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Caution Preprint Supplemental Study S1 (#42913)

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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?
We are interested in participants' credibility evaluation of preprints and peer-reviewed articles. Participants read short descriptions of five different research findings. Depending on the condition, participants are told that these findings were either originally published in peer-reviewed articles (peer-review-condition), in preprints (preprint-condition), or in preprints but participants receive additional information about preprints (preprint with additional information-condition).
We predict that participants' credibility ratings in the "peer-review condition" and in the "preprint-condition" will not differ significantly.
However, participants who received additional information about preprints (preprint with additional information-condition) will perceive the research findings as significantly less credible than the two other conditions.

3) Describe the key dependent variable(s) specifying how they will be measured.
We will measure the perceived credibility of research findings with one item for each description.

4) How many and which conditions will participants be assigned to?
Participants will be assigned to one of three conditions, as described in point 2). We employ a between-subject design.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Following our prior studies, we will calculate a mean credibility rating of all five credibility ratings. We will then compute a t-test for independent samples comparing the perceived mean credibility of research findings in the preprint-condition and the perceived mean credibility of research findings in the peer-review-condition, to test whether there is a significant difference. We expect no such difference. We will then conduct an equivalence test (Lakens, 2017; Lakens, Scheel, & Isager, 2018) to test whether the observed credibility difference between the preprint-condition and peer-review-condition is statistically equivalent to an interval only containing small effects ($|d| < .3$). We expect this to be the case.
We will then conduct two separate t-tests to compare mean credibility ratings in the "preprint with additional information-condition" with the "peer-review-condition" and the "preprint-condition". We expect credibility ratings in the "preprint with additional information-condition" to be significantly lower than in the two other conditions.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
Participants will receive a hidden attention check question: "If you read this, please choose "Strongly disagree".". We will exclude participants who fail to choose "Strongly disagree".

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 pay 900 MTurk users to take part in our study. If by chance, we collect more (as it can happen in online studies), we will analyze data from all participants.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
We collect age, gender, and prior knowledge of preprints and peer-review to describe our sample.

Mediation Analyses:
Participants will be asked to consider all five research findings jointly and to indicate whether these findings have been quality-controlled and whether these findings were published following the standard academic procedure (one item each).
We predict that participants' responses in the peer-review condition and participants' responses in the preprint condition will not significantly differ on these items.
However, participants in the "preprint with additional information-condition" will report a significantly lower agreement on both items, compared to the two other conditions.
Finally, we will run a parallel mediation model to test which of these two aspects (quality control vs. adherence to publication standards) mediates the effect of the "preprint with additional information-condition" on credibility. As the control group in these analyses, we will merge the "peer-review

condition" and "preprint-condition", in case that they indeed do not differ on perceived credibility, as outlined in point 2). Otherwise, we will run two separate models with each of these two groups as the control group, compared each time to the "preprint with additional information-condition".

Robustness check with mixed ANOVA:

As in our prior studies, we will create a mean credibility rating of all five credibility ratings of the individual studies. Yet, for each t-test mentioned at point 2), we will also run a mixed ANOVA with research finding as the within, and condition as the between factor, which does not rely on aggregating the different research findings. We expect the same effect of condition as outlined in point 2), an unspecific main effect of research finding (i.e., the different research findings differing on their level of credibility), and finally no significant interaction between condition and research finding.