

To Be or Not to Be (Black or Multiracial or White): Cultural Variation in Racial Boundaries

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Abstract

Culture shapes the meaning of race and, consequently, who is placed into which racial categories. Three experiments conducted in the United States and Brazil illustrated the cultural nature of racial categorization. In Experiment 1, a target's racial ancestry influenced Americans' categorizations but had no impact on Brazilians' categorizations. Experiment 2 showed cultural differences in the reliance on two phenotypic cues to race; Brazilians' categorizations were more strongly determined by skin tone than were Americans' categorizations, and Americans' categorizations were more strongly determined by other facial features compared to Brazilians' categorizations. Experiment 3 demonstrated cultural differences in the motivated use of racial categories. When the racial hierarchy was threatened, only Americans more strictly enforced the Black–White racial boundary. Cultural forces shape the conceptual, perceptual, and ideological construal of racial categories.

Keywords

race, categorization, culture, intergroup relations, face perception

Immigrants to the United States have to complete several forms to be naturalized, and many report being unsure of how they fit into the racial/ethnic categories presented on these forms (Joseph, 2015). A self-identification that many Americans take for granted causes confusion among others, illustrating the *social* nature of racial categories. Our research sheds light on how racial boundaries are shaped by cultural forces.

Americans frequently *essentialize* race, treating observed racial differences as stemming from unobservable but deep internal properties that are vertically transmitted from parents to their offspring (Hirschfeld, 1998). Despite these powerful intuitions, however, determining a person's race is not always straightforward. Perceptions of one's race can be influenced by irrelevant characteristics (e.g., Freeman, Penner, Saperstein, Scheutz, & Ambady, 2011; Hugenberg & Bodenhausen, 2004), and perceivers' attitudes and motivations can influence how they categorize individuals (e.g., Chen, Moons, Gaither, Hamilton, & Sherman, 2014). Thus, despite objectivist intuitions about race, the ways that people actually racially categorize others depend on the social and motivational context. We further show that these processes are embedded within a cultural context by conducting three experiments comparing perceivers' racial categorization processes in the United States and Brazil. Specifically, we examine cultural differences in the use of ancestry (Experiment 1) and phenotypic cues (Experiment 2) in racial categorization and then investigate the cultural

specificity of the motivated enforcement of racial boundaries (Experiment 3).

Both the United States and Brazil have a history of Native American displacement, European settlement, and African slavery. However, the two countries adopted different strategies and practices to address racial diversity. While we cannot do justice to this complex history here, we discuss below our view that these historical differences have shaped cultural divergences in race perception today. Our experimental approach dovetails with sociological research comparing North and South American racial stratification and ideology at macro-levels (e.g., Bailey, Saperstein, & Penner, 2014; Telles, 2004, 2014) while also contributing to the growing psychological literature on social categorization processes.

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Conventions of American Racial Ideology

Racial categorization in the United States focuses on delineating boundaries using individuals' ancestry. For example, the so-called "one-drop" laws institutionalized hypodescent, the allocation of mixed ancestry individuals to the lower-status group by specifying that a person with Black blood was defined as Black, irrespective of their other ancestries or their appearance (Davis, 1991). Not only were individuals' ancestries central to determining their race, but society also emphasized maintaining racial boundaries by attempting to keep races "separate but equal." Thus, historical conventions enable American perceivers' assumption that racial groups are biologically based, discrete, and stable (Banks & Eberhardt, 1998; Chen & Hamilton, 2012; Dunham & Olson, 2016; Richeson & Sommers, 2016), an assumption that self-perpetuates (see Prentice & Miller, 2007; Williams & Eberhardt, 2008).

Past studies have provided insight into how American views of race play out in social perception. White Americans continue to engage in hypodescent when categorizing racially ambiguous mixed race faces (Peery & Bodenhausen, 2008) or when considering how individuals of mixed ancestry should be categorized (e.g., Ho, Sidanius, Levin, & Banaji, 2011; Sanchez, Good, & Chavez, 2011; see also Ho, Kteily, & Chen, in press). Yet, it is only beginning in middle childhood that Americans reliably associate ancestry with race and exhibit hypodescent in their categorizations of multiracial targets (Roberts & Gelman, 2015), suggesting that ancestry-based racial categorization patterns are culturally learned. Further, perhaps reflecting the historical effort to subordinate Black-White individuals using one-drop rules, White Americans who are seeking to preserve existing racial stratification are especially likely to engage in hypodescent (Ho, Sidanius, Cuddy, & Banaji, 2013; Krosch & Amodio, 2014; see also Penner & Saperstein, 2013).

Therefore, previous research clearly suggests that Americans are socialized to view race through an essentialist lens that can be traced back to the country's historical treatment of race. We seek to provide illuminating evidence of the cultural nature of these processes by direct cross-cultural comparison with race perception in Brazil.

Conventions of Brazilian Racial Ideology

Brazilian racial ideology emphasizes racial miscegenation and the flexibility of racial categorization. After slavery was abolished, the government explicitly encouraged interracial marriage in an attempt to "dilute" Blackness in order to socially and politically weaken the large African Brazilian population (Telles, 2004, 2014). Encouraging individual upward mobility via "self-whitening," albeit for anti-Black reasons, tacitly endorses a conceptualization of an individual's race as flexible and subject to change, while preserving the subordinate status of the Black racial group overall. The individual fluidity norm is in stark contrast with the United States, where miscegenation, far from "diluting" Blackness, would serve to increase the

Black population through the operation of hypodescent. Today, multiracial people are viewed as an intermediate racial group between Blacks and Whites (Skidmore, 1993), and the Brazilian census permits people to identify as Multiracial ("Parda"), Black ("Preta"), or White ("Branca") (Instituto Brasileiro de Geografia e Estatística, 2011).

Reflecting a fluid conceptualization of an individual's race, there were no formalized rules for racial classifications, nor any institutionally sanctioned linking of race with ancestry (Telles, 2004). Instead, the push for self-whitening as a mechanism for upward mobility linked race with socioeconomic status (Schwartzman, 2007) and appearance (especially skin tone; Telles, 2004), two attributes that are more malleable than one's ancestry. Reflecting the ultimate success of the cultural dissociation between racial appearance and ancestry, Brazilians' racial appearance and self-identification are only weakly predictive of their actual amount of African ancestry (Parra et al., 2003).

To our knowledge, there is no social psychological research examining Brazilians' perceptions of race. Sociologists have argued that Brazilians make racial categorizations on the basis of appearance, privileging skin tone as the defining feature of race (Telles, 2014), with little relation to their genetic ancestry (Santos et al., 2009). Thus, our research seeks to experimentally validate long-standing claims from sociology and provide the first experimental cross-cultural comparison of race perception between the United States and Brazil.

Overview of Current Research

Three experiments show that the differences in cultural conventions have powerful psychological consequences, affecting how race is perceived and how racial boundaries are defended. Experiment 1 examined cultural differences in the conceptualization of race by manipulating ancestry and pitting it against targets' appearance. Experiment 2 examined cultural differences in the perceptual bases of race, specifically in the use of skin tone versus facial features in racial categorizations. Experiment 3 investigated the cultural-embeddedness of motivated race perception by examining whether the motivated use of racial boundaries functioned differently across cultures.

Experiment 1

Experiment 1 investigated cultural differences in individuals' use of a person's ancestry versus appearance in racial categorization. We hypothesized that individuals' categorizations would reflect cultural differences in the conceptualization of race. Specifically, we predicted that Americans would categorize targets consistent with their heritage whereas Brazilians would categorize targets consistent with their appearance. In addition, we expected to observe hypodescent in the categorization of mixed ancestry targets among Americans but not among Brazilians.

Method

Participants

Americans ($n = 145$; 100 females) participated in exchange for partial credit for university psychology courses ($M_{\text{age}} = 19.93$, $SD = 2.16$). Brazilians ($n = 122$; 101 females) participated after being recruited from university psychology courses ($M_{\text{age}} = 24.59$; $SD = 3.40$). The SOM contains sample size goals, sample racial demographics, and analyses by participant race for all three studies.

Materials

The stimulus set consisted of eight faces of Multiracial children (four female faces) from a larger Brazilian stimulus set (BIC-Multicolor; Sacco, de Paula Couto, & Koller, 2016). We pre-tested the faces in both countries (see SOM for details). To be selected, the stimulus faces had to be considered *Multiracial* (as opposed to Black or White) by at least 75% of participants in both countries.

Survey materials for all three studies were created in English, translated into Portuguese by a bilingual social psychologist, and then checked by another bilingual social psychologist. All surveys were programmed in Qualtrics and completed online. Demographic questions were always at the end of the study, and participants' response options for race were determined by the categories typically available on their country's census.

Procedure

Participants consented to participate in a study assessing their social attitudes and beliefs. Participants were randomly assigned to view one of the targets, whose face was presented with the following background information: "This child was born in the United States (Brazil). His (her) parents are African American [vs. One of his (her) parents is African American, and the other is White vs. His (her) parents are White]." Participants were asked to categorize the target by race in an open-ended question ("What race is this child?").

Design

The study had a 2 (Culture: United States vs. Brazil) \times 3 (Ancestry: two Black parents vs. one Black parent and one White parent vs. two White parents) between-subjects design. The frequency and type of racial categorizations were the dependent variables.

Results

Although the majority of participants' responses (approximately 76%) fell into the racial categories of Black, Multiracial, and White, a substantial proportion of their responses did not. Americans (but not Brazilians) occasionally generated alternative racial categorizations (e.g., Indian, Latino). Thus, we analyzed participants' categorizations of the target as Black, Multiracial, White, or other. We tested our predictions

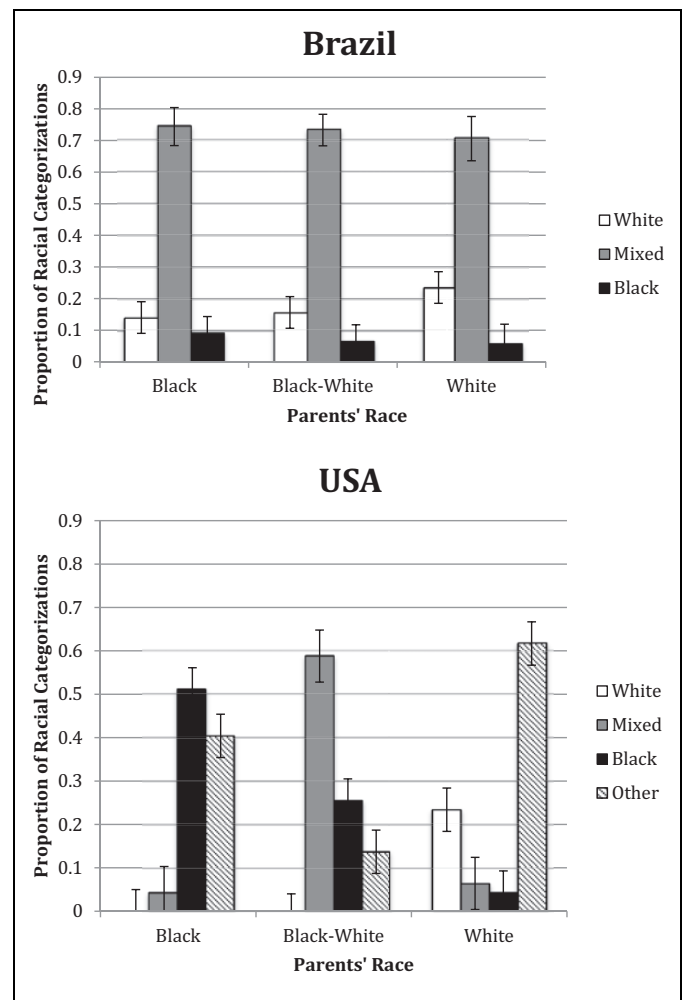


Figure 1. Proportion of racial categorizations as a function of parents' race and country in Experiment 1 (Whiskers denote ± 1 SE).

using analysis of variance (ANOVA; below) and multinomial regression (in SOM), with both analyses reaching the same conclusions.

We ran a 2 (Culture: United States vs. Brazil) \times 3 (Ancestry: Black vs. Black/White vs. White) \times 4 (Racial Categorization: Black, Multiracial, White, or Other) mixed model ANOVA on participants' categorizations, with the latter factor being within-subjects. The predicted three-way interaction between Culture, Ancestry, and Categorization emerged, $F(6, 783) = 9.51$, $p < .001$, $\eta_p^2 = .07$ (see Figure 1). We thus broke down the results separately by culture.

Among Brazilians, there was only a main effect of Categorization, $F(3, 357) = 95.90$, $p < .001$, $\eta_p^2 = .45$. Regardless of parents' race, Brazilians categorized the children predominantly as Multiracial, $M = .72$ 95% CI [.65, .81], $SE = .04$. Multiracial categorizations were significantly more frequent than Black $M = .07$ 95% CI [.03, .12], $SE = .02$; White $M = .18$ 95% CI [.11, .25], $SE = .04$; or Other $M = .00$ 95% CI [.00, .00], $SE = .00$ categorizations, all $ps < .05$. As expected, Brazilians' racial categorizations were *uninfluenced* by information about the children's ancestry.

Among Americans, there was a main effect of Categorization, $F(3, 426) = 13.11$, $p < .001$, $\eta_p^2 = .09$, that was qualified by the predicted interaction with Ancestry, $F(6, 426) = 20.57$, $p < .001$, $\eta_p^2 = .23$. Americans were more likely to categorize children as Black when their parents were Black, $M = .51$ 95% CI [.39, .63], $SE = .06$, as opposed to Black/White, $M = .26$ 95% CI [.14, .37], $SE = .06$, or White $M = .04$ 95% CI [-.07, .16], $SE = .06$, $ps < .01$. Participants were more likely to categorize targets as Multiracial when they had only one Black parent, $M = .59$ 95% CI [.49, .68], $SE = .05$, as opposed to two Black parents, [$M = .04$ 95% CI [-.06, .14], $SE = .05$, or two White parents, $M = .06$ 95% CI [-.04, .16], $SE = .04$, $ps < .001$. And participants were more likely to categorize targets as White when both their parents were White, $M = .23$ 95% CI [.16, .30], $SE = .04$, compared to when one parent was White, $M = .00$ 95% CI [-.07, .07], $SE = .03$, or both were Black, $M = .00$ 95% CI [-.07, .07], $SE = .04$, $ps < .001$. Therefore, ancestry strongly shaped Americans' racial categorizations of the children. The unexpected "Other" categorizations of the targets were highest for two White parents, $M = .62$ 95% CI [.49, .75], $SE = .07$, $ps < .01$, and higher two Black parents, $M = .40$ 95% CI [.28, .53], $SE = .07$, compared to when one parent was White and the other Black, $M = .14$ 95% CI [.01, .26], $SE = .06$, $p = .004$.

Finally, we found evidence of hypodescent such that Americans were more likely to categorize a child with mixed parentage as Black, $M = .26$ 95% CI [.14, .37], $SE = .06$, than as White, $M = .00$ [-.07, .07], $SE = .03$, $p < .001$. Brazilians did not engage in hypodescent, categorizing a child with mixed heritage as White, $M = .16$ 95% CI [.04, .27], $SE = .06$, as often as Black, $M = .07$ [-.01, .15], $SE = .04$, $p = .23$.

Discussion

This study provides a clear illustration of cultural differences in how individuals determine another person's race. Whereas Brazilians' categorizations ignored targets' ancestry and focused only on appearance, Americans' categorizations were heavily influenced by targets' ancestry and, to a lesser extent, their appearance. These findings reflect the historical differences in how the United States and Brazil defined race, the former in terms of ancestry and hypodescent for multiracial individuals, the latter in terms of appearance.

The use of the "other" categories, occurring only among Americans and predominantly in the White parents condition, shows that ancestry is not the only criterion for race in the United States. Indeed, Americans' categorizations were partially driven by appearance, and this tendency was asymmetric, such that perceivers most often rejected the ancestral cue and generated alternative (non-White) categories when targets' appearance seemingly did not match the White parentage information. These findings suggest an interesting possibility—that different racial categories have different criteria for membership in the United States. More generally, however, the documented strong relationship between ancestry and race for

Americans, but not for Brazilians, reveals deep differences in the factors driving racial categorization in each culture.

Experiment 2

Whereas Experiment 1 documented cultural differences in the *conceptual* basis of racial categorization, Experiment 2 sought a finer grained investigation of the use of two *perceptual*, that is, phenotypic, cues (skin tone and other facial features) in Americans' and Brazilians' categorizations. In doing so, we provided the first experimental investigation of United States-Brazil differences in the perceptual bases of racial categorization.

Past work suggests that Americans' racial categorization will rely on both cues. Americans believe that one's ancestry and appearance are closely linked, such that they expect a child of Black parents to look Black as well (Hirschfeld, 1998). Consistent with this view, in the absence of ancestral information, American adults' racial categorizations and social evaluations of individuals rely on both skin tone and facial features (e.g., Stepanova & Strube, 2012). Yet, skin tone is a stronger and developmentally earlier-emerging predictor of American categorizations (Dunham, Stepanova, Dotsch, & Todorov, 2015; Stepanova & Strube, 2012). Thus, we hypothesized that Americans' categorizations would use both skin tone and facial features, but that they would rely more on skin tone.

With respect to Brazil, macro-level and qualitative analyses support the dominance of skin color over other phenotypic cues, including facial features, in lay conceptions of race (Santos et al., 2009; Telles, 2004, 2014; Travassos & Williams, 2004; but see Bailey et al., 2014; Banton, 2012). Based on these findings outside of experimental social psychology, we predicted that Brazilians would use skin tone more than facial features.

Our research also directly compared the importance of skin tone and facial features in racial categorizations in the United States and Brazil. Because both qualitative (e.g., Telles, 2014) and quantitative (e.g., Experiment 1) research across disciplines argue that lay definitions of race in the United States focus on ancestry as a primary cue to race and on appearance as a secondary cue, and because other social sciences indicate that Brazilians define race *primarily* in terms of skin tone (e.g., Telles, 2014; Travassos & Williams, 2004), we predicted that Brazilians would use skin tone more strongly than Americans. Our investigation of between-culture differences in the use of other facial features was more exploratory, but the sociological work described above pointing to the centrality of skin color in Brazil allowed us to cautiously predict that Brazilians would make less use of these features than Americans.

Method

Participants

One hundred and nine Americans (62 females) were recruited from Amazon's Mechanical Turk ($M_{\text{age}} = 35.67$; $SD = 1.25$). One hundred twenty-eight Brazilians (53 females, 28 males, and 47 declined to state) were recruited in a convenience sample ($M_{\text{age}} = 30.14$; $SD = 0.94$).

Materials and Procedure

Participants learned that they would be viewing faces and categorizing them by race (“What race is this person?” with *Black*, *Multiracial*, and *White* response options). Two extensively validated stimulus sets were used (Dunham et al., 2015; Stepanova & Strube, 2012). The faces varied along two dimensions: skin tone (very dark to very light) and facial features (very Afrocentric to very Eurocentric). Both dimensions had 10 levels. Participants were randomly assigned to a stimulus set and categorized each face by race in random order.

Design

The study had a 2 (Culture: Brazil vs. United States) \times 2 (Stimulus set) \times 10 (Skin tone: very dark to very light) \times 10 (Facial features: very Afrocentric to very Eurocentric) mixed design, with the latter two factors being within-subjects. The dependent variable was racial categorization. Including stimulus set as a factor did not change the results, and we collapsed across this factor.

Results and Discussion

We conducted a fixed-effects multilevel model predicting categorization (1 = *Black*, 2 = *Multiracial*, and 3 = *White*) with mean-centered skin tone and facial features nested within individual participants (i.e., Level 1 factors). The model also included the individual-level (i.e., Level 2) predictor of Culture (0 = *Brazil*, 1 = *United States*), all two-way interactions, and the three-way interaction (see SOM for full results).¹

The culture by skin tone interaction, $F(1, 9663) = 230.20$, $p < .001$, supported our hypothesis that skin tone influenced Brazilians’ categorizations, $b = .18$, $SE = .002$, $\beta = .54$ 95% CI [.52, .54], $p < .001$, more strongly than Americans’ categorizations, $b = .15$, $SE = .002$, $\beta = .44$ 95% CI [.43, .45], $p < .001$ (see Figure 2, top panel). In addition, the culture by facial features interaction, $F(1, 10753) = 169.01$, $p < .001$, showed that facial features had a stronger impact on Americans’ categorizations, $b = .09$, $SE = .002$, $\beta = .28$ 95% CI [.27, .29], $p < .001$, than on Brazilians’, $b = .06$, $SE = .002$, $\beta = .19$ 95% CI [.16, .18], $p < .001$ (see Figure 2, bottom panel). Thus, Brazilians’ categorizations were more strongly predicted by skin tone and more weakly associated with facial features compared to Americans’ categorizations. The 95% CIs for skin tone versus facial features were not overlapping within either culture, indicating that both Brazilians and Americans would rely on skin tone more than on facial features to make racial categorizations.

In sum, Experiment 2 determined that Brazilian and American race perception differentially relies on phenotypic cues, indicating that attention to facial physiognomy is culturally directed. Future research is necessary to understand at what age these cultural differences emerge and what processes “tune” Americans’ racial judgments to appearance-based cues other than skin tone (cf. Dunham, Dotsch, Clark, & Stepanova, 2016).

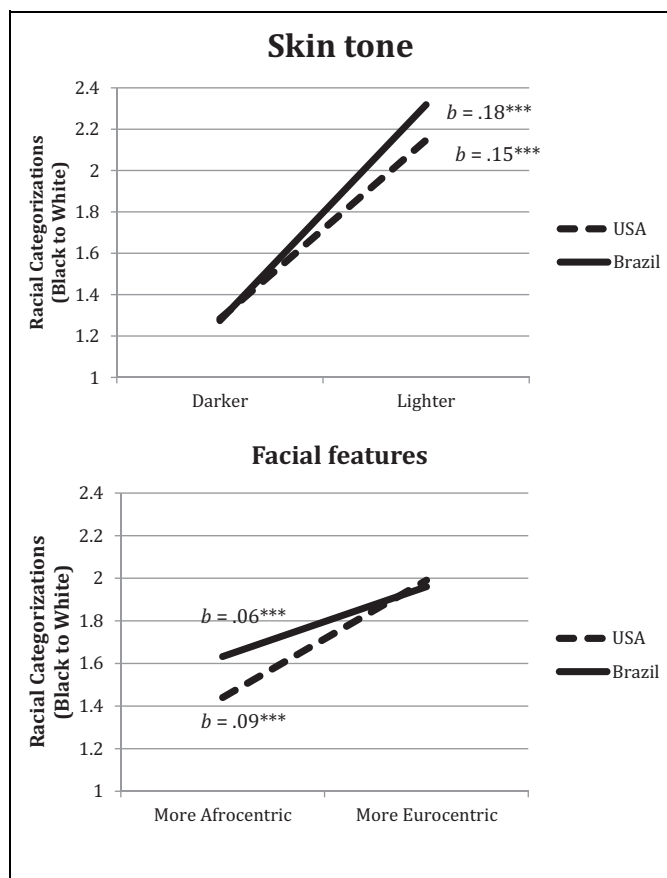


Figure 2. Use of skin tone (upper graph) and facial features (lower graph) in racial categorizations by culture in Experiment 2.

Taken together, Experiments 1 and 2 demonstrate that cultural differences in racial categorization stem from several quite different sources, including patterns of inference (as when categorizations are influenced by parentage information) and the lower-level properties of faces themselves (as when both skin color and other facial features differently predict categorization across cultures).

Experiment 3

Not only is the definition of race socially determined, but the *use* of racial categories can also serve social functions. Experiment 3 sought to demonstrate that the opposing racial ideologies pervading U.S. and Brazilian cultures have implications for the motivated use of racial categories by individual perceivers. We use the well-established individual difference, social dominance orientation (SDO), that captures perceivers’ likelihood of supporting existing status hierarchies (Ho et al., 2015; Pratto, Sidanius, Stallworth, & Malle, 1994). People high in SDO are relatively anti-egalitarian, tolerating social inequalities within a society, whereas people low in SDO are relatively egalitarian, preferring social equality within a society. Thus, only people high in SDO are motivated to protect the status quo when they

feel that the current hierarchy is under threat due to growing social equality (Ho et al., 2013).

As reviewed in the Introduction, American institutions attempted to maintain the racial hierarchy by imposing formal rules for denying rights and resources to the socially subordinate group, Black Americans. Hypodescent emerges especially strongly when high SDO White Americans feel that the racial status quo is threatened (Ho et al., 2013; see also Krosch & Amodio, 2014; Krosch, Berntsen, Amodio, Jost, & Van Bavel, 2013). Thus, hypodescent has served and continues to serve a hierarchy-strengthening purpose in the United States.

In contrast, Brazilian post-abolition efforts encouraged miscegenation in order to highlight the possibility of individual upward mobility and to decrease the number of people self-identifying as Black (Telles, 2004, 2014). The Brazilian endorsement of individual mobility via racial fluidity served as a mechanism for preserving the racial hierarchy by allowing individuals to be upwardly mobile (passing into higher status racial categories and reducing the size of the subordinate Black category) without changing the hierarchical positions of the racial categories themselves. Thus, in Brazil, the racial fluidity of the individual enables the preservation of the racial hierarchy of groups, and hypodescent has no historical precedent.

Experiment 3 directly tested the cultural specificity of the motivated use of hypodescent. We hypothesized that, when the racial hierarchy is under threat, Americans high in SDO would seek to preserve the racial category boundary by making more Black categorizations of multiracial targets (replicating past work), but that Brazilians high in SDO would not make more Black categorizations because, in their cultural context, it is flexibility, rather than rigidity, of racial boundaries that enables preservation of the status quo. Consistent with this view, it was possible that higher SDO Brazilians might make *fewer* Black categorizations, reflecting the historical effort to dilute the Black population.

Method

Participants

Americans ($n = 147$; 102 females, 1 declined to state) participated in exchange for partial course credit for university psychology courses ($M_{\text{age}} = 20.46$; $SD = 1.97$). Brazilians ($n = 145$; 93 females) were recruited from university psychology courses ($M_{\text{age}} = 23.64$; $SD = 3.83$).

Materials and Procedure

We measured participants' motivation to protect the status quo using the SDO scale (Pratto et al., 1994). The manipulation texts (low and high threat to the status quo) described social advantages favoring Whites (low threat; i.e., stable status quo) or a significant change favoring Black people (high threat; i.e., unstable status quo). For pretesting details, see the SOM.

Participants first completed the measure of SDO. Next, participants were randomly assigned to read either the low or high threat vignette and then answered three comprehension questions (which served as a manipulation check and was

successful; see SOM). Participants then completed two racial categorization questions, each consisting of viewing an array of 10 faces (a subset of Experiment 2 stimuli) arranged next to each other and ranging from reliably Black to reliably White (based on Experiment 2 responses). Participants were randomly assigned to view the face array that went from Black to White or from White to Black (i.e., the face array direction factor). For each face, participants were asked to indicate its race using a culturally normative categorization task first (involving two choices—Black or White—for Americans and three choices—Black, Multiracial, or White—for Brazilians) followed by the non-normative task. Thus, each participant responded to a face array twice.²

Design

The study had a 2 (Culture: United States vs. Brazil) \times 2 (Threat: low vs. high) \times 2 (Face Array Direction: Black to White vs. White to Black) \times continuous (SDO) \times 2 (Categorization Task: 2 vs. 3 categories) mixed design, with the latter factor being within-subjects. The proportion of Black categorizations was the dependent variable. The face array direction factor did not moderate the results and therefore, we collapsed across this factor in the analyses.

Results and Discussion

We conducted a fixed-effects multilevel model predicting the proportion of Black categorizations with categorization task (0 = *two-choice task*, 1 = *three-choice task*) nested within individual participants (i.e., Level 1 factors). The model included the individual-level (i.e., Level 2) predictor of Culture (0 = *Brazil*, 1 = *United States*), Threat (0 = *low threat*, 1 = *high threat*), mean-centered SDO, all two-way interactions, all three-way interactions, and the four-way interaction. We report the focal effects here and secondary findings in the SOM.

There was a main effect of Culture, $F(1, 534) = 23.79$, $p < .001$, because Americans, $M = .43$ 95% CI [.42, .45], $SE = .01$, made more Black categorizations than Brazilians did, $M = .37$ 95% CI [.35, .39], $SE = .01$. There was also a significant Culture by SDO interaction, $F(1, 534) = 7.29$, $p = .01$. Overall, SDO predicted fewer Black categorizations among Brazilians, $b = -.28$ 95% CI [-.48, -.07], $SE = .10$, $p = .01$, but did not predict Black categorizations among Americans, $b = .11$ 95% CI [-.08, .30], $SE = .10$, $p = .25$. Among Brazilians, there was no difference in the association between SDO and Black categorizations between threat conditions, $p = .30$. In other words, among Brazilians across both threat conditions, stronger motives to uphold the hierarchy (i.e., high SDO) predicted *fewer* Black categorizations, consistent with the idea that seeing fewer individuals as Black, or “whitening,” preserves the status quo in their culture. Among Americans, threat condition had a significant effect on the relationship between SDO and Black categorizations, $p < .001$, as described below.

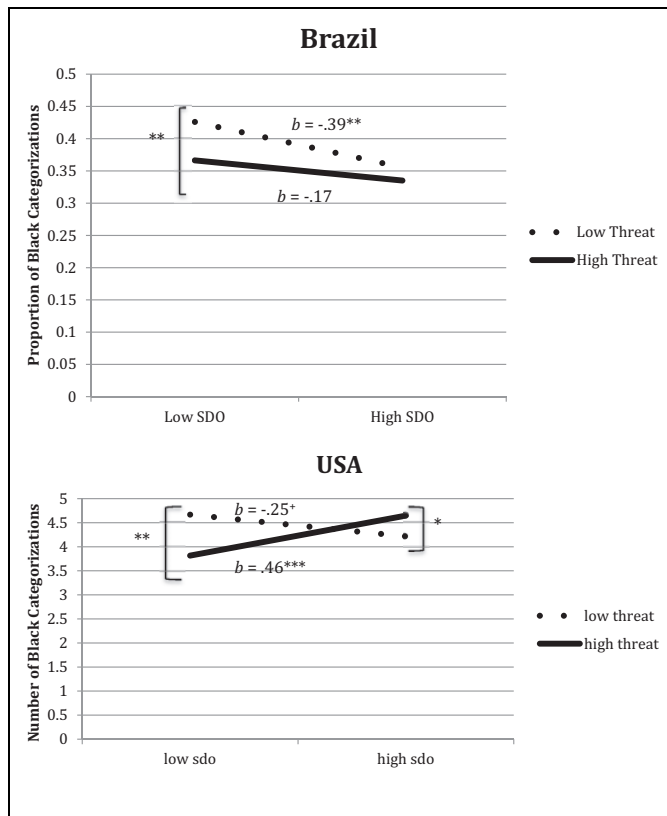


Figure 3. Number of Black categorizations by threat condition, SDO, and culture in Experiment 3. SDO = social dominance orientation. $^+p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

There was a marginally significant three-way interaction among Culture, Threat, and SDO, $F(1, 543) = 2.96$, $p = .086$ (see Figure 3). In the low threat condition, there was no significant cultural difference, $p = .48$. SDO predicted fewer Black categorizations among Brazilians, $b = -.39$ 95% CI $[-.67, -.11]$, $SE = .14$, $\beta = -.35$, $p = .01$, and marginally fewer Black categorizations among Americans, $b = -.25$ 95% CI $[-.51, .01]$, $SE = .13$, $\beta = -.23$, $p = .06$. In the focal high threat condition, there was a significant cultural difference, $p = .002$. SDO was only associated with more Black categorizations among Americans, $b = .46$ 95% CI $[.18, .73]$, $SE = .14$, $\beta = .42$, $p = .001$, but not among Brazilians, $b = -.17$ 95% CI $[-.47, .13]$, $SE = .15$, $\beta = -.16$, $p = .26$. Additional follow-up comparisons showed that low SDO individuals ($-1SD$) made fewer Black categorizations in high threat condition than in the low threat condition in Brazil, $b = .06$ 95% CI $[.02, .10]$, $SE = .02$, $p = .004$, and in the United States, $b = .09$ 95% CI $[.03, .14]$, $SE = .03$, $p = .004$. However, among high SDO individuals ($+1SD$), high threat only increased Black categorizations relative to low threat among Americans, $b = -.04$ 95% CI $[-.08, -.004]$, $SE = .02$, $p = .03$, and not among Brazilians, $p = .52$.³

In summary, replicating previous research, Americans with a strong motivation to preserve the status quo engaged in hypodescent when the hierarchy was under threat. Yet, high threat to

the status quo did not elicit hypodescent among Brazilians with a strong motivation to preserve the status quo. Instead, among Brazilians, there was suggestive evidence for “whitening,” such that anti-egalitarian individuals made fewer Black categorizations across the two threat conditions—an interesting finding worthy of further investigation. Experiment 3 illustrates that racial boundaries serve culturally specific motivations and provides the first evidence for motivation underlying Brazilians’ racial categorizations.

General Discussion

Our findings illustrate that cultural forces shape racial category boundaries, as determined on conceptual, perceptual, and ideological bases. Experiment 1 demonstrated that defining race in terms of one’s *ancestry* is an American tendency not shared by Brazilians. Experiment 2 showed that race is more closely tied to skin tone for Brazilians than for Americans, whereas facial features determined Americans’ racial categorizations more than Brazilians’ racial categorizations. Experiment 3 established that hypodescent is used to reaffirm a threatened social hierarchy only by Americans and not by Brazilians, who seemed to use individual racial mobility to protect the status quo. These experiments demonstrate that the same individual can be categorized differently depending on where she is and who is perceiving her.

Our research raises many questions for future research. The fact that some aspects of race perception today reflect long-standing cultural conventions is consistent with *mutual constitution* (Markus & Kitayama, 2010; Shweder, 1990), whereby enduring institutions and informal practices mutually reinforce each other and influence individuals’ psychology, which shapes institutions and social norms. Of course, proximal mechanisms of socialization must be responsible for transmitting psychological tendencies over time. One possibility is that the diversity of one’s social context influences which racial categories are cognitively accessible and the basis on which these categories are applied (Chong et al., 2015; Pauker, Williams, & Steele, 2015). Another relevant factor is the level of interracial exposure in one’s environment, which predicts how Americans cognitively represent Black and White racial categories (Freeman, Pauker, & Sanchez, 2016). Therefore, immediate social contextual characteristics, such as racial diversity in the environment, that have been shaped by culture and history may shed light on the mechanisms for the observed cultural differences (see also Halberstadt, Sherman, & Sherman, 2011; Quintana, 1998).

Our research was certainly not without limitations. The experiments relied on predominantly White Americans, Asian Americans, and White Brazilians. Researchers should be careful in generalizing these findings to other populations, and future work should investigate how members of other racial groups perceive racial boundaries (including those between racial groups not studied here) across cultures. We also want to highlight the possibility of regional variability in our findings as both countries studied here have large and heterogeneous populations.

Finally, the importance of specific racial categories can shift over time (e.g., Ignatiev, 2009), and we encourage researchers to think about how contemporary sociopolitical issues may influence shifts in racial categories, temporary or lasting. We hope that the present work sparks research on these interesting questions.

Practically speaking, although classifying individuals by race is often taken for granted as an objective criterion, our research demonstrates that the process of placing individuals into racial categories is subjective. We suggest that researchers consider using comprehensive measures of race, separating perception (the focus of this research) from ancestry, appearance, and identity, to improve our understanding of important outcomes such as racial differences in achievement and health (Roth, 2016; Saperstein, 2006).

Cultural differences in racial boundaries highlight the social construction of race. While category-based prejudice is a problem faced in all societies, there is variability in how and where these boundaries are drawn. Our research begins to unpack the psychology of race in Brazil and helps to better understand the sources of Americans' deeply held essentialist assumptions about race.

Authors' Note

The second author is a member of eduLab21 at Ayrton Senna Institute. eduLab21 is a laboratory dedicated to the production and dissemination of scientific knowledge to support public policy formulations for Education. eduLab21 encourages the production of new knowledge and the mapping of existing information on socioemotional skills and their role on Education. The research presented in this manuscript was carried out independently by the second author and *is not* related to his or her work at eduLab21.

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Supplemental Material

The supplemental material is available in the online version of the article.

Notes

1. We ran the model including both skin tone and facial features as predictors because it had better fit in both cultures compared to a model predicting racial categorization from skin tone alone (see SOM for details and additional data visualizations).
2. Our method confounds the order of the categorization task (i.e., Americans always received Black/White task first and Brazilians always received Black/Multiracial/White task first). Due to logistical concerns about doubling the necessary sample, we could not afford to counterbalance the order of the categorization task. We therefore chose to have participants first complete the task that

would be most natural to them. Participants' responses only marginally varied by categorization task (2 vs. 3 choices; see Results and SOM).

3. There was also a marginal four-way interaction among Culture, Threat, Social Dominance Orientation, and Categorization Task, $F(1, 534) = 2.81, p = .094$. Although this interaction was not anticipated and did not reach the conventional significance level, we conducted follow-up analyses that are detailed in the SOM. Essentially, the hypothesis-testing three-way interaction was stronger in the two-choice categorization task than in the three-choice categorization task.

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