Going beyond Western, Educated, Industrialized, Rich, and Democratic (WEIRD) samples and problems in organizational research*

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The goal of organizational research is to make inferences about a target population based on samples studied. Most target populations referred to in theories of organizational behavior, whether explicitly or implicitly, tend to be the entire populations of workers or managers, or even the entire human population. A typical sample, however, is convenient, being located where most researchers are, and thus also predominantly from Western, Educated, Industrialized, Rich, and Democratic countries (WEIRD; Henrich, Heine, & Norenzayan, 2010).

This fact is problematic in light of decades of accumulating evidence in psychology and related fields of behavioral science that WEIRD individuals systematically differ from the rest of the world along a range of important psychological and social dimensions (Markus and Kitayama, 1991, Pepitone and Triandis, 1987, Triandis, 1989). Henrich et al. (2010) review evidence that "WEIRD subjects are particularly unusual compared with the rest of the species – frequent outliers" in the domains of "visual perception, fairness, cooperation, spatial reasoning, categorization and inferential induction, moral reasoning, reasoning styles, self-concepts and related motivations, and the heritability of IQ," and as such might be "among the least representative populations one could find for generalizing about humans" (p. 61).

Simply put, much of extant scientific knowledge about human behavior is, in reality, knowledge about WEIRD people, produced by WEIRD researchers, and tackling WEIRD problems. To make the problem worse, researchers tend to incorrectly assume that WEIRD samples are more representative of the human population (Cheon, Melani, & Hong, 2020) and articles that mention their non-WEIRD samples in the title receive lower scientific attention (Kahalon, Klein, Ksenofontov, Ullrich, & Wright, 2021).

In response to this situation, disciplinary journals have called for tests of generalizability of existing theories of human behavior to non-WEIRD contexts, greater precision in specifying target populations and theory scope, and new theorizing and research on non-WEIRD populations and problems (e.g., Kitayama, 2017). However, thus far the implications of the WEIRD bias for organizational research are only beginning to be considered and necessary changes facing the field have not been outlined (see Gelfand et al., 2008, Gelfand et al., 2017). We add to this momentum in the current editorial.

We start by coding articles in OBHDP to gauge the situation in the organizational literature. Our results, discussed in the following section, show a predominant reliance on WEIRD[2] samples (when sample characteristics can be ascertained at all) and low rates of attention to generalizability. We elaborate on why this situation presents a serious problem for organizational research both from the perspective of cumulative science as well as global relevance and inclusivity of the field. We finally offer a set of recommendations to facilitate theoretical and empirical focus on non-WEIRD contexts and problems and describe the associated journal priorities and requirements for authors in OBHDP.

1. Coding of papers in OBHDP

We coded all articles published in OBHDP in 2010, when the discussion regarding the overreliance on WEIRD samples occurred (Henrich et al., 2010), and then again 10 years later, in 2020, to gauge potential changes. For each study, we coded whether the article reported the country in which the study was conducted, the time of study,[3] and individual participant characteristics including gender, age, socioeconomic status, work experience, and education. These factors have been the focus of similar coding exercises in psychology (Rad, Martingano, & Ginges, 2018). We also coded for religion because recent research has suggested that this factor may underly many psychological differences between WEIRD and non-WEIRD individuals (Cohen, 2009, Gelfand et al., 2008, Henrich, 2020).

In addition to coding the available information on sample characteristics, we also coded whether the authors discussed generalizability with respect to (1) individual participant characteristics such as income or education, (2) geographical context, and (3) temporal context. We followed a procedure similar to Findley, Kikuta, and Denly (2021), coding (1) whether the article clearly specified the target population,

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[2] Defined here as European or North American, in line with Henrich (2020).

[3] An important limitation of current research practices that has been noted in the discussion of WEIRD samples concerns low attention to how the purportedly universal psychological tendencies might depend on the temporally changing sociocultural context even within the same country. Henrich argued that "textbooks that now purport to be about 'Psychology' or 'Social Psychology' need to be retitled something like 'The Cultural Psychology of Late 20th-Century Americans'" (p. 487).

Table 1
Information on context reported in OBHDP.

Percentage of samples with the given characteristic reported			
	2010	2020	Δ
Country of study	57.6	61.7	$\chi^2 = 0.18, p = .67$
Time of study	7.5	20.3	$\chi^2 = 10.34, p < .01$
Gender	56.7	86.3	$\chi^2 = 47.05, p < .01$
Socioeconomic status	5.8	18.1	$\chi^2 = 10.46, p < .01$
Work experience	10	27.9	$\chi^2 = 16.04, p < .01$
Education	17.5	24.2	$\chi^2 = 2.31, p = .13$
Religion	0	0.3	$\chi^2 = 0.34, p = .56$

drawn from WEIRD contexts. With a few exceptions, organizational behavior research is currently being conducted in a bubble, as depicted in Fig. 1 on the left. Most samples as well as most researchers[3] are concentrated in just a few countries. In 2020, more than 73% of our samples came from a country representing 4.3% of the world's population: the U.S. (the percentage was 76% in 2010). The map in Fig. 1 shows entire continents in the dark, with no samples from South America or Africa, for example.

When it comes to information about *when* the study was conducted, the situation is also problematic: it is possible to determine with any precision when the study was conducted for only 20.3% of samples.

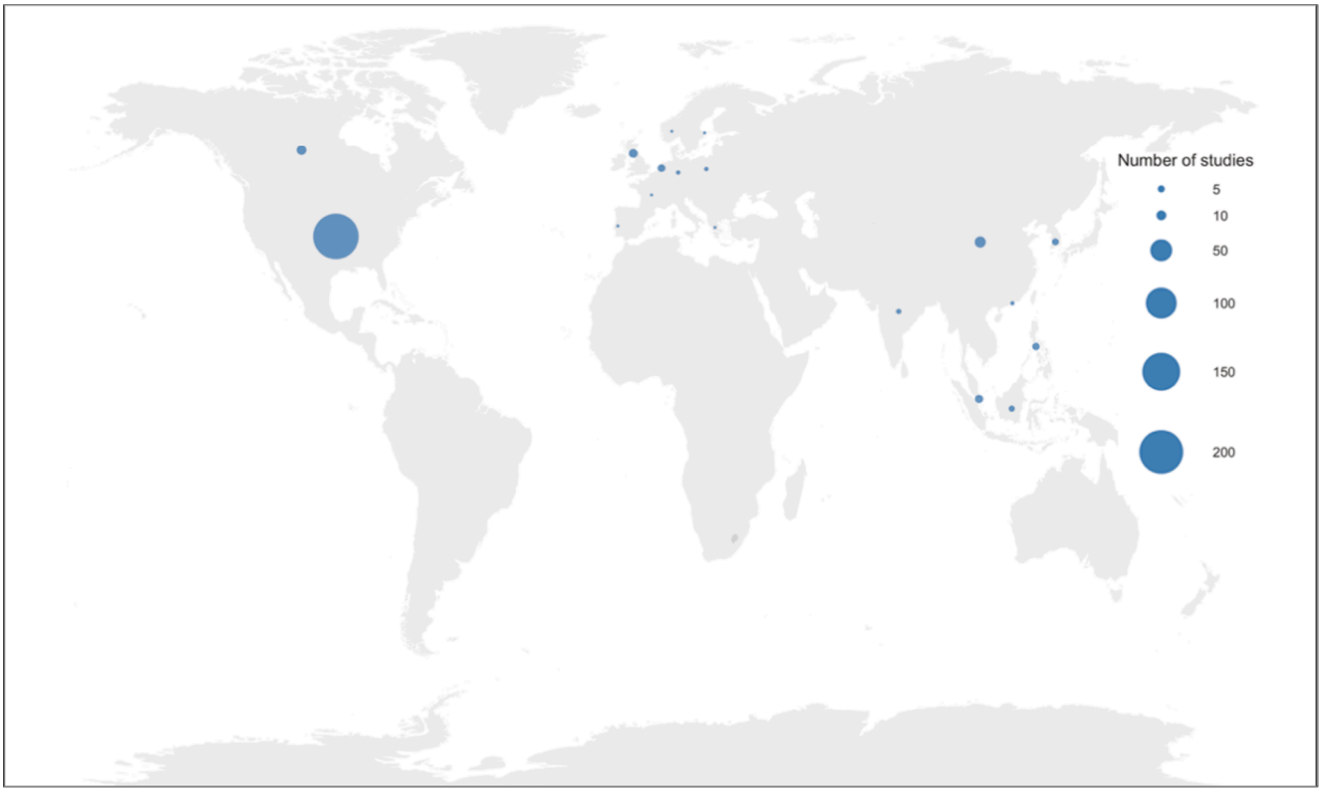

Fig. 1. OBHDP in a bubble. The figure combines samples from 2010 and 2020, as there were no changes in either the percentage of samples with unreported source country or the percentage of WEIRD samples.

and (2) whether there is a discussion of how the findings might depend on sample characteristics (e.g., as a function of factors such as country or socioeconomic status).

2. How WEIRD are samples in OBHDP?

Table 1 summarizes the percentage of studies that report different sample characteristics. As shown in the table, the availability of information for many sample characteristics has increased between 2010 and 2020. Nevertheless, for over a third of all studies, it is not specified whether the sample is drawn from a Western country or not. Specifically, in 2020, the data collection country was not specified for 38.29% samples, and the situation has not significantly improved between 2010 and 2020.

Turning our attention to samples for which country of origin is known, in 2010, 84.21% were from WEIRD contexts. The subsequent 10 years did not bring improvement, with 86.57% of samples in 2020 being

While this is a notable increase from 7.5% in 2010, it is still a strikingly low rate.

With regard to individual participant characteristics that would further allow to ascertain how WEIRD a sample is, despite notable improvements between 2010 and 2020 (Table 1), it is very difficult to infer even fundamental sample features. Socioeconomic status is possible to infer for only 18.1% of samples. The rates of reported work experience and education are also curiously low, particularly given the central importance of these factors for human psychology and work-related phenomena. It is possible to infer participants' work experience for only 27.9% of the samples and education for 24.2% of the samples. The results are perhaps the most striking when it comes to religion. Only one sample in 2020 contained details on participant religion, a non-significant increase from zero samples in 2010.

[3] We also coded for author location, but the resultant map is uninformative, as it is almost identical to Fig. 1.

Table 2
Attention to context in OBHDP.

Percentage of articles that specify target population or discuss generalizability			
	2010	2020	Δ
Geographical and Temporal Context			
Specify target population?	27.5	29.3	$\chi^2 = 0.13, p = .71$
Discuss generalizability?	20.0	17.4	$\chi^2 = 0.41, p = .52$
Individual Participant Characteristics (e.g., SES)			
Specify target population?	36.7	39.8	$\chi^2 = 0.38, p = .54$
Discuss generalizability?	15.0	17.5	$\chi^2 = 0.41, p = .52$

3. How attentive are researchers to generalizability?

The relative lack of reporting of sample characteristics is mirrored by the relative lack of attention to generalizability. Table 2 summarizes the results. In 2020, only 29.3% of the articles specified what geographical or temporal contexts their findings are expected to generalize to, and only 17.4% contained a discussion of how the findings might depend on the geographical or temporal context (both figures are without a significant improvement from 2010).

The results are similar when it comes to individual participant characteristics, such as education or socioeconomic status. In 2020, only 39.8% of articles specified what population the effects are expected to generalize to in terms of individual participant characteristics, a non-significant change from 36.7% in 2010. Only 17.5% of articles provided a meaningful discussion of how the findings might depend on individual participant characteristics in 2020, again a non-significant improvement from 15% in 2010.

Overall, the level of attention to generalizability is low and stagnating. Most articles fail to specify the target population or discuss generalizability, instead using a tone of implied universality of the findings.

4. Implications for organizational research

These results highlight a number of problems facing the field. The relative lack of information on and attention to sample characteristics is concerning from the perspective of replicability, the foundation of cumulative science. What are the conditions needed to replicate the results? With little or no information on key sample characteristics such as country or socioeconomic status, it becomes unclear whether a failed replication can be attributed to overlooked differences in sample features (cf. Johns, 2006).

The lack of attention to generalizability also hampers theory development by reducing the focus on theory scope and boundary conditions. If we know that country and socioeconomic status matter for basic psychological processes, but we do not know the country or socioeconomic status of the participants, it is difficult to reflect on how these factors may have played a role and whether the effect will obtain in a different context. The relative lack of information on samples characteristics also undermines *empirical* efforts to evaluate generalizability. Simply having more information on study location would facilitate secondary cross-cultural research such as meta-analyses.

The WEIRDness of organizational samples represents a problem both for cumulative science and for inclusivity of organizational behavior as a discipline. For example, precisely because we know there is much cultural variability, it is difficult to evaluate a finding obtained in a non-WEIRD context that diverges from theories developed and empirically supported in WEIRD contexts. Non-WEIRD researchers and findings are thus in a position that they need to engage with WEIRD researchers, whereas the opposite is not true. Indeed, Gelfand et al. (2017) noticed that papers with international samples generally highlight unknown generalizability as a limitation, while papers using WEIRD samples do not. Our coding of the articles in OBHDP confirms this bias ($\chi^2 = 6.51, p = .011$). Quite clearly, research from WEIRD samples shouldn't be the standard by which other findings are evaluated.

The WEIRDness of organizational behavior samples and authors also shapes the kinds of research questions that are posed (Gelfand et al., 2008; Rozin, 2001; Roberts et al., 2020). Many global problems go overlooked due to the predominant focus on WEIRD contexts. To provide one large-scale example, the legacy of the Indian caste system presents unique challenges in organizations for members of historically disadvantaged castes (Vaid, 2014), who far outnumber the entire population of the U.S. In response, India introduced affirmative action measures to combat discrimination and promote career outcomes of beneficiaries. Yet, despite the gravity and magnitude of the challenge, there has been little research on the topic either in the discrimination or affirmative action organizational literatures.

Table 3
Going beyond WEIRD in OBHDP: Summary of recommendations and guidelines.

1. Clearly define target population and justify sample appropriateness.
2. Discuss how the results might depend on important sample characteristics, to which relevant populations they might be transportable, and to which not.
3. Provide as many relevant details of sample characteristics as possible to facilitate replication and secondary research.
4. Engage in more cross-contextual theorizing and research and leverage non-WEIRD samples more extensively, taking critical measurement issues into account.
5. Focus on non-WEIRD phenomena and problems that have received insufficient attention.

5. Moving forward

We believe that organizational research could benefit from a greater attention to non-WEIRD contexts and the associated questions of generalizability, and we provide guidelines for how that collective effort can move forward. Most fundamentally, authors should clearly define their target population and justify why the sample is expected to generalize to the target population. Authors should clearly tie their findings to populations, instead of implying broad generalizability, and discuss how their findings may depend on important sample characteristics. Would interpersonal dynamics documented in a WEIRD context be similar in a non-WEIRD context? Even without cross-contextual data, a discussion of generalizability to non-WEIRD contexts is likely to encourage future cross-contextual theorizing and research.

We further encourage authors to provide as many relevant details as possible about their samples to facilitate replication and secondary research. We realize that many such details may not be germane to a particular paper; however, they can be easily made available online. OBHDP strongly emphasizes the transparency of the research process. Going forward, most papers published will include an online supplement containing the data used in the study. Online supplements should also be used to report various details of the relevant sample characteristics to facilitate secondary research. The Appendix contains a checklist of suggested variables to be included.

More research is needed to evaluate the generalizability of WEIRD theories and to extend them to other contexts. Online samples make cross-cultural research easier. Authors could strengthen their empirical package by adding a study that replicates a finding across non-WEIRD samples, taking into account key methodological issues that arise in cross-cultural research (Gelfand, Raver, & Ehrhart, 2002). Such a study would add even more value by testing an explanation for why the effect might vary across contexts. This would help to theoretically connect the psychological phenomenon to relevant social and cultural factors that cannot be appreciated without variation in context. In fact, although we noted a tremendous rise in the use of online samples between 2010 and 2020, most did not even report the country in which participants were located, nor do they discuss critical issues like measurement invariance and response biases (Gelfand et al., 2002).

We also encourage attention to global phenomena and problems. Many work phenomena documented in WEIRD contexts are likely to

differ fundamentally in contexts that have been overlooked, for example, the nature of the separation between professional and work relationships or between work and religion (Gelfand et al., 2008). This presents an opportunity for authors to expand the current thinking and theoretical terrain of organizational research to make it more globally relevant. In doing so, they would expand the seemingly primary focus on serving the needs of their local environments, which tend to be already privileged in addition to being globally unrepresentative. In conclusion, OBHDP encourages more attention to non-WEIRD populations and problems and the adoption of the related practices (summarized in Table 3), which we believe will make organizational scholarship better, more inclusive, and globally relevant.

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Appendix

Checklist of sample relevant sample characteristics variables to consider reporting or including online.[4] We acknowledge that not all of these variables can collected in all cultures; for example there may be ethical reasons that prevent researchers from obtaining them (see Gelfand et al., 2002, for a discussion of such ethical issues).

Participant characteristics:

- Education
- Age
- Gender
- Race
- Ethnicity
- Socioeconomic status
- Religion

Industry, organizational, and employment factors:

- Industry
- Occupation
- Tenure
- Firm type
- Firm size
- Firm life cycle (e.g., new, established, acquired, restructured)

Geographical and temporal factors:

- Location of study
- Time of study
- Relevant contemporary events (e.g., economic, ecological, and human threats).
- Any other specific contextual information about the sample

[4] See also Rousseau and Fried (2001) and Gelfand et al. (2008) for similar suggestions.

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