Electronic Supplementary Materials

Brand, A., Scholl, A. & Meyerhoff, H.S. When Linguistic Uncertainty Spreads Across Pieces of Information: Remembering Facts on the News as Speculation. *Manuscript submitted to Journal of Experimental Psychology: Applied.*

1. Power Simulation for Experiment 1A

We conducted a power simulation to determine a sample size large enough to detect an interaction between the factors context and target headline. Based on data from a previous study (whose materials are similar to ours) two of the four group means of this study could be estimated (context: mixed and target headline: fact; context: mixed and target headline: speculation). We expected an increase in the relative frequency of remembering factual explanations as certain of ~.3 for in the equal context condition as compared to the mixed context condition. Furthermore, we expected a minor decrease in the relative frequency of remembering speculations as facts of ~.05 in the equal context condition as compared to the mixed context condition. Furthermore, we expected a random variation for participant of ~1.97 and a random variation for item of ~.34 (based on previous experiment using a cued recall task). With these predictions and 1000 simulations, we calculated a power of .87 for N=100 in each condition (i.e. N=400 in total).

2. Power Simulation for Experiment 1B

Again, we run a power simulation for proposed interaction between context and target headline: Based on data from a previous study (with similar materials and a similar recognition task), the group means could be estimated for factual (.44) and speculative target items (.22) in the mixed context condition. For (speculative and factual) explanations presented in an equal context (which serve as an experimental control), we assumed a mean confusion rate of 5 % and a random variation for participant of ~1.11 and for item of ~0.17 (estimated from previous study using a recognition task). Based on these assumptions and 1000 simulations, we calculated a power of .83 for N=400 participants.

3. Power Simulation for Experiment 2

We conducted a power simulation to estimate the necessary sample size to detect the effects of interest. Based on the results of Experiment 1B, the group means could be estimated for the fact only (.17) and mixed condition (.42). For the condition in which speculations were presented *first* (block-by-block presentation), we assumed a mean confusion rate (facts remembered to be speculations) of .3 and for the condition in which facts were presented first we assumed a mean confusion rate (facts remembered to be speculations) of .17. Further, we assumed a standard deviation for participant of ~1.08 and for item of ~0.12 (estimated from Experiment 1B). Based on these assumptions and 1000 simulations, we calculated a power of .83 for N=420 participants.

4. Power Simulation for Experiment 3

The power simulation for Experiment 3 was based on the following assumptions: Based on data from Experiment 1B and 2 (that used similar materials and a similar recognition task), the group means could be estimated for the facts only (amount speculative headlines 0/24: .17) and the balanced condition (amount speculative headlines: 12/24: .41). For the condition including mostly facts (amount speculative headlines: 6/24), we assumed a mean confusion rate of .29 and for the condition including mostly speculations (amount speculative headlines 18/24) a confusion rate of .53. Further, we assumed a standard deviation for participant of ~1.08 and for item of ~0.12. Based on these assumptions and 1000 simulations, we calculated a power of .83 for N=312 participants.