

EDITORIAL

Publishing Papers That Matter

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I am honored to serve as the fifth editor of the *Journal of Experimental Psychology: Applied (JEPA)*, and to follow Ray Nickerson, founding editor, and the succeeding editors who have built on his legacy. The journal is the premier outlet for “use-inspired basic research” (Stokes, 2011) in the psychological sciences. While theory and application are traditionally contrasted as opposed goals, Stokes’s formulation emphasized the value of research that pursues both as mutually reinforcing constraints. As Kurt Lewin put it “nothing is so practical as a good theory” (Lewin, 1945). Suitable theory helps parse problems into empirically addressable phenomena, and can move us toward solutions that generalize beyond the specific conditions of the study. Conversely, addressing practical issues, or conditions of use, can advance theory by providing crucial contexts for evaluating theory.

Empirical research that advances psychological principles and directly addresses practical issues typically has the following features (Morrow & Durso, 2011; Rogers, 2008).

Theory Based

Studies must address theories to advance knowledge of specific psychological phenomena. More specifically, they empirically evaluate hypotheses derived from these theories. In psychological theory, this often involves testing hypotheses about cognitive, sensory, social, or other processes or mechanisms that underlie behavior in specific study settings. This goal in turn requires experimental methods.

Experimental Control

Control of theoretically defined variables is necessary to support causal inferences about the psychological processes underlying performance. Typically, independent variables are orthogonally manipulated with random assignment of participants to the resulting conditions. This approach is often more feasible in simple laboratory settings, involving college students or others who can be obtained in sufficient numbers for statistical power that supports reliable findings. Both rigorous control of relevant variables

to address internal validity and obtaining adequate samples to address generalizability help guard against ephemeral results, an important issue given ongoing discussion about replication of empirical findings.

Problem Driven

Use-inspired basic research not only advances theory but addresses key societal problems such as designing more effective computer-assisted diagnostic systems, improving the validity of eyewitness testimony, and shaping attitudes about climate change. Research is more likely to productively address such problems to the extent they specify critical contextual features (e.g., task, environment) that define the problem. Problem-focused goals may impose different methodological constraints than those imposed by theoretical goals on use-inspired research.

Representativeness

Study participants, tasks, and contexts must be chosen to represent the “context of use” associated with the problem. While it is common to select participants so as to generalize beyond the sample (of course there are also important issues here related to whether studies with college students generalize beyond the sample), less attention has been given to sampling tasks as well as the environments in which the tasks are embedded (Brunswick, 1955). Yet, both are important for designing representative studies that produce findings relevant to the target problems. Designing representative situations in turn depends on theoretical analysis of the target environment. Studies with authentic tasks and participants who are knowledgeable about these tasks and environments will more likely yield findings that inform issues rooted in those situations, even though these studies may be more challenging to conduct. Careful analysis of how theoretical variables and tasks are instantiated in representative study contexts may also address issues related to replicability of results (Schwarz & Clore, 2016).

It is certainly not easy to conduct research that satisfies both experimental rigor and practical relevance, that blend features addressing goals related to theory (e.g., internal validity) and “conditions of use” (e.g., representativeness). Yet *JEPA* is rightly perceived as one of the most prestigious outlets in psychological science for publishing papers that productively address this tension. Ideally, these articles are guided by and inform theory and employ experimental designs that produce findings elucidating psychological processes underlying the observed behavior. Such articles also tend to have large, representative, samples that provide confidence that the findings are not ephemeral. This is more

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likely for articles with multiple experiments that replicate and extend critical conditions, multiple independent variables that help isolate critical conditions, and multiple measures that produce converging evidence for hypotheses. At the same time, employing representative designs provides confidence that the findings apply to the target settings and problems. The issues surrounding the tension between experimental rigor and representative design have become even more important as our field grapples with complex problems in health care, aviation, and other domains that bear on policy issues.

My hope is to continue the tradition of publishing the best of “use-inspired basic research” by following several strategies. The first is to maintain the methodological rigor of work appearing in the journal by requiring experimental methods to support causal inferences about mechanisms underlying the results. That is, as the journal’s name implies, we will be looking for *experimental* research. I do think it is worth considering a broader view of methods that inform causal interpretation of data when warranted by studies that directly address important practical issues. While the experimental method may be the gold standard for internal validity, other designs (e.g., quasi-experimental) and statistical techniques (e.g., structural equation modeling), as well as computational modeling approaches, may be valuable for evaluating causal explanations.

Second, I will encourage practices that ensure *JEPA* continues to contribute to incremental growth in knowledge of psychological principles, methods, and empirical findings. These practices include publishing articles with multiple experiments that replicate and extend core findings. This practice helps to address issues of replicability in psychological science, as well as to avoid “bite-size” science that leads to fragmented publication (Bertamini & Munafò, 2012).

Third, it is important for the journal to keep pace with analytic and statistical advances. For example, analytic techniques such as multilevel modeling that allow more integrated analysis of data, or Bayesian approaches to statistical power analysis are becoming the norm. At the same time, the journal will continue to require measures of effect size and confidence intervals that encourage incremental growth in empirical findings that underpin psychological theory, as well as help balance the traditional focus on hypothesis testing.

Fourth, articles describing “use-inspired basic research” are most useful when read by people who can leverage the findings to

address the target problems. Therefore, I will strive to broaden the readership of the journal to match the broad coverage of topics published in *JEPA*, including social and developmental as well as cognitive studies that address issues in a broad range of domains, such as law, health care, aviation, and education. While *JEPA* is already broadly read by researchers in psychology and allied social sciences, it is less well known beyond these disciplines. The theoretically motivated, empirically sound findings published in the journal are something of a hidden treasure for policymakers and others in government, nonprofit, and industry organizations. It is important to reach out to practitioner organizations (e.g., American Medical Association) and government regulatory agencies (e.g., Food and Drug Administration; Federal Aviation Administration) in these domains, for example by distributing briefs of key articles that summarize “bottom line” messages relevant to the organizations.

Finally, making the journal more relevant to new generations of scholars is a key to maintaining its vitality. I plan to expand *JEPA*’s student reviewer program by advertising it more broadly.

Pursuing these strategies will hopefully sustain and expand the impact of *JEPA* as a key outlet for “use-inspired” basic research in the psychological sciences.

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