



The cultural (mis)attribution bias in developmental psychology in the United States[☆]



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ARTICLE INFO

Keywords:

Bias
Culture
Cultural (mis)attribution bias
Developmental psychology
Diversity
Inclusion

ABSTRACT

In this article, we provide evidence for the cultural (mis)attribution bias in developmental psychology in the United States: the tendency to see minorities as members of a group whose development is shaped primarily by culture, and to perceive Whites as independent individuals whose development is largely influenced by psychological processes. In two studies, we investigated this bias with a decade of peer reviewed developmental research conducted in the US ($N = 640$ articles), and an experiment and a survey with developmental psychologists in the US ($N = 432$ participants). In both studies we found that developmental psychologists in the US favor cultural over psychological explanations when considering the development of minorities, while the opposite pattern emerged in reference to Whites. This bias is exacerbated by the endorsement of the idea that minorities are more collectivistic and Whites more individualistic. We discuss the implications of this bias for diversity and inclusion initiatives in applied developmental sciences.

1. Introduction

The importance of diversity and inclusion has gained recognition in developmental sciences. The Society for Research in Child Development (SRCD) has stated that one of the goals of its strategic plan is to pursue diversity in all aspects of its organization, activities, and membership. Diversity and inclusion are addressed in the plan as: (1) "...the principle that a full understanding of development requires inclusion of cultural, racial, ethnic, national, or other contexts as influences on individuals and the families and communities in which they live", and the need to (2) "...provide a venue for scientists who represent a range of cultural and ethnic backgrounds...(and) increasing the number of developmental scientists from underrepresented ethnic and racial groups (SRCD, 2005, p. 2)".

Both goals are well justified. First, supporting diversity by encouraging the consideration of the role of culture is imperative, given its crucial and multifaceted role in shaping human development (Causadias, 2013; García Coll et al., 1996; Quintana et al., 2006; Rogoff, 2003; Super & Harkness, 1986). Second, promoting diversity through the inclusion of underrepresented groups is of paramount importance to the field, and the scientific enterprise, more generally. For decades, scholars have documented pervasive bias in the representation

of minorities in published research, which constrains our scientific understanding of human development (García Coll, Akerman, & Cicchetti, 2000; MacPhee, Kreutzer, & Fritz, 1994; McLoyd & Randolph, 1985; Nielsen, Haun, Kärtner, & Legare, 2017).

However, commitment to the goals of diversity and inclusion is often articulated in a way that emphasizes the importance of culture in the development racial/ethnic minorities, but not necessarily how culture shapes the development of Whites (see Quintana et al., 2006; Spencer, 2006). By developmental psychology in the United States we refer to the collective enterprise of developmental psychologists working in universities in the US -regardless of their race/ethnicity and nationality- conducting developmental research with samples mostly located in the U.S., and usually publishing research in developmental journals based in the U.S. We employ the term minorities to signify membership into any non-White cultural, ethnic, or racial groups in the U.S., including, but not limited to, African Americans or Blacks, Asian Americans, Hispanic or Latinos, Native Americans, and Pacific Islanders. We use the term Whites to indicate identification with any racial/ethnic group of European ancestry in the US, including, but not limited to, European Americans, Euro-Americans, Anglo-Americans, and/or Caucasians.

In this article, we provide evidence of a cultural (mis)attribution

[☆] This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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<https://doi.org/10.1016/j.appdev.2018.01.003>

Received 1 September 2017; Received in revised form 10 January 2018; Accepted 14 January 2018

Available online 03 February 2018

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bias: the tendency to see minorities as members of a group whose development is shaped primarily by social-level cultural processes, and to perceive Whites as autonomous and independent actors whose development is instead largely influenced by individual-level psychological processes. In two studies, we investigated the presence of this bias in developmental research in the US using archival, experimental, and correlational methods. Considering this bias is central in the pursuit of diversity and inclusion because overemphasizing cultural differences is another way of reinforcing deficit perspectives: *a deficit by difference approach*.

2. The cultural nature of human -not only minority- development

Culture is a coherent system of practices, symbols, beliefs, and ideals that are created and shared by a community, subject to change as it is passed from one generation to the next, and working simultaneously at the individual and societal level (Kitayama & Uskul, 2011). Cohen (2009) emphasized the multidimensionality of culture, as it is expressed materially (e.g., tools), subjectively (e.g., ideas), and socially (e.g., rituals). But culture is more than a collection of fixed attributes: it is a dynamic web of behavioral and symbolic inheritances that create and are created by a community (Shweder et al., 2006). Culture shapes development at multiple levels and through many processes, including engagement and participation in community activities (Rogoff, 2003), direct and indirect exposure to social environments (Super & Harkness, 1986), family socialization into worldviews, social roles, language, and developmental goals (Causadias, 2013), and placement into a stratified system that allocates power and privilege according to group membership (García Coll et al., 1996). That culture operates *both* at the individual (e.g., cognitive, personality) and the societal level (e.g., interpersonal, institutional) is not widely acknowledged in developmental psychology in the US. Instead, there is a tendency to underscore the societal dimension of culture, and to emphasize the individual dimension of some psychological processes, such as personality, notwithstanding evidence that personality and culture are inseparable (see Diener, Oishi, & Lucas, 2003).

In the same way that culture shapes the development of all human beings, so does race and ethnicity, as these three concepts are firmly embedded in the same nomological network. First, race and ethnicity are cultural products created and transmitted by communities. Race can be understood as a system of classifying individuals who share physical characteristics into groups (e.g., skin color), the stereotypes that result from this grouping, and the social hierarchy in which these groups are organized (Hartigan, 2015). Ethnicity involves a sense of identity and belonging to a group based on common culture, including national origin, traditions, language, community practices, and rituals (Golash-Boza, 2016). Second, race and ethnicity are intimately interconnected to culture because they are often treated as indistinguishable concepts in developmental research that are “conceptually confounded and empirically conflated” (Quintana et al., 2006, p. 1131). Race and ethnicity are frequently employed as proxies for cultural processes and explanations for differences between groups (Causadias, 2013). For these reasons, we consider race and ethnicity as part of the broader concept of culture for the purpose of this article, though we recognize that each construct has its own unique significance.

Culture is central to the development of *all* human beings, not only minorities, because our shared phylogenetic evolution imposes constraints on the possible differences in psychological and developmental functioning (Poortinga, 2016). But despite evidence that culture plays a critical role in the development of all human beings, developmental researchers have frequently focused on minorities in investigations of the role of culture on development (Spencer, 2006). Nonetheless, Whites are as influenced by culture as minorities are, although in ways that developmental psychologists often fail to recognize (Quintana et al., 2006).

3. The cultural (mis)attribution bias in developmental psychology in the United States

We argue that current research in developmental psychology in the US has a cultural (mis)attribution bias, or a tendency to characterize minorities as representatives of a group whose development is shaped primarily by culture, and Whites as independent agents whose development is instead largely influenced by characteristics and actions unique to individuals. We found evidence of this bias in mainstream American psychology in a previous study by analyzing a decade of peer reviewed psychological research conducted in the US ($N = 434$ articles), and an experiment and a survey with psychology professors in the US ($N = 361$ psychologists). We found that psychologists working in the US favor social-level explanations (e.g., culture) over individual-level psychological explanations (e.g., personality) when considering the behavior and cognition of minorities, while they do the opposite when they consider Whites (Causadias, Vitriol, & Atkin, *in press*). We believe this bias extends to developmental psychology and has critical implications for diversity and inclusion.

The cultural (mis)attribution bias accentuates supposed categorical differences between groups and can perpetuate intergroup prejudice, *a deficit by differences approach*. When boundaries between minorities and Whites are viewed as rigid and static, perceived racial differences are more likely to reinforce beliefs that groups have unchanging characteristics shared by all group members (Lee, Wilton, & Kwan, 2014). In turn, the idea that racial differences are based on biology or that group characteristics are fixed and enduring can lead to dehumanization and stereotyping outgroups (Levontin, Halperin, & Dweck, 2013). Lay theories about race have traditionally been grounded on presumed biological differences, but may also be reinforced by the belief that the characteristics of groups and its members are permanent (Lee et al., 2014). While classic perspectives on race were rooted in biology, the cultural (mis)attribution bias shows that modern views on race are grounded in culture.

The cultural (mis)attribution bias has repercussions for racial relationships in America, which are often framed in terms of diversity and inclusion. Diversity has become the normative, euphemistic, and sanitized term for discussions of racial equity and social justice in scholarly research and higher learning institutions (Unzueta & Binning, 2010). The term diversity does not explicitly concern some groups more than others, as it refers to “difference” or “variety”. However, regardless of group membership, individuals tend to associate diversity more with minorities than with Whites (Unzueta & Binning, 2010). Also, Whites see diversity more about “them” (i.e., referring to minorities), effectively removing Whites from the equation and downplaying their privilege, power, and overrepresentation (Unzueta & Binning, 2010).

The cultural (mis)attribution bias may be one manifestation of a broader set of psychological misconceptions (Bensley & Lilienfeld, 2017) and, folk and lay theories about group differences (Levy, Chiu, & Hong, 2006). In particular, the cultural (mis)attribution bias is consistent with the idea that minorities are more collectivistic and Whites are more individualistic. For instance, Shweder et al. (2006) argued that Whites' conception of the self are likely to be structured independent, separate, different from others, and oriented toward emphasizing one's uniqueness, while culturally acceptable conceptions of the self among East Asians are likely to be connected, responsive and similar to others, and concerned with group conformity. This kind of reasoning risks reinforcing the cultural (mis)attribution bias because it emphasizes the idea that minorities are first and foremost group members whose development is largely shaped by culture, while Whites are individual actors whose development runs independent from the influence of culture. However, the idea that minorities are more collectivistic and Whites are more individualistic can be contested for several reasons.

First, empirical evidence does not support this notion. Experts tend to perceive larger differences between Asians and Americans on

collectivism than those revealed by empirical evidence (Heine, Lehman, Peng, & Greenholtz, 2002). The most comprehensive meta-analysis on the matter to date indicated that cultural differences in individualism and collectivism “were neither as large nor as systematic as often perceived” (Oyserman, Coon, & Kemmelmeier, 2002, p. 40). A recent meta-analysis found that Asian and Latino Americans are not higher in collectivism than Whites (Vargas & Kemmelmeier, 2012). Furthermore, both meta-analyses found that African Americans, not Whites, are the group with highest levels of individualism. Second, even if we entertain the notion that Whites are more individualistic, individualism does not exist without the influence or in the absence of culture. Individualism is, itself, a cultural orientation (Oyserman et al., 2002). Individualism is not biologically engrained in Whites, but learned and reinforced through cultural socialization, and transmitted and maintained by a cultural community. Third, there is more within-group variation than between-group variation in most psychological traits (Adams & Markus, 2004), including individualism and collectivism (Oyserman et al., 2002). Furthermore, longitudinal meta-analytic evidence shows that groups are becoming more culturally similar, in terms of individualism and collectivism, than different (Vargas & Kemmelmeier, 2012).

Ultimately, the cultural (mis)attribution bias has important implications for diversity and inclusion in applied developmental sciences. The role of culture in the development of minorities might be exaggerated in policy, interventions, training, and assessment, to list a few applied domains, while it is mostly neglected in translational efforts aimed at Whites. Conversely, programs and initiatives aimed at promoting minority health and adjustment might underemphasize the role of normative psychological processes in development, while these same processes are overemphasized with Whites samples. In sum, the cultural (mis)attribution bias relies on a misconceived notion about the role of culture in development, is related to other overstated claims about cultural differences, and can compromise efforts to promote diversity and inclusion in applied developmental science. Our goal is to appraise the empirical support for the existence of the cultural (mis)attribution bias in developmental psychology.

4. The present research

The first investigation to document this bias (Causadias et al., in press) focused on general psychology and recruited a sample of non-developmental psychologists, so the extent to which this bias is present in developmental psychology in the US remains unexamined. Also, the previous investigation did not directly investigate potential explanations as to why psychologists believe culture is more important for minorities than for Whites. For instance, the degree to which over-emphasizing the importance of social-level processes in the development of minorities is related to perceiving minorities as more collectivistic, while stressing the role of individual-level processes in the development of Whites is associated with perceiving Whites as more individualistic, has not yet been examined in relation to this bias.

In the present research, we conduct a replication and extension of the previous investigation by examining the cultural (mis)attribution bias in developmental psychology in the US with two studies. In study 1, we conduct an analysis of articles published in six premier developmental journals over the course of a 11-year period (2005–2015) to examine if there is a larger percentage of minorities in developmental studies of culture, while there is a lower percentage in noncultural research in developmental psychology conducted in the US. In study 2A, we conduct an experiment with a sample of developmental psychologists working in universities in the US to test whether their judgments of the appropriateness of sample composition (White vs. minority) vary depending on whether that sample is used to study the role of cultural or non-cultural psychological phenomena on development. We also investigate if perceiving minorities as collectivistic and Whites as individualistic exacerbates this bias. In study 2B, we conduct a survey with the same sample of developmental psychologists to test the degree

to which they supported the idea that the development of Whites is more influenced by psychological processes, whereas culture can better explain the development of minorities, and the degree to which they believe other developmental psychologists endorse these views.

We test the cultural (mis)attribution bias both among minority and White developmental psychologists in the US, so it can be differentiated from other well-documented intergroup processes (see Hewstone, Rubin, & Willis, 2002). If minority developmental psychologists perceive the development of Whites to be more strongly influenced by cultural processes than psychological processes, and White developmental psychologists do the same for minorities, this would be evidence of in-group favoritism, because members of both groups perceive the in-group more favorably than the out-group (Brewer, 1979). However, if both minorities and White developmental psychologists consider minorities more cultural than Whites in the American context, we may have identified a distinct form of bias. Thus, study 2A and 2B examine if these effects are moderated by self-reported ethnicity.

5. Study 1: journal analysis

Because we consider ethnicity and race as part of the broader concept of culture, in study 1 we selected a sample of developmental studies focused on culture, ethnicity, and race conducted in the US and published between 2005 and 2015. We then compared them to a randomly selected sample of non-culture, ethnicity, and race comparison developmental studies conducted in the US, as well as to the national ethnic distribution of the US.

Our first research question was: To what degree do developmental studies of culture, ethnicity, and race differ from comparison studies? Hypothesis 1.1: Developmental studies of culture, ethnicity, and race will have a higher percentage of minority participants than comparison studies.

Our second research question was: To what degree does the sample composition found in each set of studies deviate from what would be expected from a random sample drawn from the US population? Hypothesis 1.2: In contrast with the ethnic distribution of the US, developmental studies of culture, ethnicity, and race will have a higher percentage of minorities in their samples, while comparison studies will have a lower percentage.

5.1. Procedure and measures study 1

We selected eight of the leading developmental psychology: *Child Development*, *Developmental Psychology*, *Development and Psychopathology*, *Developmental Science*, *Journal of Autism and Developmental Disorders*, *Attachment and Human Development*, *Developmental Review*, and *Child Development Perspectives*. However, given that our goal was to examine all research articles focused on culture, ethnicity, and race published in the last decade, we excluded the last two journals after inspection because they mostly publish reviews and conceptual articles. This method provides a comprehensive overview because it surveys the flagship journals in some of the major areas of developmental research, including developmental psychopathology (e.g., *Development and Psychopathology*), attachment (e.g., *Attachment and Human Development*), biology (e.g., *Developmental Science*), and general developmental psychology (e.g., *Child Development*, *Developmental Psychology*).

From these journals, we collected all of the empirical articles focused on culture, race, and ethnicity published between 2005 and 2015 and conducted in the US to capture the present state of the field. We identified these articles through a database search for each journal, choosing studies in which the terms “culture”, “ethnicity”, and/or “race” appeared in the title, abstract, and/or keywords. The title provides the core message of a study, the abstract is a succinct summary that provides its basic details, and the keywords list the central concepts that enable scientists to identify research in databases.

We coded each article for the presence of the terms culture, ethnicity, and/or race. Our eligibility criteria for the articles were that the study: (a) included the target terms in the title, abstract, and/or keywords, (b) reported empirical developmental research with human subjects, (c) appeared in the journals in the selected timeframe, and d) was completely conducted in the US. The last criterion does not guarantee that authors or participants are American, but that such studies often reflect practices and values prevalent in developmental research in the US. Our exclusion criteria were (a) meta-analyses, reviews, editorials, theoretical papers, or commentaries, (b) retracted papers, (c) studies conducted with animal subjects, (d) studies that employed race or ethnicity in the title, abstract, and keywords to acknowledge the limited diversity of the sample, and e) studies with samples collected outside the US. We identified a total of 320 developmental studies that formed the culture, ethnicity, and race group.

We then collected a comparison group of articles that followed the same inclusion and exclusion criteria, with the only difference being that they did *not* include culture, ethnicity, and/or race in the title, abstract, and/or keywords. The goal of assembling a comparison group was to be able to contrast the ethnic composition of articles focused on culture, ethnicity, and race with the ethnic composition of articles in which these were not prominent themes. For each article in the culture, ethnicity, and race group, we randomly selected a “twin” article from the same journal, year, and issue using a random number generator (www.random.org). We identified 320 comparison articles that made the nonculture-ethnicity-race group, for a total of 640 articles for our analysis. See Tables 1–6 in *Data in Brief*.

Every article was coded for the percentage of minority participants by calculating the total proportion of non-White participants in each study, including African American, American Indian, Asian American, Latino or Hispanic, and others (i.e., multiracial, biracial, other). The ethnic distribution of the sample was coded missing if it was unclear (e.g., “non-Black participants”), vague (e.g., “mostly Caucasian”, “predominantly White”), or simply not reported.

5.2. Results and discussion study 1

To test hypothesis 1.1, we ran independent samples *t*-test to examine mean differences in the sample composition between groups. Findings revealed differences of large magnitude, with developmental studies of culture, ethnicity, and race having significantly higher percentages of minorities (67%), compared to the percentage of minorities in non-culture-ethnicity-race studies (33%), $t(512) = 13.834$, $p < .001$, $d = 1.21$. To test hypothesis 1.2, we employed a Chi-Square Goodness-of-Fit test to compare minority sample composition between the culture, ethnicity, and race group, the non-culture-ethnicity-race group, and the percentage of minorities the US population in 2010 (36% minorities: Humes, Jones, & Ramirez, 2011). Fig. 1 shows that compared to the US population, studies in the culture, ethnicity, and race group overrepresented minorities, $\chi^2(1, N = 281) = 116.48$, $p < .001$. However, studies in the non-culture-ethnicity-race group reflecting mainstream developmental research conducted in the US were not different from the US distribution, $\chi^2(1, N = 233) = 1.82$, $p = .18$. Missing data varied by group, such that 12% of the data on percentage of minorities was missing in studies on culture, ethnicity, and race, compared to 27% of the data for non-culture-ethnicity-race studies.

These findings replicate a previous study looking at general psychological research (Causadias et al., *in press*), and support the notion that developmental psychologists tend to target minority samples disproportionately more than White samples when they study the role of culture in development, in stark contrast with developmental research that is not focused on culture. Furthermore, in contrast with the percentage of minorities in the US population, studies focused on culture overrepresented minorities (vs. Whites). Studies not focused on culture did not overrepresent Whites (vs. minorities).

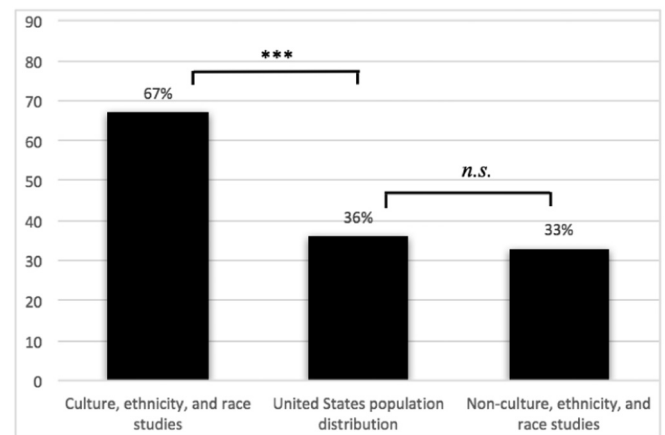


Fig. 1. Percentage of minority participants across studies and US population distribution. Note. *** = $p < .001$, n.s. = non-significant ($p > .05$).

6. Study 2: experiment and survey with psychologists

Next, we pursued direct evidence of developmental psychologists' assumptions about the role of culture on the development of Whites vs. minorities, in addition to the archival evidence for the cultural (mis) attribution bias provided by study 1. Thus, we conducted an experiment (study 2A) and administered a survey (study 2B) to a sample of developmental psychological researchers. For both studies, we examined if responses were moderated by the ethnicity of the participants to establish if both groups perceived culture having a larger role in the development of minorities, which would support the cultural (mis)attribution bias, or if each group perceived culture played a major role in the development of the out-group, which would indicate a more general intergroup bias.

To recruit participants for study 2, we contacted faculty employed in 179 developmental psychology departments, institutes, and programs of the top 220 research universities from the *U.S. News and World Report* rankings (2016). For each department, we conducted a Google search with the university name and the term “developmental psychology”, “human development”, “child” to find the school's main developmental psychology program website. We identified all faculty members that were full-time, tenured, or tenure-track professors in the contact list. We excluded all research professors, lecturers, adjunct professors, emeriti professors, post-doctorates, graduate students and staff from the contact list. Individuals that fit the inclusion criteria were sent emails with links to the study. The Institutional Review Board from the first author's university approved study 2A and 2B.

We contacted a total of 1993 developmental psychologists, of which 482 completed an Internet-based experimental task in Qualtrics (274 females, 138 males, 20 undisclosed; 37% 50 years or older; 70% White, 30% minority). However, 50 participants completed both experimental tasks, but did not complete the entire survey including demographics. We retain these individuals for study 2A analyses, but do not include them in the analyses reported in study 2B. We obtained a response rate of 24%, which is within the recommended threshold of 10–25% for web-based surveys (Sauermaann & Roach, 2013). We included in the survey an item to measure whether participants were paying attention as they completed the survey. We asked to indicate a particular response for that item (“5 = Very Much”). Only four participants responded to this item incorrectly. Results did not differ between analyses that included versus analyses that excluded these participants, so we report results including all developmental psychologists.

Because this study was intended as a replication and extension of the first study documenting the cultural (mis)attribution bias in general psychology (Causadias et al., *in press*), we only slightly edited questions in the experiment and survey to adapt them for developmental

research. For instance, references to “the role of culture on behavior” were changed to “the role of culture on development”. All materials used on the experiment (study 2A) and survey (study 2B) are available in the *Data in Brief*. Our main hypotheses and analytical strategy were pre-registered with Open Science Framework on June 8, 2016.

7. Study 2A: experiment with developmental psychologists

Study 2A used a single independent variable design in which sample composition was manipulated between-subjects separately for two different research proposals, one focusing on the role of culture in development, and the other focusing on the role general developmental processes in development.

Our first research question was: To what extent do developmental psychologists in the US value a sample composed of minorities as more appropriate for a research study on the role of culture on development? Hypothesis 2A.1: Developmental psychologists will rate more approvingly a sample composed of minorities (vs. Whites) for a research study examining the role of culture on development, and this effect will not be moderated by ethnic self-identification of psychologists (White versus minority).

Our second question was: To what degree do developmental psychologists value a sample composed of Whites as more appropriate for research on the role of psychological processes on development? Hypothesis 2A.2: Developmental psychologists will rate more favorably a sample composed of White (vs. minorities) for a research study examining research on the role of psychological processes on development, and this effect will not be moderated by psychologists' ethnicity.

Our third research question was: To what degree does subscribing the idea that Whites are more individualistic and minorities are more collectivistic exacerbate judgements of the appropriateness of a sample a research study on the role of culture or psychological processes on development? Hypothesis 2A.3: Developmental psychologists who believe that Whites are more individualistic than minorities, and that minorities are more collectivistic than Whites, will consider minorities as more appropriate for research on the role of culture on development, and Whites as more appropriate for research on the role of psychological processes on development.

7.1. Procedure and measures study 2A

At the start of the experiment, we asked participants to evaluate two “research proposals by a team of American developmental psychologists”. We presented each research proposal separately and included a brief description of the study purpose, sample, and measures. We provided participants with instructions to “review the information below carefully”. We described Proposal 1 (i.e., cultural study) as focused on

“how culture, ethnicity, and race influence the development of behavior and cognition. In particular, their proposed study is designed to examine how values, beliefs, and norms among members of particular communities influence how individuals perceive others and behave in social situations over time”. We described Proposal 2 (i.e., noncultural study) as focused on “how personality influences the development of emotion regulation. In particular, their proposed study is designed to examine how personality characteristics influence change and continuity in emotion regulation”.

Participants completed responses to both studies in random order and they were randomly assigned to one of two conditions within each study: all White or all minority sample. Thus, the composition of the sample described within each research study was stochastic and manipulated between-subjects to either include only Whites or minorities. We randomized the order of presentation. The information contained within the cultural and noncultural studies only varied as a function of our manipulation of the sample composition. We conducted analyses to determine *within-study differences* (or between-subject effects) on the judgments of the appropriateness of the sample (Whites versus minorities), not *between-studies*. At the end of each research study, we asked participants to answer questions about its proposed research, design and sample composition. We focused on their response to the question: “The ethnic and racial composition of the sample selected for the proposed research questions is appropriate”. We gave responses on a Likert-type scale ranging from 1 to 5, with 1 being “Strongly disagree” and 5 being “Strongly agree”. Variables were recoded to run from 0 to 1 to ease interpretation and comparison of effect sizes.

7.2. Results and discussion of study 2A

To test hypotheses 2A.1, 2A.2, and 2A.3, we used ordinary least squares (OLS) to regress the dependent variable onto (a) dummy variable for condition assignment (0 = sample composed of minorities, 1 = sample composed of Whites) and, for subsequent analyses, its interaction with (b) ethnic self-identification of the respondent. For these analyses, we classified as White participants who identified as non-Latino Caucasians, and as minorities all other participants who identified as members of other subgroups. We conducted analyses separately for the cultural study ($M = 0.22, SD = 0.26$) and the noncultural study ($M = 0.23, SD = 0.26$).

First, we examined whether the sample composition influenced judgments of the appropriateness of a sample for Whites or minorities differently in cultural and noncultural studies without including covariates in the model. Results supported our main hypothesis (cultural study: $b = -0.21, 95\% \text{ CI } [0.30, 0.36], p < .001, d = 0.91$; noncultural study: $b = 0.15, 95\% \text{ CI } [0.11, 0.20], p < .001, d = 0.63$). Fig. 2 shows the main effect of condition, collapsed across White and

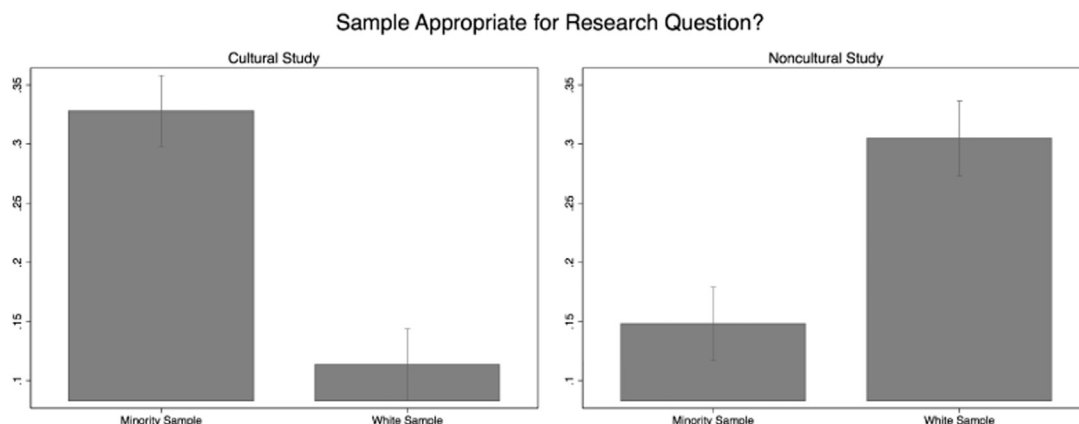


Fig. 2. Evaluation of the suitability of the sample composition depending on the topic. Note. Bars represent 95% confidence intervals.

minority participants, on this dependent variable. Then, we tested the degree to which this effect was moderated by participants' self-identification (White vs. minority). This model included the main effect of ethnic identification, the main effect of sample composition, and the interaction term. The interaction term was not significant for any of the models (cultural study: $b = 0.02$, 95% CI $[-0.07, 0.12]$, $p = .65$; noncultural study: $b = -0.01$, 95% CI $[-0.10, 0.09]$, $p = .90$). Also, the main effect of ethnic self-identification was not significant for any model (cultural study: $b = 0.02$, 95% CI $[-0.04, 0.09]$, $p = .53$; noncultural study: $b = -0.04$, 95% CI $[-0.12, 0.03]$, $p = .22$). However, the main effect of sample composition was significant for the cultural study ($b = -0.22$, 95% CI $[-0.27, -0.17]$, $p < .001$, $d = 0.81$) and for the noncultural study ($b = 0.16$, 95% CI $[0.11, 0.22]$, $p < .001$, $d = 0.59$), even after controlling for ethnic self-identification.

These results support hypothesis 2A.1, as they indicate that participants described a sample composed of minorities (vs. Whites) as *more* appropriate for the study of the role of culture in development (i.e., the effects of cultural processes on the development of perceptions). Nonetheless, the effects were the opposite for the study of an individual psychological process (i.e., effect of personality on the development of emotion regulation), such that participants described a sample composed of Whites (vs. minorities) as *more* appropriate, supporting hypothesis 2A.2. Nevertheless, when participants were asked if “the proposed research questions are interesting”, there were no differences within cultural and noncultural studies as a function of sample composition, nor was the interaction term significant ($p > .25$). Thus, sample composition did not lead to perceived differences in the value of specific research questions, but in the perceived appropriateness of the sample selected to answer such questions.

Next, we examined the moderating role of individualistic and collectivistic characterizations of Whites vs. minorities (hypothesis 2A.3). We computed a difference score for perceptions of individualism (higher values representing more belief in the individualism for Whites vs. minorities) and collectivism (higher values representing more belief in collectivism for Whites vs. minorities). We regressed perceptions of the appropriateness of the sample on the interaction between the moderator and the experimental condition, separately for perceptions of individualism or collectivism. For the cultural study, the 2-way interaction between experimental condition and individualism ($b = -0.43$, 95% CI $[-0.83, -0.02]$, $p = .038$) or collectivism ($b = 0.52$, 95% CI $[0.09, 0.96]$, $p = .018$), obtained significance. However, the interactions did not obtain significance in the noncultural study. Fig. 3 graphically represents this pattern of results, collapsed across participants' ethnicity (which did not significantly moderate these effects). Tables 7–10 in *Data in Brief* summarize these models. The more minorities (vs. Whites) were viewed as collectivistic, the more they were viewed as appropriate research participants for a study examining cultural processes. Similarly, the more Whites (vs. minorities) were viewed as individualistic, the more that minorities were judged as appropriate research participants for a study examining cultural processes.

In sum, these findings replicate a previous study (Causadias et al., *in press*) and support our hypothesis that developmental psychologists would rate more approvingly a sample composed of minorities for a study on the role of culture on development, but rate less favorably this kind of sample for a noncultural developmental study, even though sample composition did not impact appreciation of the value of the research itself. The fact that both White and minority participants subscribed to these views suggests that the cultural (mis)attribution bias is not a manifestation of intergroup bias and/or in-group favoritism (Hewstone et al., 2002). Further, these findings extend the previous study, by showing that the cultural (mis)attribution bias was amplified in the cultural study among people who believe that minorities are more collectivistic and Whites more individualistic, but only for the cultural study.

8. Study 2B: survey with developmental psychologists

After the experiment, participants completed a survey with questions that examined the cultural (mis)attribution bias. Our first research question was: To what extent do developmental psychologists support the idea that cultural processes (i.e., group membership and social identity; culture, ethnicity, and race) are more influential than psychological processes (i.e., personality, cognitive factors) in shaping the development of minorities than Whites? Hypothesis 2B.1: Developmental psychologists will indicate that cultural processes are more influential than psychological processes in shaping the development of minorities than Whites, and this effect will not be moderated by developmental psychologists' ethnicity.

Our second research question was: To what extent do developmental psychologists support the idea that psychological processes (i.e., personality, cognitive factors) are more influential than cultural processes (i.e., group membership and social identity; culture, ethnicity, and race) in shaping the development of Whites than minorities? Hypothesis 2B.2: Developmental psychologists will indicate that psychological processes are more influential in shaping the development of Whites than minorities, and this effect will not be moderated by developmental psychologists' ethnic self-identification (White versus minority).

Our third research question was: How do developmental psychologists perceive other developmental psychologists' expectations about the influence of culture and psychological processes on the development of minorities and Whites? Hypothesis 2B.3: Developmental psychologists will indicate that other developmental psychologists believe cultural processes are more important for the development of minorities, while psychological processes are more important for the development of Whites, and this effect will not be moderated by developmental psychologists' ethnicity.

8.1. Procedure and measures study 2B

Following completion of the experimental task, we asked participants a series of questions on the extent to which they believe that two psychological processes (personality and cognitive factors), and two cultural processes (group membership and social identity, and culture, ethnicity, and race) each influence the development of Whites or minorities. We blocked items by reference group and presented them randomly to minimize social desirability or spillover effects in responding. We asked participants to report the extent to which other developmental psychologists believe each of these factors influence the behavior of Whites or minorities. We formatted responses on a Likert-type scale ranging from 1 to 5, with 1 being “Strongly disagree” and 5 being “Strongly agree.” Variables were recoded to run from 0 to 1 to ease interpretation and comparison of effect sizes.

8.2. Results and discussion of study 2B

To evaluate the three hypotheses, we conducted a repeated measures ANOVA, with judgments of the relative influence of each factor as separate dependent variables, and question reference group (Whites vs. minorities) as a within-subject factor. To test hypothesis 2B.1, we examined if participants indicated that cultural processes are more influential in shaping the behavior of minorities than Whites. Both White and minority participants reported that culture, ethnicity, and race ($F(428) = 81.61$, $p < .001$, $d = 0.33$), and group membership and social identity ($F(428) = 56.56$, $p < .001$, $d = 0.23$), are more influential on the development of minorities (vs. Whites). We present means and standard deviations for all continuous variables in study 2B on Table 11, while we include main findings on Tables 12 and 13 of the *Data in Brief*.

To test hypothesis 2B.2, we examined if participants indicated that psychological processes are more influential in shaping the

Cultural Study

Fig. 3. Evaluation of the Sample Composition, by study topic and individualism/collectivism.

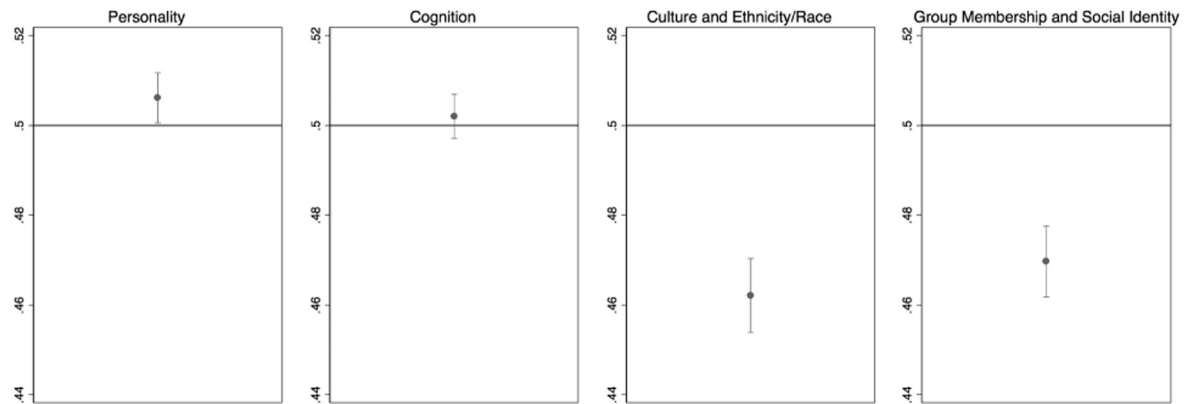
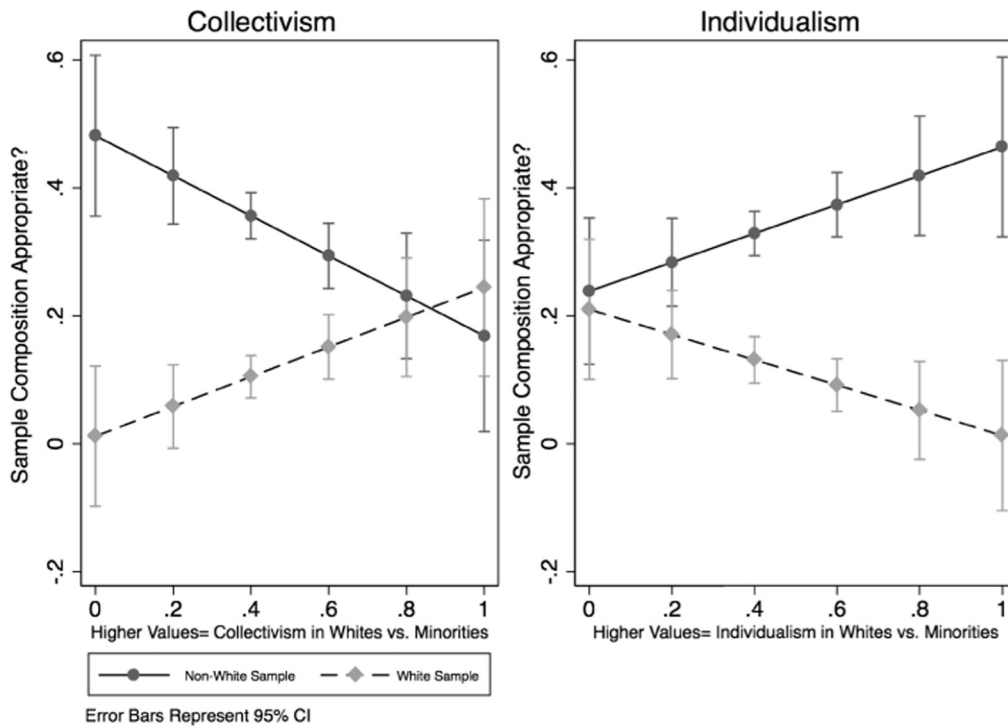


Fig. 4. Mean difference (Whites vs. Minorities) in developmental psychologists' self-reported belief regarding the role of different processes on development.

development of Whites, compared to minorities, without any covariates in the model. We found that participants believe that personality ($F(427) = 4.68, p = .03, d = 0.05$), but not cognitive factors ($p = .42$), was more influential for the development of Whites (vs. minorities). In Fig. 4, we present the mean differences in participants' belief about the influence of each factor on development.

Next, we tested the same model while evaluating the moderating role of participants' ethnic self-identification. We did not find evidence that the within-subject differences for personality, cognition, or group membership and social identity were moderated by participants' ethnic self-identification ($p = .25$). However, we find a significant interaction for culture, ethnicity, and race ($F(427) = 7.86, p = .005$) and participants' ethnic self-identification. The mean-difference was larger in magnitude for minority ($F(94) = 28.91, p < .001$) compared to White participants ($F(333) = 54.53, p < .001$). We also asked participants if “Researchers should recruit European Americans/Whites for research questions examining the effects of culture, ethnicity, and race on development” and “Researchers should recruit diverse samples (e.g.,

ethnic/racial minorities) for research questions examining the effects of culture, ethnicity, and race on development”. Participants reported that a sample of minorities (vs. Whites) was more appropriate for a study examining culture ($t(418) = 19.59, p < .001, d = 1.05$).

Finally, we found the same pattern of results from hypotheses 2B.1 and 2B.2 regarding what participants believe about other developmental psychologists' tendency to consider that culture is more important for the development of minorities and psychological processes are more important for the development of Whites (hypothesis 2B.3). Fig. 5 depicts these findings. In sum, we obtained evidence that both White and minority developmental psychologists who participated in this study tend to exaggerate the role of culture, and under-emphasize the role of psychological processes, in shaping the development of minorities. At the same time, they tend to minimize the role of culture and overemphasize the importance of psychological processes in the development of Whites. They also report that other developmental psychologists engage in these assumptions. These findings largely replicate a previous study documenting the cultural (mis)attribution bias

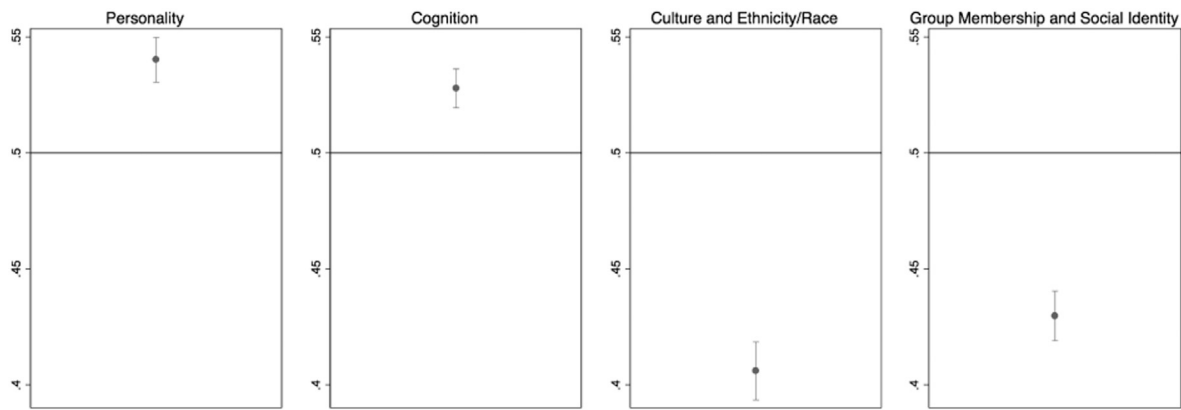


Fig. 5. Mean difference (Whites vs. Minorities) in developmental psychologists' perceptions of other developmental psychologists' belief regarding the role of different processes on development.

(Causadias et al., in press).

9. General discussion

Developmental research on minority youth has benefited from the distinction between differences and deficit approaches to culture (García Coll et al., 1996; McLoyd, 1990; Spencer & Markstrom-Adams, 1990). A cultural differences approach recognizes genuine variations in development, while cultural deficit approaches portray minorities' cultures as deviant and maladapted in comparison to Whites (see García Coll et al., 2000). We argue that evidence of the cultural (mis)attribution bias in developmental psychology suggests a *deficit by difference* approach, in which cultural differences reinforce deficit perspectives.

In this article, we examined the cultural (mis)attribution bias in developmental psychology in the US with two studies: through an analysis of the last decade of research published in six premier developmental psychological journals, and with an experiment and a survey with a sample of developmental psychologists. In study 1 we found that developmental studies on culture, ethnicity, and race had higher proportions of minorities than developmental studies not centered on these topics. Also, developmental studies on culture, ethnicity, and race conducted in the US had a higher percentage of minorities (vs. Whites) than expected from a random sample drawn from the US population. However, the percentage of minorities in non-cultural studies does not deviate from the US population parameters in a meaningful way. In study 2A we showed that both White and minority developmental psychologists rated more positively a sample composed of minorities (vs. Whites) for the study of the role of culture on development, and more favorably a sample composed of Whites (vs. minorities) for research on the role of psychological processes on development. These judgements were accentuated when they believed minorities are more collectivistic and Whites more individualistic, but only for the cultural study. In Study 2B we found that both White and minority participants reported that personality is more influential for the development of Whites (vs. minorities), and culture, ethnicity, and race, as well as group membership and social identity, are more influential for the development of minorities (vs. Whites). These effects remained even after controlling for participants' ethnic identification. Participants also reported that other developmental psychologists subscribe to these assumptions. Together, the pattern of observed results replicates a previous study documenting this bias in general psychology (Causadias et al., in press).

To our knowledge, this is the first study to document this biased appraisal of the role of culture in the development of minorities and Whites in the United States, by using a comprehensive approach that relies on archival, experimental, and correlational methods. Moreover, we provide novel evidence that the cultural (mis)attribution bias is related to a misrepresentation of cultural research: the idea that

minorities are more collectivistic and Whites are more individualistic. While some primary studies may have provided support for this claim, meta-analyses demonstrate otherwise. Importantly, meta-analyses often outperform single studies because they synthesize data from multiple investigations, often correct for publication bias, account for sample sizes, and provide more accurate estimates of the magnitude and direction of effect sizes (see Card, 2015). Meta-analyses indicate that minority groups (e.g., Asian Americans, Latinos) do not report higher levels of collectivism than Whites (Vargas & Kemmelmeier, 2012), and African Americans, not Whites, report the highest levels of individualism (Oyserman et al., 2002; Vargas & Kemmelmeier, 2012). This misrepresentation of cultural research also ignores the fact that individualism is per se a cultural orientation, making Whites just as cultural as minorities even if the assumption that they are more individualistic had more robust empirical support. Culture is a powerful influence in the development of all human beings, not only minorities.

The cultural (mis)attribution bias has negative repercussions for applied developmental sciences. It leads to a distorted appraisal of human development, as it supports approaches to minority groups that reinforce their otherness and bolster a White-centered perspective. It positions White members of society as individuals with unique characteristics, while stereotyping the behavior of minorities as both uniform and different. Ultimately, the cultural (mis)attribution bias reinforces the notion that the development of Whites is the natural criteria and the prototype of normal development and psychological functioning, or the standard against which all other forms of human development and human existence is compared.

Recognition of the cultural (mis)attribution bias demands a change in applied developmental psychology. Researchers and practitioners should consider the role of culture on the development of Whites in theory, policy, intervention, training, and assessment. Indeed, research on the role of culture on the development of Whites is more critical now than ever. More than a decade ago, Spencer (2006) noted the lack of research and the urgent need for investigations on how racially dominant children (e.g., Whites) are socialized with respect to racial privilege. Quintana et al. (2006) indicated that few studies have examined the consequences of cultural socialization of children in privileged groups, in which their culture is believed to be normative and other cultures are not. While there is outstanding developmental research on cultural processes among Whites and increasing recognition of the role of their ethnic identity development (Syed & Azmitia, 2008), this remains an underdeveloped area of study. Further research is necessary to appreciate how cultural processes shape development among at-risk White youth, especially in rural settings and among those without college education, who struggle with deteriorating economic conditions, increasing mortality rates (Case & Deaton, 2017), and swift cultural changes (Hochschild, 2016).

Supporting diversity and inclusion has become an important goal of

developmental sciences, as “faculty are increasingly obligated – by scientific considerations, by societal demographics, by professional societies, and by moral suasion- to address more adequately diversity issues in research and teaching” (MacPhee et al., 1994, p. 713). SRCD (2005) encourages consideration of the role of culture in development and better representation of minorities in research. Evidence of the cultural (mis)attribution bias challenges applied developmental psychologists to create, implement, and assess diversity and inclusion initiatives in a way that truly advances social justice, instead of reifying minorities' otherness. Some diversity and inclusion activities aimed at celebrating cultural differences (e.g., food festivals, dance performances) can reinforce the notion that they are “forever foreigners” (Park, 2011). These well-intentioned initiatives can also alienate Whites, who do not feel included in multicultural associations and activities that are specific to racial/ethnic minorities (Plaut, Garnett, Buffardi, & Sanchez-Burks, 2011). Without neglecting the importance of culture, developmental psychologists should approach minorities as individuals as they target them in policy, interventions, training, and assessment, to list a few applied domains. For instance, developmental psychologists should pursue person-centered developmental modeling in research with minorities rather than relying exclusively on group- and variable-centered models. This person-centered approach should not be restricted to statistical modeling, and should extend to theory, policy, and interventions that take into account inter- and intra-individual variability among minorities (e.g., Coatsworth, Maldonado-Molina, Pantin, & Szapocznik, 2005). Thus, research with minorities should recognize and explore the great diversity and individuality within and across minority groups. For instance, researchers should increase the representation of minorities in studies and interventions targeting normative developmental processes not focused on culture, including, but not limited to, emotion regulation, attachment, and parenting.

There are several limitations of this study. First, we recognize several issues regarding the methodology of study 1. We only sampled published research on selected articles during a limited period of time, restricting the range of our findings. A vast body of work on culture and development has been generated in fields like developmental anthropology (e.g., Rogoff, 2003), which might be underrepresented in these journals. Editors can also exacerbate the problem by rejecting papers that (a) focus mostly on the role of psychological processes in the development of minorities (and not culture), or (b) center on culture in the development of Whites (and not psychological processes). The same can be said about grant agencies. This scenario, while amplifying the observed effects, would nonetheless support our hypotheses. Also, our analyses were based on mean-level estimates that may not accurately convey the heterogeneity in minority representation in developmental sciences. Thus, future studies should use other methods to better elucidate this pattern of results.

Second, there are noteworthy issues with study 2A and 2B. By collapsing all minority groups together, we limit our understanding of the extent to which the cultural (mis)attribution bias varies between and within minority groups, as some developmental researchers may emphasize culture among Asian Americans, ethnicity among Latinos, or race among African Americans. Studies that target specific minority groups are needed to clarify these associations. Moreover, despite our efforts to recruit a large sample for study 2A and 2B, we obtained a modestly-sized sample of minority developmental psychologists, which could increase the instability of our estimates. Future studies should attempt to replicate these findings with additional samples of psychological scientists (e.g., counseling and clinical) and with other social scientists (e.g., anthropologists, sociologists). Additional work should also investigate if the cultural (mis)attribution bias is present among developmental scientists outside the US, working in contexts with a different history of intergroup and/or racial relations. Also, future research should explore what other factors, beyond individualism and collectivism, may exacerbate or diminish the cultural (mis)attribution

bias. This helps to avoid oversimplifying the role of individualism and collectivism, and move the field beyond dichotomous models.

Notwithstanding these limitations, this article offers valuable insights into issues of diversity and inclusion in developmental psychology by documenting a bias in the importance of culture for minority vs Whites. We believe the cultural (mis)attribution bias is consistent with stereotypical representations of non-prototypical members of American society. The cultural (mis)attribution bias in developmental psychology shows that overemphasizing cultural differences is another way of reinforcing deficit perspectives: a deficit by difference approach. This approach may promote inclusion of minorities as representatives of marginalized groups, but not their integration as individuals in their own right.

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