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Increasing Inclusivity in Developmental Research

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ABSTRACT

While many researchers are aware of the decolonizing agenda as applied to research on cognition and development, many are still unaware of how they can increase inclusivity. The papers on this special issue address a variety of ways to increase inclusivity, from increasing diversity in samples and in research teams, to taking more care in the use of generic language when presenting research results. We add our perspective on the need to become culture conscious, and advocate for inclusivity throughout the entire research process.

This special issue consists of six papers that address aspects of bias in developmental and/or cognitive science, and – more generally – the “decolonizing agenda.” The major focus is on the lack of diversity and representation in the samples used by researchers. Additional important topics include the use of generic language, especially in titles and keywords that imply universality or implicit generality, the difficulty in obtaining non-convenient samples that raise logistic and financial issues, and the difficulties in establishing equitable collaborations, highlighting the undesirable situation of scientifically powerful researchers deciding the topics and methodologies for research with diverse communities, implying asymmetric power relationships.

It has been known for decades (Arnett, 2009; Nielsen, Haun, Kärtner, & Legare, 2017) that psychology has primarily consisted of WEIRD researchers (Western, Educated, Industrialized, Rich, & Democratic: Henrich, Heine, & Norenzayan, 2010) conducting research with WEIRD people, thus neglecting the majority of the world’s population. The collection of papers in this Special Issue obviously locates one remedy, assessing samples from non-Western communities.

Doebel et al. discuss some of the issues involved in attempts to correct the over-reliance on convenience samples, mostly acknowledging the logistic difficulties. They make a common mistake of equating “country” with “cultural setting,” neglecting to point out that, for example, University life in the USA may be more similar to University life in other countries, whereas home life, parenting practices, and socialization ideals in rural ecologies (Keller et al., 2006) where at least 50% of the world lives, for example, may differ dramatically from home life in urban ecologies, where more than 90% of developmental science is conducted (Nielsen, Haun, Kärtner, & Legare, 2017). Unfortunately, they neglect discussion of the implications of this biased focus, in terms of scientific knowledge, scientific-based

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interventions, and scientific theory. They neglect to mention that there often is relevant research from the majority world that can be used to highlight diverse perspectives, culturally relevant results, and various methodologies derived from various disciplines. Situating current research within this frame of cultural differences is a fundamental step in the decolonizing agenda, which can also serve to enlighten minority world researchers (Bard et al., 2022; Oppong, 2023).

Nketia et al. and Segura et al. present studies that use under-represented samples. Nketia et al. explore executive function (EF) in children from three schools in Jordan with differing family incomes. In contrast to studies using US children, they did not find improvements across early years (from 5 to 8 years) and the “widely respected” test of EF did not correlate with “accepted” related tests in these samples. We are pleased to see that they advocate both for new observational studies to understand how children use EF skills in their everyday lives and for revising EF tests to increase inclusivity. In contrast, Segura et al. tested EF in adolescents (9–15 years) from schools in two large city settings of Tehran and Sao Paulo. Interestingly, they found effects of age and levels of parental schooling on EF performance and a significant difference in EF performance across these two groups. Although they use adolescents from under-represented countries and found differences in outcomes, their main focus was on the structure of EF, which they conclude is similar across these and US settings. Although they suggest that their results may mean EF structure is universal, such generalizations require more evidence, e.g., that EF structure is similar in children living in rural ecologies.

De Jesus et al. present a very welcome conceptual discussion of how the use of generic language in publications (e.g., stating “children” instead of “US children from middle-income, urban-dwelling families”) represents a critical problem about inclusivity. They argue that both authors and publishers like to use generic language in titles and research highlights but point out that this implies generality, normativity, or universality, even though the data presented are most typically from limited WEIRD samples (Simons, Shoda, and Lindsay, 2017). Thus, the titles and research highlights implicitly imply universality, which has not been demonstrated empirically. They suggest the possibility that contextualizing may appear to reduce the “snappiness” of titles and research highlights. Cheon, Melani, and Hong (2020) point out additional problems of generic language (after reviewing titles through 2017): These practices contribute to the unwarranted, false impression that White, middle-to-upper-income samples from the USA present normative results, against which other samples should be compared. Although De Jesus et al., focus on papers from 2015 to 2016, a brief consideration of recent issues in three top developmental journals illustrates that generic titles are very clearly a continuing problem for developmental science. The December 2023 issue of *Developmental Psychology* has 18 articles, of which 12 use generic language in the title (66%). The January 2024/December 2023 issue of *Child Development* contains 25 articles, in which 19 titles are generic (76%). The January 2024 issue of *Developmental Science* has 17 articles in which 14 titles are generic (82%). Thus, top developmental journals continue to endorse generic statements, and appear to specify those samples (a) that are not White, (b) that are not rich, (c) that are not neurotypical, and/or (d) that are not from the USA. For more than a decade, however, there has been convincing evidence that WEIRD samples are, in fact, outliers in both basic psychological processes and complex psychological outcomes (Henrich, Heine, & Norenzayan, 2010). We strongly agree with the recommendation of De Jesus et al. to contextualize titles and research highlights by

fully describing all relevant characteristics of samples (e.g., SES, ethnicity, and socialization goals).

Draper et al. and Avarena-Bravo et al. explicate two important aspects of increasing inclusivity in the way research is conducted, specifically focusing on diversity within research teams. Draper et al. highlight the importance of establishing collaborations between researchers and community-based organizations. Their focus is on remedies to the power asymmetry inherent when University-trained researchers from minority countries interact with rural participants from majority countries. They draw attention to the importance of both researchers, and their research, attending to the needs of communities. Their message is important for planning, as research should be co-constructed, which takes time and financial resources. However, their report on a past collaboration appears to strongly reflect western perspectives, for example, focusing on parents, on home-teaching events and materials, which may not fit with community practices, in which children learn more from peers or older children, or learn-by-doing, or do not use teaching-specific materials (see Lancy, 2024; Keller et al., 2017; Kline, 2015; Morelli et al., 2018 for further discussion). Avarena-Bravo et al. tackle a similar issue about diversity within research teams. They focus on increasing inclusivity in knowledge dissemination, especially advocating for online conferencing with attention to the facts that recipients live in different time zones and speak different languages. Although there is some concern that the information transmission, from University-trained experts to early-career researchers, may implicitly propagate mainstream perspectives on language acquisition, we applaud the efforts to increase diversity in discussion forums by providing globally accessible events. We find special value in their remarks that journal editors and reviewers should be considerably more accepting of publications that present non-mainstream research, non-mainstream topics, and with community-relevant methods.

Overall, this special issue is important as it highlights the many ways that cognitive psychology is currently failing to fully represent diversity among humans while providing some guidance on remedies. However, from our perspective, it is not far-reaching enough. Certainly, variability and diversity in sampling are important steps – but they are not isolated measures that automatically contribute to more inclusive cognitive psychology or more inclusive psychological science in general.

Inclusivity needs to comprise the entire research process. The consideration of inclusivity needs to start at the beginning of research (e.g., Burger et al., 2023), but in contrast to many others, we argue inclusivity is needed also at the level of theory and theoretical conceptualization (see Bard, Keller & Leavens, 2023). Current theories in cognitive psychology are based in Western middle-class philosophies (mostly developed by men) that have been derived and supported primarily from observations and testing of humans from WEIRD settings. Thus, current cognitive and social science has been conceptualized almost exclusively by WEIRD scientific perspectives, with WEIRD researchers molding the views, choice of topics, and design of experiments, explicitly or implicitly (see Bard, Keller & Leavens, 2023). Here, the composition of research teams also becomes crucial as diverse world views challenge, and necessarily complements mainstream (i.e., WEIRD) conceptualizations of psychological science. For example, Lancy (2024) decries the western focus on teaching by sharing knowledge of how children in indigenous communities learn without lessons. This type of cross-cultural knowledge is necessary as a counterbalance to research that implicitly values teaching, parental instruction/children's imitation, for example, without

acknowledging that there are other culturally relevant ways of learning from others (observation, apprenticeships, engagement). Bringing together participants with researchers once the topic or experiments have already been formulated can de-value the world views of participants.

We note that originating in a non-WEIRD culture does not necessarily imply culture consciousness in research. Oppong (2023) and Scheidecker et al., (2024) have shared the fact that researchers from the majority world may follow the mainstream (i.e., WEIRD) agenda, for a variety of reasons, including (1) they have already been instructed to do so at University; (2) doing so demonstrates their competence and professional authority; and (3) to have access to publication opportunities, research funding, etc. Both Oppong (2023) and Scheidecker et al., (2024) point to cultural insensitivity in both bottom-up and top-down global thinking with regard to the applied field of early childhood development. Greater inclusivity, in this regard, means greater intersectionality (e.g., cognitive science with anthropological and ethnographic studies), so that researchers from the minority world learn to respect cultural-specific majority world views (e.g., Morelli et al., 2018) and reducing the potential for epistemological violence (Oppong, 2020) and thinking that differences are deficits (Kline, Shamsudheen, & Broesch, 2018).

We note that the conception of culture needs to be more fully considered. Too often, culture is equated with country (even in this Special Issue on inclusivity). There are well-known differences in socio-ecologies (e.g., rural versus urban communities) that directly impact development, even when they occur within the same country (e.g., Kärtner, Keller, Chaudhary, & Yovsi, 2012 in the development of mirror self-recognition, Schmidt, Keller, & Rosabal Coto, 2023 in patterns of parent–infant interactions; Vogt, Mastin, & Schots, 2015 in child-directed speech). Certainly, there are major differences in local socio-ecological variables within countries that impact cognition, for example, the role played by parents' education in EF performance as noted in this Special Issue, or the role of SES within the USA. Similar social-ecologies can occur across countries (e.g., students attending University), leading to similarities in cognition across countries (Henrich, Heine, & Norenzayan, 2010). Specifying the socio-ecology of participants, thus, is important for a culture comparative approach and, in this way, provides more relevant detail than simply country of origin.

We concur with Doebel et al. that greater attention should be given to selection of participants, with greater discussion of why particular samples are chosen and fuller consideration of the ways in which samples differ (and are similar). For example, very diverse samples (each from a single contextual setting) were chosen by Bard et al. (2022) to underscore the flexibility within the human species in forms of joint attention. Another method may be to use samples that differ only in the variable of interest, harkening back to basic principles of experimental control. As a consequence of these issues (among others), we discourage researchers from making claims that samples are representative, especially of the country as a whole.

Conceptual issues related to the choice of topic and method of investigation need to be evaluated for inclusivity before the research commences. Is the topic structurally equivalent across cultural settings? Is the construct under study understood similarly in the communities selected for comparison (see van de Vijver & Tanzer, 2004 for extended discussion of these potential sources of bias). For example, the concept of caregiver sensitivity is viewed differently across settings. WEIRD views

relate to immediate, mainly distal (i.e. through the distant senses) responsiveness to infant signals, leading infants to partake as semi-equal partners in communication. Other views of caregiver sensitivity relate to control and direction of infants, leading infants to behave in respectful, obedient, socially responsible, community-oriented ways (e.g., Yovsi, Kärtner, Keller, & Lohaus, 2009). In addition to making sure the concept is understood similarly across diverse settings, researchers need to assess the degree to which the assessment method is culturally appropriate. As Oppong (2023, p. 322) states, “In other words, when a tool’s development does not start with the choice of the construct as a desirable outcome by the local people and their conceptions of that construct, any norms produced are as biased from the start.” For example, one can assess the extent of mother–infant mutual gaze across cultures. But in cultures that value proximal caregiving, levels of mutual gaze are low, with the practice of more continuous physical engagement negating the need for engagement via more distal modalities, such as gaze. In some cultures, gaze patterns are hierarchically organized so that individuals considered as lower ranking do not gaze at individuals considered to be higher ranking. Thus, measuring mutual gaze as a universal construct that is vital to social cognition would be flawed. This implies that (cognitive) scientists must conduct observations and ethnographical studies on more of the 90% of the people who do not live in WEIRD settings, and/or take advantage of culturally relevant knowledge that informs conceptualization of research topics and engage in culturally sensitive research methods. Translation and back translation, for example, were regarded for a long time as the royal road of cultural adaptation, but we see two major problems with this method: Translation and back translation can result in a complete change of meaning, and the original construct (inherent in the document that needs translation) likely possesses a WEIRD bias. Consensual validation of bi – or multi-cultural teams has proven to be the method that ensures trustworthiness of data (Creswell & Poth, 2013; Whittemore, Chase, & Mandle, 2001). Once the inclusive construct is identified and assessment tools are developed – since they most probably do not exist – their validity and reliability must be secured, mainly defined in the codex of qualitative methodology (e.g., Schmidt, Keller, & Rosabal Coto, 2021).

Procedures are another issue, where differences in socio-cultural etiquette come to the foreground. Assessments are usually located in laboratory rooms where one adult interacts with one child. This situation may be completely unfamiliar for many socio-cultural environments for different reasons. Being in closed rooms may be intimidating for children who are used to spending most of their time outdoors. Communication with adults may be not usual in peer dominated socialization contexts. Adults asking questions directly to children may contradict social rules. There are many more dimensions of social rules that impede the validity of assessments and produce artificial results.

Consequently, the interpretation of study results is endangered to bias. Results may be interpreted on the background of the explicit or implicit theoretical/conceptual frameworks that may not be appropriate for particular cultural communities. Many studies are compromised by confirmation biases – i.e. the focus is on particular results whereas other results are neglected. It is an interesting phenomenon that often researchers aim at confirming their views and assumptions, instead of detecting and studying other conceptions and finally respecting worldviews, more inclusively.

This short list of restrictions to the existing body of knowledge is by far not comprehensive. In these comments on the proposed corrections for increasing inclusivity, as advocated in this special issue, we additionally want to alert the scientific community of the necessity to become culture conscious in theories, in the conceptualization of research topics, and in the conduct and empirical interpretation of cross-cultural research. It is not only a scientific must but an ethical necessity.

Disclosure statement

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