Peer Review Report

Review Report on Religious conspiracy theories about the COVID-19 pandemic are associated with negative mental health

EVALUATION

> **Q 1** Please summarize the main findings of the study.

Using survey data from the Czech Republic, the study shows correlations between belief in religious conspiracy theories (hereafter: CTs) regarding COVID-19, religiosity/spirituality, negative religious coping strategies (as I read it, essentially belief in an "angry" God and hostile world), and impaired mental health.

> **Q 2** Please highlight the limitations and strengths.

This study is part of a fast-growing literature on conspiratorial belief broadly, and the role of these beliefs in the pandemic specifically. I have more detailed comments below, but my largest struggle in reading this paper was the large number of acronyms associated with the key variables (please define all of these clearly in the abstract and the introduction), and a lack of clarity as to what is on the left- and right-hand-sides of the model. If I were I writing this paper I would have a figure depicting the (theoretical) relationship between the four key variables: religious COVID conspiracy theories (i.e., the dependent variable), religiosity/spirituality, negative religious coping strategies, and mental health.

> **Q 3** Please provide your detailed review report to the authors. The editors prefer to receive your review structured in major and minor comments. Please consider in your review the methods (statistical methods valid and correctly applied (e.g. sample size, choice of test), is the study replicable based on the method description?), results, data interpretation and references. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

I have a number of ideas on how the study could be improved:

–Why dichotomize the constituent measures in RCOPE? This "throws away" variation in the scales. If I were I analyzing these data I would run a PCA of the original 7-point scales to reduce the data (i.e., use the PC1 score as the reduced measure of interest). Please apply this comment to the other scales used in the analysis.

–If the dependent variable is dichotomous, logit is fine, but for "RCT sum" I would use negative binomial (and if the dispersion term is not significant, then go ahead and use Poisson). As it is scaled, "RCT sum" is a count in the number of conspiratorial beliefs the respondent has. As such, I would model it as a count. This all said, I'll again reiterate the comment above that a better approach would be to use PC scores rather than dichotomized (or count) versions of scales.

–A table comparing the sample demographics to that of the population would be a useful addition to the paper (in an appendix would suffice).

–The analysis needs demographic controls, and those results need to be presented (in an appendix would suffice). The text states that the results were "adjusted for sex, age, economic activity and education level", but what does "adjusted" mean in their context?

–The most recent research (see my comments below at Q8) on this topic suggests that deeper psychological factors (i.e., religiosity/spirituality and mental health) are causally prior to belief in specific CTs. As such, I

would add mental health on the right-hand-side of the models presented in Table 2. One could also use a structural equations or two-step regression approach, whereby religiosity/spirituality and mental health predict negative religious coping (NRC), and then NRC predicts belief in the specific CTs.

-A better study would have included attention checks in the online survey. See Berinksy et al. (2021) for emerging best practices:

Berinsky, A.J., Margolis, M.F., Sances, M.W., & Warshaw, C. (2021). Using screeners to measure respondent attention on self-administered surveys: Which items and how many? Political Science Research and Methods, 9, 430-437.

Failing this, I would include duration of survey (i.e., time to complete) as a random factor in all models.

-The paper needs an appendix with all of the survey questions uses in the analysis. I could not easily replicate the study without the question wordings.

-If the results could be presented visually instead of (or in addition to) tabular form that would be ideal. For example, one could present predicted probabilities from the logits.

PLEASE COMMENT

Q 4   Is the title appropriate, concise, attractive?

Yes.

Q 5   Are the keywords appropriate?

Yes.

Q 6   Is the English language of sufficient quality?

Yes.

Q 7   Is the quality of the figures and tables satisfactory?

Yes.

Q 8   Does the reference list cover the relevant literature adequately and in an unbiased manner?)

Not to the extent that it could, which is not easy because this is a very quickly evolving area of inquiry. The decade leading up to COVID saw renewed interest in studies on conspiracy theories (particularly in psychology and political science). With the onset of COVID this interest has only increased, to the point where it can be hard to keep up with the myriad studies being produces on the topic. Here are a few suggestions:

Hofstadter, R (November 1964). "The Paranoid Style in American Politics". Harper's Magazine: 77-86.

Uscinski, J, et al. 2016 "What Drives Conspiratorial Beliefs? The Role of Informational Cues and Predispositions." Political Research Quarterly 69: 57-71.

Oliver, JE & Wood, TJ Enchanted America: How Intuition and Reason Divide Our Politics. University of Chicago Press.

Klofstad, CA, et al. 2019 "What Drives People to Believe in Zika Conspiracy Theories?" Palgrave Communications 5: 1-8.

Enders, A, et al. 2020 "The Different Forms of COVID-19 Misinformation and Their Consequences. Harvard Kennedy School Misinformation Review 1: https://doi.org/10.37016/mr-2020-48.

Uscinski, JE, et al. 2020 "Why do People Believe in COVID-19 Conspiracy Theories?" Harvard Kennedy School Misinformation Review 1: doi.org/10.37016/mr-2020-015.

Enders, A.M. et al. (2021) The Relationship Between Social Media Use and Beliefs in Conspiracy Theories and Misinformation. Polit Behav. https://doi.org/10.1007/s11109-021-09734-6.

Enders, A. M. et al. (2021). Do Conspiracy Beliefs Form a Belief System? Examining the Structure and Organization of Conspiracy Beliefs. Journal of Social and Political Psychology, 9(1), 255-271. https://doi.org/10.5964/jspp.5649.

QUALITY ASSESSMENT

		Rating
Q 9	Originality	■ ■ ■ ☐ ☐
Q 10	Rigor	■ ■ ☐ ☐ ☐
Q 11	Significance to the field	■ ■ ■ ☐ ☐
Q 12	Interest to a general audience	■ ■ ■ ■ ☐
Q 13	Quality of the writing	■ ■ ☐ ☐ ☐
Q 14	Overall scientific quality of the study	■ ■ ■ ☐ ☐

REVISION LEVEL

Q 15	Please make a recommendation based on your comments:

Major revisions.