Dears,

Thank you for the opportunity to read this manuscript. I hope my comments are useful for authors to improve their work.

The authors aimed to replicate and extend the studies of Kahneman and Tversky (1973), which demonstrate the representativeness heuristic. The role of heuristics in judgment and decision-making studies and the discussion about the importance of replications make this research very interesting. However, there are some points of the work that could be improved.

1) The first observation is in the Abstract. An important initial information for the reader is the replication classification. So instead of simply " we replicated Studies 1 to 7" it could be " we close replicated Studies 1 to 7".

2) There is an important conceptual issue to be addressed right at the beginning of the introduction. The representativeness heuristic is different from the availability heuristic, but the text can confuse the reader. I strongly suggest that the authors evaluate an improvement in the description of the representativeness heuristic A so as not to mix it with the availability heuristic.

3) The literature review focused on the methodological aspects and did not address the psychological processes involved. Unless I am mistaken, there is no mention, for example, of the dual model of cognitive processes. This also makes it difficult to understand the extent of the replications. For example, why do the authors expect statistical knowledge to be associated with the persistence of the representativeness heuristic? I suggest that the authors include more information about the theoretical bases that support their hypotheses. There is much literature on the psychological processes involved in cognitive bias. As a suggestion, I mention a few:

- Evans, J. St. B. T., & Stanovich, K. E. (2013). Dual-process theories of higher cognition: Advancing the debate. Perspectives on Psychological Science, 8(3), 223–241. https://doi.org/10.1177/1745691612460685

- Kahneman, D. (2011). Thinking fast and slow. New York: Farrar, Straus, and Giroux.

- Stanovich, K. E. (2018). Miserliness in human cognition: the interaction of detection, override and mindware. Thinking & Reasoning, 24(4), 423–444. https://doi.org/10.1080/13546783.2018.1459314

- Toplak, M. E., & Flora, D. B. (2021). Resistance to cognitive biases: longitudinal trajectories and associations with cognitive abilities and academic achievement across development. Journal of Behavioral Decision Making, 34(3), 344–358. https://doi.org/10.1002/bdm.2214

Some studies have also explored the relationship between cognitive biases and statistical or numerical knowledge. As a suggestion, I mention a few:

- Ghazal, S., Cokely, E. T., & Garcia-Retamero, R. (2014). Predicting biases in very highly educated samples: numeracy and metacognition. Judgment and Decision Making, 9(1), 15–34.

- Kakinohana, R. K., & Pilati, R. (2023) Differences in decisions affected by cognitive biases: Examining human values, need for cognition, and numeracy. Psicologia: Reflexão e Crítica, 36(1), 26. https://doi.org/10.1186/s41155-023-00265-z

- Reyna, V. F., & Brainerd, C. J. (2023). Numeracy, gist, literal thinking and the value of nothing in decision making. Nature Reviews Psychology, 2(7), 421–439. https://doi.org/10.1038/s44159-023-00188-7

- Šrol, J., & De Neys, W. (2021). Predicting individual differences in conflict detection and bias susceptibility during reasoning. Thinking & Reasoning, 27(1), 38–68. https://doi.org/10.1080/13546783.2019.1708793

4) On page 10, it is written: "Much of the literature has focused on the paradigm in Study 3, yet - as far as we know - with no comprehensive replication of all seven studies described in Kahneman and Tversky (1973) together looking at the effects systematically". Instead of just "as far as we know", a more structured search in research databases, such as APA PsycNet, Web of Science and PubMed, would give more robustness to this statement.

5) On Method, the authors aimed for a larger total sample of 890 participants due to possible exclusions of 10% based on their previous experience with the target sample. However, on page 49, on Outliers and exclusions, there is no mention of any exclusion criteria. I suggest the authors describe the exclusion criteria they expect, based on their previous experience.

6) The authors had difficulties with the power analyses and report sensitivity analysis on page 24. However, the authors did not report the expected effect size of all the studies (e.g., studies 1 and 2). Even if they could not calculate the effect sizes of the original studies, the sensitivity analysis of the replications is important information.

7) Also on page 24, the text mentions that the participant will be recruited on Prolific. However, unless I'm mistaken, the survey available on OSF also mentions Mturk and CloudResearch. Either the OSF material or the text should be adjusted.

8) The authors indicate that in case of not find support for the hypothesis for any of the studies, they would run a complementary Bayesian analysis. However, I did not

find more details about this Bayesian analysis in the Method. The simulated results also did not present these analyses.

9) Unless I'm mistaken, some images require permission to be reproduced.

This research is very interesting. I hope my comments are useful for authors to improve their work.

Regards,

Regis Kichei Kakinohana