

Replication of Study “Your Understanding Is My Understanding: Evidence for a Community of Knowledge” by Sloman & Rabb (2016, Psychological Science)

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10-13-2024

Introduction

Justification for Experiment Choice: I chose to replicate Sloman and Rabb’s study, “Your Understanding Is My Understanding: Evidence for a Community of Knowledge,” as it closely aligns with my research interests in media and information dissemination. The study investigates how ideas spread and gain acceptance within communities, which is particularly relevant to my work on the sociological factors contributing to the spread and acceptance of beliefs, especially in the context of criminology and mass psychological phenomena. Understanding the rapid adoption and belief of stories, particularly when propagated by demagogues, is crucial, as the dissemination of false information can be incredibly harmful. Replicating this experiment will provide valuable insights into the roots and persistence of misconceptions, which is essential for addressing the impact of misinformation in society.

Sloman and Rabb’s experiment involved assessing participants’ understanding of a specific topic through a series of knowledge-sharing tasks. Participants were presented with scenarios that required them to make predictions based on their understanding. In one condition, participants worked individually, while in another, they discussed their predictions in groups to simulate a community of knowledge.

To replicate this study, similar tasks that challenge participants to predict outcomes based on varying degrees of shared information. Participants will be drawn from a comparable population, ideally university students, to maintain consistency with the original study. A key challenge in replicating this study will be ensuring the tasks elicit comparable discussions and predictions among participants. Additionally, measuring participants’ understanding after feedback will require clear, unbiased assessment questions to avoid introducing confounding factors such as varying interpretations of the scenarios. Another challenge will be ensuring the experimental conditions effectively simulate the community of knowledge, as the group discussion dynamics may differ based on the new participant group’s characteristics and backgrounds.

Methods

Power Analysis

Original effect size, power analysis for samples to achieve 80%, 90%, 95% power to detect that effect size. Considerations of feasibility for selecting planned sample size.

Planned Sample

Planned sample size and/or termination rule, sampling frame, known demographics if any, preselection rules if any.

Materials

All materials - can quote directly from original article - just put the text in quotations and note that this was followed precisely. Or, quote directly and just point out exceptions to what was described in the original article.

Procedure

Can quote directly from original article - just put the text in quotations and note that this was followed precisely. Or, quote directly and just point out exceptions to what was described in the original article.

Analysis Plan

Can also quote directly, though it is less often spelled out effectively for an analysis strategy section. The key is to report an analysis strategy that is as close to the original - data cleaning rules, data exclusion rules, covariates, etc. - as possible.

Clarify key analysis of interest here You can also pre-specify additional analyses you plan to do.

Differences from Original Study

Explicitly describe known differences in sample, setting, procedure, and analysis plan from original study. The goal, of course, is to minimize those differences, but differences will inevitably occur. Also, note whether such differences are anticipated to make a difference based on claims in the original article or subsequent published research on the conditions for obtaining the effect.

Methods Addendum (Post Data Collection)

You can comment this section out prior to final report with data collection.

Actual Sample Sample size, demographics, data exclusions based on rules spelled out in analysis plan

Differences from pre-data collection methods plan Any differences from what was described as the original plan, or “none”.

Results

Data preparation

Data preparation following the analysis plan.

Confirmatory analysis

The analyses as specified in the analysis plan.

Side-by-side graph with original graph is ideal here

Exploratory analyses

Any follow-up analyses desired (not required).

Discussion

Summary of Replication Attempt

Open the discussion section with a paragraph summarizing the primary result from the confirmatory analysis and the assessment of whether it replicated, partially replicated, or failed to replicate the original result.

Commentary

Add open-ended commentary (if any) reflecting (a) insights from follow-up exploratory analysis, (b) assessment of the meaning of the replication (or not) - e.g., for a failure to replicate, are the differences between original and present study ones that definitely, plausibly, or are unlikely to have been moderators of the result, and (c) discussion of any objections or challenges raised by the current and original authors about the replication attempt. None of these need to be long.