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Study 1 - neutral headlines (#18309)

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1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
What is the temporal locus of the correlation between cognitive reflection and the ability to discern fake news? That is, are more analytic individuals better at distinguishing between fake and real news even when forced to respond intuitively?
We will also investigate whether a key metacognitive effect replicates in the context of the fake/real news paradigm: Does confidence for initial (intuitive) responses positively predict answer change?
Finally, we ask whether forcing intuitive responses has a different impact on fake relative to real news.

3) Describe the key dependent variable(s) specifying how they will be measured.
Participants will be presented with politically neutral fake and real news headlines. They will be asked to indicate whether they believe the headline accurately describes a real event, what is their confidence in the correctness of their response, and (later) whether they have seen the specific headline prior to the study.
We will use the two response paradigm, in which participants will be presented with the same headline twice. First, they will be asked to give an initial, intuitive judgment (whether they think the headline describes a real event). To assure the intuitive nature of this initial response people will have to give this response under time pressure (7 sec, determined by a previous reading pre-test), and concurrent load (in a 4X4 matrix 5 dots will be presented, and participants will be asked to memorize the pattern). After the initial response, participants will be presented with the same headline again, and they will then provide a final response under no constraints.
At the end of the experiment, participants will be presented with the headlines again, and will be asked whether they have seen them prior to the experiment or not.
Individual differences in reflectivity will be measured the Cognitive Reflection Test (7 total items).
Participants' political / ideological views will also be collected.

4) How many and which conditions will participants be assigned to?
There will be two conditions. In one condition, people will be presented with the two response paradigm as described above. In the second condition, which we call "only-final-response" test, people will be presented with each headline only once, without any constraint.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
First, we will investigate whether the two response format changes the way that people normally respond. To address this, we will compare perceived accuracy averages of the only-final-response experiment to the final response on the two response experiment, both for real and for fake news. We will use mixed effect logistic regression models with accuracy rating (no/yes) as the DV and headline type (fake vs real) and condition (two response vs one response formats) as fixed factors (along with their interaction). We will also add items and subject IDs as random intercepts.

Next, we will conduct the key analysis of interest, which concerns the interaction of CRT score, headline type (real vs fake) and response number (initial vs final) on perceived accuracy in the two-response experiment. For this, we will use mixed effect logistic regression models accuracy rating (no/yes) as the DV, including random intercepts of Subject ID and items, and headline type, CRT score, response number (initial vs final) and their interactions as fixed effects.

Finally, to investigate whether confidence predicts answer change in the 2-response condition, we will first compute answer change by coding if individuals either gave the same response for both first and final answers (0), or changed their answer (1). In case we find a significant effect of answer change on initial confidence, we will further investigate how each individual direction of change category affects initial confidence level. We will compare four categories; trials on which people gave two inaccurate responses (00), people gave two accurate responses (11), people gave an initially inaccurate, but a final accurate response (01) and people gave an accurate initial and an inaccurate final response (10). In this analysis we will use mixed effect logistic regression models, with accounting for the random intercept if Subject ID and item content.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
In accordance with previous two-response paradigm experiments, we will exclude all trials in which participants didn't manage to correctly recognize the a priori presented dot matrix, or didn't manage to give an initial response within the deadline. However, this exclusion won't be applied to the very first analysis (the comparison of perceived accuracy rates of the two response paradigm – final response stage and the one response paradigm) to avoid selection effects.

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.

We will test 600 people on MTurk (~400 for the two response condition and 200 for the one-response condition). Any participants who complete the study above our quota will be retained.

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

We will also test whether political ideology (Republican, Democrat) is associated with perceived accuracy by including a continuous ideology measure as a factor (along with its interaction with news type; real or fake) in the full analysis mixed effect regression model analysis above (including the random effects of subjects and items).