

Title: Workshop: Methodology of Replication Studies

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Abstract:

There is general agreement that replication studies are necessary in psychology as they are in other empirical studies. At the same time, however, there is considerable controversy about how replication studies should be selected, designed and conducted to separate wheat from chaff on the farmland of behavioral theories. In this one-day workshop, we address key issues involved when conceptualizing, planning and conducting replication studies in psychology:

- Which studies should be replicated?
- Should we aim at direct or conceptual replications?
- Factors affecting replication success and failure rates
- Testing replication hypotheses statistically
- Defining the to-be-detected effect size
- Sample size planning for replication studies
- Sequential tests for replication studies

Assignment:

Based on the literature (see the suggestions below, own extensions are encouraged!), each participant prepares a short (i.e., 10 minutes) thesis paper on one of the topics. This thesis paper is then discussed jointly with other participants during the workshop. We will contact registered participants prior to the workshop to clarify assignment of participants to thesis paper topics.

Credit: 1 workshop day

References:

- Anderson, S. F., & Maxwell, S. F. (2017). Addressing the “Replication Crisis”: Using Original Studies to Design Replication Studies with Appropriate Statistical Power. *Multivariate Behavioral Research*, 52(3), 305-324, DOI: 10.1080/00273171.2017.1289361
- Erdfelder, E., & Ulrich, R. (2018). Zur Methodologie von Replikationsstudien. *Psychologische Rundschau*, 69(1), 3-21. <https://doi.org/10.1026/0033-3042/a000387>
- Kunert, R. (2016). Internal conceptual replications do not increase independent replication success. *Psychonomic Bulletin & Review*, 23(5), 1631-1638. doi:10.3758/s13423-016-1030-9.
- Lewandowsky, S., & Oberauer, K. Low replicability can support robust and efficient science. *Nature Communications*, 11, 358 (2020). <https://doi.org/10.1038/s41467-019-14203-0>

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- Open Science Collaboration (2015). Estimating the reproducibility of Psychological Science. *Science*, 349. DOI: 10.1126/science.aac4716
- Ulrich, R., & Miller, J. (2020). Meta research: Questionable research practices may have little effect on replicability. *eLIFE*. Advance online publication. doi: 10.7554/eLife.58237
- Ulrich, R., Miller, J., & Erdfelder, E. (2018). Effect size estimation from t-statistics in the presence of publication bias: A brief review of existing approaches with some extensions. *Zeitschrift für Psychologie*, 226(1), 56-80. <https://doi.org/10.1027/2151-2604/a000319>