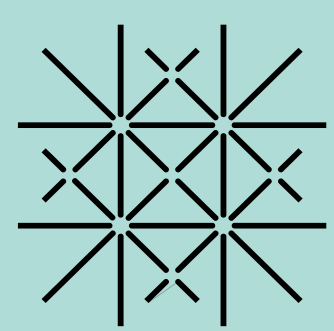


The Effect of (Un)certainty on Fake News Believability

The Role of Information Processing and Belief Congruency



University
of Basel

Faculty of
Business and Economics

Joëlle Nalbach

Master Thesis in Marketing and Strategic Management

Professor: Dr. C. Miguel Brendl

Assistant: Dr. Ozgun Atasoy



Which emotions between certainty and uncertainty is more likely to be persuaded by fake news?

Recent studies have shown how certainty emotions promote a heuristic information processing and uncertainty emotions use a systematic system. However, the role that (un)certainty has on persuasion is still unclear and previous works are incongruent with one another.

For this study, 400 US participants were randomized into four conditions, where they were induced to feel either certainty emotions (disgust or joy) or uncertainty emotions (fear or hope). Then, they were randomized into two conditions: the warning condition, where all the fake news were associated by a *Disputed by a 3rd Party Fact Checkers* tag, or the no-warning condition, where fake news were not accompanied by any warning. Participants were shown eight real and eight fake headlines concerning the 2020 US presidential elections, half of which were pro-democrat and half pro-republican. Then, they were asked to assess the accuracy of each headline. Results suggest that disgust induces a person to be more likely to believe fake news than hope, that the warning decreases the perceived accuracy of fake news only for subjects induced to feel uncertainty-associated emotions and that uncertainty emotions rely more on existing attitudes to evaluate news accuracy compared to certainty associated emotions.

Hypotheses (H1a vs H1b; H2a vs H2b)

H1a: *certainty-associated emotions lead to a greater perceived accuracy of misinformation compared to uncertainty-associated emotions*

- a certainty-associated emotion makes one more prone to believe in misinformation, because the felt internal accuracy is used in the judgment of the misleading information

H1b: *uncertainty-associated emotions lead to a greater believability in misinformation compared to uncertainty-associated emotions*

- when people feel uncertain, they think more deeply increasing people's engagement with that message and may promote persuasion

H2a: *certainty-associated emotions will increase reliance in present beliefs, in contrast to uncertainty-associated emotions*

- certainty-associated emotions may use attitude-congruency as a heuristic cue to determine the news accuracy.

H2b: *uncertainty-associated emotions will increase reliance in present beliefs, in opposition to uncertainty-associated emotions*

- individuals systematically process a message trying to evaluate the topics contained in the message by thinking about this information in relation to their pre-existing beliefs

- *Fake news:* H2a is rejected and H2b is partially confirmed, since the difference between politically concordant and discordant is not significant between the two certainty level of emotions, but subjects in the uncertainty condition reject the veracity of fake stories that conflict with their political ideology more than those in the certainty condition.

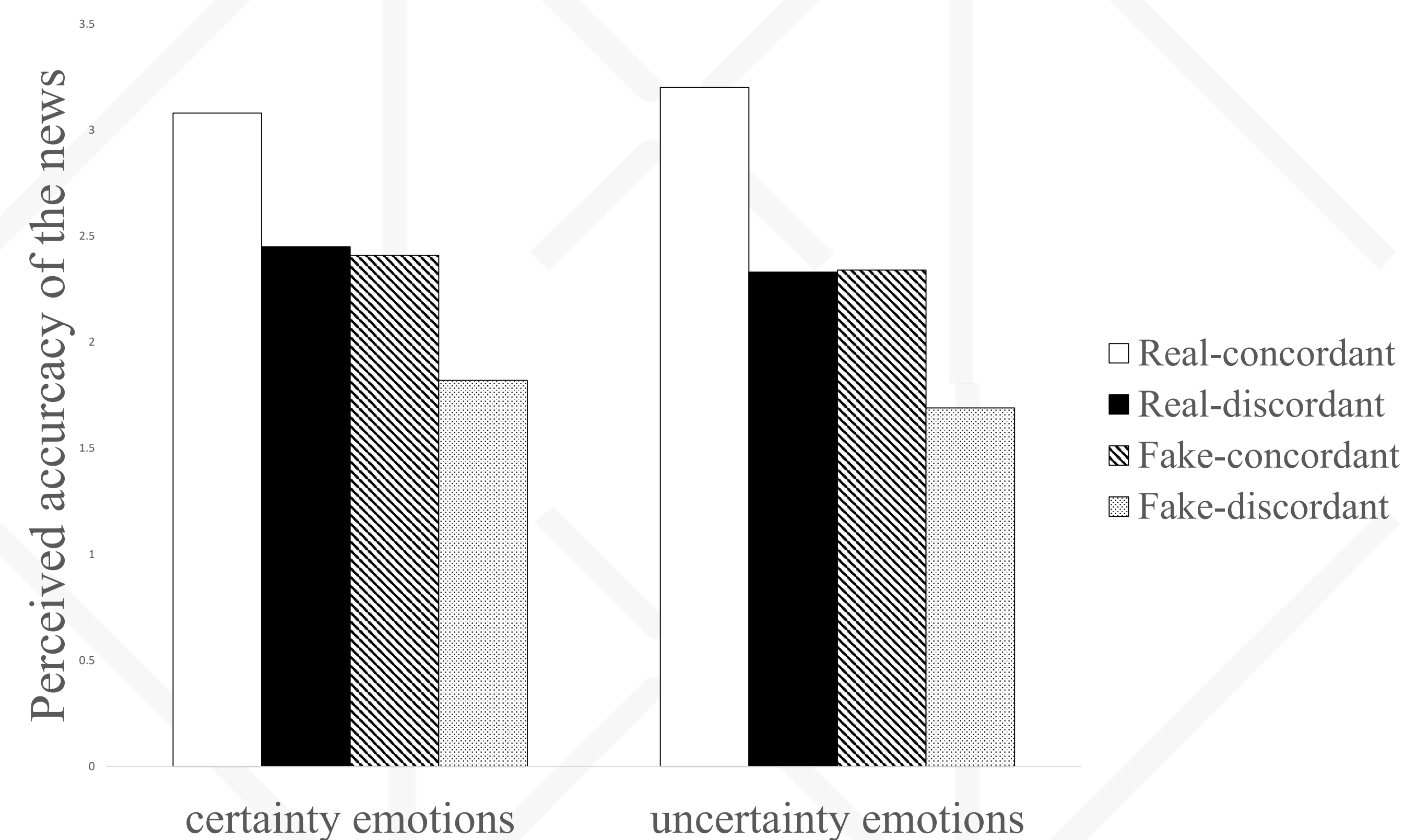


Table 1
Comparison of Certainty and Uncertainty Conditions for politically concordant and discordant items in the warning and no-warning conditions

Type and warning status	Fear	Hope	Disgust	Joy	t (df)	p
Politically concordant						
Real news	3.16 (.7)	3.23 (.6)	3.04 (.6)	3.11 (.6)	1.92 (363)	.066
No Warning	3.14 (.7)	3.23 (.5)	3.10 (.6)	3.10 (.6)	1.03 (179)	.305
Warning	3.19 (.6)	3.23 (.6)	2.97 (.7)	3.14 (.7)	1.66 (166)	.098
Fake news	2.43 (.8)	2.24 (.7)	2.43 (.7)	2.41 (.7)	1.16 (357)	.332
No Warning	2.53 (.8)	2.33 (.7)	2.50 (.6)	2.46 (.6)	.55 (168)	.580
Warning	2.34 (.8)	2.16 (.7)	2.36 (.7)	2.33 (.7)	.88 (175)	.381
Politically discordant						
Real news	2.29 (.7)	2.37 (.6)	2.47 (.6)	2.43 (.7)	1.78 (363)	.078
No Warning	2.32 (.7)	2.27 (.6)	2.41 (.7)	2.45 (.7)	1.38 (181)	.168
Warning	2.26 (.7)	2.48 (.6)	2.54 (.6)	2.41 (.6)	1.22 (175)	.223
Fake news	1.70 (.7)	1.68 (.6)	1.86 (.7)	1.78 (.7)	1.85 (363)	.075
No Warning	1.77 (.6)	1.80 (.7)	1.88 (.7)	1.79 (.7)	.41 (184)	.681
Warning	1.64 (.7)	1.56 (.6)	1.84 (.6)	1.77 (.7)	2.10 (170)	.038

Note. Data presented are means, with standard deviations in parentheses.

Results

Perceived accuracy of fake news

Perceived accuracy was entered into a 2 (certainty: certainty, uncertainty) x 2 (valence: positive, negative) x 2 (type: fake, real) x 2 (condition: warning, no-warning) mixed-design ANOVA.

- Participants in the disgust condition (M=2.17, SD=.65) perceived fake news as more accurate compared to participants in the hope condition (M=2.02, SD=.61), $t(201)=1.69$, $p=.093$ → H1a confirmed only for disgust and hope
- The warning decreased perceptions of accuracy of fake news for participants in the uncertainty condition (warning: M=1.98, SD=.65; no-warning: M=2.14, SD=.59), $F(1, 392)=3.37$, $p=.067$, but not for participants that were in the certainty condition (warning: M=2.08, SD=.66; no-warning: M=2.17, SD=.57), $F(1,392)=1.39$, $p=.240$.

Perceived accuracy of politically concordant and discordant news

2 (political valence: concordant, discordant) x 2 (certainty: certainty, uncertainty) x 2 (valence: positive, negative) x 2 (type: fake, real) x 2 (condition: warning, no-warning) mixed-design ANOVA (see Figure and Table).

- *Real news:* H2b is confirmed and H2a is rejected as uncertainty associated emotions assess the stories in a more political-aligned manner for both politically discordant and concordant items than certainty emotions.

References

- Pennycook, G., Cannon, T. D., & Rand, D. G. (2018). Prior exposure increases perceived accuracy of fake news. *Journal of Experimental Psychology: General*. <https://doi.org/10.1037/xge0000465>
- Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/0022-3514.81.6.973>
- Tormala, Z. L. (2016). The role of certainty (and uncertainty) in attitudes and persuasion. In *Current Opinion in Psychology*. <https://doi.org/10.1016/j.copsyc.2015.10.017>