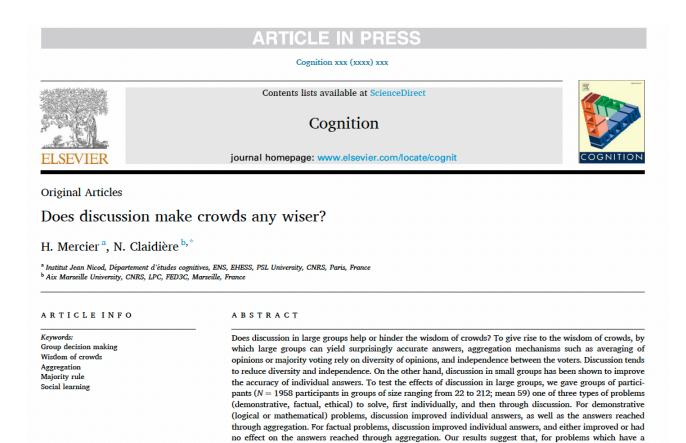# Being Easy to Communicate Might Make Verdicts Based on Confessions More Legitimate

Mercier, Hacquin & Claidiere

In many judicial systems, confessions are a requirement for criminal conviction. Even if confessions are intrinsically convincing, this might not entirely explain why they play such a paramount role. In addition, it has been suggested that confessions owe their importance to their legitimizing role, explaining why they could be required even
when other evidence has convinced a judge. But why would confessions be particularly suited to justify verdicts? One possibility is that they can be more easily transmitted from one individual to the next, and thus spread in the population without losing their convincingness. 360 English-speaking participants were asked to evaluate the convincingness of one of three justifications for a verdict, grounded either in a confession, eyewitnesses, or circumstantial evidence, and to pass on that justification to another participant, who performed the same task. Then, 240 English-speaking participants evaluated the convincingness of some of the justifications produced by the
first group of participants. Compared to the other justifications, justifications based on confessions lost less of their convincingness in the transmission process (small to medium effect sizes). Modeling pointed to the most common forms the justifications would take as they are transmitted, and results showed that the most common variant of the justification based on a confession was more convincing (small to medium effect sizes).

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ELSEVIER

COGNITION

Original Articles

Does discussion make crowds any wiser?

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ABSTRACT

Does discussion in large groups help or hinder the wisdom of crowds? To give rise to the wisdom of crowds, by which large groups can yield surprisingly accurate answers, aggregation mechanisms such as averaging of opinions or majority voting rely on diversity of opinions, and independence between the voters. Discussion tends to reduce diversity and independence. On the other hand, discussion in small groups has been shown to improve the accuracy of individual answers. To test the effects of discussion in large groups, we gave groups of participants ($N = 1958$ participants in groups of size ranging from 22 to 212; mean 59) one of three types of problems (demonstrative, factual, ethical) to solve, first individually, and then through discussion. For demonstrative (logical or mathematical) problems, discussion improved individual answers, as well as the answers reached through aggregation. For factual problems, discussion improved individual answers, and either improved or had no effect on the answers reached through aggregation. Our results suggest that, for problems which have a correct answer, discussion in large groups does not detract from the effects of the wisdom of crowds, and tends on the contrary to improve on it.

Dialogic Argumentation as a Vehicle for Developing Young Adolescents' Thinking

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Abstract

Argumentive reasoning skills are featured in the new K–12 Common Standards (Common Core State Standards Initiative, 2010), yet with little said about their nature or how to instill them. Distinguishing reasoning skills from writing skills, we report on a multiyear intervention that used electronically conducted dialogues on social issues as the medium to develop argumentive reasoning skills in two cohorts of young adolescents. Intervention groups demonstrated transfer of the dialogic activity to two individual essays on new topics; argument quality for these groups exceeded that of comparison groups who participated in an intervention involving the more face-valid activity of extensive essay writing practice, along with whole-class discussion. The intervention group also demonstrated greater awareness of the relevance of evidence to argument. The dialogic method thus appears to be a viable one for developing cognitive skills that the comparison-group data show do not routinely develop during this age period.

Who Is Susceptible to Online Health Misinformation? A Test of Four Psychosocial Hypotheses

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Objective: Health misinformation on social media threatens public health. One question that could lend insight into how and through whom misinformation spreads is whether certain people are susceptible to many types of health misinformation, regardless of the health topic at hand. This study provided an initial answer to this question and also tested four hypotheses concerning the psychosocial attributes of people who are susceptible to health misinformation: (1) deficits in knowledge or skill, (2) preexisting attitudes, (3) trust in health care and/or science, and (4) cognitive miserliness. *Method:* Participants in a national U.S. survey ($N = 923$) rated the perceived accuracy and influence of true and false social media posts about statin medications, cancer treatment, and the Human Papilloma Virus (HPV) vaccine and then responded to individual difference and demographic questions. *Results:* Perceived accuracy of health misinformation was strongly correlated across statins, cancer, and the HPV vaccine ($rs \geq .70$), indicating that individuals who are susceptible to misinformation about one of these topics are very likely to believe misinformation about the other topics as well. Misinformation susceptibility across all three topics was most strongly predicted by lower educational attainment and health literacy, distrust in the health care system, and positive attitudes toward alternative medicine. *Conclusions:* A person who is susceptible to online misinformation about one health topic may be susceptible to many types of health misinformation. Individuals who were more susceptible to health misinformation had less education and health literacy, less health care trust, and more positive attitudes toward alternative medicine.

Original Articles

Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning

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ARTICLE INFO

ABSTRACT

Why do people believe blatantly inaccurate news headlines ("fake news")? Do we use our reasoning abilities to convince ourselves that statements that align with our ideology are true, or does reasoning allow us to effectively differentiate fake from real regardless of political ideology? Here we test these competing accounts in two studies (total $N = 3446$ Mechanical Turk workers) by using the Cognitive Reflection Test (CRT) as a measure of the propensity to engage in analytical reasoning. We find that CRT performance is negatively correlated with the perceived accuracy of fake news, and positively correlated with the ability to discern fake news from real news – *even* for headlines that align with individuals' political ideology. Moreover, overall discernment was actually better for ideologically aligned headlines than for misaligned headlines. Finally, a headline-level analysis finds that CRT is negatively correlated with perceived accuracy of relatively implausible (primarily fake) headlines, and positively correlated with perceived accuracy of relatively plausible (primarily real) headlines. In contrast, the correlation between CRT and perceived accuracy is unrelated to how closely the headline aligns with the participant's ideology. Thus, we conclude that analytic thinking is used to assess the plausibility of headlines, regardless of whether the stories are consistent or inconsistent with one's political ideology. Our findings therefore suggest that susceptibility to fake news is driven more by lazy thinking than it is by partisan bias per se – a finding that opens potential avenues for fighting fake news.

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Framing Messages for Vaccination Supporters

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Efficiently communicating information on vaccination is crucial to maintaining a high level of immunization coverage, but it implies finding the right content for the right audience. Provaccination individuals, who represent the majority of the population, and who have been neglected in the literature, could play an important role relaying provaccination messages through informal discussions, if only these messages are (a) found plausible, (b) remembered, and (c) shared. We conducted 7 experiments on 2,761 provaccination online participants (United States and United Kingdom), testing whether the valence of a statement (positive or negative) and its rhetorical orientation (pro- or antivaccine) affected these 3 steps. Participants deemed more plausible, were more willing to transmit (and actually transmitted more), but did not remember positively framed statements better. Provaccination rhetorical orientation had little or no effect. Overall, the framing effects observed were dramatic: one framing made participants very eager to transmit a statement, while another made them reluctant to transmit it at all. The framing effects also influenced vaccination attitudes, with participants exposed to positively framed statements reporting more positive attitudes toward vaccination. Since messages have to be framed one way or the other, the framing effects demonstrated here should be considered when designing public health messages.

Public Significance Statement
Subtle changes in the way information about vaccination is presented can affect how people perceive it. Participants found more plausible, and were much more likely to share, positively framed statements about vaccination than negatively framed statements. These framing effects should be taken into account when designing public health messages.

COVID-19: Risk Perception, Risk Communication, and Behavioral Intentions

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Critical to limiting the spread of Coronavirus disease 2019 (COVID-19) and future pandemics is compliance with behavioral recommendations such as mask wearing and social distancing. Compliance may depend upon understanding the seriousness of the health consequences and the likelihood they will occur. However, the statistics that speak to these issues in an ongoing pandemic are complex and may be misunderstood. An online experiment with a U.S. sample tested the impact on perceived likelihood, trust, concern, behavioral intentions, and agreement with government response of numeric (mortality/infection percentage by age group) and gist expressions (which age group was smaller [mortality] or roughly equivalent [infected]). While the differences in risk perception and willingness to engage in activities between younger and older participants were small, "gist infection and mortality" increased willingness to wear a mask among younger participants. Government restrictions (e.g., social distancing) impacted willingness to engage is risk-reduction and risk-seeking activities. The biggest differences were due to political ideology. Although conservatives perceived similar levels of risk as did liberals, they were much less willing to engage in protective behaviors and support government policies. However, conservatives were affected by some risk communication formats and restrictions suggesting that future work should be aimed at this issue.

Public Significance Statement
Peoples' risk perception may be influenced by messaging that focuses on single outcomes (more elderly among deaths) intended to protect the most vulnerable. Younger people may think they are also less likely to become infected. However, messages including both mortality and infection statistics can overcome this bias. Results also suggest that although there are large differences due to political ideology, government restrictions encourage appropriate protective behavior across the political spectrum.

Effects of Associative Inference on Individuals' Susceptibility to Misinformation

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Associative inference is an adaptive process of memory that allows people to recombine associated information and make novel inferences. We report two online human-subject experiments investigating an associative inference version in which participants viewed overlapping real-news pairs (*AB&BC*) that could later be linked to support inferences of misinformation (*AC*). In each experiment, we examined participants' recognition and perceived accuracy of snippets of news articles presented as tweets across two phases. At Phase 1, only real-news tweets were presented, which were associated with political news of Phase 2 at three levels: real, fake, and fake with inference. In Experiment 2, participants' cognitive ability was also assessed. Participants recognized more but gave lower accuracy ratings for the fake news with inference than the fake news in both experiments. The effect of associative inference was more evident in the perceived accuracy ratings for participants of higher cognitive ability than those of lower cognitive ability. We conclude that associative inference can make people become susceptible to misinformation. We also discuss the results in terms of why associative inference made people susceptible to misinformation in the relatively automatic familiarity judgment (i.e., recognition) but not the relatively controlled and effortful semantic judgment (i.e., accuracy rating).

Public Significance Statement
The present study shows that associative inference, an adaptive cognitive mechanism, can make participants susceptible to misinformation in the recognition judgment. However, participants, especially those of higher cognitive ability, gave lower accuracy ratings for fake news with associative inference than that without associative inference, indicating less susceptibility to the semantic judgment.

BRIEF REPORT

Fake News, Fast and Slow: Deliberation Reduces Belief in False (but Not True) News Headlines

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What role does deliberation play in susceptibility to political misinformation and "fake news"? The Motivated System 2 Reasoning (MS2R) account posits that deliberation causes people to fall for fake news, because reasoning facilitates identity-protective cognition and is therefore used to rationalize content that is consistent with one's political ideology. The classical account of reasoning instead posits that people ineffectively discern between true and false news headlines when they *fail* to deliberate (and instead rely on intuition). To distinguish between these competing accounts, we investigated the causal effect of reasoning on media truth discernment using a 2-response paradigm. Participants ($N = 1,635$ Mechanical Turkers) were presented with a series of headlines. For each, they were first asked to give an initial, intuitive response under time pressure and concurrent working memory load. They were then given an opportunity to rethink their response with no constraints, thereby permitting more deliberation. We also compared these responses to a (deliberative) 1-response baseline condition where participants made a single choice with no constraints. Consistent with the classical account, we found that deliberation corrected intuitive mistakes: Participants believed false headlines (but not true headlines) more in initial responses than in either final responses or the unconstrained 1-response baseline. In contrast—and inconsistent with the Motivated System 2 Reasoning account—we found that political polarization was equivalent across responses. Our data suggest that, in the context of fake news, deliberation facilitates accurate belief formation and not partisan bias.

Correcting Statistical Misinformation About Scientific Findings in the Media: Causation Versus Correlation

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Although retractions significantly reduce the number of references people make to misinformation, retracted information nevertheless persists in memory, continuing to influence reasoning. One hundred and twenty-nine lay participants completed an adaptation on the traditional continued influence paradigm, which set out to identify whether it is possible to debunk a piece of common statistical misinformation: inappropriate causal inference based on a correlation. We hypothesized that participants in the correction condition would make fewer causal inferences (misinformation) and more correlational inferences (correction) than those in the no-correction condition. Additional secondary hypotheses were that the number of references made to the misinformation and correction would be moderated by the level of trust in science and scientists, and the amount of television that participants watch. Although the secondary hypotheses were not supported, the data strongly supported the primary hypotheses. This study provides evidence for the efficacy of corrections about misinformation where correlational evidence has been inappropriately reported as causal.

Public Significance Statement
A high exposure to statistical misinformation coupled with low levels of statistical literacy leaves the public vulnerable to misleading claims about scientific findings in the media. This study showed that it is possible to successfully debunk misinformation where correlational evidence has been inappropriately reported as causal using corrective messaging. These findings encourage the use of corrective messaging in the media to limit the spread of scientific misinformation and its consequences.