Conspiracy theory endorsement and evidence weighting. (#40589)

Author(s)

Stephanie Summersby (University of New South Wales) - s.summersby@unsw.edu.au

Kristy Martire (University of New South Wales) - k.martire@unsw.edu.au

1) Have any data been collected for this study already?

It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?

1) Do people who endorse any conspiracy theory weight evidence differently to those who do not endorse a conspiracy theory?

2) Do people who endorse any conspiracy theory weight evidence of high/low quality differently to those who do not endorse a conspiracy theory?

3) Describe the key dependent variable(s) specifying how they will be measured.

There are three dependent variables (persuasiveness):

1) How credible was the [insert role]? expert/eyewitness/practitioner/judge 0-100

2) How valuable was the [insert product]? Testimony/opinion/evidence etc 0-100

3) How much weight do you give to the [insert product]? 0-100

Some studies included only DV #3, but most included DV 1-3.

4) How many and which conditions will participants be assigned to?

This study is based on a secondary analysis of data collected in 7 separate studies.

Definitions of high and low quality evidence for each study are as described below.

Study 1: High – High on all ExPEx attributes + Attractiveness Absent; Low – Low on all ExPEx attributes + Attractiveness Absent.

Study 2: High – High on all ExPEx attributes + Attractiveness Absent; Low – Low on all ExPEx attributes + Attractiveness Absent.

Study 3: High – Explicit 'admissible' instruction; Low – Explicit 'inadmissible' instruction.

Study 4: High – 90% ability + Explicit 'admissible' instruction; Low – 50% ability + Explicit 'inadmissible' instruction

Study 5: High –detailed fingerprint evidence (high reliability discipline + detailed report condition); Low – detailed footwear evidence (lower reliability discipline + detailed report condition)

Study 6: High – N/A; Low – poor expert proficiency + prosecutor's fallacy + limitations to evidence samples

Study 7: High – DNA evidence analysed using a race-neutral DNA frequency database (with information about this database provided); Low – DNA evidence analysed using a race-based DNA frequency database (with no information about this database provided)

Conspiracy theory items were:

1. Vaccines are harmful, and this fact is covered up. [0 Not at all to 100 Definitely] - Taken from Jolley & Douglas, 2014.

2. The Earth is flat. [0 Not at all to 0 Definitely]

3. Global warming is a hoax. [0 Not at all to 0 Definitely] - Taken from van der Linden, 2015.

Definition of a conspiracy 'endorser' v 'non-endorser' as follows:

Relevant r code:

```
Data <- Data %>%
  mutate(Endorsement =
      ifelse(Conspiracy1Vaccines >= 75, "2",
      ifelse(Conspiracy2FlatEarth >= 75, "2",
      ifelse(Conspiracy3GlobalWarming >= 75, "2",
      ifelse(Conspiracy1Vaccines < 75 & Conspiracy1Vaccines >= 50, "1",
      ifelse(Conspiracy2FlatEarth < 75 & Conspiracy2FlatEarth >= 50, "1",
      ifelse(Conspiracy3GlobalWarming < 75 & Conspiracy3GlobalWarming >= 50, "1", "0"
          )))))))
```

These categories were derived from the examination of another dataset not included in this analysis.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will conduct a multivariate multilevel regression using the lme4 and lmerTest packages in R to predict persuasiveness (credibility/value/weight) from the interaction between conspiracy endorsement and evidence quality, with random effects included for participants nested in each experiment.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

Exclusions have already been applied in the original studies to generate the sample sizes described below. Participants in conspiracy middle endorser category will be further excluded from analyses. Only 'endorsers' and 'non-endorsers' will be retained. There will be no treatment of outliers. All data from eligible participants will be analysed.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

The data has already been collected in the context of the original studies, so there are no choices to be made about the sample size. All participants in the relevant conditions who passed the exclusion criteria have been included for this secondary analysis.

The data and conditions for analysis are as follows:
Study 1: n = 55 High; n = 51 low; Total 106
Study 2: n = 59 High; n = 57 low; Total 116
Study 3: n = 26 High; n = 28 low; Total 54
Study 4: n = 48 High; n = 48 low; Total 96
Study 5: n = 69 High; n = 69 low; Total 138
Study 6: n = 0 High; n = 326 low; Total 326
Study 7: n = 20 High; n = 17 low, Total 37

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

This is an amendment to a previously pre-registered project (AsPredicted#38184). Modifications have been made to the conditions included from study 5, and the participant details have been updated for study 7 (as data collection has now concluded for this study). At the time of this update, we have still not run code on our data to classify participants as endorsers/non endorsers and have not undertaken any analysis.

This is a preregistration of a secondary data analysis.

A series of studies examining how evidence is weighed had been conducted by our laboratory group. We included conspiracy theory items because we were interested in whether endorsers might weight evidence differently to non-endorsers. This was not the primary research question for any of these studies. The responses to the conspiracy theory items has not been inspected or analysed at the time of pre-registration. The definitions of endorsers/non-endorsers were derived from another set of data, not included for analysis in this pre-registration. We have not yet run the code on these data to classify participants into endorser/non-endorser groups. Essentially, we have no information about how many endorsers we have in our sample, or how they weigh the evidence they were presented. That is why we believe it is appropriate to pre-register our analysis of these data.

Other authors on this project include Bethany Growns, Mariam Younan, Agnes Bali & Bronte Montgomery Farrer.