

Advancing rigor and relevance: A framework for replication and reproducibility

Tine Köhler, *The University of Melbourne*, Australia

Summary of Talk (60 min, including presentation and question time)

Replication in science has received a great deal of attention over the years. The organizational sciences, though, have seen a particularly strong increase in the discussion of replication over the last few years. At the same time, there remains skepticism about the existence of a replication crisis. Carpenter (2012), Pashler and Harris (2012), and others describe some of the objections to claims of a crisis, claims that we have heard voiced in various panel discussions on the topic. The claims of skeptics fall into three categories. First, replication is quite common, so there is no pressing need for more of it. Second, replication studies are generally quite flattering to previous results. Third, where results fail to replicate, the explanation is that the replication study differed from the original.

In our paper, we argue that much of the skepticism regarding the need for more replication stems from a lack of understanding of the different forms that replication can take, the prevalence (or lack thereof) of many of these forms, and the objectives that are met by the less common forms. The primary purpose of our paper is to develop a framework for understanding replication in all of its facets and how these facets map onto the various targets at which replication research can be aimed.

The current presentation will provide an overview of prior definitions of replication to derive one integrative definition and a distinction from reproducibility and generalizability. I will then describe two overarching dimensions along which both replication and reproducibility studies vary. Combining these dimensions, I describe some of the more common forms of replicability and reproducibility (as represented by specific combinations of the two underlying dimensions) and the methodological problems that they target. I then describe some of the less common forms of replicability and reproducibility and the (different) methodological problems that they target. Next, I dig deeper into one of the most important combinations, the independent constructive replication, in order to distinguish the more useful from the less useful types of constructive study. Audience members should leave the presentation with a well-founded understanding of the differences between replication and reproducibility and the different forms that both can take in different study designs