

The Myth of Normative Development

Samuel H. Forbes

Department of Psychology, Durham University, UK

Prerna Aneja

School of Psychology, University of East Anglia, UK

Olivia Guest

Donders Institute for Brain, Cognition and Behaviour,
Radboud University, Netherlands

Over the past decade, the field of psychology has come under increasing fire for the replicability of purported findings, for the transparency of the methods used, and for the generalisability of the claims. In general, these criticisms have focused on the methodological and statistical aspects of published work. Herein, we highlight the importance of diversity of both our participant samples in empirical studies and of our researchers within developmental psychology as a barrier to generalisability. Far beyond being a purely methodological question, e.g., of heterogeneous sampling, ignoring the importance of context and environment in development implies risking failing to comprehend pivotal facets of development. Importantly, we discuss the harms done to our science's theoretical contributions as a direct result of defining and maintaining misplaced "norms" or "normative" developmental scenarios. Finally, we outline how even small steps by individuals can be impactful, such as ceasing to request unsubstantiated comparisons to the Western "norm" in peer review.

Keywords: Child development; Cross-cultural research; Generalisability; Structural bias

The last decade has seen an increased focus on open science and scholarship in psychology. Psychology as a discipline has attempted to improve the scientific inferences made by researchers, discussing in depth the robustness, transparency, replicability, and believability of results, and understanding their limits (e.g. Azevedo et al., 2022; Davis-Kean & Ellis, 2019; Earp & Trafimow, 2015; Simmons, Nelson, & Simonsohn, 2011; Open Science Collaboration, 2015; Munafò et al., 2017). This shift has led to increased focus on methods, and new ways of working, including large, multi-site collaborations and meta-analyses to collect larger and more diverse samples (e.g. Bergmann et al., 2018; Frank et al., 2017). More recent discussion has also focused on the generalisability of research findings, or the ability to extend inferences from one dataset or model to the wider population, postulating that low generalisability can have a detrimental effect on inferences and wider conclusions (Visser et al., 2022; Yarkoni, 2020; Byers-Heinlein, Bergmann, & Savalei, 2021). The shift towards more replicable methods is a welcome move in developmental psychology, particularly as it pertains to infants and children. These studies can have

a considerable noise-to-signal ratio, and thus struggle to be adequately powered for the hypotheses being tested (Kucker et al., 2019; Oakes, 2017).

While a focus on methods is crucial in developmental psychology, of an equally pressing nature is the need to diversify and internationalise the participant sample, supporting a wider understanding of psychological phenomena. A diverse sample representative of the population is a laudable aim in and of itself, but a diverse pool of participants, researchers, and perspectives will also improve our theories. Currently, in developmental psychology, the vast majority of studies published in English-language journals are about white participants from comparatively wealthy Western countries (Nielsen, Haun, Kärtner, & Legare, 2017). This bias in sampling has been noted in psychology studies in general (Henrich, Heine, & Norenzayan, 2010; Muthukrishna et al., 2020; Rad, Martingano, & Ginges, 2018), and increasingly attempts have been made to ensure that the participants studied are not simply members of one societal group. The logic behind this move is well-founded — one cannot safely claim a general or universal phenomenon based on sampling from a small sub-group of participants; indeed Nielsen et al. (2017) demonstrates that less than 3% of participants come from countries that contain 85% of the population (and for similar arguments in child language acquisition, see Kidd & Garcia, 2022). Likewise, in infant research, the participant demographic published in top developmental journals had a heavy bias towards White North American or Western Euro-

The authors thank two anonymous reviewers for their feedback on an earlier version of this article. Additionally, we are very grateful for the useful contributions of Dr. Christina Bergmann and Dr. Jillian Fish to improving this work.

pean infants (Singh, Cristia, Karasik, & Oakes, 2021).

In understanding child development, however, the problem goes beyond the inability to posit and collect data on so-called universal phenomena. As a discipline we have described what was thought to be “normal” development, based on the populations studied at the time, which were a small number of participants in a small number of countries. Specifically, much of the “foundational” research on which many subfields rely, rests on North American or Western European, white, English-speaking, monolingual, middle-class participants, and findings based on this group have come to define the norms of development. Children developing in a different context, under different societal, cultural and environmental conditions were then implicitly, if not explicitly, othered, and their development was described in contrast to the established norms (for an in-depth discussion on the detrimental effects of this in the area of joint attention, see Bard et al., 2021). The norm was set, and our subsequent understanding of development even when removed from that context, was developed with reference to a norm (i.e., the social frame of reference for thoughts, emotions, and behaviour, see Sherif, 1936) that can only be arbitrary outside its context. Any development outside that narrow context is thus definitionally deviating from the norm and is seen as different (Tatlow-Golden & Montgomery, 2021). Indeed, given the population distribution on Earth, the “unusual” may very well be the most common and the norm an abnormality. While there have been efforts to improve this with large multi-centre collaborations, (e.g. Frank et al., 2017), important work highlighting the disparities (e.g. Bard et al., 2021; Kline, Shamsudheen, & Broesch, 2018) the majority of studies in leading journals still feature these participants (Singh et al., 2021).

While anecdotal, many researchers who study development outside the typically-studied contexts that became the norm in the field, will report being asked in peer review or at conferences about “control” conditions, or how their findings compare to a Western sample. This framing is understandable given the history of the field, but misses a key element of development. Much of child development is dynamic and occurs within a context by definition — without a context in which to develop, how can and does something develop (Bronfenbrenner, 1974; Bronfenbrenner & Ceci, 1994)? This context is multi-faceted, and encompasses social, economic, environmental, physical and caregiver influences. Below, we outline the problems in data, approach, and theory caused by this scientific and rhetorical approach to development.

Measuring development with convenience samples

The study of psychology generally, as with any science, encourages us to look for universal phenomena and laws by which to describe and understand them (Cummins, 2010).

The same is true in developmental psychology, where we aim to understand the conditions and factors that influence development. We collect data from participants, i.e., in the same or similar conditions to us, and to whom we have easy access, also known as a convenience sample. By examining one small sub-sample of humans, developing in cultures and conditions unlike the majority of humans (Nielsen et al., 2017; Arnett, 2008), we fail to account for myriad societal, cultural and environmental factors that may be affecting development, or influencing the developmental trajectory in a number of unknown ways. By also privileging, or minimally giving prominence to, experimental methods, we also lose a significant amount of crucial information about development. For instance, efforts to run the same studies across cultures using methods developed in Western labs are not unproblematic. Claiming universal truths when testing Western participants exclusively is clearly problematic; this is akin in some ways to claiming to understand universal truths about clothing from examining shoes. Such a false analogy or overgeneralization would cause us to, for example, say coats are useless for winter unless they have waterproof soles, or that any garments which one cannot wear on their feet are not clothing. These are problematic statements about clothing due to falsely generalising based on a small sub-sample or a sub-sample from only one specific type. This is known as an error of exclusion (or type II error in generalising, see Mahamallik & Sahu, 2011), where a group of participants (or many groups) are omitted from the analysis. From the developmental literature, for example, we see that the timing of onset and even uptake of crawling varies greatly as a function of cultural caregiving practices, even though global normative scales of motor development are commonly employed (Karasik, Adolph, Tamis-LeMonda, & Bornstein, 2010). The Western conception of when and how crawling should emerge is in fact a poor representation of the complex socio-cultural contexts that underlie motor development. Had scientists not understood that motor skills develop across different patterns and timelines but can nonetheless lead to walking, it would likely have resulted in viewing non-Western motor skill development as deficient or abnormal. To truly understand child development, we need to ensure that the participants on whom we base our research represent the larger population about whom we wish to draw generalizable conclusions. At the same time, it is important to ensure that the demographics and locations of participants are accurately represented in the papers (Simons, Shoda, & Lindsay, 2017).

The problems caused by convenience sampling go far beyond the ability to claim universal conclusions when it comes to developmental psychology. Since development can be described as an interaction of many variables, of which no small portion are environmental and cultural, we are not simply biasing our participant pool, we are missing some key ele-

ments of development (Bornstein et al., 2012; Schirmbeck, Rao, & Maehler, 2020). Our conceptualisation and understanding of the role of caregivers, or schooling, or siblings, or other wider cultural or societal variables need to encompass the differing ways in which these variables interact in different contexts, else we risk misunderstanding how development occurs beyond our narrow context. Understanding the cultural and societal role in development requires an understanding of the cultures and contexts being studied. An example of this can be seen in the work of Keller et al. (2005), showing the differences across cultures in caregiving styles and the allocation of attention to infant development while they attend their daily tasks.

While researching the contexts, societies and participants closest to us makes both practical and logistic sense for researchers, this becomes a problem when most of the convenience samples share the same characteristics and generalisations are made on that basis. At the very least, it requires researchers to openly discuss the limits to generalisability; researchers need to be thoughtful of the contexts and roles that exist in the cultures and settings they are studying, and at the same time, be aware of the fact that this may not be universal.

The “control” condition is not another unrelated context

This second problem is a methodological problem. A “control” condition is a group of participants that differ on the one key variable of interest, but remain comparable on as many factors as can reasonably be controlled (see e.g. Au, Castro, & Krishnan, 2007, for best practices in clinical trials). This simply does not apply when we compare participants from different countries and cultures outside the typically-studied Western populations. Participants may differ on experiences, number of languages spoken, method of interacting with caregivers, housing style, schooling style, community interactions, and so on — and these differences are all intertwined, including in ways potentially unknown to outsiders. A control condition that differed on all these factors should not be considered a useful control by the standards of the field; it is uninterpretable.

The problem here is not with cross-cultural or cross-linguistic research, nor with individual-based analyses, which when conducted thoughtfully add much to our discipline, but rather with the concept of treating a certain population as a normative sample. In many ways this boils down to an overextension of statistical concepts, like “control condition”, without due diligence and deep thought (see Singmann et al., 2021).

The context in which the majority of the world’s children develop does not match those in North America or Western Europe. So-called normative development, on a global scale, does not occur within these contexts. Furthermore, perceiving certain cultures or contexts as normative means we limit

our science, expecting studies in the normative group to be new studies, whereas studies outside that group need to justify why a “niche” population was used. Anecdotally, journal reviewers and editors in particular, who play the role of gatekeepers for our field, tend to be more accepting of studies that include participants from outside of Western countries only when there is a cultural or societal reason for the comparison, with the implicit assumption that novel science with no cultural component should first be done in the normative sample (Draper, 2022; Kahalon, Klein, Ksenofontov, Ullrich, & Wright, 2022; Roberts, Bareket-Shavit, Dollins, Goldie, & Mortenson, 2020; Singh, 2022; Syed, 2020). This raises the barrier of entry into the literature for studies that are diverse by asking the authors to carry out extra work over and above equivalent work done on Western samples. This is one of the mechanisms by which the field maintains a Western outlook. Two of the authors of this article also have experience of being asked about Western “control” conditions for non-Western samples for studies into basic cognitive development. This is damaging, leaves the door open to (potentially inadvertent) discriminatory practices such as racism (APA, 2021), and needs to be corrected if we are to gain a fuller picture of development (also see Fish, 2021; Syed & Kathawalla, 2022; Rowe & Weisleder, 2020; Remedios, 2022).

It is important to keep in mind that certain areas of development and theoretical perspectives make universal claims independent of cultural or environmental context (e.g. Piaget, 1971; Spelke & Kinzler, 2007). For these theoretical perspectives or areas, universal claims researched anywhere by anyone should be equally regarded and equally publishable. Yet, as discussed above, there is often a higher bar to publication outside of the Western sphere, with researchers either being asked to describe how their data relates to a Western sample, or suggesting the research might be better published in a local journal. That the claims are universal at all is also often an assumption rather than an empirical fact (Nielsen et al., 2017). The problem then is not one of theoretical stance or universality of claims, but of equal value of research, researchers, and participants.

Western development is not an objective standard or goal that all children should meet

Implicitly – or explicitly – perceiving one cultural group as the norm also ascribes that group the role of benchmark, or objective standard. In this situation, where the context for development is described as differing from Western development, there can be an assumption that a benchmark is not being met. Viewing one group as normative leads not just to the other-ing of other groups, but also leads to the existence of standards based on the in-group (for specific examples see Miller, 2005). Under these conditions it is easy for learning, growth or developmental benchmarks obtained from the

frequently-studied group to be applied to the other groups, although this would be inappropriate. Western development viewed this way implicitly becomes an “objective standard” for other groups to meet, even though the same assumptions and context do not apply (for an in-depth discussion of this point, see Kline et al., 2018). The developmental achievements of a child in the Western context may not be relevant to a child outside of this context.

The framing of Western norms as a standard misapplied to another context may not be intentional, or even desired. It is of course the case that while the true patterns and dynamics of development may vary from community to community, norms are sometimes sought as a way of standardising development. Communities that have structural barriers to creating their own norms — due either to infrastructure issues such as funding and training needs or lack of appreciation of the differences by researchers unfamiliar with the cultural context — may see norms and standards applied which do not fit the cultural and developmental context at hand.

While it is true that not all child development perspectives, trajectories and methods observed from Western data are necessarily applicable outside that context, some may go beyond being not applicable to being undesirable goals (Lohaus et al., 2011). Features of development such as caregiving strategies may not simply be irrelevant to another context, they may be actively unhelpful, even harmful, in another context. Morelli et al. (2018) demonstrate that some interventions developed for and suited to Western lifestyles, are problematic and even detrimental when applied outside those settings (see also Scheidecker, Oppong, Chaudhary, & Keller, 2021). This can impact the efficacy of our advice and the quality of our science causing us to misunderstand other people and cultures, to misapply our statistical tools, and to overlook important aspects of development outright. In this sense, the framing of Western developmental trajectories and methods as an implicit norm not only sets up a false dichotomy of normativity, but may actually be damaging for understanding and assisting development.

Diversity in approaches and scholars

Diversity in developmental psychology is not merely about including non-Western scholars and participants, but is also about including non-Western perspectives even more broadly (Rad et al., 2018; Henrich et al., 2010; Gaertner, Sedikides, Cai, & Brown, 2010). This can only be achieved by explicitly including in the mainstream both researchers, and academics broadly construed, who are from the Global South by properly valuing their contributions, and collecting data from infants, children, and indeed people of all ages, who are developing outside the Global North, in an environmental context that by definition does not exist in Western countries. We need to account for the diversity of environments and cultures seen around the world in order to

create, refine, and test theories that capture the role of the environment in development (Liebel, 2020; Rabello de Castro, 2020). Otherwise, we merely describe the specifics of Western development, leaving ourselves open to being socially, geographically, and temporally limited. It stands to reason that developmental psychology’s theoretical canon might require dramatic rethinking when counter-evidence from across the world shows Western-based developmental theories cannot account for non-Western trajectories. Our focus has been directed so much on a specific set of factors that our findings may not apply, possibly even in the West.

Aspects of our scholarship are better served when the data we collect and the theories we develop are representative of the breadth of human experience — what Syed and Kathawalla (2022) refer to as diversity of perspectives. Collecting data and interacting respectfully and ethically with cultures and people who are divergent to the Western and Eurocentric “standard” helps create, support, amend, or reject theoretical perspectives that will — by definition through this process of refinement — apply more generally to human development. The people who are most able to aid the field in this type of interaction with non-Western science and participants are the extant non-Western developmental psychologists (see Fish, 2021).

Our criticisms, of course, do not uniquely apply to developmental investigations of behaviour and cognition (Rad et al., 2018; Henrich et al., 2010; Gaertner et al., 2010). Notwithstanding, for an understanding of development that goes beyond the myth of the norm, it is our responsibility to take into account cross-cultural sources of evidence and context — not purely data and theories originating in the Global North — brought to us by scholars already active in and from the Global South, but are nevertheless currently under-read, -valued, and -cited for structural reasons.

Future recommendations

The problems highlighted above are complex and multi-causal, and in many cases need to be addressed at an institutional and societal level more so than an individual level. There are, however, steps that can be taken by individuals to move the field in a positive direction. At a researcher level, small steps, such as always describing the country of origin of participants — even when from a typically-studied country — help push our field away from a Western-centric mode of thinking and towards a more global research standard. Likewise, involving researchers, perspectives and participants from the Global South would do much to improve our understanding of development. When doing cross-cultural research, Syed (2020) also encourages researchers to look at mixed methods research and dynamic mediators (a methodology) to ensure rigorous and considerate comparisons. Ensuring that our findings are communicated in an accessible and direct way to the public, as suggested by Serpell and

Marfo (2014), might also ensure our research has relevance to communities and professionals outside what is reported by Western media.

There is an important individual role to be played as a voice on funding committees, hiring committees, journal boards and as a collaborator. Changes are not necessarily enacted from above, but occur through the weight of united individual voices. As collaborators and colleagues of researchers from outside the Western sphere, we need to respect the differing perspectives and knowledge of our colleagues and collaborators, not just in terms of local knowledge and experience, but also in terms of their theoretical perspectives.

For journals and societies, there is much that can be done. Openly and publicly committing to policies that promote diversity of researchers and participants by agreeing not to enforce Western norms, as seen in the case of Draper (2022), would give authors confidence to push back against unfair standards set, either deliberately or inadvertently, by reviewers or editors who set higher bars for entry for work from outside of a Western context than within. Openly encouraging publication and replication in non-Western samples, as suggested by Nielsen et al. (2017) would also be encouragement for authors. A successful implementation of this might require a commitment to diversity at the editorial board level. This can be a complicated issue for them to solve, as many journals take the number of English-language publications in indexed journals as a marker of suitability for the editorial board, automatically barring researchers who routinely publish in local society journals or in other languages. Notice here the problem deepening: scholars are told to publish their work in so-called local or niche outlets if it does not fit the current flawed normative “control” group requirements, but then excluded for mostly publishing in such journals. How then can researchers push back against unreasonable requests made by reviewers or editors? If a journal has made a specific, public, policy commitment and has a statement that authors can refer to, authors can also be more empowered to use this as the basis of rebuttal. Open and careful discussion of race, culture and equality, as suggested by Charity Hudley, Mallinson, and Bucholtz (2020), may also help educate and remind researchers of the importance of being mindful of this information.

At an institutional level, the fixes may be slower. Ultimately, the field needs to move towards funding and rewarding research outside the Western sphere that uses diverse perspectives. Part of this must include support, both moral and financial, to carry out research by non-Western researchers and/or in non-Western populations. Practically, this requires explicit support of these lines of research by institutions, and explicit commitment to funding research by non-Western researchers, in non-Western countries. Again, there are underlying difficulties here: many funding bodies are primed

to see only researchers with successful careers following a typically-seen Western career trajectory with English language publications as competitive for grants, and so policies of funding attainment might need re-thinking. Certainly ensuring diverse funding panels and explicit encouragement of work with other populations, as well as policies encouraging researchers from other countries to apply would be important early steps that could be taken to address this.

Conclusions

Development is a dynamic process which is in part at least a function of environment and culture, failing to understand this is failing to capture the drivers of our development. That is, there is no way to study the object of our research unless we come to terms with this aspect. Herein, we have taken the perspective that development itself is embedded in an environmental context, and failing to measure that context means that the research object — development — cannot truly be studied. We have examined the idea that there is still a sense (at least to some scholars) in which Western data is a more objective norm, and data and perspectives from outside that sphere either have to be compared to that norm, or justify the difference. We have discussed the harms that this can cause, beyond the simple statistical issues of sampling. Additionally, we have expounded on the importance of including researchers and perspectives from the Global South. And finally, we have sketched out specific recommendations for individuals and institutions.

The problems we described go beyond publishing in high impact journals and whether we can make claims about humans, and about the dynamic process of development itself. We urge our fellow scholars to highlight and empower people who are already working with diverse samples, developing non-Western theoretical understandings, and building research programmes outside the Global North. In some cases, the issue is not that this work is not being done at all, but that due to structural reasons the work done by Global South scholars is undervalued and overlooked.

Developmental psychology as a field seeks to understand how humans develop, and to do that we need to understand the dynamic context for development. We propose that the mindset of the field needs to move from describing participants and cultures relative to an improper norm, to accurately and coherently discussing the limitations and generalizability of our research (Simons et al., 2017), as well as noticing, empowering, and encouraging the work that is already being done in this sphere. It also gives us a fairer chance at describing and understanding the human organism’s development under the breadth of environments and wealth of cultural conditions around the world.

References

APA. (2021). Apology to People of Color for APA’s

- Role in Promoting, Perpetuating, and Failing to Challenge Racism, Racial Discrimination, and Human Hierarchy in U.S. *American Psychological Association*(October), 1–13. Retrieved from <https://www.apa.org/about/policy/racism-apology>
- Arnett, J. J. (2008). The neglected 95%: Why american psychology needs to become less american. *American Psychologist*, 63(7), 602.
- Au, D. H., Castro, M., & Krishnan, J. A. (2007). Selection of controls in clinical trials: Introduction and conference summary. *Proceedings of the American Thoracic Society*, 4(7), 567–569. doi: 10.1513/pats.200707-099JK
- Azevedo, F., Liu, M., Pennington, C. R., Pownall, M., Evans, T. R., Parsons, S., . . . Westwood, S. J. (2022). Towards a culture of open scholarship: the role of pedagogical communities. *BMC Research Notes*, 15(1), 1–5.
- Bard, K. A., Keller, H., Ross, K. M., Hewlett, B., Butler, L., Boysen, S. T., & Matsuzawa, T. (2021). Joint Attention in Human and Chimpanzee Infants in Varied Socio-Ecological Contexts. *Monographs of the Society for Research in Child Development*, 86(4), 7–217. doi: 10.1111/mono.12435
- Bergmann, C., Tsuji, S., Piccinini, P. E., Lewis, M. L., Braginsky, M., Frank, M. C., & Cristia, A. (2018). Promoting Replicability in Developmental Research Through Meta-analyses: Insights From Language Acquisition Research. *Child Development*, 89(6), 1996–2009. doi: 10.1111/cdev.13079
- Bornstein, M. H., Britto, P. R., Nonoyama-Tarumi, Y., Ota, Y., Petrovic, O., & Putnick, D. L. (2012). Child Development in Developing Countries: Introduction and Methods. *Child Development*, 83(1), 16–31. doi: 10.1111/j.1467-8624.2011.01671.x
- Bronfenbrenner, U. (1974). Developmental research, public policy, and the Ecology of Childhood. *Child Development*, 45(1), 1–5.
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nurture reconceptualized in developmental perspective: A bioecological model. *Psychological Review*, 101(4), 568–586.
- Byers-Heinlein, K., Bergmann, C., & Savalei, V. (2021). Six solutions for more reliable infant research. *Infant and Child Development*(November), 1–19. doi: 10.1002/icd.2296
- Charity Hudley, A. H., Mallinson, C., & Bucholtz, M. (2020). Toward racial justice in linguistics: Interdisciplinary insights into theorizing race in the discipline and diversifying the profession. *Language*, 96(4), e200–e235. doi: 10.1353/lan.2020.0074
- Cummins, R. (2010). ‘How does it Work?’ vs. ‘What are the Laws?’. In *The world in the head* (pp. 282–310). Oxford University Press. doi: 10.1093/acprof:osobl/9780199548033.003.0016
- Davis-Kean, P. E., & Ellis, A. (2019). An overview of issues in infant and developmental research for the creation of robust and replicable science. *Infant Behavior and Development*, 57. doi: 10.1016/j.infbeh.2019.101339
- Draper, C. D. (2022, February 7). "While your research is important and the South African context interesting, I do not see [journal] as an ideal fit for this paper. I would suggest looking to a journal focused exclusively on international research" If were wondering how hard it is to publish LMIC research . Retrieved from <https://twitter.com/DrCathD/status/14905600693936> <https://archive.ph/wip/7d0hI>
- Earp, B. D., & Trafimow, D. (2015). Replication, falsification, and the crisis of confidence in social psychology. *Frontiers in Psychology*, 6(May), 1–11. doi: 10.3389/fpsyg.2015.00621
- Fish, J. (2021). Towards a Haudenosaunee developmental science: Perspectives from the Two Row Wampum. *Infant and Child Development*, 31(1). doi: 10.1002/icd.2279
- Frank, M. C., Bergelson, E., Bergmann, C., Cristia, A., Floccia, C., Gervain, J., . . . Yurovsky, D. (2017). A collaborative approach to infant research: Promoting reproducibility, best practices, and theory-building. *Infancy*, 22(4), 421–435. doi: 10.1111/infa.12182
- Gaertner, L., Sedikides, C., Cai, H., & Brown, J. D. (2010). It's not weird, it's wrong: When researchers overlook underlying genotypes, they will not detect universal processes. *Behavioral and Brain Sciences*, 33(2-3), 93–94. doi: 10.1017/s0140525x10000105
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, 33(2-3), 1–75. doi: 10.1017/S0140525X0999152X
- Kahalon, R., Klein, V., Ksenofontov, I., Ullrich, J., & Wright, S. C. (2022). Mentioning the Sample's Country in the Article's Title Leads to Bias in Research Evaluation. *Social Psychological and Personality Science*, 13(2), 352–361. doi: 10.1177/19485506211024036
- Karasik, L. B., Adolph, K. E., Tamis-LeMonda, C. S., & Bornstein, M. H. (2010). Weird walking: Cross-cultural research on motor development. *Behavioral and Brain Sciences*, 33(2-3), 95–96. doi: 10.1017/S0140525X10000117
- Keller, H., Abels, M., Lamm, B., Yovsi, R. D., Voelker, S., & Lakhani, A. (2005). Ecocultural effects on early infant care: A study in cameroon, india, and germany. *Ethos: Journal of the Society for Psychological Anthropology*, 33(4).
- Kidd, E., & Garcia, R. (2022). How diverse is child language acquisition research? *First Language*. doi: 10.1177/01427237211066405

- Kline, M. A., Shamsudheen, R., & Broesch, T. (2018). Variation is the universal: Making cultural evolution work in developmental psychology. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1743). doi: 10.1098/rstb.2017.0059
- Kucker, S. C., Samuelson, L. K., Perry, L. K., Yoshida, H., Colunga, E., Lorenz, M. G., & Smith, L. B. (2019). *Reproducibility and a unifying explanation: Lessons from the shape bias* (Vol. 54). Elsevier Ltd. doi: 10.1016/j.infbeh.2018.09.011
- Liebel, M. (2020). *Decolonizing childhoods: From exclusion to dignity*. Policy Press.
- Lohaus, A., Keller, H., Lamm, B., Teubert, M., Fassbender, I., Freitag, C., ... others (2011). Infant development in two cultural contexts: Cameroonian nso farmer and german middle-class infants. *Journal of Reproductive and Infant Psychology*, 29(2), 148–161.
- Mahamallik, M., & Sahu, G. B. (2011). Identification of the poor: Errors of exclusion and inclusion. *Economic and Political Weekly*, 46(9), 71–77.
- Miller, J. G. (2005). Essential role of culture in developmental psychology. *New directions for child and adolescent development*(109), 33–41. doi: 10.1002/cd.135
- Morelli, G., Quinn, N., Chaudhary, N., Vicedo, M., Rosabal-Coto, M., Keller, H., ... Takada, A. (2018). Ethical challenges of parenting interventions in low- to middle-income countries. *Journal of Cross-Cultural Psychology*, 49(1), 5–24. doi: 10.1177/0022022117746241
- Munafò, M. R., Nosek, B. A., Bishop, D. V., Button, K. S., Chambers, C. D., Percie, N., ... Wagenmakers, E.-j. (2017). A manifesto for reproducible science. *Nature Human Behaviour*, 1, 1–9. doi: 10.1038/s41562-016-0021
- Muthukrishna, M., Bell, A. V., Henrich, J., Curtin, C. M., Gedranovich, A., McInerney, J., & Thue, B. (2020). Beyond Western, Educated, Industrial, Rich, and Democratic (WEIRD) Psychology: Measuring and Mapping Scales of Cultural and Psychological Distance. *Psychological Science*, 31(6), 678–701. doi: 10.1177/0956797620916782
- Nielsen, M., Haun, D., Kärtner, J., & Legare, C. H. (2017). The persistent sampling bias in developmental psychology: A call to action. *Journal of Experimental Child Psychology*, 162, 31–38. doi: 10.1016/j.jecp.2017.04.017
- Oakes, L. M. (2017). Sample Size, Statistical Power, and False Conclusions in Infant Looking-Time Research. *Infancy*, 1–34. doi: 10.1111/inf.12186
- Open Science Collaboration. (2015). PSYCHOLOGY. Estimating the reproducibility of psychological science. *Science*, 349(6251), aac4716. doi: 10.1126/science.aac4716
- Piaget, J. (1971). The theory of stages in cognitive development. In *Measurement and piaget*. (pp. ix, 283–ix, 283). New York, NY, US: McGraw-Hill.
- Rabello de Castro, L. (2020). Decolonising child studies: development and globalism as orientalist perspectives. *Third World Quarterly*, 1–18. doi: 10.1080/01436597.2020.1788934
- Rad, M. S., Martingano, A. J., & Ginges, J. (2018). Toward a psychology of Homo sapiens: Making psychological science more representative of the human population. *Proceedings of the National Academy of Sciences of the United States of America*, 115(45), 11401–11405. doi: 10.1073/pnas.1721165115
- Remedios, J. D. (2022). Psychology must grapple with whiteness. *Nature Reviews Psychology*, 1–2.
- Roberts, S. O., Bareket-Shavit, C., Dollins, F. A., Goldie, P. D., & Mortenson, E. (2020). Racial Inequality in Psychological Research: Trends of the Past and Recommendations for the Future. *Perspectives on Psychological Science*, 15(6), 1295–1309. doi: 10.1177/1745691620927709
- Rowe, M. L., & Weisleder, A. (2020). Language development in context. *Annual Review of Developmental Psychology*, 2(1), 201–223. doi: 10.1146/annurev-devpsych-042220-121816
- Scheidecker, G., Oppong, S., Chaudhary, N., & Keller, H. (2021). How overstated scientific claims undermine ethical principles in parenting interventions. *BMJ Global Health*, 6(9), 6–8. doi: 10.1136/bmjgh-2021-007323
- Schirmbeck, K., Rao, N., & Maehler, C. (2020). Similarities and differences across countries in the development of executive functions in children: A systematic review. *Infant and Child Development*, 29(1), 1–25. doi: 10.1002/icd.2164
- Serpell, R., & Marfo, K. (2014). Some long-standing and emerging research lines in Africa. In R. Serpell & K. Marfo (Eds.), *Child development in africa: Views from inside. new directions for child and adolescent development* (Vol. 146, pp. 1–22). doi: 10.1002/cad
- Sherif, M. (1936). *The Psychology of Social Norms*. Oxford, England: Harper.
- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science*, 22(11), 1359–1366. doi: 10.1177/0956797611417632
- Simons, D. J., Shoda, Y., & Lindsay, D. S. (2017). Constraints on Generality (COG): A Proposed Addition to All Empirical Papers. *Perspectives on Psychological Science*, 12(6), 1123–1128. doi: 10.1177/1745691617708630
- Singh, L. (2022). From information to action: A

- commentary on Kidd and Garcia (2022). *First Language*, 014272372210900. Retrieved from <http://journals.sagepub.com/doi/10.1177/01427237221090024> doi: 10.1177/01427237221090024
- Singh, L., Cristia, A., Karasik, L. B., & Oakes, L. M. (2021). Diversity and Representation in Infant Research: Barriers and bridges towards a globalized science. *PsyArXiv Preprints*. doi: 10.31234/osf.io/hgukc
- Singmann, H., Cox, G. E., Kellen, D., Chandramouli, S., Davis-Stober, C., Dunn, J. C., ... others (2021). Statistics in the service of science: Don't let the tail wag the dog. *PsyArXiv*. doi: 10.31234/osf.io/kxhfu
- Spelke, E. S., & Kinzler, K. D. (2007). Core knowledge. *Developmental Science*, 10(1), 89–96. doi: 10.1111/j.1467-7687.2007.00569.x
- Syed, M. (2020). Whither the “white control group”? on the benefits of a comparative ethnic minority psychology. *PsyArXiv*.
- Syed, M., & Kathawalla, U. (2022). Cultural psychology, diversity, and representation in open science. *Cultural Psychology*. doi: 10.1080/14752875.2022.2109002
- Tatlow-Golden, M., & Montgomery, H. (2021). Childhood Studies and child psychology: Disciplines in dialogue? *Children and Society*, 35(1), 3–17. doi: 10.1111/chso.12384
- Visser, I., Bergmann, C., Byers-Heinlein, K., Dal Ben, R., Duch, W., Forbes, S., ... Zettersten, M. (2022). Improving the generalizability of infant psychological research: The ManyBabies model. *Behavioral and Brain Sciences*, 45, e35. doi: 10.1017/S0140525X21000455
- Yarkoni, T. (2020). The generalizability crisis. *Behavioral and Brain Sciences*, 1–37. doi: 10.1017/S0140525X20001685