Commentary on Zwaan et al: A pragmatist philosophy of psychological science and its implications for replication

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Abstract:

A pragmatist philosophy of psychological science offers to the direct replication debate concrete recommendations and novel benefits that are not discussed in Zwaan et al (in press). This philosophy guides our work as field experimentalists interested in behavioral measurement. Furthermore, all psychologists can relate to its ultimate aim set out by William James: to study mental processes that provide explanations for why people behave as they do in the world.

A pragmatist philosophy of psychological science offers to the direct replication debate concrete recommendations and novel benefits that are not discussed in Zwaan et al (in press). Pragmatism starts from the premise that "thinking is for doing" (Fiske, 1992). In other words, pragmatic psychological theories investigate the mental processes that predict observable behavior within the "rich thicket of reality" (James, 1907, p. 68). This philosophy guides our work as field experimentalists interested in behavioral measurement. Furthermore, all psychologists can relate to its ultimate aim set out by William James: to study mental processes that provide explanations for why people behave as they do in the world.

Recommendations. A pragmatist philosophy of science urges scientists to observe what behaviors emerge in the complexity of real life; it encourages active theorizing about individuals' contexts and the way that individuals construe or interpret them. Specifically, direct replications should research the context of the planned replication site (i.e., James's "thicket of reality"), to determine when it is appropriate to use the precise materials of previous experiments, and when researchers should translate materials at the new site so that they will replicate the original participants' construal (Paluck & Shafir, 2017). Some methods for documenting context and adapting studies include well-designed manipulation checks, pre-testing, reporting on the phenomenological experience of participants in any intervention, and collaboration with those who have actually implemented previous studies. An additional recommendation we propose is statistical: investigators should statistically characterize the field, meaning that every study should report the amount of explained *and* unexplained variance of the treatment effect. In this way, replications and original findings can be explicitly situated by both the effect size and the amount of "noise" (e.g., from measurement error or unmeasured construal, context, and individual differences) that might help identify the source of differences across studies (Martinez, Funk, & Todorov, 2017).

Benefits. A pragmatist approach draws out the creativity and rigor of replication research. For example, when conducting a replication of a field experiment at a new site, the question of whether to use the same materials or to create translated (construal-preserving) materials arises. Field replications create the most obvious opportunities to develop rigorous standards that describe and compare research settings. These standards could be adopted by researchers working in many settings. Researchers can break new ground by developing these methodological standards, as opposed to basing replication decisions on unstated assumptions about context similarity. Theorizing the context of a proposed replication also entails creative theoretical integration in our highly differentiated field; specifically, the integration of theories that pertain to context (to situation, identity, culture, and perception) with the focal theory that is to be tested with the replication. Additionally, reporting the total unexplained and explained variance from a study is an explicitly cumulative exercise aimed at meta-analysis. Emphasizing measurement as a point of comparison between studies also addresses the chronology problem (Zwaan et al, p. 18) in which studies that are "first" to ask a particular question are prioritized over replications.

Field researchers, who regularly face the challenge of theorizing a broader context, may have a larger leadership role in developing conventions of direct replication than implied by Zwaan et al (in press), who predict fewer replications of field vs. laboratory studies. For example, in the digital space, replications of marketing and media experiments proceed at a scale that vastly outstrips normal academic research. These studies represent enormous opportunities to examine the impact of context on causal relationships (Kevic, Murphy, Williams, & Beckmann, 2017). In the policy world, Campbell's vision for the experimenting society (Campbell, 1969; 1991) lays out steps for cost-efficient and politically-feasible replication of studies across real world settings. Such experiments feature contextual variation of deep theoretical importance, including differing levels of economic inequality, demographic diversity, and political contestation (for an example, see Dunning et al., in press). Finally, articles based on field experimental replications can be models of compelling scientific writing, combating claims that replication research is rote and boring, because field studies lend themselves to a rich description of place, participants, history, and more generally the psychological and behavioral equilibrium into which a social scientist intervenes (Lewin, 1943).

References

Campbell, D. T. (1969). Reforms as experiments. *American Psychologist*, 24(4), 409.

Campbell, D. T. (1991). Methods for the experimenting society. *Evaluation Practice*, 12(3), 223-260.

Martinez, J. E., Funk, F., Todorov, A. (2017). Quantifying idiosyncratic and shared contributions to stimulus evaluations. *Unpublished working manuscript*.

Dunning, T., G. Grossman, M. Humphreys, S. Hyde, and C. McIntosh , Eds. (in press). *Information and Accountability: A New Method for Cumulative Learning.* Cambridge University Press.

Fiske, S. T. (1992). Thinking is for doing: portraits of social cognition from daguerreotype to laserphoto. *Journal of Personality and Social Psychology*, 63(6), 877.

James, W. (1907). Pragmatism's conception of truth. *The Journal of Philosophy, Psychology and Scientific Methods*, 4(6), 141-155.

Kevic, K., Murphy, B., Williams, L., & Beckmann, J. (2017, May). Characterizing experimentation in continuous deployment: a case study on bing. In *Proceedings of the 39th International Conference on Software Engineering*: Software Engineering in Practice Track (pp. 123-132). IEEE Press.

Lewin, K. (1943). Psychological ecology. In D. Cart (Ed.), *Field Theory in Social Science*. London: Social Science Paperbacks.

Paluck, E. L., & Shafir, E. (2017). The psychology of construal in the design of field experiments. *Handbook of Economic Field Experiments*, 1, 245-268.