How Do We Know Truth? Extensions and Examples From Similar Academic Fields

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> "What is truth? said jesting Pilate, and would not stay for an answer"
> —Francis Bacon (1601/1942, p. 3)

In their focal article, Kepes and McDaniel (2013) provide recommendations to improve the trustworthiness and accuracy of scientific literature in industrial–organizational (I–O) psychology. These recommendations include frequent examples from the medical field and suggest that I–O psychology should emulate these methods. However, funding, political, and cultural norms are significantly different between these fields. For example, external grants that supplement medical funding focus on how the research can be effectively put into practice (Briner & Rousseau, 2011). This commentary extends the focal article's

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recommendations by providing potential first steps in an incremental change process toward the ideas discussed by Kepes and McDaniel. We emphasize research designs that can improve causal knowledge and expand two recommendations from the focal article: creating research registries and replicating studies. In doing so, we aim to make suggestions that are more applicable by only providing examples and implementation ideas from other psychology and organizational science disciplines.

What Is Truth?

In order for research in I–O psychology to be considered trustworthy, it must be focused on finding truth. Unlike medicine, studies in the social sciences rarely address the same questions with the same research methods and measures (Tranfield, Denyer, & Smart, 2003, p. 212). Although we agree with previous authors in this publication that systematic reviews are not a panacea (e.g. Burke, 2011), we believe it is a step in the right direction. Specifically, we suggest that scholars utilize research designs that focus on cause-and-effect relationships. Systematic reviews will improve trustworthiness by providing meta-analytic results from these more focused questions with similar research designs (Rousseau & McCarthy, 2007).

Staying for an Answer (Research Databases and Replication)

Improving causal knowledge is an excellent beginning, but developing widely used research databases and influential avenues for research replication are also necessary to improve the trustworthiness of the scientific literature. To move in this direction, we provide examples of research databases and research replication efforts already underway in psychology and the organizational sciences that I–O psychology can emulate or utilize.

The focal article suggests mandating that all scholars register their research before collecting and analyzing data. The establishment of such a registry will require considerable changes to our culture and may take years to develop. Therefore, we emphasize an initial phase of creating a voluntary database. One example of this practice is the Society for the Study of School Psychology, which maintains a searchable database of funded research for specific research questions (Society for the Study of School Psychology, 2013). A second example is the RePEc IDEAs database (Research Papers in Economics, 2013), which provides access to over 1.3 million published and unpublished articles, working papers, chapters, books, and computer software. The Research Division of the Federal Reserve Bank of St. Louis hosts the database, and links are provided to either publisher websites or the author's own webpage. Authors benefit from this voluntary effort because it generates extra citation counts of their work. A similar database for I–O research is a good first step toward a mandatory research registry.

Concerning replication of previous research, we too are concerned that this practice infrequently occurs in both psychology (Makel, Plucker, & Hegarty, 2012) and the organizational sciences (Evanschitzky, Baumgarth, Hubbard, & Armstrong, 2007; Hubbard & Vetter, 1996). However, there are some promising aspects for the future. The *International Journal of Research in Marketing* provides a brief section for replication of previous studies, requesting that authors limit submissions to approximately two pages with additional material available online (Goldenberg & Muller, 2013). In economics, the four *American Economic Journals* have a data availability policy stating ''authors are expected to send their data, programs, and sufficient details to permit replication'' (American Economic Association, 2013). In psychology, *Applied Psychology: An International Review* provides space for replication of studies as long as they are carried out in a new cultural context (International Association of Applied Psychology, 2013). Perhaps

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the most encouraging example was the announcement on March 5, 2013 that *Perspectives on Psychological Science* will begin publishing peer-reviewed replication studies (Association for Psychological Science, 2013). Therefore, one initial action is that I–O psychology programs require PhD students to perform a replication study, emulating several exemplary psychology programs. The field will gain more trustworthy knowledge if this effort is coupled with the leading I–O journals providing space for replication studies and creating more stringent data availability policies.

Not in Jest

This commentary has provided first steps toward improved trustworthiness in I–O psychology literature. We emphasized that the field should build upon existing practices in similar academic fields, making incremental changes toward the focal article's ambitious goals.

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