

Os textos são da exclusiva responsabilidade dos autores
All texts are of the exclusive responsibility of the authors

A FULLY TRANSPARENT PRE-REGISTERED REPLICATION STUDY OF PRECOGNITIVE DETECTION OF REINFORCEMENT USING AN EXPERT CONSENSUS DESIGN – A PRELIMINARY REPORT

Zoltan Kekecs^{1,2,3}, Balazs Aczel², Bence Palfi⁴, Barnabas Szaszi², Peter Szecsi², Mark Zrubka⁵,
Marton Kovacs², Bence E. Bakos², Denis Cousineau⁶, Patrizio Tressoldi⁷ & Massimo Grassi⁷

¹Hungarian Academy of Sciences; ²Institute of Psychology, ELTE; ³Department of Psychology, Lund University; ⁴School of Psychology, University of Sussex, Sackler Centre for Consciousness Science, University of Sussex; ⁵Department of Psychology, University of Amsterdam; ⁶École de psychologie, University of Ottawa; ⁷Dipartimento di Psicologia Generale, Università di Padova

Grant 122/16

Background: Growing evidence for a systematic positive bias in the published research reports is often interpreted as a 'confidence crisis' in psychological science. Studies testing controversial hypotheses suffer even more of the burden of the confidence crisis, because the lack of objective indicators to distinguish between reliable and unreliable results promotes risk-averse and the maintenance of the status quo.

Aims: This project aims to develop methodological tools that facilitate highly credible and rigorous research. Furthermore, we aim to conduct a multi-site, fully transparent replication of Bem's (2011) Experiment 1 using these credibility-enhancing methodologies. We also seek to disseminate our output in the scientific community via publications, talks, and seminars.

Method: The project will culminate in conducting a multi-site, fully transparent replication of Bem's (2011) Experiment 1. We have developed a study protocol for this replication effort via a Consensus Design Process. During this process more than twenty experts on the field (both proponents and opponents of the original hypothesis) contributed to finalizing the protocol. The protocol includes a comprehensive toolkit of safeguards against researcher biases and mistakes that are often thought of as the primary cause for the abundance of non-reproducible findings in psychology and biomedicine. The safeguards include radical transparency about the whole research pipeline via Born Open Data, Direct Data Deposition, Real-time Research Reports, automation, trusted third party oversight, tamper evident seals on data and software, documented training, and lab logs.

Preliminary Results: We have conducted a pilot study involving two research sites and one hundred eighty-four participants. This pilot study demonstrated the feasibility of our approach, and the adequacy of the consensus-derived study protocol. During this pilot investigation we observed 49.49% successful guesses within 3308 trials (99.5% CI = 47%, 51.9%; posterior mode = 50.6%, posterior 90% HDI = 49.4%, 51.7%). It is important to note though that the aim of the pilot study was to assess the feasibility and acceptability of the study protocol and research materials, and not hypothesis testing, this dataset should not be used for hypothesis testing, since the research materials were not yet finalized. The registered report of the main replication study is currently under review. After in principle acceptance from the journal, we will carry out the research protocol involving 2,102 - 7,560 participants using a sequential analysis plan.

Conclusions: We are in the second (final) stage of our project execution. Seeing the favourable reviews of the registered report submission and we are now actively recruiting laboratories who are interested in joining the replication effort. Those interested in joining should fill out the application form at <http://tiny.cc/tpp-signup>, or contact the lead PI directly via zoltan.kekecs@psy.lu.se. For more details visit: <https://osf.io/jk2zf/>

Keywords: Transparency, Research credibility, Consensus methodology, Parapsychology

E-mail contact: zoltan.kekecs@psy.lu.se