

Improving the global reach of psychological research

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Abstract

As a scientific discipline, psychology has a history of publication bias toward western, educated, industrialized, rich, and democratic countries (WEIRD countries). For example, 96% of participant samples in the top six psychology journals derive from western countries. The sampling bias has resulted in (1) non-English speaking authors being rejected at significantly higher rates than native English speakers; (2) editorial boards consisting mostly of Caucasian editors in chief; and (3) the potential over-rejection of research from non-western samples that have failed to replicate core psychological findings. The lack of diverse samples within psychological research calls into question the validity, reliability, generalizability, and robustness of seminal psychological research. Discover psychology aims to reduce these biases by encouraging submissions from non-English speaking countries and culturally diverse samples. By reducing biases in publications, we can help increase the number of racially diverse samples and authors within psychology.

Keywords WEIRD · Cultural bias · Psychology · Publication bias · Generalizability

Psychology is a growing scientific discipline with ~ 134,000 peer-reviewed journal articles added to the APA PsycNet database in 2020. However, within these contributions there remains a strong cultural bias towards publishing papers from western, educated, industrialized, rich, and democratic countries (WEIRD) [1–3]. Within psychology, these biases include implicit preferences to publish papers from native English speakers, participant samples largely drawn from Western undergraduate students, and editorial boards consisting mostly of Caucasian editors in chief [4]. We are not diminishing the achievements, expertise, and contribution the authors, editors, and their research have added to our understanding of human behaviour. However, these biases are also contributing to a lack of replicability of psychological findings, especially within diverse samples. This raises concerns about the generalizability of fundamental psychological principles when results have been heavily reliant on WEIRD samples.

1 Cultural bias in psychology publications

Between 2006 and 2016, English speaking publications made up 97% of the papers in the Science Citation Index Expanded, 95% of the papers in the Social Sciences Citation Index (SSCI), and 73% of the papers in the Arts & Humanities Citation Index [5]. These results were confirmed in a comprehensive review of 6,094,079 articles indexed in Scopus and Web of Science. Publications written in English made up 92.64% of studies indexed in Scopus and 95.37% of studies indexed in Web of Science [6]. Taken together, there is a clear bias towards publishing papers written in English.

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Consequently, authors who do not speak English or speak English as a second language are disadvantaged when publishing in high-impact journals.

The emphasis on publications written in English contributes to a significantly higher rejection rate for submissions where English is not the author's primary language [7]. Indeed, some of the common feedback provided to non-English-speaking researchers is "*The authors should have a native English-speaker review the manuscript before submission*"; and poor English can be the basis for rejection [7]. Rejecting papers based on English proficiency could be limiting the number of important contributions non-English speaking scientists can make to Psychology. If proficiency in English is the key reason for rejection, without first considering the scientific merit and robustness of the method and results, we might be missing out on seminal cross-cultural findings and limiting the progress of Psychology as a global discipline.

1.1 Cultural bias in psychology samples

As a science, psychology should endeavour to understand the fundamental aspects of human psychology but also how cultural differences can produce variability in human behaviour. However, Henrich et al., [2] conducted a seminal meta-analysis that highlighted the prevalence of cultural bias in psychology participant samples. Their results identified that 96% of participants in studies published in the top six psychology journals were from western countries [2, 8]. More importantly, they raised concerns about the generalizability of core psychological findings because the results were predominantly derived from western undergraduate students. Considering that Western samples only represent approximately 12% of the world's population [2], we should be hesitant to generalize psychological findings to the remaining 88% of the population. For example, when comparing results for core psychological areas of study between different cultures, countries, and ethnicities, there is considerable variation in the results. Intuitively, we might suspect that social psychology research would be less generalizable across cultures. However, there are also differences in findings between cultures within cognitive psychology, developmental psychology, and survey research more generally [2–4, 9–11]. These results call into question the generalizability and robustness of fundamental psychological principles due to differences observed between cultures and the lack of replicability within diverse samples [12].

An alternative explanation for the underrepresentation of diverse samples within psychological research might be due to the reporting standards of demographic information. For example, Rad et al., [13] examined the demographic information (i.e., education, socioeconomic status (SES), race/ethnicity, and gender) reported within 223 research papers (inclusive of 428 studies) published in a single journal during 2014. Of these, 11.41% did not report the ethnicity, nationality, or geographical region of the sample. For the remaining studies, the samples comprised of samples from the United States (57.76%), other English-speaking countries (13.49%), and in total 94.15% were from Western Countries (i.e., non-English speaking Western countries, e.g., Europe). Only a few studies reported demographic information apart from gender to indicate the diversity of their sample. For example, 12% reported ethnicity, 6% reported SES, 10% reported education, 10% accounted for cultural diversity in their analysis, and only a single study (2%) acknowledged the heterogeneity of their sample as a limitation. These results confirm that there is an overreliance on WEIRD samples with psychology but also shows that published research has often neglected to include the demographic characteristics of their samples. As such, the lack of representation of non-WEIRD samples, in part, might be due to the under-reporting of demographic characteristics.

1.2 Cultural bias in editorial boards

Another inequality we see within psychological research is the over-representation of Editors in Chief predominately residing from WEIRD countries. Robert's et al., [11] investigated racial inequality in psychological research. An interesting avenue of their research was to identify who the editors were making decisions about research that focusses on race within cognitive psychology, developmental psychology, and social psychology. Their research highlighted two important points. First, there is a lack of research specifically investigating race within these subdisciplines of psychology. Second, most of the research investigating racial issues were reviewed by white editors in chief. A critical finding was that significantly fewer psychology publications investigating race had been accepted and published by White editors compared to editors of Colour. These findings emphasize the need for editorial boards to be more racially diverse to help reduce these biases. Moving forward, it seems necessary for Journals to build more diverse Editorial Boards, Editors in Chief, and reviewers; doing so will help reduce cultural bias in psychological research publications.

2 Reducing cultural bias in psychology research

This article has briefly addressed the status-quo of the existing cultural biases with psychological research. It is evident that cultural bias is present within research samples, publication decisions are influenced by the Authors' English proficiency, and the under-representation of Editors in Chief from non-WEIRD countries. However, it is also important to consider how psychology can move forward, reduce these cultural biases, and improve our understanding of fundamental psychological findings across cultures, ethnicities, and nationalities. The following suggestions are drawn from previous research aimed at improving the diversity of research samples, published authors, and editorial boards (see [13]).

2.1 Reporting of demographics

Currently, most of the research has not included demographic information beyond gender [13]. Consequently, we might not have the information to draw conclusions about the diversity of current samples published within research. For example, while we know that most samples published in the top psychology journals comprise undergraduate students from the United States, it is unlikely that these studies also reported the age, SES, ethnicity, religion, and nationality of their participants [13]. To address this problem, future research must report demographic information even if it does not form part of the analyses. The Publication Manual of the American Psychological Association (APA 7th edition) [14] offers some guidance for Journal article reporting standards for demographic information. Indeed, the APA 7th edition suggests research includes pertinent sample characteristics including age, sex, gender identity, ethnicity/race, education, SES, immigration status, disability status, sexual orientation, and language [14]. It is important to note, that these are the recommended demographic variables and researchers are encouraged to include any other topic-specific information that may have an impact on the results and allow future research to evaluate sample differences in replication studies.

2.2 Discussion of demographics and generalisability

Apart from reporting basic demographic information, authors should also discuss the generalizability of their results regarding the characteristics of the sample [13, 14]. As previously stated, there is a lack of replicability of psychological findings within diverse samples (i.e., non-WEIRD). Given that evidence has shown fundamental differences in psychological findings within sub-disciplines such as cognition, social psychology, and developmental psychology the findings must be interpreted within the context of the sample. For example, Authors should refrain from overstating the generalisability of the results and discuss the practical and theoretical implications within the scope of their sample, acknowledge the impact of culture and ethnicity, and identify how a homogenous sample might not be generalisable to the broader population. For example, authors should only generalise their findings within the scope of the population the sample was derived from [13]. Rad et al., [13] suggested authors use phrases that incorporate the sample in statements about findings, such as "*We find that X causes Y in a sample of MTurk participants in the United States*" (p. 11404). Based on these suggestions, future research should collect and report more comprehensive demographic information and discuss their findings within the context of their samples' demographic characteristics.

2.3 Journals and editors

English speaking journals, editors, editorial boards, and reviewers should begin to emphasise the importance of publishing research produced by authors from non-WEIRD countries and studies which include diverse and/or non-WEIRD samples. However, doing so might produce other challenges within the publication process that will require adjustments. For example, given the high number of submissions to Journals, Editors and reviewers need to make judgements about papers quickly and efficiently. As previously discussed, English proficiency is often a basis for rejection. While it is important to maintain high-quality research publications, it is also important that we do not dismiss cross-cultural research based on English proficiency alone, without first assessing the scientific merit and novelty of the research. Given the current lack of diversity in psychological research findings and the lack of replicability within diverse samples, Journals should be prioritising research from non-WEIRD countries to advance the scientific basis of psychological research. If psychological research does not begin to diversify samples, authors, and acknowledge cultural bias our understanding of human behaviour will become limited to only a small sub-sample of the global population. If psychology is the study of human behaviour, we should strive to understand humanity rather than understanding the psychology of Western culture.

3 Conclusion

While this is not the first article to highlight the inequalities and publication biases within Psychology (see [3, 11, 12, 15, 16]) there is an ongoing need to reduce these biases by encouraging submissions from non-English speaking authors, prioritising culturally diverse samples, and increasing the number of culturally diverse publications within Psychology. It is imperative to prioritise the scientific merit of research above authors proficiency in English, especially for researchers where English is not their primary language. Not only will these steps improve the representation of non-English speaking authors within Psychology but will also contribute to broadening our understanding of human behaviour through improving the generalizability of psychological findings beyond WEIRD samples.

Authors' contributions RT wrote the manuscript. The author read and approved the final manuscript.

Declarations

Competing interests The authors declare no competing interests.

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