

Replication of Jun et al. 2017
“Perceived social presence reduces fact-checking”
PNAS 114(23), 5976-5981.
<http://www.pnas.org/content/114/23/5976>

The original paper includes several studies. We randomly chose study 6. In this between-subject experiment, the authors (among other things) investigate whether the presence of others affect fact-checking of campaign statements of US politicians. Participants are randomized to one of three conditions: either they fact check alone or in small or large groups. We focus on the comparison between alone and large groups. Participants fact check more when alone compared to when in the presence of others.

Hypothesis to replicate and bet on: People flag more for false news when alone than in the presence of others. To evaluate this hypothesis, the authors perform an F -test ($F(1,284) = 7.07$, $p = 0.01$); p. 5979. We randomly picked “large” as the group size to compare against “alone.” As the replication only focuses on two of the three conditions, we replace the F -test result by an independent samples t -test, based on the means and standard deviations reported in the paper (assuming $n_1 = n_2 = 96$): $t(190) = 2.555$, $p = 0.011$.

Criteria for replication: The criteria for replication are an effect in the same direction as the original study and a p -value < 0.05 in a two-sided F -test.

Power analysis: The original sample was 192 in the two conditions that we focus on ($n = 96$ per condition). The standardized effect size (Cohen’s d) was $d = 0.369$. To have 90% power to detect 67% of the original effect size, a sample size of $n = 696$ is required.

Sample: As in the original study, we will restrict our HITs to US participants with a minimum HIT approval rate of 95%. Moreover, the original study excluded 7% of participants who have either failed the attention check or have reported that they used outside resources during the focal task. The replication experiment will implement the same exclusion criteria. Moreover, we will make sure that subjects only participate once in this study. We will also check all IP addresses via <https://www.ipqualityscore.com/>; and we will remove any participants where one or more of the following is true: fraud score ≥ 85 ; TOR = True; VPN = True; Bot = True; abuse velocity = high. The replication sample size is the sample size after any exclusions of participants.

Materials: We will use the same material as in the original study, kindly provided by the original authors.

Procedure: We will closely follow the procedure of the original experiment. We will only replicate the large group condition and the alone condition. The following summary of the experimental procedure is therefore largely based on the description of experiment 6 in the article (pp. 5978–5979).

Participants will first be shown a Captcha, and will thereafter provide informed consent. After this we will include an attention check that participants will need to pass to continue to the study. This attention check is in addition to any other potential attention check(s) used in the original study. Participants will read 50 campaign statements made by two US politicians (candidates A and B). These statements will be described as posts that the politicians have shared in a political forum before an election. Candidate A’s statements will reflect a more

conservative view, whereas candidate B's statements will reflect a more liberal one, but their political affiliations will not be explicitly mentioned. The presentation order of the candidates will be counterbalanced, and the 25 statements that each candidate made will be randomly ordered.

For each statement, the participants will be able to choose one of three options: TRUE, FALSE, FLAG. Participants will receive 1 point for every correct identification; lose 1 point for every incorrect identification; and lose 0.25 points for fact-checking with FLAG. By flagging, participants will learn the actual accuracy of the statement at the end of the study.

Participants will be told that if they score within the top 10% of survey participants, they will enter a lottery for a chance to win a \$100 Amazon gift card.

The number of people logged onto the forum during the evaluation task will vary. Participants will be randomized to either complete the evaluation task (choosing one of three options for each statement) while seeing their own name displayed by itself (alone) or alongside those of 102 others (group-large). After evaluating the statements, participants will be asked to report their own political affiliation (Republican, Democrat, Independent, or other) as well as how likely they think it was that the candidates would lie (1 = not at all; 7 = very much).

Finally, participants will be asked to fill out brief survey that includes an attention check ("Please select Very Much to show that you are paying attention") and a question regarding use of outside resources ("Did you look up some of the statements while playing the game?"). Participants who either fail the attention check or answer Yes to using outside resources will be excluded from the analysis.

Analysis: The analysis will be performed as in the original paper. In particular, we will compare whether flagging rates differ between the large group condition and the alone condition using an *F*-test. We randomly picked "large" as the group size to compare against "alone."

Subject payments: We are standardizing payments across all replications so that studies have a certain show-up fee depending on the expected length of the study, with an hourly wage from the show-up fee of \$8 and a minimum payment of \$1 (for studies with incentive payment we use the same incentive payment as in the original study; and this payment is paid in addition to the show-up fee). If we have problems recruiting, we will increase the show-up fee.