

Racial Inequality in Psychological Research: Trends of the Past and Recommendations for the Future

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Abstract

Race plays an important role in how people think, develop, and behave. In the current article, we queried more than 26,000 empirical articles published between 1974 and 2018 in top-tier cognitive, developmental, and social psychology journals to document how often psychological research acknowledges this reality and to examine whether people who edit, write, and participate in the research are systematically connected. We note several findings. First, across the past five decades, psychological publications that highlight race have been rare, and although they have increased in developmental and social psychology, they have remained virtually nonexistent in cognitive psychology. Second, most publications have been edited by White editors, under which there have been significantly fewer publications that highlight race. Third, many of the publications that highlight race have been written by White authors who employed significantly fewer participants of color. In many cases, we document variation as a function of area and decade. We argue that systemic inequality exists within psychological research and that systemic changes are needed to ensure that psychological research benefits from diversity in editing, writing, and participation. To this end, and in the spirit of the field's recent emphasis on metascience, we offer recommendations for journals and authors.

Keywords

metascience, systemic inequality, race, review

It is well documented that race plays a critical role in how people think, develop, and navigate the social world (Roberts & Rizzo, in press). Given that race is a social construct, racialized experiences that differ both between and within groups can give rise to racial differences in psychology (Bonilla-Silva, 2010; Goodman, 2000; Kendi, 2017; Pauker, Carpinella, Meyers, Young, & Sanchez, 2018). For example, at birth, infants can differentiate among individuals of various races. By 3 months, however, those raised in racially homogeneous contexts become less able to differentiate among members of unfamiliar races, perceiving that they all look and sound alike (Perrachione, Chiao, & Wong, 2010; Quinn, Lee, & Pascalis, 2019). As another example, individuals raised in relatively collectivistic contexts often focus on others, whereas those raised in relatively individualistic contexts often focus on themselves, which can give rise to racial differences in memory construction and recall (Wang, 2019; Wang, Song, &

Koh, 2017). During and after a lifetime of such racialized experiences, including those involving access to social resources, experiences with discrimination, inter-racial contact, social norms, social segregation, and socioeconomic status, it is no surprise that race plays a critical role in psychological phenomena, including but not limited to those involving activism, auditory and visual processing, conformity, emotions, executive functioning, interpersonal relationships, memory, neural activity, parenting, psychological and physiological health, and religious cognition (see Anyiwo, Bañales, Rowley, Watkins, & Richards-Schuster, 2018; Brown, Mistry, & Yip, 2019; Lewis, Goto, & Kong, 2008; Markus & Kitayama, 1991; Mattis & Jagers, 2001; Mays, Cochran,

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& Barnes, 2007; McLoyd, 1990; Medin, 2017; Neblett & Roberts, 2013; Newheiser & Olson, 2012; Perrachione et al., 2010; Philbrook, Hinnant, Elmore-Staton, Buckhalt, & El-Sheikh, 2017; Quinn et al., 2019; Rhodes & Gelman, 2009; Richeson & Shelton, 2003; Richeson & Sommers, 2016; Roberts et al., 2020; Roberts & Gelman, 2015, 2016, 2017; Roberts, Guo, Ho, & Gelman, 2018; Rogers, 2019; Syed, 2017; Tsai, 2007; Wang, 2019).

Thus, one might expect psychological science to frequently publish research that highlights the important role of race in human psychology and for psychological scientists to work with racially diverse populations. Yet decades of critiques advocating for this seem to have gone unnoticed (see Arnett, 2008; Bell & Hertz, 1976; Betancourt & López, 1993; Dunham & Olson, 2016; Graham, 1992; Henrich, Heine, & Norenzayan, 2010; Kline, Shansudhenn, & Broesch, 2018; Markus & Kitayama, 1991; McLoyd, 1990; McLoyd & Randolph, 1984; Medin, Ojalehto, Marin, & Bang, 2017; Nielsen & Haun, 2016; Nielsen, Haun, Kärtner, & Legare, 2017; Rowley & Camacho, 2015; Syed, 2017; Zuckerman, 1990). In fact, DeJesus, Callanan, Solis, and Gelman (2019) found that across 1,149 articles published in 2015 and 2016 in 11 psychology journals, 73% of them never even mentioned the race of their participants.

It is also well documented that race plays a critical role in the extent to which people even care about race. Evidence for this emerges early in development. For example, in the United States, White children experience racial diversity and discrimination less often than do children of color, and White parents speak with their children about race less often than do parents of color, which results in White children being less focused on race and less sensitive to racial issues than are children of color (Hughes, 2003; Pahlke, Bigler, & Suizzo, 2012; Perry, Skinner, & Abaied, 2019; Quinn et al., 2019; Roberts & Gelman, 2016, 2017). By adulthood, White persons are more likely than persons of color (POCs) to avoid conversations about race, potentially because they feel inexperienced in the subject or because they are motivated, either consciously or unconsciously, to maintain an illusion of postracialism (Apfelbaum, Pauker, Ambady, Sommers, & Norton, 2008; Bonilla-Silva, 2010; Cole, 2015; DiAngelo, 2012; Nzinga et al., 2018; Rowley & Camacho, 2015; Salter, Adams, & Perez, 2018).

Consequentially, one might expect White journal editors—whose gatekeeping function positions them to govern what is worthy of publication—to be less likely than journal editors of color to publish research that highlights the role of race in human psychology. And one might expect White psychological scientists—whose position allows them to determine what is worthy of study and who is worthy of participation—to be less likely than psychological scientists of color to include research participants of color in their research.

This would be especially concerning given that most psychological scientists, even those who study race, are White (Hartmann et al., 2013; Medin, 2017). That is, a scarcity of research participants of color may be symptomatic of a scarcity of scholarship of color, which may itself be symptomatic of a scarcity of editors of color. Thus, an important question is whether a lack of racial diversity among psychology's editors and authors has systemic implications for what and who is included in the permanent scientific record.

From our perspective, a strong psychological science must examine and understand racialized experiences in psychological phenomena and include editors, authors, and participants of diverse racial identities in the research process. These are not equivalent issues, but they are connected. Hypothetically, a White editor could accept a manuscript written by a White author that focuses on White participants' concepts of race, and this manuscript would contribute to psychological science's understanding of race yet exclude diverse perspectives from evaluating, writing, and participating in that science. In addition, a Native American editor could reject a publication by a Native American author that focuses on Native Americans participants' concepts of race, and this manuscript would not contribute to psychological science's understanding of race yet include underrepresented perspectives in that science. Of course, the likelihood of either of these scenarios depends on who is even included in the scientific process (e.g., editors determine what and who gets published, authors determine what and who gets studied; Medin & Bang, 2014). Thus, psychological science must include diverse editors, writers, and participants in the research process precisely because underrepresented psychological scientists might be most willing to examine the experiences of underrepresented groups.

We asked four specific questions:

1. How often does psychology publish research that highlights race?
2. Who edits the psychological research that highlights race, and does their race predict how much of that research is published?
3. Who writes the psychological research that highlights race?
4. Who participates in the psychological research that highlights race, and is the participants' race predicted by the race of the lead author?

To answer these and other questions, we surveyed five decades of publications across three major areas of psychology: cognitive, developmental, and social. We focused on these three areas to get a broad snapshot and because they represent three major areas of

psychology. Additional research is certainly needed to answer these questions elsewhere, both within psychology (e.g., clinical and counseling psychology, school psychology) and beyond (e.g., political science, sociology).

Note that concepts of race vary across generations, disciplines, individuals, and contexts (Glasgow, 2009; Hobbs, 2014; Morning, 2011). Some scholars conceptualize race as being rooted in ancestry and phenotype and others conceptualize it as being rooted in culture and experiences. Some scholars conceptualize both "African American" and "Black" as races, and others conceptualize one as an ethnicity and the other as a race. Simply put, what makes a race depends on whom you ask, which highlights the socially constructed nature of the concept. We make no metaphysical claims as to what race in fact is. Rather, we use the term as a way to refer to groups that are generally conceptualized and characterized as ancestrally, phenotypically, culturally, and/or socially distinct (e.g., African American, American Indian, Arab, Asian, Biracial, Black, Caucasian, Chinese, European American, Hispanic, Indigenous, Latinx, Multiracial, Native American, White). We question the extent to which psychology publishes research that highlights such group membership and the extent to which it includes in the research process individuals who identify with those groups.

Article Selection

We queried every article published in *Cognition* ($n = 2,862$), *Cognitive Psychology* ($n = 827$), *Child Development* ($n = 5,961$), *Developmental Psychology* ($n = 5,162$), the *Journal of Personality and Social Psychology* ($n = 7,432$), and *Personality and Social Psychological Bulletin* ($n = 4,136$) between the years of 1974 and 2018, which yielded data from 26,380 publications. We queried two journals within each area to permit generalizations across areas (cognitive, developmental, social), and we selected these journals because they have been in continual publication over the past five decades and are among the most prestigious in their subfields.

First, authors C. Bareket-Shavit and F. A. Dollins independently queried 20% of the journal issues to reliably determine how many publications were empirical with human participants (i.e., commentaries, reviews, meta-analyses, methodological articles, and theoretical publications were excluded; Fleiss's $\kappa = .92$); disagreements were resolved by discussion. This entailed reading at least the title and abstract of each publication. C. Bareket-Shavit and F. A. Dollins then queried the remaining 80% of the journal issues and tallied how many publications were empirical with human subjects, resulting in 26,380 publications. For each, they recorded the name and contact information of the editors, including

the editors in chief, associate editors, senior editors, and consulting editors.

Second, authors S. O. Roberts and C. Bareket-Shavit independently queried 20% of the journal issues to reliably determine which empirical publications with human participants explicitly highlighted race in the title, abstract, or both (e.g., Asian, Black, White, racial categories, racial identity, racial segregation, racial stereotyping, racial inequality; Fleiss's $\kappa = .96$); disagreements were resolved by discussion. These included a variety of publication types, including those with all-White samples that focused on race-related outcomes (e.g., the origins of symbolic racism; Sears & Henry, 2003) or did not focus on race-related outcomes (e.g., personality and drug use; Brook, Whiteman, Gordon, & Brook, 1986), those with racially diverse samples that focused on race-related outcomes (e.g., cooperation in interracial groups; Blanchard, Adelman, & Cook, 1975) or did not focus on race-related outcomes (e.g., detecting and recognizing geometric figures; Stein & Mandler, 1975), and those with samples composed completely of persons of color that did focus on race-related outcomes (e.g., ethnic socialization; Hu, Zhou, & Lee, 2017) or did not focus on race-related outcomes (e.g., pretend play; McLoyd, 1980). S. O. Roberts and C. Bareket-Shavit then queried the remaining 80% of the journal issues and downloaded the publications for which at least one study had been performed in the United States and that highlighted race in the title or abstract, resulting in 1,511 articles.¹

Third, authors F. A. Dollins and P. D. Goldie independently coded 20% of the downloaded publications to reliably code participant information, including the total sample size (Fleiss's $\kappa = .80$) and the number of White participants (Fleiss's $\kappa = .85$), participants of color (Fleiss's $\kappa = .84$), and unspecified participants (Fleiss's $\kappa = .65$); disagreements were resolved by discussion. Participant information was coded after data exclusions unless data exclusions were not specified. In cases in which there were multiple studies with only a subset focusing on race, only those subsets were coded. F. A. Dollins and P. D. Goldie then coded the remaining 80% of the publications. For each publication, they also recorded the journal name, article title, publication year, and the name, contact information, and affiliation of the first author.

Fourth, authors C. Bareket-Shavit, F. A. Dollins, and P. D. Goldie coded the perceived race ($-1 = \text{White}$, $1 = \text{POCs}$) of the editors in chief, editorial board members, and authors. Specifically, C. Bareket-Shavit and F. A. Dollins coded the perceived race of 20% of unique editors in chief (Cohen's $\kappa = .77$), C. Bareket-Shavit and P. D. Goldie coded the perceived race of 20% of the editorial board members (Cohen's $\kappa = .80$), and

C. Bareket-Shavit and F. A. Dollins coded the perceived race of 20% of the first authors (Cohen's $\kappa = .91$); disagreements were resolved by discussion. Each pair of researchers then split and coded the perceived race of the remaining persons. To do so, we searched and categorized the online images of the editors and authors (e.g., via a faculty page; for a similar methodology, see Berry, 2006). We also contacted via e-mail all living editors and authors for whom we had contact information ($n = 2,824$), asking them to provide their self-identified racial identity (25% response rate). We compared those self-report data with our own categorizations and confirmed that our categorizations had high predictive validity (Cohen's $\kappa = .85$). We updated all inaccurate categorizations in response to the self-report data. We did not code the race of seven editors in chief, 238 editorial board members, and 152 authors who were unidentifiable because they (a) were deceased or had retired, (b) had no images online, (c) did not respond to our survey, (d) refused to complete the survey, or (e) had identities that were ambiguous and therefore not easily classifiable.

In line with guidelines from the institutional review board, editors and authors were promised that their disclosed identities would not be made public. In addition, some editors and authors explicitly requested that their responses remain private, and the editors and authors we were unable to contact were not able, of course, to consent to us making their racial identities public. For these reasons, only an anonymized version of the data set has been made available online (<https://osf.io/ykjrd/files/>). Researchers interested in the complete data set should contact S. O. Roberts.

How Often Does Psychology Publish Research That Highlights Race?

From the 1970s to the 2010s, only 5% of publications highlighted race (1,511 of 26,380). In cognitive psychology, fewer than 1% of publications highlighted race (14 of 3,689), compared with 8% in developmental psychology (878 of 11,123) and 5% in social psychology (619 of 11,568). We ran a linear regression model with area (cognitive, developmental, social), decade (standardized), and the interaction between these two variables as predictors and the proportion of publications that highlighted race as the dependent variable (i.e., within each year, the number of publications that highlighted race of all publications).² Publications that highlighted race were more common in developmental psychology than in social psychology, $\beta = 0.03$, $SE = 0.01$, $t = 6.11$, $p < .001$, 95% confidence interval (CI) = [0.02, 0.04], more common in developmental psychology than in cognitive psychology, $\beta = 0.08$, $SE = 0.01$, $t = 15.10$,

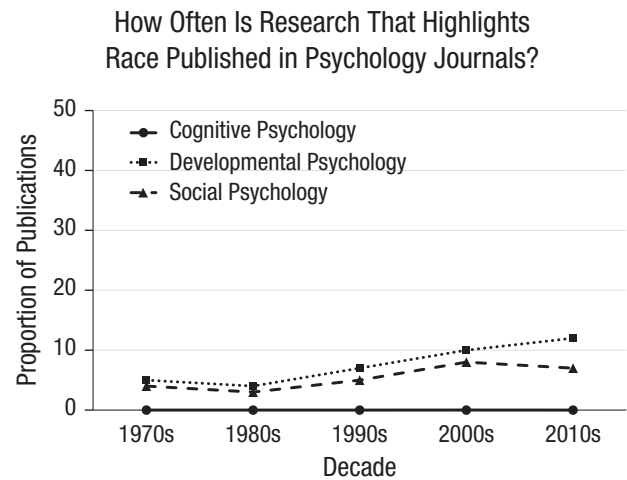


Fig. 1. Proportion of publications that highlighted race across five decades of publications in cognitive, developmental, and social psychology.

$p < .001$, 95% CI = [0.07, 0.09], and more common in social psychology than in cognitive psychology, $\beta = 0.05$, $SE = 0.01$, $t = 11.17$, $p < .001$, 95% CI = [0.04, 0.06].

As shown in Figure 1, publication rates changed over time but only within developmental and social psychology. Since the 1970s, there have been virtually no cognitive psychology publications that highlighted race, from 0% of all publications in the 1970s to 0.002% of all publications in the 2010s, $\beta < 0.01$, $SE < 0.01$, $t = 1.44$, $p = .15$, 95% CI = [-0.01, 0.01]. In contrast, the number of such publications increased in developmental psychology, from 5% in the 1970s to 12% in the 2010s, $\beta = 0.03$, $SE = 0.01$, $t = 7.97$, $p < .001$, 95% CI = [0.02, 0.04], and increased in social psychology, from 4% in the 1970s to 7% in the 2010s, $\beta = 0.02$, $SE = 0.01$, $t = 5.52$, $p < .001$, 95% CI = [0.01, 0.02].

Thus, across the past five decades of psychological research, few publications have highlighted the important role of race in human psychology, and virtually none have done so in cognitive psychology. One might expect psychological science to have increased its focus on race from the 1970s (i.e., at the conclusion of legally mandated racial segregation) to the 2010s (i.e., during the era of Barack Obama). Indeed, this was true for developmental and social psychology but not for cognitive psychology. Why?

One reason might be that cognitive psychologists believe they are pursuing race-neutral, universal phenomena. Yet a handful of studies published in top-tier cognitive journals have revealed that cognitive processes, such as auditory processing, categorization, and memorization, do indeed vary as a function of racialized experiences (e.g., racial diversity, segregation, inequality; Perrachione et al., 2010; Quinn et al., 2019;

Wang, 2019). Another reason might be to avoid the notion that racial differences reflect inherent differences. Yet as mentioned previously, racial differences reflect differences in racialized experiences. To this point, other scholars have argued that any psychological study of race not only must describe racial differences but also must identify the social and cultural processes that explain those differences (Betancourt & López, 1993; McLoyd, 1990; Zuckerman, 1990). Studies that focus only on racial differences can be problematic in that they (a) have historically adopted a deficit-based approach focused on what POCs lack rather than what they have, effectively undermining researchers' ability to develop theories that acknowledge human strengths stemming from social and cultural variation; (b) license the inference that POCs are abnormal, deficient, and incompetent compared with their White peers; (c) ignore within-group variation, which leaves the reader with little understanding of individual differences within populations of color; and (d) imply that the cause of racial differences is race rather than systemic and situational mechanisms (see McLoyd & Randolph, 1984). Our claim is not that every single psychological phenomenon varies as a function of race or that every single psychological publication needs to highlight the role of race in the topic at hand. Yet the reality is that racialized experiences shape how people think, develop, and behave. To dedicate no attention to this reality, in our view, is a disservice to psychological science, especially in the face of increasing racial diversity, segregation, and inequality.

Who Edits the Research That Highlights Race?

We considered first the editors in chief. In total, there were 60 unique editors in chief between 1974 and 2018, of whom 83% were White, 5% were POCs, and 12% were unidentifiable (publications from editors in chief whose race we were unable to code were excluded from subsequent analyses). Focusing on all of the queried publications for which we coded the race of the editor in chief, 93% of those publications (20,784 of 22,247) were edited by White editors in chief. Focusing within each area, as shown in Figure 2, we found that 100% of all publications in cognitive psychology (3,667 of 3,667), 89% of all publications in developmental psychology (9,184 of 10,300), and 96% of all publications in social psychology (7,933 of 8,280) were edited by White editors in chief. Focusing on the publications that highlighted race, 87% were edited by White editors in chief (1,119 of 1,284). Within each area, 100% of publications in cognitive psychology (14 of 14), 84% of publications in developmental psychology (707 of 837),

and 92% of publications in social psychology (387 of 433) were edited by White editors in chief. To examine whether the editors' race predicted the proportion of publications that highlighted race, we ran a mixed-effects linear regression model with editor-in-chief race ($-1 = \text{White}$, $1 = \text{POC}$) as the predictor variable, individual editor in chief as a random intercept, and the proportion of publications that highlighted race as the dependent variable. We did not examine variation across decade or area given that there were few editors in chief of color across these variables. When editors in chief were White, 4% of all publications highlighted race, and when editors in chief were POCs, this proportion almost tripled to 11%, $\beta = 0.06$, $SE = 0.02$, $t = 2.45$, $p = .018$, 95% CI = [0.01, 0.10].

We next examined racial diversity among the editorial-board members (i.e., associate editors, senior editors, consulting editors), which was important given that there have historically been few editors in chief of color and because editors in chief tend to invite members to the editorial boards. Because practices varied across journals (e.g., some made public only the names of the associate and consulting editors, others only the names of associate editors, and some did not archive this information at all), we focused on the racial diversity among the entire editorial boards, excluding the editor in chief, irrespective of board members' particular role. We did not examine variation across decade or area given that these data were reported inconsistently, if at all, across the journals and sampled time frame. In total, we coded the race of 1,745 unique editorial board members, of whom 76% were White, 10% were POCs, and 14% were unidentifiable. To examine whether the race of the editor in chief predicted the racial diversity of the editorial board, we ran a mixed-effects linear regression model with editor race ($-1 = \text{White}$, $1 = \text{POC}$) as the predictor variable, individual editor in chief as a random intercept, and the proportion of editorial board members who were POCs (standardized) as the predictor variable. When editors in chief were White, 6% of editorial board members were POCs, and when editors in chief were POCs, this proportion almost tripled to 17%, $\beta = 0.10$, $SE = 0.07$, $t = 1.41$, $p = .17$, 95% CI = [-0.04, 0.24]. Note that this difference was not statistically significant, probably because there were simply too few editors in chief of color and reported editorial boards to make stronger comparisons. To examine our key question of whether the racial diversity of the editorial board predicted the proportion of publications that highlighted race, we ran a linear regression model with the proportion of White editorial board members (standardized) as the predictor variable and the proportion of publications on race as the dependent variable. Indeed, the greater the proportion of White editorial board

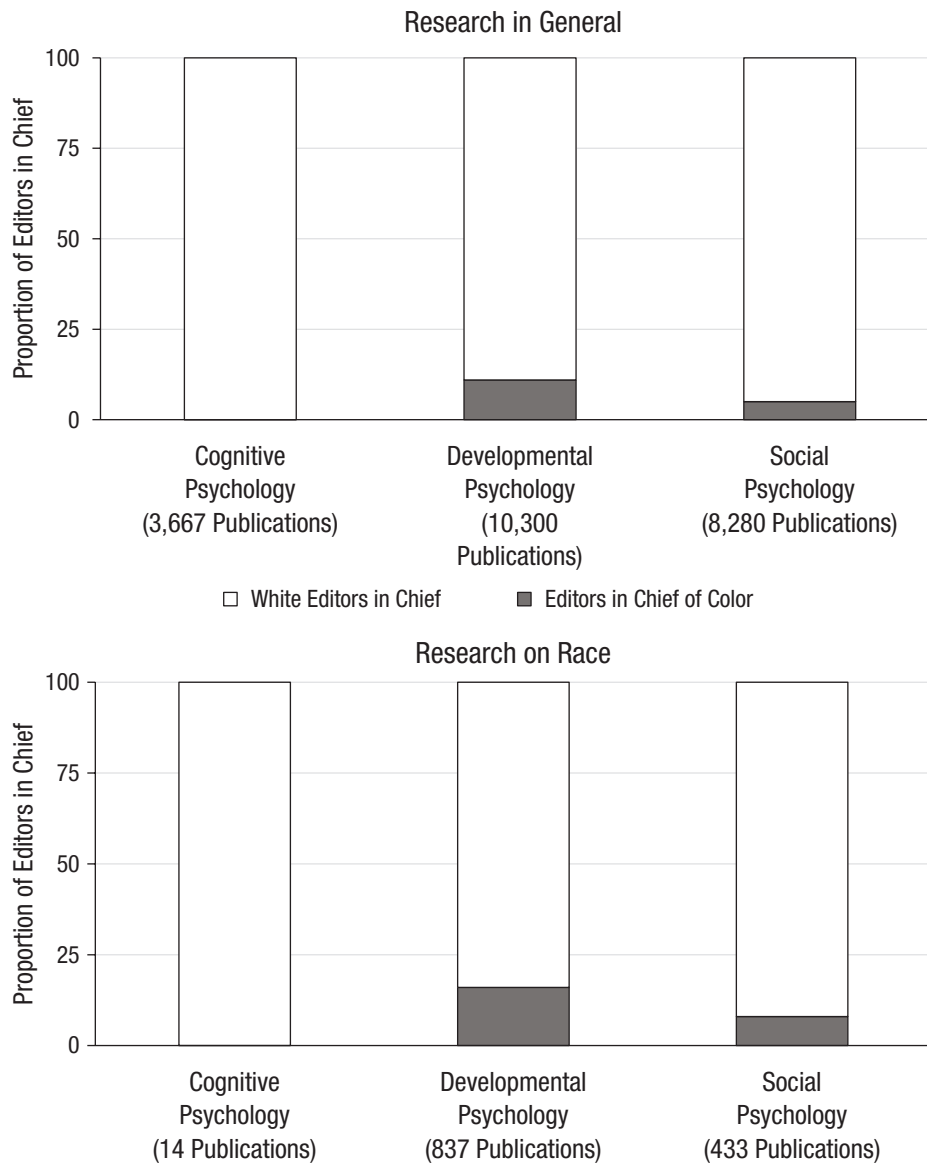


Fig. 2. Proportion of editors in chief who were people of color or White for all publications (top) and for the publications that highlighted race (bottom) across cognitive, developmental, and social psychological journals. Publications for which we were unable to code the race of the editor in chief are excluded.

members, the lower the proportion of publications that highlighted race, $\beta = -0.27$, $SE = 0.04$, $t = -7.06$, $p < .001$, 95% CI = $[-0.34, -0.19]$.

Thus, fewer publications that highlight the role of race in human psychology have been accepted and published by White editors than by editors of color. There may be two straightforward explanations for this: (a) White editors are less concerned or familiar with race, or (b) authors who study race may be more likely to submit their work to editors of color at specialty journals (Nzinga et al., 2018; Rowley & Camacho, 2015). On either account, these data highlight the need for racial diversity among psychology's editors. Across five

decades of research, two prestigious cognitive journals have never been under the auspices of a single editor in chief of color, unlike developmental and social psychology, although these two areas were also mostly edited by White editors.

Who Writes the Research That Highlights Race?

Among the publications that highlighted race, there were 1,093 unique first authors, of whom 63% were White, 23% were POCs, and 14% were unidentifiable (publications from authors whose races we were unable

to code were excluded from subsequent analyses). We found that 69% of the publications in cognitive psychology (9 of 13), 71% of the publications in developmental psychology (548 of 773), and 72% of the publications on race in social psychology (398 of 551), were written by White authors. We next ran a logistic regression model with area ($-1 = \text{developmental}$, $1 = \text{social}$), decade (standardized), and the interaction between these two variables as predictor variables and the race of the first author ($-1 = \text{White}$, $1 = \text{POC}$) as the dependent variable. We excluded cognitive psychology from this model because of a lack of publications and authors of color in this area (but see Fig. 3), and we included the total number of publications within each decade as a covariate given that a higher proportion of authors of color in later years might simply reflect a higher number of publications. The proportion of authors of color increased (and the proportion of White authors decreased) over the past five decades, $\beta = 0.79$, $SE = 0.31$, $z = 2.55$, $p = .01$, $95\% \text{ CI} = [0.20, 1.41]$; developmental psychology showed greater change than social psychology, $\beta = -0.16$, $SE = 0.08$, $z = -2.05$, $p = .04$, $95\% \text{ CI} = [-0.32, -0.01]$ (see Fig. 3).

Thus, across five decades of research, the majority of publications on race have been written by White authors, although less so over time. Why? One possibility is that research conducted by authors of color is simply of lower quality than research conducted by White authors and therefore less publishable in prestigious journals. If true, one would expect publications written by White authors to be cited more often than those written by authors of color. To test this post hoc explanation, we used Google Scholar to record the citation count for each downloaded publication as of March 2020 and found no significant difference between the citation counts of publications written by authors of color compared with those written by White authors.³ Another possibility is that there are simply too few authors of color. If true, one might also expect authors of color to also be underrepresented in specialty journals. To test this post hoc explanation, we queried every publication in *Cultural Diversity and Ethnic Minority Psychology* between the years of 1995 and 2018 (the entire span of the journal's publication history), which yielded data from 843 articles and 701 unique first authors, the majority of whom (53%) were authors of color (32% were White, and 15% were unidentifiable). Thus, the quality of the research and the quantity of the researchers do not explain why many of the most prestigious psychological publications on race have been published by White psychologists. We propose that another explanation for this is that the psychological publication process is no less reflective of racial inequality than most of society.

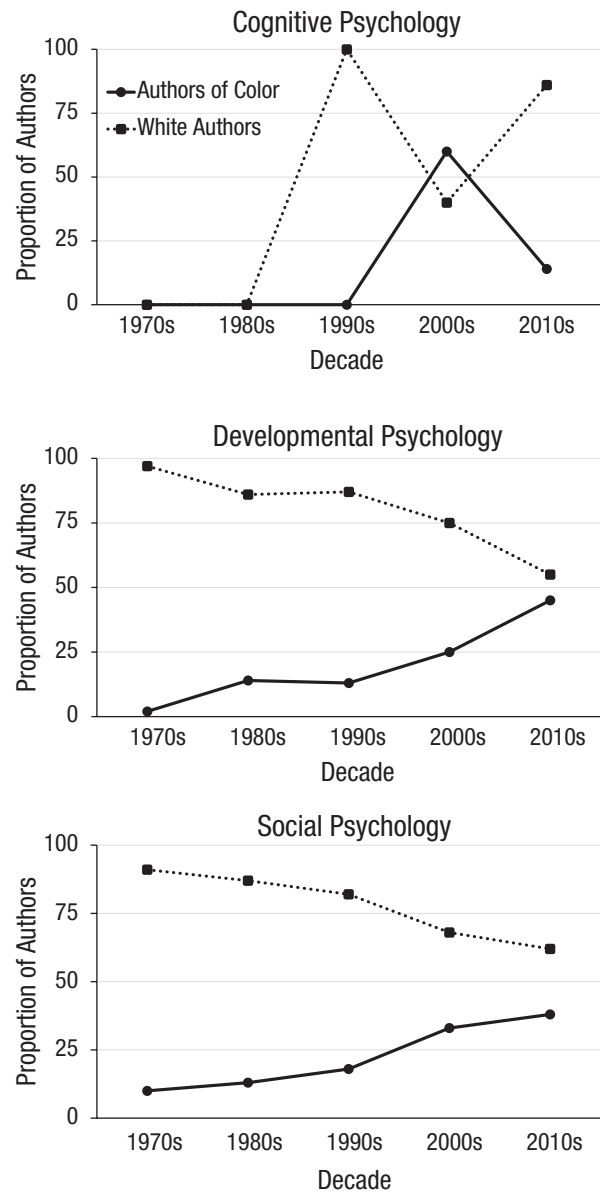


Fig. 3. Proportion of publications written by first authors who were White or persons of color across five decades of publications in cognitive, developmental, and social psychological journals. Note that we include here cognitive psychology for graphical purposes only because there were too few publications to draw firm conclusions.

Who Participates in the Research That Highlights Race?

Among the publications that highlighted race, 42% of participants were White, 48% were POCs, and 10% were unspecified (participants whose race we were unable to code were excluded from subsequent analyses). In cognitive psychology, 48% of participants were White, and 53% were POCs. In developmental psychology, 35% of participants were White, and 62% were POCs. In social psychology, 66% of participants were White, and

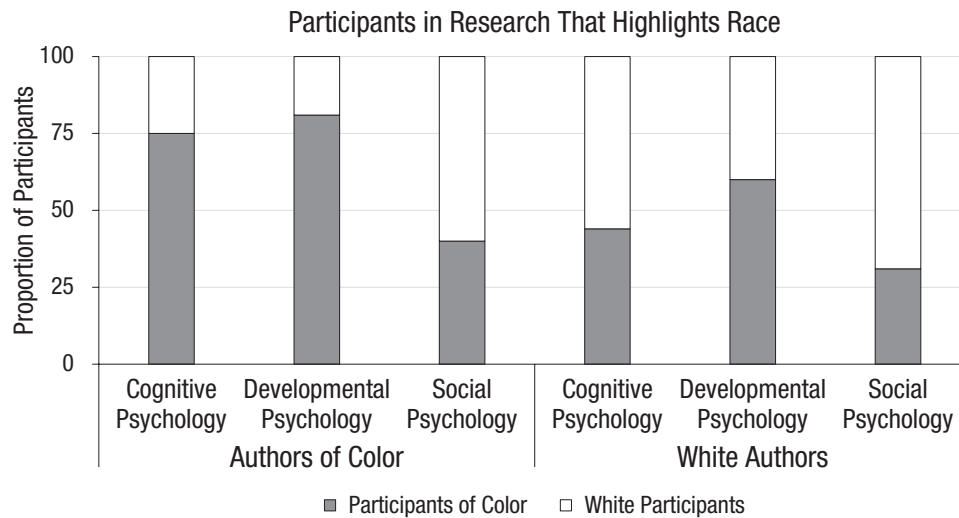


Fig. 4. Proportion of participants who were persons of color, White, or unspecified across author race and journal. Note that because there were too few publications to draw firm conclusions, cognitive psychology is included here only for graphical purposes.

34% were POCs. We ran linear regression models with author race ($-1 = \text{White}$, $1 = \text{POC}$), area ($-1 = \text{developmental}$, $1 = \text{social}$), decade (standardized), and the interactions among these three variables as predictor variables and the proportion of White participants or participants of color as the dependent variables. We excluded cognitive psychology from these analyses given the dearth of publications on race in this area (but see Fig. 4). White participants were more common in publications written by White authors (52% of participants) and less common in publications written by authors of color (35% of participants), $\beta = -0.08$, $SE = 0.01$, $t = -6.28$, $p < .001$, 95% CI = $[-0.11, -0.06]$, and were more common in social psychology (66% of participants) and less common in developmental psychology (35% of participants), $\beta = 0.16$, $SE = 0.01$, $t = 12.57$, $p < .001$, 95% [0.13, 0.18]. Conversely, participants of color were more common in publications written by authors of color (65% of participants) and less common in publications written by White authors (48% of participants), $\beta = 0.08$, $SE = 0.01$, $t = 6.12$, $p < .001$, 95% CI = $[0.06, 0.11]$, and more common in developmental psychology (65% of participants) and less common in social psychology (34% of participants), $\beta = -0.15$, $SE = 0.01$, $t = -11.79$, $p < .001$, 95% CI = $[-0.18, -0.13]$.

Critically, the race of the participants was predicted by the race *and* area of the author. White participants were most common in publications written by White social psychologists (69% of participants) and social psychologists of color (60% of participants), followed by White developmentalists (40% of participants) and developmentalists of color (19% of participants). Mean comparisons are as follows: White social psychologists compared with social psychologists of color, $\beta = -0.01$,

$SE = 0.02$, $t = -0.04$, $p = .97$, 95% CI = $[-0.04, 0.03]$; White social psychologists compared with White developmentalists, $\beta = 0.06$, $SE = 0.01$, $t = 5.09$, $p < .001$, 95% CI = $[0.04, 0.09]$; White social psychologists compared with developmentalists of color, $\beta = -0.17$, $SE = 0.02$, $t = -8.90$, $p < .001$, 95% CI = $[-0.21, -0.13]$; social psychologists of color compared with White developmentalists, $\beta = 0.06$, $SE = 0.02$, $t = 3.55$, $p < .001$, 95% CI = $[0.03, 0.10]$; social psychologists of color compared with developmentalists of color, $\beta = 0.18$, $SE = 0.02$, $t = 10.22$, $p < .001$, 95% CI = $[0.14, 0.21]$; and White developmentalists compared with developmentalists of color, $\beta = -0.10$, $SE = 0.02$, $t = -5.55$, $p < .001$, 95% CI = $[-0.14, -0.07]$. Conversely, participants of color were most common in publications written by developmentalists of color (81% of participants), followed by White developmentalists (60% of participants), social psychologists of color (40% of participants), and White social psychologists (31% of participants; all mean comparisons, $ps < .001$).

We reason that this variation by author race occurs because authors of color are more invested in communities of color, more cognizant of the importance of racial diversity in participant recruitment, and less likely to rely on predominantly White convenience samples (see Nzinga et al., 2018), but why the area difference? One reason might be that developmental psychologists, compared with social psychologists, may be less likely to recruit participants via online platforms (e.g., Amazon's Mechanical Turk), which have become increasingly popular over time and consist of mostly White samples (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosline, 2011). If true, a simple solution would be to recruit diverse samples via those platforms (see, e.g., Roberts

et al., 2020). Another reason might be that developmental psychologists have been more vocal about the importance of collaborating with racially diverse samples. Here are three examples:

In 1990, Vonnie McLoyd edited a special issue of *Child Development* that encouraged developmentalists to think more critically about minority samples.

In 2018, Dawn Witherspoon and Gabriela Livas Stein cochaired a preconference on diversity for the Society for Research on Child Development (SRCD) in which they did the same.

In 2020, under Cynthia García Coll's editorial leadership and Deborah Rivas-Drake's chairpersonship of the Publications Committee, SRCD enacted a policy on the disclosure of sociocultural information of participant samples, including information regarding participants' race.

Our data and these examples highlight the need for racial diversity in psychology's leadership (see Fig. 2).

Note that in developmental psychology but not in social psychology, publications on race included more participants of color, and the proportion of participants of color increased over time. This increase is in many ways positive because it likely reflects (a) a greater attention to marginalized and hard-to-reach communities, (b) a greater willingness of those communities to participate in university research, (c) a greater investment in those communities by authors of color, and (d) an increasingly diverse society (Rowley & Camacho, 2015). Yet developmental psychology has limited knowledge about race-related issues among White participants (e.g., how White children learn about race and think about racial diversity). In recent years, U.S. society has seen an increase in race-related hate crimes, perpetrated mostly by White men (Eligon, 2018). Research in social psychology has revealed that this is often caused by fear of increasing racial diversity (Craig, Rucker, & Richeson, 2018), and by studying race with White children, developmental psychologists stand to reveal how this fear takes root across development. Simply put, race is not relevant only to children of color.

Moving Forward

We examined five decades of publications in cognitive, developmental, and social psychology to document the extent to which publications in these fields have highlighted the role of race in how humans think, develop, and behave, as well as when, where, by which authors and editors, and with which participants race has been

given formal consideration. Our research suggests that the psychological publication process is, understandably, subject to the same structural inequities that stratify the rest of society. Psychological research is mostly edited by White editors, under whom there have been fewer publications that highlight the important role of race in psychology. The few studies that did highlight race were written mostly by White authors, under whom there have been fewer participants of color. Thus, we document that the racial identities of individuals curating psychological research have clear implications for what and who is included in that research. Below, we contextualize our findings and propose concrete recommendations for how to meet the field's stated goal of generating representative knowledge (Medin, 2017; Rad, Martingano, & Ginges, 2018).

Any experienced psychologist has surely noticed that psychologists of color are rarely in leadership positions. To give one historical example, the American Psychological Association (APA) was founded in 1892, but the first APA president who was a POC, Kenneth B. Clark, was not elected until 1971. It is known that diverse leadership transforms organizations by changing norms, creating initiatives, establishing new knowledge, and modeling potential career paths to underrepresented group members (Crisp & Turner, 2011; Jeanquart-Barone, 2004; Markus & Nurius, 1986; Milner & Howard, 2004; Rowley & Camacho, 2015). This is especially important given that the perspectives people hold, the ways in which they evaluate phenomena, and the questions that they ask are influenced by their social identities (Bourke, 2014; Cole, 2015; Markus & Kitayama, 1991; McGlothlin & Killen, 2010). If psychological science is to tackle diverse questions from diverse perspectives, it must diversify. This is not to presuppose that POCs necessarily hold worldviews that privilege POCs. Rather, in addition to benefitting from increased racial diversity, psychological science would also benefit from norms and communal agreements that center around diversity, equity, and inclusion.

Our view is that the lack of racial diversity in the psychological publication process is both biased and impractical. Regarding bias, we offer a thought experiment: A researcher of color is invested in dismantling racial inequality and therefore conducts research on race with samples of color. The researcher submits a manuscript for publication to a White editor at a top-tier journal. The manuscript is rejected by the editor, who feels unable or ill-equipped to handle it, perceives the researcher of color as less objective and credible than a White researcher, devalues or misunderstands the research, or criticizes the research for not including a White comparison sample. Subsequently, the researcher of color submits the work to an editor of color at a specialty journal who may be

more invested in issues of race and more likely to publish the research. Ultimately, the research is published in a specialty journal that might be devalued by the author of color's institution, peers, students, and tenure committees, leaving mainstream psychology with theories, methods, and findings that do not reflect a diversity of perspectives (for similar arguments, see Hall & Maramba, 2001; Nzinga et al., 2018; Rowley & Camacho, 2015).

Regarding practicality, the lack of racial diversity in psychology stands to leave the field unprepared for an increasingly diverse society. In 2015, most U.S. newborns were of color, and it was projected that by 2060, POCs will make up the majority of the U.S. population (Colby & Ortman, 2015). How are these persons to see themselves as future psychological scientists if they are not represented as editors, authors, or even participants? Three decades ago, Markus and Nurius (1986) demonstrated that individuals who do not see themselves represented in certain positions are less motivated to pursue similar roles for themselves. If psychological science is to be welcoming to future generations, it must diversify.

Extending the field's recent emphasis on metascience, including decreasing false-positive findings and increasing replication efforts and open-science practices (John, Loewenstein, & Prelec, 2012; Makel, Plucker, & Hegarty, 2012; Pritschet, Powell, & Horne, 2016; Simmons, Nelson, & Simonsohn, 2011), we propose that reforms aimed at ensuring diversity, equity, and inclusion need to be embedded within our research. More formally stated, the informativeness and generalizability of psychological research depends on the values of the people who conduct that research. Just as data and methods need to be transparent, the people behind those data and methods need to be transparent. We propose five recommendations for journals and four for authors.

Recommendations for journals

1. Communicate a top-down commitment to diversity. This means explicitly stating whether the journal publishes research that is sensitive to diversity and whether it values the editing, writing, and participation of diverse scientists. This recommendation can be achieved by adding a diversity statement to the journal's web page and editorial letters and is meant to signal whether the journal is explicitly interested in issues of diversity (see Neblett, 2019).

2. Include diverse individuals across all levels of the publication process. This means that journals should consist of diverse editors, reviewers, authors, and participants—ideally at rates that mirror diversity at the

national level or within psychology. This is not to be achieved only through special issues, which only reinforce the idea that diversity is not mainstream. Rather, diversity must become the norm, and this must be reflected in standard journal issues (see Medin, 2017).

3. Merit participant diversity in the review process. Just as manuscripts are evaluated by their theoretical novelty, methodological rigor, and clarity of writing, they should be evaluated by the diversity of their samples. If journals can distinguish publications with preregistered studies and publicly accessible data sets and materials, they can be reasonably expected to distinguish publications with samples that do not consist mostly of White people (e.g., badges for publications that do not concern Western, educated, industrialized, rich, and democratic [WEIRD] samples). Alternatively, journals could mark publications that consist mostly of White people (e.g., WEIRD badges). Either could incentivize researchers to diversify their samples.

4. Release public diversity reports annually. We suggest this practice will reveal whether journals are fulfilling their commitment to diversity. If the report reveals that the journal is homogeneous in a given area (e.g., the editors, reviewers, authors, or participants are mostly White men), the journal should produce a report detailing plans for change.

5. Establish a diversity task force. This ensures that the recommendations are monitored and enacted. Each diversity task force could consist of individuals from diverse backgrounds but should not consist purely of underrepresented minorities, who are commonly overloaded with service requests, especially in the domain of diversity (see Rodríguez, Campbell, & Adelson, 2015).

Recommendations for authors

1. Detail the racial demographics of samples. The majority of psychology publications fail to report the racial demographics of their samples (DeJesus et al., 2019) or report simplified dichotomies (e.g., White vs. non-White). Moving forward, authors could report the breakdown of the full racial demographics of their samples (e.g., 70% White, 20% Asian, 8% Black, 2% Multiracial). Doing so makes transparent who is included in psychological science and allows for comparisons across studies, which may be especially important for meta-analyses. Given that race is a social construct, we recommend that participants are given the opportunity to provide their own open-ended identity (e.g., What is your racial/ethnic identity?) as opposed to forcing them to "check" one or more predetermined categories. Of

course, we did not examine variation within POCs in the present research (e.g., whether the inclusion of Asian participants has changed over time). This decision was born out of necessity; racial categories have changed over time, and publications inconsistently report the demographics of their samples. Moving forward, we hope to see journals and authors follow this recommendation, which would enable future researchers to conduct more nuanced investigations.

2. Justify the racial demographics of samples. This recommendation prevents researchers from relying only on easy-to-access populations (e.g., White college students), motivates them to consider the generality of their research questions and theoretical assumptions, and encourages them to include diverse humans in the scientific process. Just as researchers could justify their sample sizes, they could justify their sample demographics (see Rowley & Camacho, 2015).

3. Include constraints on generality statements. Proposed by Simons, Shoda, and Lindsay (2017), this recommendation makes clear the extent to which authors' conclusions generalize across samples. If the study sample is homogeneous and such reporting is not possible (but the sample homogeneity has been justified; see previous recommendation), researchers could discuss the generalizability of their findings. Note that authors must be both outcome-oriented and process-oriented. Documenting how outcomes vary across groups is important because it reveals the extent to which conclusions generalize across groups, although it is also important to identify (or at least discuss) the processes that explain such variation (see McLoyd & Randolph, 1984).

4. Include positionality statements. This recommendation makes transparent how the identities of the authors relate to the research topic and to the identity of the participants and the extent to which those identities are represented in the permanent scientific record. Just as authors release statements of author contributions, they can release positionality statements that afford contributors the opportunity to clarify how they are positioned regarding the research and the researched. If, for instance, scholars are drawing conclusions about Asian Americans, yet the author list consists exclusively of White Americans, that could be made clear. Indeed, if authors detail their samples' racial identities, they could just as well detail their own racial identities. This recommendation may encourage researchers to conduct their research collaboratively with diverse scientists and engage in multi-lab collaborations (see Bourke, 2014; Medin & Bang, 2014; Nzinga et al., 2018). (For an example, see the Acknowledgments section of this article.)

None of these recommendations needs to be limited to the study of race. Although race was the focus in this research, intersectionality is also vital to a healthy and representative science (e.g., persons representing a wide range of gender, political, religious, and sexual identities). For example, it could be made clear in the positionality statement that the research question concerns gender yet the research team consists only of individuals who identify as male, or that the research participants are members of the LGBTQ community yet the research team consists only of individuals who identify as heterosexual and cisgender. If the researchers are making claims about any social identity, their relationship with that identity could be stated. However, authors should not be mandated to disclose any aspect of their identities unless they themselves consent to doing so.

Concluding Thoughts

Our analysis was broad but limited. First, we examined publications from two top-tier journals within each area, although these journals are not representative of all journals. Future research is needed with other journals, both general (e.g., *Psychological Science*) and area specific (e.g., *Journal of Cognition and Development*). Second, we focused our analysis on psychology journals, but future research could consider diversity among funding agencies. To truly diversify psychological science, it is important for funding agencies to consist of diverse review panels, to support researchers of color, and to fund projects with diverse samples. Third, our interest was in psychological research that highlighted the important role of race in thinking, development, and behavior, although many of the core issues tackled here extend to other social groups as well, including but not limited to those based on gender, sexual orientation, religion, class, and political orientation (see also Duarte et al., 2015; Petty, Fleming, & Fabrigar, 1999).

Notwithstanding these limitations, the present research makes a clear contribution to psychological science. Racial diversity, segregation, and inequality have increased in recent years, particularly in the United States, and this reality has important implications for how people think, develop, and behave. Here, we have documented the extent to which some of the most prestigious journals in psychological science do not reflect this reality but do indeed reflect structural inequality. The few psychology publications that have highlighted race have been edited mostly by White editors who have published fewer articles that highlight race, and they have been written mostly by White authors who have employed fewer participants of color. Simply put, the research, researchers, and researched

are all systematically interconnected (Medin et al., 2017). These patterns, of course, vary across decade and area, but overall, they make clear that psychological science has a long way to go if it is to be a truly diverse, equitable, and inclusive enterprise. We advocate for a set of recommendations that takes more seriously the role that racialized experiences have in human psychology, for both White people and POCs, and makes more transparent who regulates, narrates, and participates in psychological science.

Finally, the present work is not an indictment of psychological scientists, although it is an indictment of psychological science. Our field has for decades revealed the pitfalls of psychological biases (e.g., explicit and implicit attitudes, motivated cognition, beliefs in a just world) and structural inequality (e.g., racially homogeneous institutions, hierarchy-enhancing policies, color-blind leadership) and how the dynamic interplay between the two maintain and reinforce racial inequality (see Roberts & Rizzo, in press; Salter et al., 2018). Yet we have neglected the fact that our own perspectives confine our view of reality. If we are to have a genuinely sound and equitable science, we must acknowledge the role of our finite perspectives and develop practices that ensure our science is not limited or dominated by a single one. As the world becomes increasingly diverse, it will become necessary for our science to become diverse as well. We hope that this truth becomes self-evident as we progress further into the 21st century.

Transparency

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Declaration of Conflicting Interests

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Notes

1. We focused on publications situated within the U.S. context for four reasons. First, most psychological publications stem

from the United States (Arnett, 2008), which left us with relatively few publications from other contexts. Second, concepts of race vary across countries (Diesendruck, Goldfein-Elbaz, Rhodes, Gelman, & Neumark, 2013), thereby making cross-cultural comparisons, which was not the purpose of this research, difficult. Third, race plays a particularly important role in how Americans think, develop, and behave (Roberts & Rizzo, in press), and the United States therefore stood as a unique case study. Fourth, the researchers were situated within the U.S. context and therefore had limited insight into other contexts (see Bourke, 2014). Undeniably, research that examines racial inequality in other contexts is needed.

2. Across all models, we examined variation as a function of decade rather than year given that there were often no publications on race in a specific year and therefore no data from authors or participants to analyze.

3. We conducted a mixed-effects linear regression model with author race ($-1 = \text{White}$, $1 = \text{POC}$) as a predictor variable, decade of publication and area as covariates, individual author as a random intercept, and the citation count as of March 2020 as the dependent variable. There was no significant effect of author race, $\beta = -5.86$, $SE = 23.12$, $t = -0.25$, $p = .80$, 95% CI = $[-51.11, 39.43]$.

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