp. 7–8).

Race–Social Class Stereotypes. Race–social class stereotypes were measured using a standard five-block IAT (Greenwald et al., 1998), adapted from the rich–poor IAT developed by Rudman et al. (2002). We used response latencies from the third and fifth blocks to compute a D score for each participant using the D_2 algorithm (Greenwald et al., 2003). Higher values correspond to higher levels of White–rich/Black–poor stereotyping, with zero corresponding to neutrality.

Racial Attitudes. Given that the attributes on the race–social class stereotype IAT are highly valenced, we also included a measure of racial attitudes to use as a control variable in relevant analyses. The race attitude IAT (Morehouse & Banaji, 2024) followed the same procedure as the stereotype IAT described above, with the exception that the attributes were *positive* and *negative* rather than *rich* and *poor*. We computed a D_2 score for each participant, such that higher values correspond to more positive attitudes toward White people and/or more negative attitudes toward Black people.

Race. Participants indicated their race when registering on the Project Implicit website. We classified participants as White, Black, or third-group. The latter category included participants identifying as Asian, Hispanic, Middle Eastern, multiracial, Native American, or Pacific Islander.

Contact with Black People. Participants responded to the following item: *Overall, approximately how many Black people do you know (at least as acquaintances)?*, using a scale ranging from 1 to 10 ($M = 7.96$, $SD = 2.82$).

Procedure

Across all studies, participants first completed the race–social class stereotype IAT, directly followed by the racial attitude IAT. Participants then responded to a series of self-report items about race, social class, and ideology. Finally, participants were debriefed and thanked for their participation.

Analytic Strategy

Studies 1a–c included the same measure of race–social class stereotypes. Therefore, we conducted an integrative data analysis (Curran & Hussong, 2009). Although not preregistered,

this approach allowed us to identify generalizable trends across these three studies. We used two main statistical analyses.

First, we calculated effects of participant race (White, Black, and third-group) on race–social class stereotyping by fitting Analyses of Variance (ANOVAs) with race, study, and their interaction as predictor variables. We followed up on significant omnibus tests by computing the estimated means by participant race and used post-hoc Tukey-HSD comparisons to determine which racial groups were significantly different from each other.

Second, we used linear regression analyses when the focus was to examine the association between the continuous variable of contact with Black people and race–social class stereotyping. We included the following predictors: contact with Black people (grand-mean centered), study (factor-effect coded), and the two-way interaction between these variables. Doing so allowed us to obtain an estimate of the average association between the two variables of conceptual interest after adjusting for between-study heterogeneity.

Results

Mean Levels of and Participant Race Differences in Race–Social Class Stereotypes

Across Studies 1a–c, we observed a significant level of White–rich/Black–poor stereotyping associated with a medium-sized effect, $M_{\text{Weighted}} = 0.23$, $SE = 0.01$, $t(3079) = 25.71$, $p < .001$, $d = 0.50$, 95% CI [0.21, 0.25]. We also observed significant differences in the degree of stereotyping across participant race, $F(2, 3064) = 14.40$, $p < .001$, $\eta^2 = .01$.[1] Means are presented in Table 1. Third-group participants exhibited the stereotype more strongly than Black participants, $p = .002$, $d = 0.15$, or White participants, $p < .001$, $d = 0.23$. Black and White participants did not significantly differ from each other, $p = .147$, $d = 0.08$.

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[1] The Race × Study interaction was significant, $F(2, 3064) = 4.80$, $p < .001$, $\eta^2 = .01$. We therefore tested racial group differences in race–social class stereotypes in each study (OSM, p. 9).

Table 1

Stereotypes, Attitudes, and Contact Across Participant Race (Studies 1a–c)

	Stereotypes		Attitudes		Contact With Black People	
	M	*SE*	*M*	*SE*	*M*	*SE*
White	0.17	0.02	0.24	0.01	7.52	0.09
Black	0.23	0.02	-0.03	0.01	9.61	0.09
Third-group	0.29	0.01	0.19	0.01	6.82	0.09

Dissociation From Attitudes

Given that "rich" and "poor" are highly valenced traits, a deflationary account of the present results is that the White/Black–rich/poor IAT indexes generalized attitudes rather than specific semantic attributions to White and Black people. The attitude IAT administered to participants helps address this possibility.

Similar to race–social class stereotypes, participants held more positive attitudes toward White people in comparison to Black people, $M_{\text{Weighted}} = 0.13$, $SE = 0.01$, $t(3079) = 16.12$, $p <$ .001, $d = 0.31$, 95% CI [0.12, 0.15], thus providing initial evidence that the two measures may be reflecting overlapping constructs.

However, two pieces of evidence are inconsistent with the interpretation that the race–social class IAT is exclusively, or even primarily, reflective of attitudes. First, the magnitude of association between race–social class stereotypes and attitudes suggests that these constructs share some variance but are not redundant with each other, $b = 0.34$, $SE = 0.02$, $p < .001$, 95% CI [0.30, 0.37], $b* = .31$.

Second, and critically, although we observed significant attitude differences across participant race, $F(2, 3064) = 126.57$, $p < .001$, $\eta^2 = .08$, the pattern of predicted means was

fundamentally different than for stereotypes. White participants exhibited the most strongly pro-White/anti-Black attitudes, followed by third-group participants, and finally Black participants. The pairwise comparisons between White and third-group, $p = .014$, $d = 0.12$, White and Black, $p < .001$, $d = 0.64$, and Black and third-group participants were each significant, $p < .001$, $d = 0.52$. By contrast, third-group participants exhibited the highest levels of stereotyping, followed by lower, and similar, levels among Black and White participants (see above).

Social Sampling as a Mechanism Driving Participant Race Differences in Stereotyping

To test our social sampling account, we explored whether contact with Black people contributed to explaining differences in race–social class stereotypes across participant race. We found significant differences in contact with Black people across racial groups, $F(2, 2953) = 320.29$, $p < .001$, $\eta^2 = .18$. Third-group participants indicated that they knew fewer Black people than both Black, $p < .001$, $d = 1.00$, and White participants, $p < .001$, $d = 0.26$. Black participants indicated that they knew significantly more Black people than White participants did, $p < .001$, $d = 0.73$. We also found that knowing more Black people was associated with lower levels of White–rich/Black–poor stereotyping, $b = -0.01$, $SE < 0.01$, $p < .001$, 95% CI [-0.02, <0.01], $b* = -.07$.

Given these results, we tested whether knowing Black people contributed to explaining differences in stereotyping across participant race. In a path analysis framework using 1,000 bootstrap samples, we specified participant race as the exogenous variable, contact with Black people as a covariate, and race–social class IAT scores as the outcome variable. Results indicated that accounting for contact with Black people significantly reduced differences in stereotyping between third-group participants and both White participants, $b = -0.01$, $SE < 0.01$, $p = .012$,

95% CI [-0.02, < 0.01], $b* = -.01$, and Black participants, $b = -0.03$, $SE = 0.01$, $p = .003$, 95% CI

[-0.05, -0.01], $b* = -.03$.[2]

Discussion

In Studies 1a–c, we documented a significant and medium-sized stereotype linking White

Americans to the trait "rich" and Black Americans to the trait "poor." Although participants of all

races exhibited this stereotype, third-group participants showed a stronger effect in comparison

to both White and Black participants who were characterized by comparable levels of

stereotyping. Consistent with our social sampling approach (Galesic et al., 2018, 2012), these

results also provide initial evidence that differences across participant race might be driven by

contact with Black people. Specifically, we found that third-group participants know fewer Black

people than either Black or White participants, which may provide them with fewer opportunities

to encounter counterstereotypic (poor White and rich Black) individuals. This diminished

exposure to counterstereotypic exemplars may, in turn, result in stronger stereotypic linking of

race and social class in their minds. In Studies 2–3, we aim to provide a more direct test of this

mechanism.

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Studies 2–3

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In Studies 2–3, we probed whether exposure to counterstereotypic (poor White and rich

Black) exemplars would modulate race–social class stereotyping. In Study 2, we conducted an

initial test of this idea by examining effects of exposure to counterstereotypic exemplars across

different procedural variations. In Study 3, we sought to ascertain the replicability of the key

finding from Study 2 and explored whether exposure to counterstereotypic exemplars would

decrease differences in stereotyping across participant races. This approach provides a direct

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[2] We also tested differences in stereotypes across racial groups using direct (self-report) measures and probed
whether these results could be explained by a motivated social cognition account (OSM, pp. 10–11).

experimental test for the mechanism leading to White–rich/Black–poor stereotypes under our social sampling account.

Study 2

In Study 2, we implemented four manipulations, each involving exposure to counterstereotypic exemplars. The four manipulations were included as a test of generalizability. *Attribute conditioning* (Unkelbach & Högden, 2019) involved exposure to co-occurrences between category members and counterstereotypic attributes (e.g., Black–rich). *Active attribute conditioning* (Schmidt & De Houwer, 2012) is procedurally similar to attribute conditioning but makes the targets' social category salient by asking participants to categorize targets on each trial. *Explicit attribute conditioning* (Kurdi & Banaji, 2017) involves participants explicitly learning contingencies (e.g., White–poor, Black–rich) via verbal instructions, rather than, or in addition to, via stimulus pairings. Finally, *contact with counterstereotypic exemplars* (Crisp & Turner, 2012) entails having a positive (imagined) interaction with individuals who do not fit relevant stereotypes.

Method

Participants. We conducted a power analysis that indicated that at least 250 participants per condition would provide statistical power of .80 to detect the main effect of condition for effect sizes observed in similar studies in our lab (OSM, p. 4). We therefore recruited 1467 volunteers from Project Implicit ($M_{age} = 31.32$, $SD = 13.91$; 71.8% women, 25.8% men, and 2.5% other genders). Because Study 2 was a proof-of-concept study, we recruited a sample without stratification by race. We used participants' self-identifications to classify them as White (51.3%), Black (15.7%), or third-group (33.0%).

Measures. We used the same indirect (IAT) measure of race–social class stereotypes as in Studies 1a–c.

Procedure. The study consisted of a learning phase and a test phase. Participants were randomly assigned to one of five conditions in the learning phase.

Attribute Conditioning Condition. Participants ($n = 329$) were shown 20 pairings of White faces with words related to the trait "poor" (*deprived*, *needy*, *penniless*, *underprivileged*, *empty-handed*, and *moneyless*) and 20 pairings of Black faces with words related to the trait "rich" (*wealthy*, *affluent*, *elite*, *loaded*, *moneyed*, and *prosperous*). All other details are reported in the OSM (p. 8).

Active Attribute Conditioning Condition. Participants ($n = 342$) completed the same task described above but were asked to categorize the race of the face shown on each trial using the 1 and 0 keys on their keyboard. A correct response was required to proceed to the next trial.

Explicit Attribute Conditioning Condition. Participants ($n = 155$) were intended to complete the same task as in the attribute conditioning condition but were also explicitly informed about the White–poor and Black–rich contingencies to which they would be exposed during the conditioning procedure. Due to a coding error, participants did not see any images during the conditioning procedure; as such, effectively, this condition served as a test of the effects of contingency instructions only, in the absence of actual experience (see Kurdi & Banaji, 2017).[3]

Imagined Contact With Counterstereotypic Exemplars Condition. Participants ($n = 264$) were asked to imagine that they would meet a poor White man and have a conversation with him (adapted from Husnu & Crisp, 2010). They were then asked to write a description of this

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[3] The coding error also likely explains the higher attrition in this condition. We made this fact explicit as a deviation from the preregistration plan in the OSM.

conversation. Participants completed the same task about meeting a rich Black man. The order of these tasks was randomized.

   ***Control Condition.*** Participants ($n = 377$) proceeded directly to the test phase.

      Test Phase. Participants in all five conditions completed an indirect (IAT) measure of race–social class stereotypes. As in Studies 1a–c, the IAT served as the main dependent measure.

Results

      Results indicated significant differences in race–social class stereotyping across conditions, $F(4, 1462) = 15.40$, $p < .001$, $\eta^2 = .04$, as shown in Figure 1. Replicating Studies 1a–c, participants exhibited a significant degree of White–rich/Black–poor stereotyping in the control condition ($M = 0.29$, $SE = 0.02$), $t(376) = 12.80$ p $< .001$, $d = 0.66$. Tukey HSD post-hoc comparisons suggested that each of the four manipulations reduced the degree of stereotyping relative to control, including active attribute conditioning ($M = 0.19$, $SE = 0.02$), $p = .026$, $d = 0.22$, imagined contact with counterstereotypic exemplars ($M = 0.17$, $SE = 0.03$), $p = .009$, $d = 0.26$, attribute conditioning ($M = 0.09$, $SE = 0.02$), $p < .001$, $d = 0.42$, and explicit attribute conditioning ($M = -0.01$, $SE = 0.04$), $p < .001$, $d = 0.66$. Overall, results suggest that although race–social class stereotypes are robust, they are also highly malleable in response to a wide range of interventions involving counterstereotypic individuals.[4]

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[4] We did not find evidence that the experimental conditions led to different decrements in stereotyping when comparing racial groups. We also examined which condition was more effective in reducing stereotyping (OSM, p. 12).

Figure 1

Race–Social Class Stereotyping Across Conditions

Race–social class stereotypes by condition
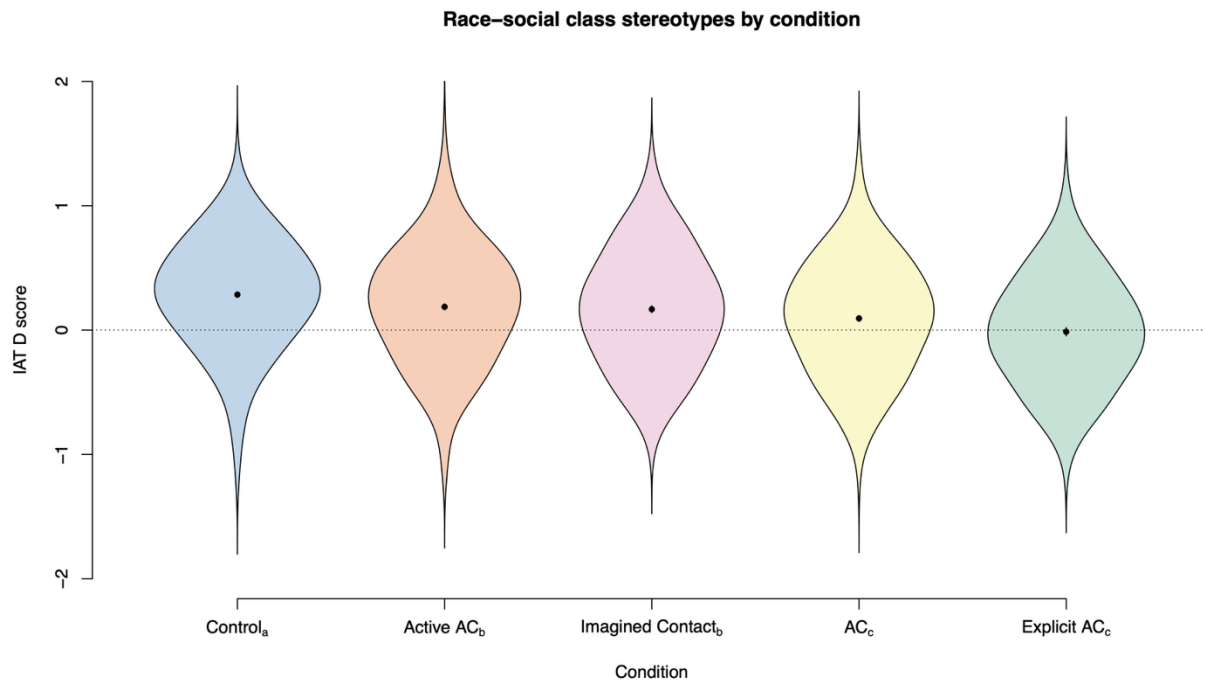
Note: Conditions with the same subscripts indicate non-significant differences.

Study 3

In Study 3, we sought to replicate key finding of Study 2, namely that exposure to counterstereotypic exemplars can reduce White–rich/Black–poor stereotypes, in line with a social sampling account. In this study, we focused on attribute conditioning only, for two reasons. First, all manipulations in Study 2 led to a reduction in race–social class stereotyping, suggesting that they can be treated as interchangeable for the present purposes. Second, attribute conditioning is the condition most directly tapping into our proposed mechanism (i.e., exposure to counterstereotypic exemplars) without additional procedural details.

We also explored whether exposing participants to counterstereotypic exemplars would reduce differences in White–rich/Black–poor stereotypes across participant race. There are two

possibilities consistent with our main theoretical account. One possibility is that exposure to counterstereotypic exemplars will more strongly reduce stereotyping among third-group participants, relative to White and Black participants, suggesting a stronger effect among participants with less chronic exposure to such exemplars. Another possibility is that participants across all racial groups may exhibit similar decrements in stereotyping. This possibility would suggest that the mechanism operates relatively similarly across participant race.

Data collection for Study 3 consisted of two rounds. In the initial preregistered round of data collection, we observed a reduction in race–social class stereotyping in the experimental relative to control condition. However, at odds with Studies 1a–c, the evidence for overall differences in stereotyping across participant races was inconclusive ($p = .057$). For this reason, we preregistered to recruit more participants and adjusted the critical p-value to reject the null hypothesis to .029 (Albers, 2019; Lakens, 2014; Pocock, 1982).[5]

Method

Participants. We conducted power analyses suggesting that approximately 800 participants per racial group would provide appropriate statistical power to replicate results comparing the attribute conditioning and control conditions from Study 2 (OSM, p. 4). We therefore recruited 2,535 volunteers from Project Implicit ($M_{age} = 34.94$, $SD = 14.26$; 71.9% women, 26.8% men, 1.3% other genders). To be able to examine effects of participant race, we recruited similar proportions of individuals identified as White (33.4%), Black (33.8%), and third-group (32.9%).

Measures. We used the same indirect (IAT) measure of race–social class stereotypes as in Studies 1a–2.

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[5] Results from the first round of data collection are presented in the OSM (p. 13).

Procedure. We followed the same procedure as in Study 2, but participants were

assigned only to the attribute conditioning (n = 1,099) or control condition (n = 1,436).

Results

Replicating Study 2, exposing participants to counterstereotypic exemplars decreased the

degree to which they exhibited White–rich/Black–poor stereotypes, $F(1, 2515) = 34.53, p < .001,$

$\eta^2 = .01, d = .23, M_{\text{attribute conditioning}} = 0.12, SE = 0.01, M_{\text{control}} = 0.23, SE = 0.01.$

In line with Studies 1a–c, we also observed significant differences in stereotyping across

participant race, $F(2, 2515) = 5.95, p = .003, \eta^2 < .01.$ The rank ordering of means was similar to

that observed in previous studies, with third-group participants showing the strongest level of

stereotyping ($M = 0.22, SE = 0.02$), followed by Black participants ($M = 0.18, SE = 0.02$), and,

finally, White participants ($M = 0.14, SE = 0.02$). Also in line with Studies 1a–c, post-hoc Tukey

comparisons indicated that third-group participants and White participants significantly differed

from each other, $p = .002, d = 0.17,$ whereas Black and White participants did not, $p = .254, d =$

0.08. In a deviation from previous studies, third-group and Black participants also did not

significantly differ, $p = .145, d = 0.09.$

Finally, we did not observe evidence that exposure to counterstereotypic exemplars

reduced differences in White–rich/Black–poor stereotypes across participant race, $F(2, 2515) =$

0.07, $p = .930, \eta^2 < .01.$ In other words, on average, participants across all racial groups

experienced similar decrements on stereotyping.

Discussion

Studies 2–3 followed up on suggestive evidence from Studies 1a–c by more directly

testing whether a social sampling approach could account for the formation and maintenance of

stereotypes about race and social class. Across both studies, we found that exposure to

counterstereotypic exemplars via a number of different procedures decreased the degree to which participants exhibited White–rich/Black–poor stereotypes. This finding supports a social sampling approach (Galesic et al., 2018, 2012). Specifically, the stereotypic link between race and social class could be explained by a lack of sufficient contact with exemplars who do not fit the stereotype. Notably, we found that the reduction in stereotypes was not modulated by participant race, suggesting that the mechanism of exposure to counterstereotypic exemplars operates relatively similarly across racial groups.

General Discussion

People acquire stereotypes based on the information to which they are exposed in their environments (e.g., Devine, 1989). As such, the presence and strength of stereotypes could be explained by group-relevant information that participants regularly encounter (e.g., Galesic et al., 2012, 2018). Driven by this idea, we examined whether stereotypes linking race and social class may follow a similar psychological process. White people in the U.S. have more economic resources than Black people (Saperstein & Penner, 2012). Therefore, we explored whether U.S. participants exhibited White–rich/Black–poor stereotypes. Across five studies, we observed evidence consistent with this idea.

Importantly, we found that stereotypes linking race and social class were different from attitudes, thus ruling out an alternative interpretation of the findings. At a more substantive level, these results also inform the debate about whether attitudes and stereotypes can meaningfully dissociate from each other in relatively automatic social group cognition (Amodio & Devine, 2006; Gawronski et al., 2022; Kurdi et al., 2019). Indeed, although "rich" and "poor" are both highly valenced traits, the stereotype IAT was meaningfully distinct from a parallel attitude IAT in terms of both mean levels and correlations. As such, future research should more directly

investigate the conditions under which social group attitudes and stereotypes are relatively aligned vs. different.

Across Studies 1a–c, we observed that third-group participants exhibited stronger stereotyping in comparison to both their White and Black counterparts. We reasoned that a social sampling account could explain these findings (Galesic et al., 2018, 2012): Because third-group participants have relatively fewer interactions with White and Black people, they may have fewer opportunities for exposure to counterstereotypic exemplars, which could overturn, or at least modulate, stereotyping linking race and social class. After providing initial correlational evidence for this idea in Studies 1a–c, in Studies 2–3 we experimentally manipulated exposure to counterstereotypic exemplars and found that such exposure decreased stereotyping.

Notably, in Studies 2–3, exposing participants to counterstereotypic exemplars did not decrease racial group differences in stereotyping; instead, the manipulation produced similar effects across participant race. This finding may initially seem to run counter to our social sampling account; however, upon closer examination, it does not. One possibility is that participants from different racial groups have different levels of chronic exposure to counterstereotypic exemplars, as Studies 1a–c indicate. As such, to reduce these preexisting differences, larger numbers of exposures may have been necessary for participants who hold stronger stereotypes at baseline. Instead, in the interest of experimental control, all groups of participants experienced the same experimental manipulation. More broadly, these results suggest that the effects of (virtual) intergroup contact might be invariant to prior levels of contact (but see Barlow et al., 2013).

Limitations and Future Directions

The present work is limited to a specific intergroup setting, namely race; the results observed here may not readily generalize to other social group distinctions. Specifically, people's interactions with individuals from different groups could have less impact on stereotyping in other intergroup settings. For example, this account may be less applicable to gender stereotyping given that people of different genders tend to interact with each other regularly (Glick, 2014). A second limitation is that we relied on a single method to assess race–social group stereotypes (the IAT). Researchers have developed other indirect measures of social representations that have been used in the domain of race and social class (e.g., reverse correlation; Brown-Iannuzzi et al., 2017). Future research should assess the robustness of the present findings by examining whether they extend to other relevant measures. Finally, studies should explore other mechanisms for racial group differences, such as media exposure (e.g., Skinner et al., 2021).

Concluding Remarks

In this research, we found consistent evidence for stereotypes linking White Americans with the trait "rich" and Black Americans with the trait "poor." Unexpectedly, we observed stronger stereotyping among third-group participants relative to both their White and Black counterparts. In following up on this finding, we provided both correlational and experimental evidence for a social sampling account suggesting that repeated interactions with members of different groups provide opportunities for stereotypes to be disconfirmed. As such, at a more general level, the present work demonstrates that the relationships that people share with other individuals can influence how they form and maintain stereotypes about social groups that are unequal in status and wealth.

References

Albers, C. (2019). The problem with unadjusted multiple and sequential statistical testing. *Nature*

    Communications, 10, 1921. https://doi.org/10.1038/s41467-019-09941-0

Amodio, D. & Devine, P. (2006). Stereotyping and evaluation in implicit race bias: Evidence for

    independent constructs and unique effects on behavior. *Journal of Personality and Social*

    Psychology, 91(4), 652-661. https://doi.org/10.1037/0022-3514.91.4.652

Barlow, F. K., Hornsey, M. J., Thai, M., Sengupta, N. K., & Sibley, C. G. (2013). The Wallpaper

    Effect: The Contact Hypothesis Fails for Minority Group Members Who Live in Areas

    with a High Proportion of Majority Group Members. *PLoS ONE*, *8*(12), e82228.

    https://doi.org/10.1371/journal.pone.0082228

Brown-Iannuzzi, J. L., Cooley, E., McKee, S. E., & Hyden, C. (2019). Wealthy Whites and poor

    Blacks: Implicit associations between racial groups and wealth predict explicit opposition

    toward helping the poor. *Journal of Experimental Social Psychology, 82*, 26–34.

    https://doi.org/10.1016/j.jesp.2018.11.006

Brown-Iannuzzi, J. L., Dotsch, R., Cooley, E., & Payne, B. K. (2017). The Relationship Between

    Mental Representations of Welfare Recipients and Attitudes Toward Welfare.

    Psychological Science, 28(1), 92–103. https://doi.org/10.1177/0956797616674999

Crandall, C. S., Eshleman, A., & O'Brien, L. (2002). Social norms and the expression and

    suppression of prejudice: The struggle for internalization. *Journal of Personality and*

    Social Psychology, *82*(3), 359–378. https://doi.org/10.1037/0022-3514.82.3.359

Crisp, R. J. & Turner, R. N. (2012). The Imagined Contact Hypothesis. *Advances in*

    Experimental Social Psychology, 46, 125-182. https://doi.org/10.1016/B978-0-12-

    394281-4.00003-9

Curran, P. J. & Hussong, A. M. (2009). Integrative Data Analysis: The Simultaneous Analysis of

   Multiple Data Sets. *Psychological Methods, 14*(2), 81-100.

   https://doi.org/10.1037/a0015914

Devine, P. G. (1989). Stereotypes and Prejudice: Their Automatic and Controlled Components.

   Journal of Personality and Social Psychology, 56(1), 5–18. https://doi.org/10.1037/0022-

   3514.56.1.5

Dupree, C. H., Torrez, B., Obioha, O., & Fiske, S. T. (2021). Race-Status Associations: Distinct

   Effects of Three Novel Measures Among White and Black Perceivers. *Journal of*

   Personality and Social Psychology, 120(3), 601–625.

   https://doi.org/10.1037/pspa0000257

Freeman, J. B., Penner, A. M., Saperstein, A., Scheutz, M., & Ambady, N. (2011). Looking the

   Part: Social Status Cues Shape Race Perception. *PLoS ONE, 6*(9), e25107.

   https://doi.org/10.1371/journal.pone.0025107

Galesic, M., Olsson, H., & Rieskamp, J. (2012). Social Sampling Explains Apparent Biases in

   Judgments of Social Environments. *Psychological Science, 23*(12), 1515–1523.

   https://doi.org/10.1177/0956797612445313

Galesic, M., Olsson, H., & Rieskamp, J. (2018). A sampling model of social judgment.

   Psychological Review, 125(3), 363–390. https://doi.org/10.1037/rev0000096

Gawronski, B., Ledgerwood, A., & Eastwick, P. W. (2022). Implicit Bias ≠ Bias on Implicit

   Measures. *Psychological Inquiry*, *33*(3), 139–155.

   https://doi.org/10.1080/1047840X.2022.2106750

Glick, P. (2014). Commentary: Encouraging Confrontation: Commentary. *Journal of Social*

   Issues, *70*(4), 779–791. https://doi.org/10.1111/josi.12091

Greenwald, A.G., McGhe, D.E., & Schwartz, J.L.K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology, 74*(6), 1464-1480. https://doi.org/10.1037/0022-3514.74.6.1464

Greenwald, A.G., Nosek, B.A., & Banaji, M.R. (2003). Understanding and Using the Implicit Association Test: I. An Improved Scoring Algorithm. *Journal of Personality and Social Psychology, 85*(2), 197-216. https://doi.org/10.1037/0022-3514.85.2.197

Husnu, S. & Crisp, R. J. (2010). Eaboration enhances the imaged contact effect. *Journal of Experimental Social Psychology, 46*, 943-950. https://doi.org/10.1016/j.jesp.2010.05.014

Kurdi, B., Mann, T. C., Charlesworth, T. E. S., & Banaji, M. R. (2019). The relationship between implicit intergroup attitudes and beliefs. *Proceedings of the National Academy of Sciences*, *116*(13), 5862–5871. https://doi.org/10.1073/pnas.1820240116

Kurdi, B. & Banaji, M. R. (2017). Repeated evaluative pairings and evaluative statements: How effectively do they shift implicit attitudes? *Journal of Experimental Psychology: General*, *146*(2), 194–213. https://doi.org/10.1037/xge0000239

Lakens, D. (2014). Performing high-powered studies efficiently with sequential analyses. *European Journal of Social Psychology, 44*(7), 701-710. https://doi.org/10.1002/ejsp.2023

Lei, R. F., & Bodenhausen, G. V. (2017). Racial Assumptions Color the Mental Representation of Social Class. *Frontiers in Psychology, 8*. https://doi.org/10.3389/fpsyg.2017.00519

Mollica, K. A., Gray, B., & Treviño, L. K. (2003). Racial Homophily and Its Persistence in Newcomers' Social Networks. *Organization Science, 14*(2), 123-136. https://doi.org/10.1287/orsc.14.2.123.14994

Moore-Berg, S. L., & Karpinski, A. (2019). An intersectional approach to understanding how

      race and social class affect intergroup processes. *Social and Personality Psychology*

      Compass, 13(1), e12426. https://doi.org/10.1111/spc3.12426

Morehouse, K. N. & Banaji, M. R. (2024). The Science of Implicit Race Bias: Evidence from the

      Implicit Association Test. *Daedalus, 153*(1), 21–50.

      https://doi.org/10.1162/daed_a_02047

Paik, A., Pachuki, M. C., & Tu, H. F. (2023). "Defriending" in a polarized age: Political and

      racial homophily and tie dissolution. *Social Networks, 74*, 31-41.

      https://doi.org/10.1016/j.socnet.2023.01.006

Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-

      analytic tests of three mediators. *European Journal of Social Psychology, 38*(6), 922–934.

      https://doi.org/10.1002/ejsp.504

Pocock, S. J. (1982). Interim Analyses for Randomized Clinical Trials: The Group Sequential

      Approach. *Biometrics, 38*(1), 153-162. https://doi.org/10.2307/2530298

R Core Team (2024). *R: A Language and Environment for Statistical Computing*. Foundation for

      Statistical Computing. Vienna. https://www.R-project.org

Rudman, L. A., Feinberg, J., & Fairchild, K. (2002). Minority Members' Implicit Attitudes:

      Automatic Ingroup Bias As A Function Of Group Status. *Social Cognition, 20*(4), 294-

      320. https://doi.org/10.1521/soco.20.4.294.19908

Saperstein, A. & Penner, A. M. (2012). Racial Fluidity and Inequality in the United States.

      American Journal of Sociology, 118(3), 676-727. https://doi.org/10.1086/667722

Schmidt, J. R., & De Houwer, J. (2012). Contingency learning with evaluative stimuli: Testing

    the generality of contingency learning in a performance paradigm. *Experimental*

    Psychology, 59(4), 175–182. https://doi.org/10.1027/1618-3169/a000141

Skinner, O. D., Kurtz-Costes, B., Vuletich, H., Copping, K., & Rowley, S. J. (2021). Race

    Differences in Black and White Adolescents' Academic Gender Stereotypes Across

    Middle and Late Adolescence. *Cultural Diversity and Ethnic Minority Psychology, 27*(3),

    537-545. https://doi.org/10.1037/cdp0000384

Stephens, N. M., Emery, L. F., Townsend, S. S. M., & Song, H. J. (2024). Taking a social-class-

    in-context perspective on the psychology of social class. *Journal of Social Issues*.

    https://doi.org/10.1111/josi.12652

Unkelbach, C. & Högden, F. (2019). Why Does George Clooney Make Coffee Sexy? The Case

    for Attribute Conditioning. *Current Directions in Psychological Science, 28*(6), 540–546.

    https://doi.org/10.1177/0963721419859354

Willroth, E. C. & Atherton, O. E. (2024). Best laid plans: A guide to reporting preregistration

    deviations. *Advances in Methods and Practices in Psychological Science, 7*(1), 1-14.

    https://doi.org/10.1177/25152459231213802