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Priming White identity elicits stereotype boost for biracial Black-White individuals

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Abstract

Psychological threat experienced by students of negatively stereotyped groups impairs test performance. However, stereotype boost can also occur if a positively stereotyped identity is made salient. Biracial individuals, whose racial identities may be associated with both negative and positive testing abilities, have not been examined in this context. Sixty-four biracial Black-White individuals wrote about either their Black or White identity or a neutral topic and completed a verbal Graduate Record Examination (GRE) examination described as diagnostic of their abilities. White-primed participants performed significantly better than both Black-primed and control participants. Thus, biracial Black-White individuals experience stereotype boost only when their White identity is made salient.

Keywords

academic achievement, multiracial, priming, racial identity, stereotype boost

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In his book, *Whistling Vivaldi*, Claude Steele describes a young Black man who whistled classical music while walking past White people in his neighborhood in the effort to communicate to others that he was not aggressive or threatening. Aware that passers-by would view him in terms of stereotypes that Black men are dangerous (Devine, 1989; Payne, 2001), he altered his own behavior for fear of confirming the preconceived notions those White individuals may have had. Unfortunately, the prospect of being judged according to stereotypes can also interfere with targets' abilities to regulate their own behavior (Inzlicht & Kang, 2010) and cognitively engage with demanding tasks (Schmader & Johns, 2003), via a process known as *stereotype threat* (Martens, Johns, Greenberg, & Schimel, 2006; Steele & Aronson, 1995). Stereotype threat causes stigmatized people to underperform on tests in stereotyped domains (Aronson, Lustina, Good, Keough,

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& Steele, 1999; Aronson, Quinn, & Spencer, 2008; Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995), engage in unregulated behaviors like aggression and overeating (Inzlicht & Kang, 2010), and experience negative health outcomes, like high blood pressure (Blascovich, Spencer, Quinn, & Steele, 2010). The effects of stereotype threat have been documented in a number of groups, including (but not limited to) Black, Latino, and Asian Americans (Cheryan & Bodenhausen, 2000; Gonzales, Blanton, & Williams, 2002), women (Spencer et al., 1999), older adults (Thomas & Dubois, 2011), and White athletes (Stone, Lynch, Sjomeling, & Darley, 1999). One of the first studies to document this effect found that African Americans, who are stereotyped as being intellectually inferior, do worse on verbal exams only when the test is labeled as a direct measure of their intelligence (Steele & Aronson, 1995). Although stereotype threat has been studied across many domains, test performance remains one of the more popularly studied topics within this field, mainly because of its link to issues such as the educational achievement gap (e.g., Cohen, Garcia, Apfel, & Master, 2006).

However, despite the large body of literature examining the groups affected by stereotype threat, the multiracial population, which has increased by 32% since the year 2000 in the United States (U.S. Census, 2010a), has largely been ignored in this research. It is particularly timely to examine educational outcomes for multiracial youth because the multiracial population has a younger median age (median age = 19.7) than both White (median age = 38.3) and Black (median age = 31.3) populations in the United States (U.S. Census, 2010b). Because the literature has largely conceptualized race as an either/or construct, multiracial people are usually grouped into monoracial categories across research disciplines, meaning that we know very little about how multiracial populations may differ from their monoracial counterparts. However, a growing body of work demonstrates that, for multiracial individuals, such a rigid conceptualization of race fails to capture the complex ways that race affects their behavior. Therefore, it is essential to investigate how different racial identities may either positively or negatively affect the academic achievement of multiracial students.

Stereotype Boost as a Consequence of Priming Multiple Identities

Despite the lack of research on multiracial identity, some studies have examined how reminding individuals of their various social identities, such as race and gender, affects test performance. Overall, this work has shown that participants are more susceptible to stereotype threat when an identity associated with negative stereotypes is more active than another identity (Pittinsky, Shih, & Ambady, 1999; Sinclair, Hardin, & Lowery, 2006)—however the same is true for *stereotype boost* when a positive identity is activated. Stereotype boost occurs when individuals overachieve in situations in which their positively stereotyped identities are activated (Shih, Pittinsky, & Ho, 2012). For example, one study primed Asian women with either their racial or gender identity and found that participants primed with their Asian identity, which is associated with positive stereotypes about math performance, scored higher on a math test than participants who were primed with their gender identity, which is associated with negative stereotypes about math performance (Shih, Pittinsky, & Ambady, 1999). Not only did reminding participants of a negatively stereotyped identity (female) decrease performance, but reminding participants of a positively stereotyped identity (Asian) also increased performance. Therefore, positive stereotypes, when activated subtly (Cheryan & Bodenhausen, 2000), may decrease test-takers' anxiety and increase processing efficiency (Shih et al., 2012).

However, research examining how people respond when one of their multiple social identities has been primed has only examined the effects of priming *either* race *or* gender (e.g., Gonzales et al., 2002; Shih et al., 1999), which are two distinct and orthogonal social identities. Given that the same individual may over- or underperform on a test depending on which of his or her social identities is salient, we reasoned

that biracial Black-White individuals (whose multiple racial identities are associated with divergent academic stereotypes) may also perform differently on a test depending on whether their Black or White identity is activated.

Multiracial Identity and Test Performance

To date, only one other study has examined test performance for multiracial individuals when race was made salient (Shih, Bonam, Sanchez, & Peck, 2007). Participants were assigned to a race salient or control condition. Participants in the race salient condition completed questions about the racial identification of both parents, as well as cultural activities related to their race (e.g., eating habits). The results showed that Asian and White participants experienced a boost in quantitative test performance when race was primed compared to the control condition. Black participants performed worse in the race-prime than in the control condition. But importantly, biracial Black-White and Asian-White participants performed similarly in both the race salient and control conditions. These results suggest that multiracial and monoracial individuals are affected differently in testing situations when race is salient. Indeed, compared to Black individuals, biracial Black-White participants were shielded from the negative consequences of race salience. However, given that multiracial participants in this study were primed simultaneously with both of their racial identities it is unclear whether multiracial individuals respond differently when only one racial identity is specifically activated.

The Current Study

The goal of the present study was to examine the impact of racial identity priming on biracial Black-White individuals' testing outcomes within a stereotype threat context. Indeed, past studies show that context can alter how biracial Black-White individuals perceive themselves (e.g., Cheng & Lee, 2009; Chiao, Heck, Nakayama, & Ambady, 2006; Gaither, Sommers, & Ambady, 2013; Sanchez & Bonam, 2009); suggesting that subtle shifts in how biracial Black-White individuals see themselves could affect how they approach and perform in academic testing environments. Therefore, we predicted that biracial Black-White individuals primed with their Black identity would exhibit decreased testing outcomes (similar to testing outcomes of monoracial Blacks) in comparison to participants primed with their White identity (similar to testing outcomes of monoracial Whites).

Researchers generally conclude that threat is the default experience for members of stereotyped groups, such that stereotyped individuals experience threat most of the time in test-taking situations, unless the context is manipulated to alleviate threat (Inzlicht & Kang, 2010). Therefore, to best simulate a real testing environment, in the present study we described the verbal test as diagnostic of verbal abilities to all participants. Rather than examining how biracial individuals respond to tests described as diagnostic or nondiagnostic, we were interested in whether priming one's Black identity exacerbates the negative consequences of a default threat experience, and whether priming one's White identity boosts performance by alleviating threat. In the current study we explored, for the first time, the malleable nature of stereotype threat and boost effects within the multiracial population.

Method

Participants and Design

Sixty-four biracial Black-White participants (39 female, M_{age} = 24.25, SD = 6.27) were recruited through the university participant pool or through online postings advertised to people in the Greater Boston area. Our goal was to recruit approximately 20–25 participants in each of three conditions during a 1-year recruitment period. Participants recruited through the university pool (n = 6) signed up for a psychology study timeslot without knowing that they were eligible for the study because they had identified as biracial on prescreening questions. Participants recruited

through online postings (n = 58) responded to an advertisement that explicitly recruited individuals who were biracial Black-White for a psychology study.[1] (However, participants recruited through online postings were not told any other details about the study itself.) Participants were randomly assigned to one of three conditions: Black-identity prime, White-identity prime, or no racial identity prime (control). In order to ensure equal numbers in all three conditions and that participants recruited online were in fact biracial Black-White, participants recruited online were sent a short demographic survey asking them to report their gender, age, occupation, whether they were U.S. natives, and the racial backgrounds of both their mother and their father. Participants recruited through the university pool completed this survey when they came into the lab for the main study, before the other experimental tasks. Based on their responses, participants were randomly assigned to one of the three experimental conditions. Importantly, all experimenters were blind to condition. All other tasks in the lab were the same for all participants.

Procedure

When participants arrived, they were told that they would first complete a short computer task. In the identity priming conditions, participants were asked to write about the ethnic identity of either their mother or father. Specifically, those in the White-prime condition wrote about the ethnic identity of their White parent and those in the Black-prime condition wrote about the ethnic identity of their Black parent (see Chiao et al., 2006; Gaither et al., 2013). Participants in these conditions read: "Please write about the ethnic identity of your mother [father]. Think about her [his] ethnic heritage and background, experiences she [he] has had, experiences you had with her [him], etc." Participants in the control condition instead were asked to write about their average day and the experiences they have during a typical day. All participants were asked to write for 7 minutes.

Next, using methods adapted from Steele and Aronson (1995), participants were told for the next 30 minutes they would complete an examination comprised of items from the verbal Graduate Record Examination (GRE). Fifty GRE questions were pretested by 20 adults and 30 questions were selected after the pretest. We selected a mix of often and rarely solved questions to avoid floor or ceiling effects in the number of GRE problems solved during the study.

The experimenter told all participants that the exam was a genuine test of their verbal abilities and limitations. The experimenter explained that the test was concerned with various personal factors involved in performance on reading and verbal reasoning. Participants were also told that they should put forth a genuine effort, and that the test would be difficult, so they would not know all of the answers. Lastly, participants were told they would be given feedback at the end of the session on their performance to familiarize them with their strengths and weaknesses. Unbeknownst to participants, the experimenter never intended to provide feedback. This description was the same for all participants in all conditions; the experience of participants in the study differed based on only the identity priming condition.

Next, participants completed a short survey using a scale of 1 (*not at all*) to 5 (*very much*) measuring how anxious, distressed, troubled, or jittery they felt during the test, as well as items asking them to rate how hard they thought about the problems during the exam and to assess any physical symptoms or discomfort (headache and stomachache) they experienced during the test. Participants were asked to judge how many problems they thought they solved correctly out of 30, how well they thought they performed compared to the average person using a scale of 1 (*much worse*) to 15 (*much better*), and how difficult and biased they thought the exam was using a scale of 1 (*not at all*) to 15 (*extremely*; see Steele & Aronson, 1995, for similar measures). Finally, participants rated how much better they thought they would have performed without a time limit on a scale of 1 (*not much better*) to 7 (*a lot better*).

Next, we assessed self-perceptions of physical appearance, focusing on how Black or White

participants felt that they looked. We were interested in whether self-perceptions of racial phenotypicality would be affected by racial identity priming and whether perceived racial phenotypicality related to test performance. Thus, participants reported how Black they thought they appeared physically using a 1 (*very Black*) to 7 (*very White*) scale (see Gaither et al., 2013, for similar measures). As a manipulation check, participants self-reported how much they identified at that moment with other Black, White, and biracial individuals using scales of 1 (*not at all*) to 7 (*very much*). Finally, we asked participants for their SAT verbal and math scores and how important to their identity were their skills as a writer, a reader, and as a person with a rich vocabulary; over half of our participants could either not remember their SAT scores or skipped these specific identity questions, so we excluded these variables from analysis. However, no participants were excluded from our analyses and we have reported all conditions that were run in this study, as well as all measures relevant to our research questions.

Results

Initial analyses revealed no differences based on participant gender; therefore, in all results we collapse across this variable. No participants were excluded but some participants skipped some posttest questions resulting in slight variations in numbers of degrees of freedom.

Manipulation Check

There was no effect of identity prime on how much participants identified with other biracial or White individuals (all ts < 1.43, all ps > .16). However, both Black-primed (M = 5.24, SD = 1.84) and control participants (M = 4.95, SD = 1.32) self-reported identifying more with other Black individuals than did White-primed participants (M = 3.85, SD = 1.84; all ts >1.99, all ps < .05). Black-primed and control participants did not differ in how much they identified with other Black individuals, $t(57) = 0.54$, $p = .59$. Although the manipulation check did not show that White-primed participants identified more with other White individuals, both the Black-primed and control participants identified more with being Black than White-primed participants.

Test Performance

The primary dependent measure was participants' performance on the GRE problems, operationalized as the raw number of items correct. All participants attempted all problems; thus, we did not calculate a proportion of correct to attempted items. As hypothesized, there was a significant effect of priming condition for GRE problems solved, $F(2, 61) = 7.11$, $p < .01$, $\eta_p^2 = .19$. Planned contrasts revealed that White-primed participants (M = 13.18, SD = 3.07) solved significantly more GRE problems than either Black-primed, M = 8.59, SD = 5.17; $t(61) = 3.65$, $p < .01$, $r = .42$, or control participants, M = 9.80, SD = 4.01; $t(61)$ = 2.62, $p = .01$, $r = .32$. Black-primed participants did not differ from control participants on the number of GRE problems solved, $t(61) = 0.94$, $p = .35$ (see Figure 1).

Self-Report Measures

There were no significant condition effects on any self-report measures (all ts < 1.06, all ps > .29) except for a marginal difference on how biased participants felt the exam was. There were no differences between either White-primed (M = 4.70, SD = 2.54) or Black-primed (M = 6.57, SD = 3.47) versus control participants (M = 9.80, SD = 4.01) on how biased they felt the exam was (all ts < 1.58, all ps > .12), Black-primed participants were marginally more likely to think the test was more biased than were White-primed participants, $t(57) = 1.94$, $p = .057$ (see Table 1 for means). Lastly, as in Gaither et al. (2013), racial identity priming did not affect self-reported racial phenotypicality ratings, consistent with previous work supporting an interpretation of the identity prime as leading to an internal shift in identification that occurs irrespective of one's appearance (all ts < .83, all ps > .41). A correlational analysis

Table 1. Self-report measures by priming condition.

Measure	White prime	Black prime	Control
Anxious	3.10 (1.29)	3.29 (1.55)	3.42 (1.35)
Distressed	3.25 (1.29)	3.24 (1.38)	3.26 (1.20)
Troubled	2.60 (1.63)	2.95 (1.40)	3.05 (1.35)
Jittery	3.25 (1.45)	3.29 (1.52)	3.37 (1.22)
Thought hard	2.70 (1.34)	2.71 (1.49)	2.89 (1.49)
Headache	1.50 (1.00)	1.86 (1.11)	1.68 (0.75)
Stomach ache	1.85 (1.46)	2.33 (1.77)	2.37 (1.30)
# of problems thought solved	6.43 (2.65)	4.69 (2.24)	4.75 (3.04)
Time limit concerns	2.80 (1.96)	3.10 (1.76)	2.37 (1.57)
Performance of avg. person	7.40 (1.88)	7.48 (2.66)	6.84 (3.22)
Difficulty of exam	5.30 (2.62)	5.71 (3.30)	6.15 (3.13)
How biased exam was	4.70 (2.54)	6.57 (3.47)	6.26 (3.14)

Note. Standard deviations are in parentheses, emotions/physical experiences were measured on a 5-point scale, the number of problems participants thought they correctly solved was out of 30, time limit concerns were measured on a 7-point scale, and the remaining questions were on 15-point scales.

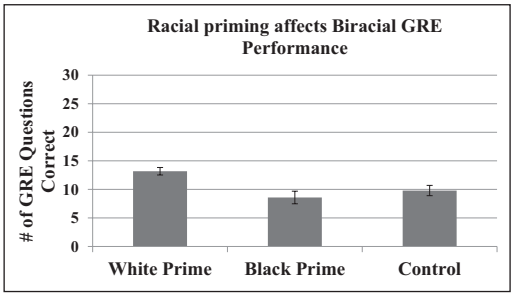

Figure 1. White-primed biracial Black-White individuals performed significantly better on a verbal GRE examination than Black-primed or control participants.

also showed no association between self-reported racial phenotypicality and overall test performance ($r = -.12$, $p = .36$).

Discussion

Multiracial individuals can adopt cognitive strategies that enable them to associate more with one race than another based on their social context (Chiao et al., 2006; Gaither et al., 2013). Consistent with previous findings, we observed that biracial Black-White individuals who were reminded of their White identity performed better on a verbal test described as diagnostic than biracial Black-White individuals who were reminded of their Black identity or who were not primed. Therefore, these results highlight, for the first time, that subtly changing how multiracial people view themselves in relation to race can affect important educational outcomes.

At first glance, the results appear to imply that educators should remind multiracial students with White parents of their associations with this privileged racial status in order to improve testing outcomes. We caution readers against drawing such a conclusion and point out the difference between reminders of *privilege* and *positively stereotyped identities*. Priming one's White identity may positively affect test performance through reminders of positive stereotypes (Baumeister, Hamilton, & Tice, 1985; Levy, 1996; Schmader, Johns, & Forbes, 2008; Shih et al., 1999). On the other hand, reminding individuals about White privilege could instead threaten biracial Black-White individuals and increase their propensities toward negative social behavior. For example, past research showed that reminding monoracial White individuals of their privileged White identity caused participants to exclude racially ambiguous targets from their ingroup (Gaither, 2014, Study 3) and increased their levels of racism

(Branscombe, Schmitt, & Schiffhauer, 2007). Thus, future research should investigate whether multiracial people are similarly likely to reject others when reminded of their privilege. It is also possible that having multiple racial identities and thinking about race as a social construction (Shih et al., 2007) reduces the threatening experience of privilege reminders, but preserves the positive experience of decreased anxiety associated with stereotype boost effects (Shih et al., 2012). Until future research can shed more light on this process, we conclude from the present results that reminders of positive stereotypes improve test performance for biracial Black-White individuals. Thus, reminding biracial Black-White individuals that they have a positively stereotyped identity may be a simple way to protect them against the otherwise pervasive negative consequences of linking negative stereotypes to the self.

Stereotype Boost or Stereotype Lift?

We suggest that biracial Black-White participants primed with their White identity experienced stereotype boost (Shih et al., 2012). It is important to point out, however, that stereotype boost closely resembles a somewhat different process known as *stereotype lift*. Stereotype lift improves performance in contexts in which test-takers are aware that outgroup members are negatively stereotyped, and typically occurs for members of nonstereotyped groups (e.g., men and Whites) who are directly exposed to negative outgroup stereotypes (Walton & Cohen, 2003). In the current study we examined stereotype boost, rather than lift, because in the White-prime condition we activated a positive ingroup identity rather than a negative outgroup identity. Perhaps priming a positive White identity causes biracial individuals to identify less with other Blacks more generally, hence boosting test-taking abilities. Moreover, our participants are members of stereotyped groups, to the extent that they may be judged both according to Black stereotypes (Ho, Sidanius, Levin, & Banaji, 2010; Hugenberg & Bodenhausen, 2004) and biracial stereotypes (Remedios, Chasteen, & Oey, 2012). Whereas stereotype lift may best describe situations in which White individuals reminded of Black identities perform well on tests, the current research suggests that reminding biracial Black-White individuals of their Black identity does not affect performance.

Why Did the Black Identity Prime Not Decrease Performance?

Although the present findings supported our hypothesis that priming one's White identity boosts performance for biracial Black-White individuals in a test-taking situation, we did not find that priming one's Black identity significantly worsens performance in comparison to a control condition. The finding that participants identified as more Black in both the Black-primed and control conditions compared to the White-primed condition may speak to why we did not find support for a stereotype threat hypothesis. Both groups reported stronger Black identities than White-primed participants. This suggests that a diagnostic, threatening testing situation may have made control participants feel more minority or Black, hence causing both groups to perform worse than White-primed participants. Although biracial Black-White people may be less likely than monoracial Black individuals to be targeted by Black stereotypes, biracial Black-White individuals are still often viewed as members of the monoracial Black group because perceivers tend to assign biracial targets to the minority ingroup (Ho et al., 2010). In fact, this process of applying "hypodescent," or a "one drop rule" whereby racially mixed individuals are categorized based on their subordinate racial group membership, is supported by research showing that biracial individuals themselves also tend to explicitly identify either as biracial minorities or as monoracial minorities (Rockquemore & Brunsma, 2002; Townsend, Fryberg, Wilkins, & Markus, 2012). Thus, the possibility of being judged according to negative Black stereotypes may render this minority identity more salient than White identity at baseline for biracial Black-White individuals. Alternatively, these results may suggest that biracials may not be

able to move fully between all of their racial identities with the same level of ease, due to variations and contextual effects on identification. For example, biracial Black-White people may not be easily able to distance themselves from their Black identities because others tend to categorize them as Black (Ho et al., 2010). Therefore, it is clear that additional research is needed to examine identification outcomes that occur for the growing biracial demographic, especially for those with majority and minority group identities who may be able to psychologically distance themselves from some groups more easily than others.

Limitations and Future Directions

Future research should also investigate the boundary effects of these results including both how long these priming effects may last, as well as the effect of individual differences in identification on test-taking abilities under threat. For example, research with bicultural individuals shows that the more integrated a bicultural individual views their two coexisting cultural identities to be, the more easily they can navigate between those identities after cultural identity primes, a construct that directly affects bicultural behavior and cognition (e.g., Benet-Martínez, Leu, Lee, & Morris, 2002; Hong, Morris, Chiu, & Benet-Martinez, 2000). Other work with multiracial individuals suggests more positive identification outcomes for multiracials who view their racial identities as more integrated (Cheng & Lee, 2009), but these findings have yet to be extended to domains, such as academic testing, that map on directly to the real world. Similarly, the ease with which biracial individuals identify with some groups versus others, or the "accessibility" of various racial identities for biracial individuals, has not been empirically measured. Developing tools to assess identity accessibility will reveal whether biracial individuals, like bicultural individuals, can identify and/or disidentify with some groups more readily than others.

Additionally, we did not find that self-perceptions of racial phenotypicality predicted testing outcomes or that perceived phenotypicality was affected by racial identity priming (Gaither et al., 2013). However, because the majority of our participants knew that they were recruited for this study because they were racial minorities, we would not necessarily expect to obtain variance in self-reported racial phenotypicality in this testing environment, which made minority status salient. Relatedly, because of this recruitment strategy, we also were limited in our ability to examine these effects with biracial individuals who may identify more with only one of their racial ingroups (e.g., Rockquemore & Brunsma, 2002; Townsend et al., 2012). The identification choices of biracial individuals may vary due to, for example, the races of the parents by whom individuals were raised, the parenting styles to which individuals were exposed, the racial make-up of the environment in which individuals lived, and the types of discrimination individuals experienced (for a review see Gaither, in press).

Furthermore, other mixed-race individuals reporting different identity combinations should also be included in future studies. For example, both White and Asian racial identities are associated with positive academic outcomes. Therefore, we would predict that priming either identity for a biracial Asian-White individual should show stereotype boost effects. Stereotypes about math performance, specifically, are associated with Asians. Thus, biracial Asian-White individuals may exhibit even better performance on a math test (as compared to a verbal exam used in the present study) when their Asian identity is primed than when their White identity is primed. Additionally, it would be particularly interesting to compare testing outcomes for biracial individuals who possess a positively stereotyped identity (e.g., White) to biracial individuals who possess two negatively stereotyped, racial minority identities (e.g., Black-Hispanic). This would allow researchers to further examine the intersections of racial identity priming with existing racial status or hierarchy perceptions. Additionally, this study examined biracial outcomes in a U.S. context, so extending these methods to non-American mixed-race populations (i.e., the "colored"

population in South Africa), would also further test the generalizability of stereotype boost and threat effects. Therefore, future work should continue to explore multiracial identity options to clarify how variations in multiracial identification may affect these outcomes.

Moreover, stereotype threat affects more than just test performance. Research has shown that stereotype threat also negatively affects working memory (Schmader & Johns, 2003), performance expectations (e.g., Cadinu, Maass, Frigerio, Impagliazzo, & Latinotti, 2003; Shih et al., 1999), healthcare experiences and treatment (e.g., van Ryn & Burke, 2000), athletic abilities (Stone et al., 1999), and memory performance (Levy, 1996). Therefore, it is important to pinpoint whether multiracial individuals are susceptible to both stereotype threat and boost in domains beyond academic testing.

In sum, because test performance is something that significantly affects the options people are given in life, such as college admissions and job placements, it is essential for research on this topic to begin including mixed-race individuals in their research paradigms. Based on current demographic projections, we need to start considering the unique ways in which multiracial individuals respond to identity-relevant situations so we can mitigate racial inequalities that limit the achievement of both monoracial and multiracial minorities.

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Note

1. The reported patterns and significance levels do not change notably if we analyze just the 58 web-recruited participants.

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