

Research Paper

WHICH CORRECTIONS WORK?

Research results and practice recommendations

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Executive summary

Social science research has found that misinformation about politics and other controversial issues is often very difficult to correct. However, all corrections are not necessarily equal—some approaches to presenting corrective information may be more persuasive than others. In this report, we summarize new research in the field and present recommendations for journalists, educators, and civil society groups who hope to counter the influence of false or misleading claims.

The key challenge in countering misperceptions is to understand the psychology of belief—why people might believe something that is not true and reject or ignore corrective information contradicting that belief. If people are sufficiently motivated to believe in a claim, of course, it may be impossible to change their minds. In other cases, however, different approaches to presenting corrective information may be more effective. This report focuses on three areas in which corrections often fail to capitalize on what is known about how people process information: using non-credible or unpersuasive sources, failing to displace inaccurate causal understandings of an event or outcome; and trying to negate false claims rather than affirm correct ones.

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Sources

How people respond to corrective information may depend in part on where that information comes from. Statements are more persuasive when they come from sources that are perceived as knowledgeable, trustworthy, or highly credible. By contrast, people may disregard speakers or news outlets that do not share their beliefs or values or who are perceived to have incentives to misreport their true beliefs. Our experimental results suggest that corrective information is most persuasive when the news outlet and expert are not perceived as being ideologically aligned with the content of the correction.

Myths about causes

From false claims that 9/11 was an inside job to debunked claims linking autism to the MMR vaccine, myths about the causes of events and real-world phenomena seem especially common. As humans, we instinctively attempt to explain the events and outcomes we observe. When these inferences are mistaken, they can be very difficult to correct. Even when people are told that a causal account is false, they may still unwittingly rely on it in attempting to explain the event or outcome in question. The problem is that simply telling people that a claim is false is often not enough. As we show in a survey experiment, it is more effective to displace the false explanation by providing an alternative causal account.

Processing corrections

Attempts to correct false claims can backfire depending on their phrasing. Studies suggest that repeating a false claim with a negation (e.g., “John is not a criminal”) can actually cause people to remember the core of the sentence (“John is a criminal”), reinforcing the association that the speaker intends to falsify. However, a survey experiment we conducted found no difference in respondent beliefs between a legislator who was described as being found “not guilty” or having been “exonerated.”

Recommendations

- Journalists should seek out experts who are speaking out against a misperception held by their ideological or partisan allies. Corrections by such sources should be more effective than ones from outlets and experts who may be seen as having ideological or partisan motives.
- When possible, reporters should not just state that a claim purporting to explain an event or outcome is false. They should instead offer an alternative causal explanation that will help readers understand why the event occurred and hopefully displace the previous, mistaken explanation.
- Stating a correction in the form of a negation may reinforce the misperception in question. Using language that affirms the correct fact is a safer approach.

Source effects on corrective information

Problem

How people evaluate the content of a message depends in part on its source. In particular, people may disregard speakers or news outlets that do not share their values or who are perceived to have incentives to misreport their true beliefs. For instance, liberals might distrust corrective information from a conservative-leaning source because they do not share the same values (and thus might weight or interpret the evidence differently) or because they perceive that source as being biased (and thus prone to misrepresenting the state of the evidence intentionally or unintentionally).

Theory

A vast literature in psychology and political science has shown that statements are more persuasive when they come from sources that are perceived as knowledgeable, trustworthy, or highly credible. Conversely, people are often reluctant to accept information from a source that is perceived as poorly informed, untrustworthy, or not sharing the same values.

As a result, we expect that responsiveness to corrective information will vary depending on its source. In particular, people may be more likely to accept a correction that comes from a source who is

perceived as sharing their ideological point of view than one who they perceive as biased or untrustworthy due to ideological differences.

These source effects may operate at two levels. Specifically, respondents may react to corrective information differently depending on the perceived ideological leanings of both the media outlet that published or aired the story and the source who is quoted or cited in the story. It is an open question how people respond to these competing sources. In particular, the effectiveness of corrective information at changing factual beliefs may depend on both the perceived ideology of the media outlet and the source that is quoted or cited in the story.

Study design

To examine how news outlet and source ideology affect the persuasiveness of corrective information, we conducted two experiments intended to correct prominent misperceptions from the 2012 presidential election. One experiment examined conservatives' response to a correction of the false belief that President Obama had raised taxes, which was likely to be most commonly held by conservatives.¹ The second experiment examined how liberals responded to information correcting the misleading claim that Mitt Romney had “shipped jobs overseas” while serving as CEO of Bain Capital.² These experiments

were conducted in October 2012 as part of a nationally representative survey of 1000 respondents conducted by the Internet survey firm YouGov.³

Each respondent was assigned to receive the correction that was most likely to contradict their pre-existing views for conservatives, that Obama did not raise taxes; for liberals, that Romney did not oversee any outsourcing of jobs overseas. However, we experimentally varied the news outlet that the story was attributed to (Fox News or MSNBC) as well as the think tank source cited in the story as refuting the misperception (the liberal Center for American Progress [CAP], the non-partisan RAND Corporation, or the conservative American Enterprise Institute [AEI]).

We looked at two key outcome measures respondents' self-report of their factual beliefs about the misperception in question and the post-experimental change in how warmly or coolly respondents feel toward the candidate compared to the beginning of the study. It is important to be clear that these experimental results do not test the effectiveness of corrective information, but instead how the news outlet and source of a correction changes its effects. Because the corrective information was identical across the conditions and respondents were randomly assigned into different conditions, the differences we observe in responses to the factual belief measure and the changes we observe in feelings toward

the candidate should be attributable to the effects of variation in news outlet and think tank source.

Results

For liberals, there were no significant differences across the different outlet and source combinations on both of our outcome variables—the correction of the claim that Romney “shipped jobs overseas” was no more persuasive to liberals when it came from a liberal-leaning outlet and think tank (MSNBC/CAP) than when it came from a news outlet and think tank that are seen as part of the conservative movement (Fox/AEI).

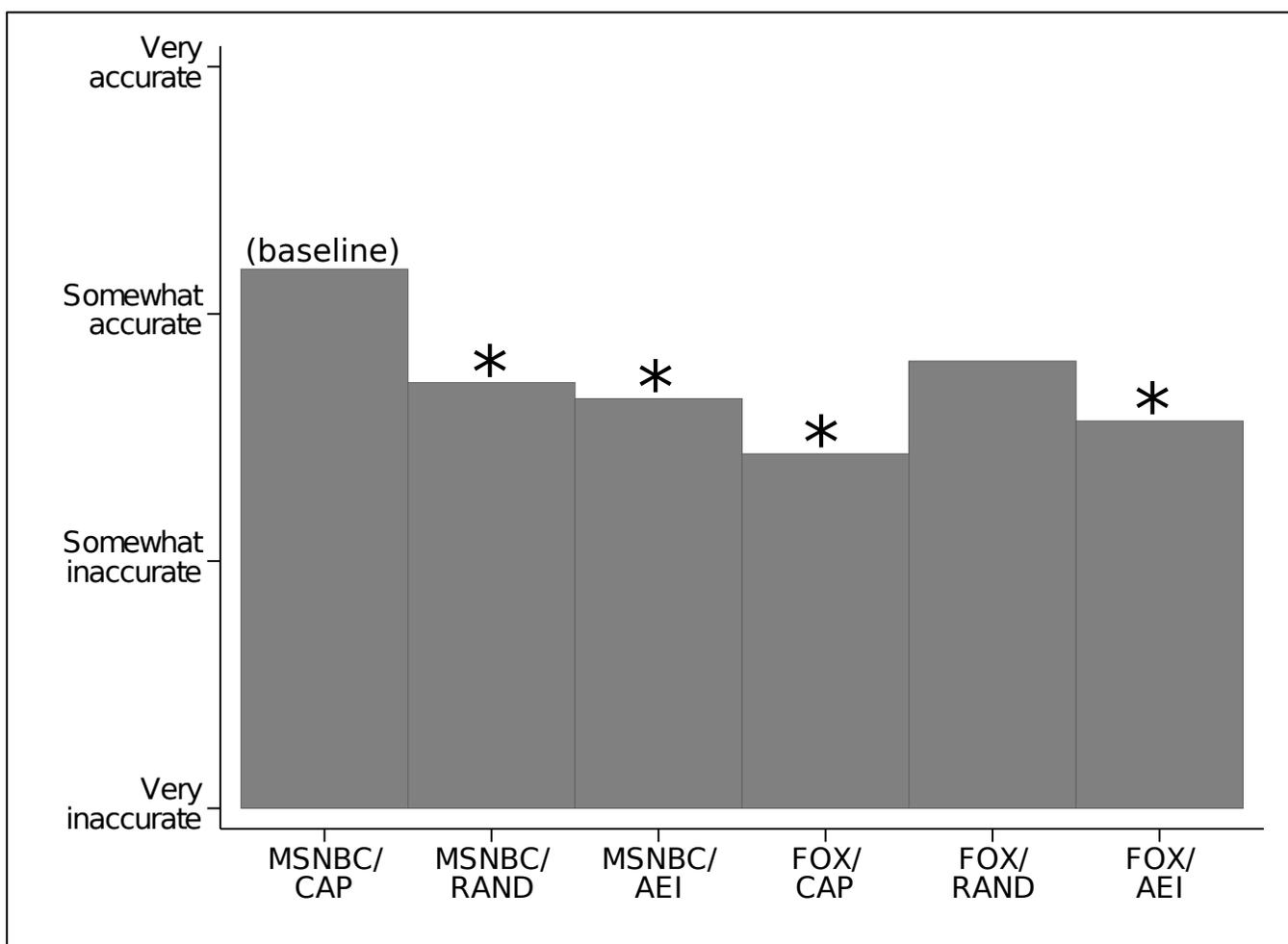
In comparison, there were significant differences in how conservatives responded to the correction depending on the news outlet to whom the article was attributed and the cited source of the information. Among conservatives, the combination of a liberal news outlet (MSNBC) and a liberal think tank (CAP) was significantly less persuasive than all other combinations of experts and sources. Figure 1 illustrates how conservatives varied in their responses to the question “In your opinion, how accurate is the claim that the Obama administration increased the taxes paid by most Americans in 2012?” on a scale from “very inaccurate” to “very accurate.”

Conservative respondents reported the highest levels of misinformation in the MSNBC/CAP condition. By comparison, misperceptions were significantly lower (at the $p < .05$ level, two-tailed) in four out of the five other conditions; the difference is significant at the $p < .1$ level (two-tailed) in the fifth condition (Fox/RAND).

The contrast between the response to the MSNBC/CAP treatment and the other five conditions raises an important question

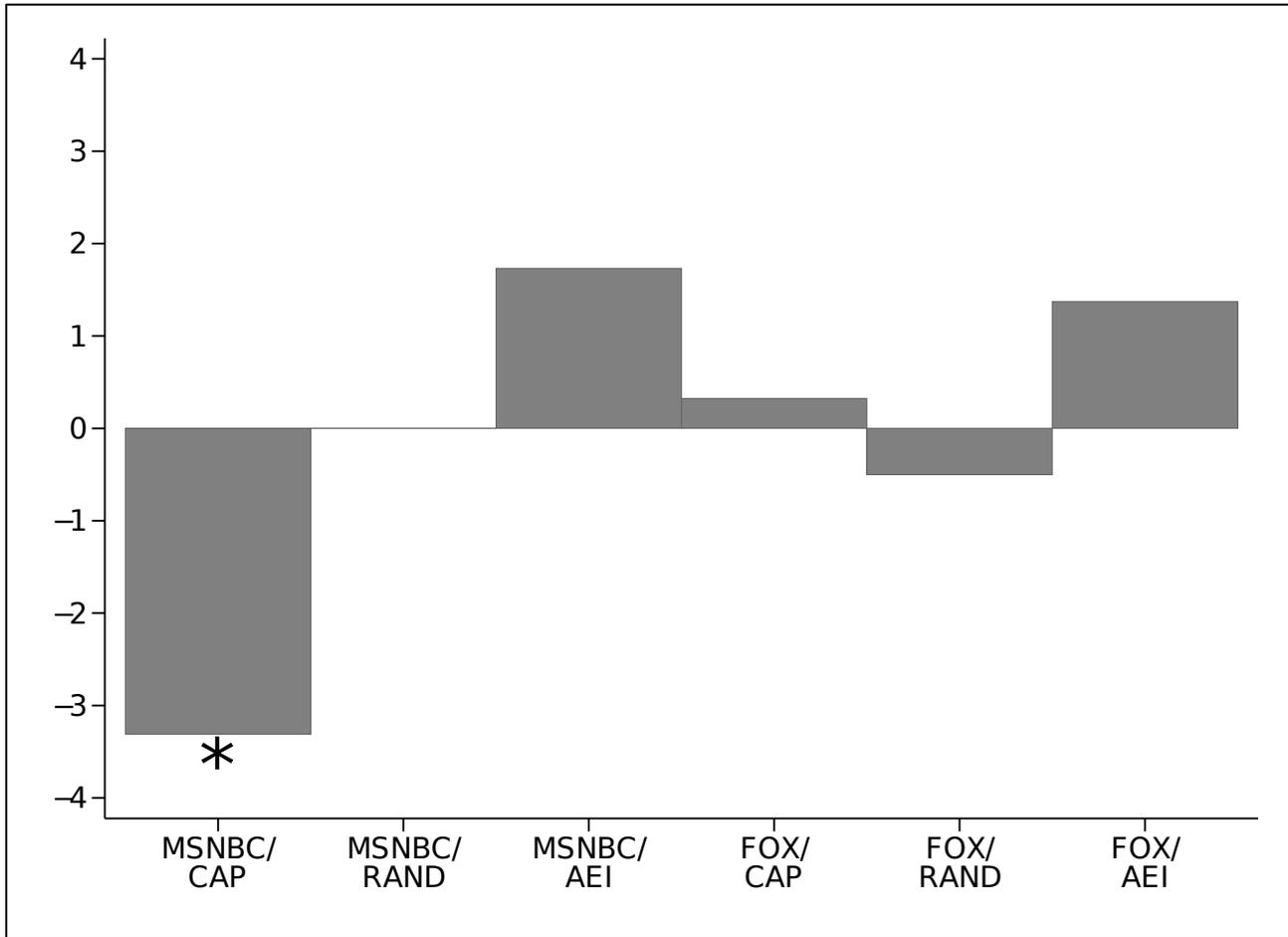
did the other five conditions *improve* factual knowledge or did the MSNBC/CAP treatment create a backfire effect similar to the one found in previous research? While our experimental design does not allow us to provide a direct answer to this question, our measure of changes in feelings toward Obama suggests that the MSNBC/CAP condition may have *worsened* performance on the factual question.

Figure 1: Accuracy of claim that Obama raised taxes



* indicates that the difference in perceived accuracy is statistically significant versus the MSNBC/CAP condition ($p < .05$, two-tailed). Sample: Self-identified conservatives.

Figure 2: Change in Obama feelings



* indicates that the difference in perceived accuracy is statistically significant versus the MSNBC/CAP condition ($p < .05$, two-tailed). Sample: Self-identified conservatives.

As we show in Figure 2, conservatives in the MSNBC/CAP condition actually reported significantly more *negative* feelings toward Obama after exposure to the correction than they did before seeing it a response that was not observed for any other source condition.

We interpret this result as reflecting as the combined lack of credibility of MSNBC and a liberal think tank to conservative respondents. When the article citing CAP was instead attributed to Fox News (or

when MSNBC cited AEI or RAND), conservative respondents reported significantly lower misperceptions and less negative feelings toward Obama.

Recommendations

Journalists and other civil society groups often seek to better inform the public as part of their missions. However, these efforts may be undermined by the identity of the group or source in question. In particular, members of the public may be less persuaded by corrective information

about controversial issues when it comes from sources that may be seen as ideologically aligned with the content of the correction. As such, it may be more effective to cite information from other outlets and sources. Of course, journalists cannot easily change the identity or perceived ideological leanings of their employers. However, they do have some ability to choose whom they quote or cite in reports that are intended to correct misperceptions. Our results suggest that journalists should avoid quoting experts who may be seen by the other side as speaking out on behalf of their ideological or partisan allies. By contrast, corrections that come from sources who will be seen as credible by those who hold the misperception are more likely to be effective.

Causal alternatives to misperceptions

Problem

People instinctively construct causal stories to explain what they observe. In the fast-paced world of political reporting, reporters and news consumers may come to believe in causal explanations that are later revealed to be untrue. Once these causal stories take root, they are often especially difficult to correct.

Theory

Research using fictional, non-political scenarios suggests that misinformation can be especially influential when it offers a causal explanation for what participants observe. Corrections that offer a causal alternative were found to be more effective than negations that do not contain information related to causation.⁴ An example from this previous research involves a fictional account of a warehouse fire. In the account, it is initially suggested that a fire was caused by the presence of volatile materials, but participants are later told that no such materials were present. The authors found that the inferential link between volatile materials and the fire could only be severed by offering a causal alternative (arson); without the causal alternative, subjects continued to refer to volatile materials in their explanations of the event despite having seen the correction.⁵

Study design

To analyze whether corrective information might be more effective when it includes a causal alternative that could displace a mistaken impression, we conducted a nationally representative survey experiment that was administered to 1000 respondents in October 2012 by the Internet survey firm YouGov. The experiment presented participants with a series of (fictional) news dispatches about an Alaska state senator

named Don Swensen who resigned from office unexpectedly.

To isolate the effects of a causal correction, we assigned respondents to one of four conditions:

1. A control group that was told Swensen had resigned, but did not receive innuendo or corrective information.

2. A group that received speculative innuendo that the Senator was resigning because he was implicated in a scandal. (“[R]umors are circulating that his resignation is linked to yesterday's indictment of Robert Landry, a local developer, for embezzlement and tax fraud. Landry is one of the largest campaign donors to Swensen...”)

3. Others received this innuendo followed by evidence that Swensen was not being charged or under investigation (he “provided a letter from prosecutors stating that he has not been charged with any crime and is not under investigation”).

4. A fourth group received the innuendo, evidence of Swensen’s innocence, *and* an alternative causal story the senator was actually resigning to take over the presidency of local university but could not immediately disclose that information (“He was hired as the incoming president of the University of Alaska Southeast ... but could not disclose that information until this afternoon”).

Table 1 illustrates the experimental design.

<u>Condition</u>	<u>Included elements</u>
Control	Resignation
Innuendo	Resignation Rumors
Denial	Resignation Rumors Denial
Causal	Resignation Rumors Denial Causal correction

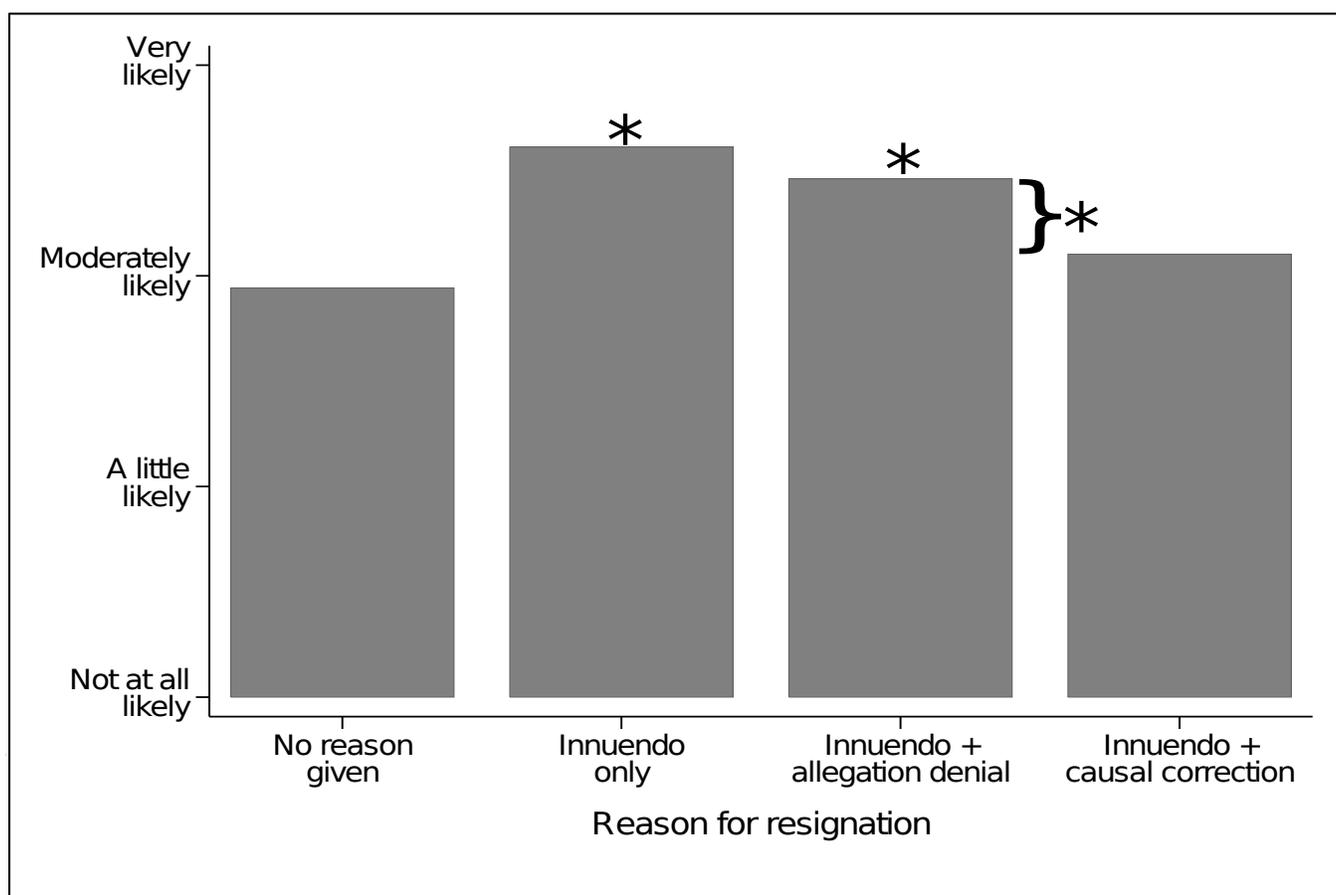
We compare these two groups on three outcome measures: their stated beliefs about how likely it is that Swensen accepted bribes or engaged in other corrupt practices, the likelihood that Swensen resigned due to an investigation into possible bribery (not asked of the control group), and how favorably they view Swensen. Because respondents were randomly assigned to one of the four groups, we can isolate whether a denial plus a causal correction has a significant additional effect on both outcome

measures compared with a denial alone.

Results

Our results indicate that a causal correction was more effective at countering innuendo than a denial alone. Even though the information provided by Swensen in the denial condition was strong (a letter attesting that he had not been charged with a crime and was not under investigation), respondents viewed Swensen less unfavorably and were less likely to believe he accepted bribes if they were given an

Figure 3: Swensen accepted bribes/corrupt



* on top of bars indicates that the difference in favorability is statistically significant versus the control condition, while the * next to the curly brace indicates that the difference between the denial and causal correction conditions is statistically significant (p<.05, two-tailed)

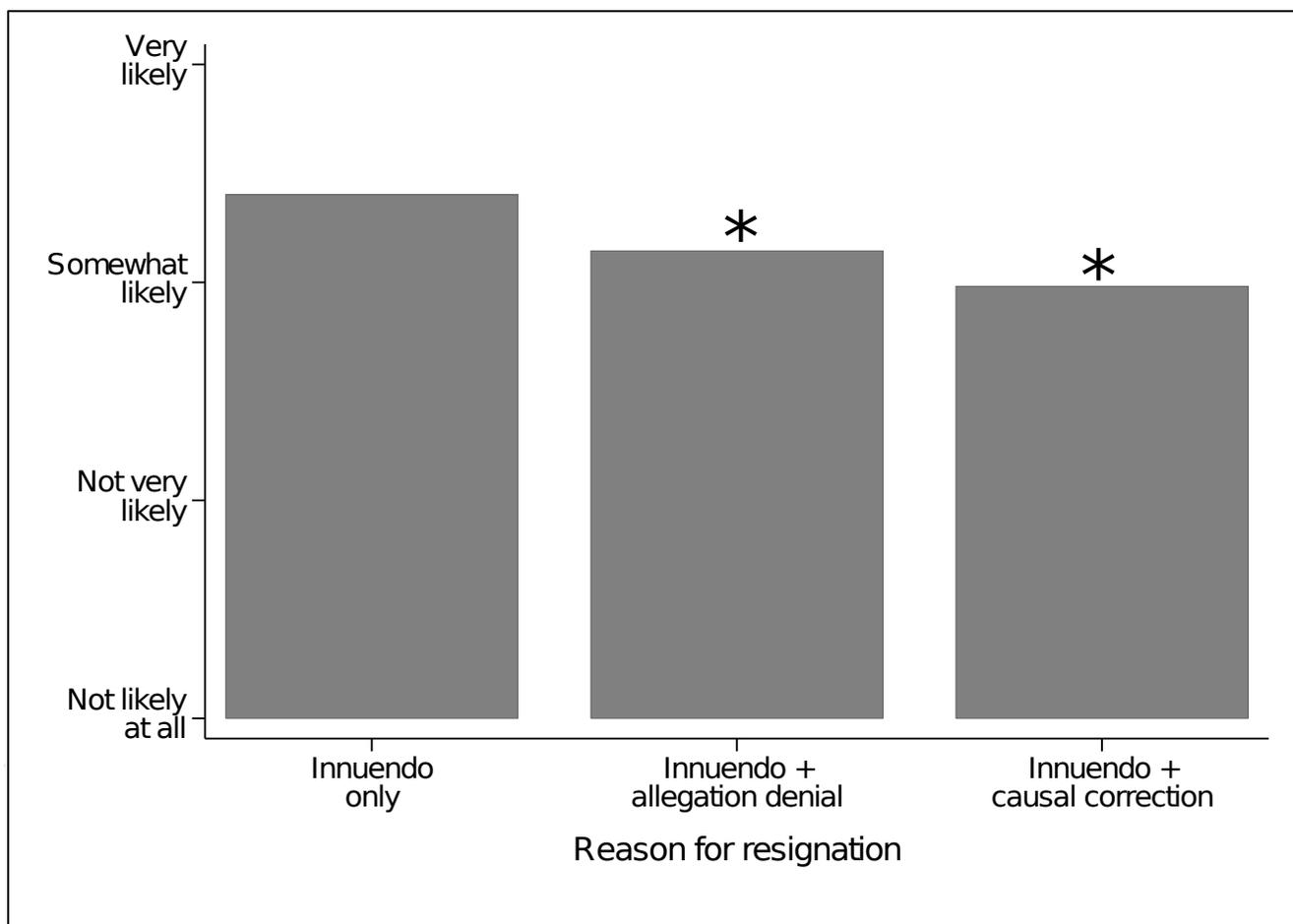
alternate causal explanation of his actions. Figure 3 presents the results of our experiment for respondents' beliefs that Swensen accepted bribes or engaged in other corrupt practices.

Relative to respondents in the control condition (who found it "moderately likely" that he had done so), the innuendo significantly increased the perceived likelihood that Swensen was corrupt. Disturbingly, this effect persisted in the denial condition; respondents who were

told of Swensen's denial were still significantly more likely than controls to believe in the corruption story. However, the causal correction undid this effect, significantly reducing the perceived likelihood of believing in Swensen's corruption relative to the denial condition and reducing the difference from the control condition to a statistically insignificant level.

Figure 4 reports the results of a question asking respondents specifically whether

Figure 4: Swensen under investigation



* indicates that the difference in perceived likelihood that Swensen resigned due to an investigation is statistically significant versus the innuendo condition ($p < .05$, two-tailed)

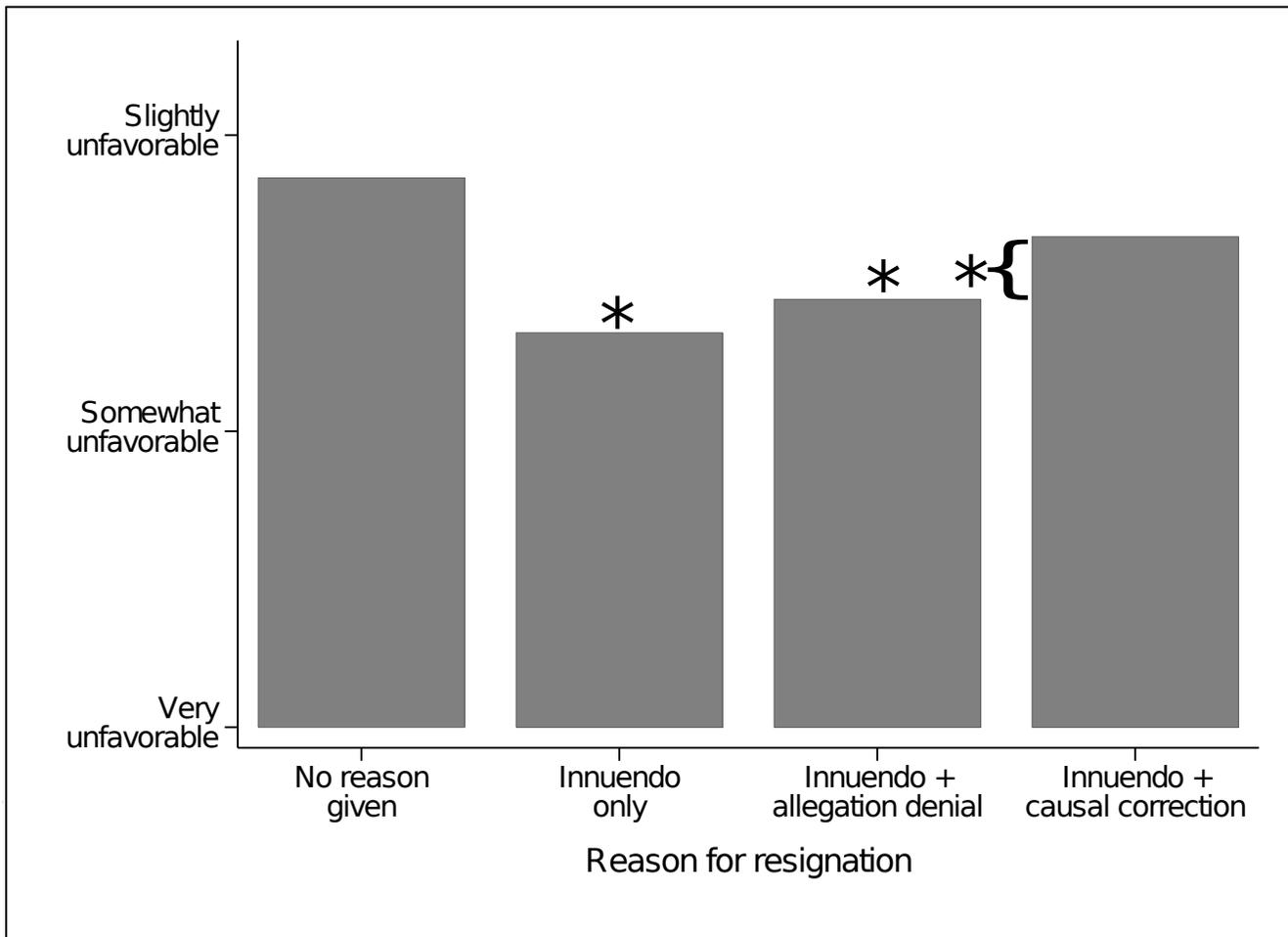
Swensen resigned because he is under investigation for bribery.

This question was not asked of respondents in the control condition, who had not been told of the innuendo. In this case, we found that the causal correction reduced the likelihood that respondents would believe that an investigation was the cause of Swensen’s resignation slightly more than the denial alone, though the

difference was not statistically significant.

Finally, Figure 5 presents how favorably respondents viewed Swensen in the four conditions. Consistent with Figure 3, we find that the innuendo significantly reduced how favorably respondents viewed Swensen even when they also were told of his denial. The causal correction was again more effective than a denial alone. Participants who received the causal

Figure 5: Swensen favorability



* on top of bars indicates that the difference in favorability is statistically significant versus the control condition, while the * next to the curly brace indicates that the difference between the denial and causal correction conditions is statistically significant ($p < .05$, two-tailed)

correction viewed Swensen more favorably than those in the denial condition. The difference in favorability between how they viewed Swensen and controls (who never received the innuendo) was also diminished to statistically insignificant levels in the causal correction condition, suggesting that the damage to perceptions of the legislator’s image was mitigated when respondents were given an alternative explanation for his actions than the one provided by the innuendo.

Recommendations

We find strong evidence that causal corrective information is more effective than even an evidence-based denial of misinformation purporting to explain an event or outcome. These results suggest that journalists should seek to avoid simple denials of false claims when possible; stating that a claim purporting to explain an event is unsupported or mistaken may fail to change minds. Instead, reporters should offer alternative causal explanations of why the event occurred that will hopefully displace the mistaken account.

Why the phrasing of corrections matters

Problem

Attempts to correct false claims may backfire depending on their phrasing. Studies suggest that repeating a false claim

with a negation (e.g., “John is not a criminal”) can actually cause people to remember the core of the sentence (“John is a criminal”).

Theory

In some cases, negations (i.e., “X is not Y”) may end up inadvertently reinforcing the claim that the negation is intended to debunk. A recent study found that negating descriptors that lack an opposite concept (e.g., “criminal”) can backfire.⁶ For example, saying that “John is not a criminal” may cause *greater* associations between the concept of John and criminality, reinforcing the association that the speaker intends to falsify. However, these lab studies examine formation of new or initial impressions and have not been studied in the context of corrections.

Study design

We apply this insight about phrasing to the context of political scandal. Specifically, we designed an experiment around the story of Joseph McDade, a former Congressman from Pennsylvania who was tried for bribery but ultimately acquitted by a jury. The experiment was administered by the Internet survey firm YouGov in spring 2013 to a nationally representative sample of 1000 respondents.

Respondents in the study were assigned to one of four experimental conditions. In the first condition, respondents only received a

summary of McDade’s biography. In the second condition, respondents received the biography as well as a news article about the upcoming trial and the bribery accusations against Rep. McDade. In the third condition, respondents received the biography, the trial article, and an additional article stating that the Congressman was found “not guilty” in the headline and main text. The fourth condition was nearly identical to the third except that the article on the trial’s outcome instead stated that the Congressman had been “exonerated.”⁷

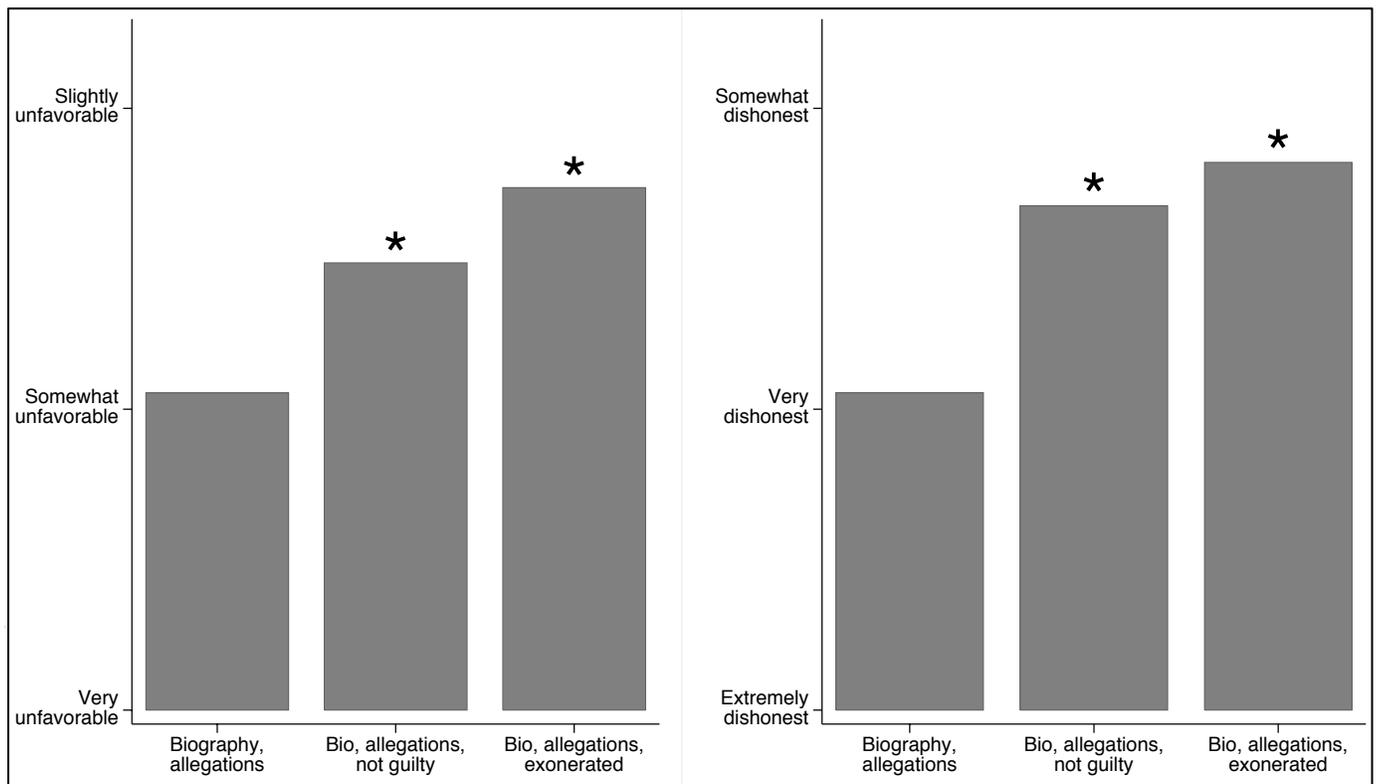
We examine several outcome measures.

The first outcome measure asks respondents about their feelings towards McDade. We also asked respondents how honest they perceive McDade to be, whether they think he took bribes, and (for those who received information about the outcome of the trial) whether or not McDade was found guilty.

Results

As expected, respondents who were exposed to information about allegations of bribery against McDade reported less positive feelings toward and beliefs about him than those in the biography-only

Figure 6: McDade favorability/honesty



* on top of bars indicates that the difference in favorability is statistically significant versus the allegation condition ($p < .05$, two-tailed)

condition. The phrasing of corrective information about the trial's outcome did not mitigate these effects—describing McDade as being “exonerated” instead of being found “not guilty” did not have a statistically significant effect on respondents' beliefs about or feelings toward McDade. As Figure 6 indicates, however, this finding does not mean that information about the trial outcome had no effect. Compared to respondents who were only told that McDade was being tried for bribery, those in the trial outcome conditions reported significantly warmer feelings toward McDade as well as significantly more positive evaluations of McDade's honesty (though less positive than respondents who had not heard about the allegations).

By contrast, information about the trial outcome did not make respondents significantly less likely to think McDade accepted bribes. Once people were told that McDade was on trial for bribery, being told of his subsequent acquittal did not change their belief in the allegations against him.

Recommendations

While our experiment did not find a significant difference between the specific wording of “not guilty” and “exonerated,” previous research suggests that corrections that are phrased as negations (“John is a criminal”) may reinforce the misperception

in question. Using affirmative language (“John was exonerated”) remains a safer approach.

¹ See, e.g., Brooks Jackson's May 17, 2012 article “A Bogus Tax Attack Against Obama” at Factcheck.org: <http://www.factcheck.org/2012/05/a-bogus-tax-attack-against-obama/>

² See, e.g., Robert Farley and Eugene Kiely's June 29, 2012.org article “Obama's ‘Outsourcer’ Overreach” at Factcheck.org: <http://www.factcheck.org/2012/06/obamas-outsourcer-overreach/>

³ The experiments reported in this paper were conducted as part of the multi-investigator Cooperative Campaign Analysis Project. YouGov constructs samples using a technique called sample matching, which selects and weights respondents from large opt-in Internet samples to approximate a random probability sample. For more on their survey methodology, see <http://psfaculty.ucdavis.edu/bsjjones/rivers.pdf>

⁴ Colleen M. Seifert. 2002. “The continued influence of misinformation in memory: What makes a correction effective?” *Psychology of Learning and Motivation: Advances in Research and Theory* 41: 265-292. <http://carlo-hamalainen.net/stuff/seifert2002.pdf>

⁵ Hollyn M. Johnson and Colleen M. Seifert. 1994. “Sources of the continued influence effect: When misinformation in memory affects later inferences.” *Journal of Experimental Psychology: Learning, Memory, and Cognition* 20(6): 1420-1436.

⁶ Ruth Mayo, Yaacov Schul, and Eugene Burnstein. 2004. “‘I am not guilty’ vs ‘I am innocent’: Successful negation may depend on the schema used for its encoding.” *Journal of Experimental Social Psychology* 40(4): 433-449.

⁷ There were actually two versions of the “not guilty” and “exonerated” corrections conditions. A random subset of subjects in each condition were put under cognitive load by asking them to memorize an eight-digit number. This procedure had no discernable effects so we combine all responses to each correction in the results.



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