

Correcting the Record: A Survey of Recent Journalistic Corrections Research

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Introduction

Research plays an important role in the News Co/Lab’s new initiative on journalistic corrections. Part of our process for developing a tool to improve corrections on social media is reviewing the research to discover what is known about correcting information online, and building on this body of knowledge through our own research.

In a comparative survey of recent literature, we reviewed more than 50 articles and included 20 in this analysis to help answer some pressing questions about how we might increase the effectiveness and impact of assessing journalistic corrections. We had two main goals in scanning recent research: 1) to find out what research exists specifically on journalistic corrections and 2) to learn more about how people respond to encountering a correction. We conducted our initial search using keywords including “corrections,” “misinformation,” “fact-checking,” “debiasing,” and “factual misconception.” We focused on articles covering online corrections, since this is the focus of the News Co/Lab project. Further, we limited our review to articles that described material changes to information, as opposed to the low-impact corrections that make up the bulk of news corrections.

Research focused on how and why corrections are issued by journalism organizations is fairly dated — we included research as much as 10 years old in this review to sufficiently cover findings specifically related to journalistic corrections. Corrections research is not as common in the digital age. This may be because, even though Silverman (2009) and others have advocated for standards for verification processes, the practices are more varied and can be difficult to

track in an online environment (Maier, 2009). Instead, the bulk of recent research is in the areas of misinformation and fact-checking.

Academic studies across disciplines, including the fields of journalism, communication, political science, and psychology have uncovered similar results when it comes to the efficacy of correcting misinformation. Namely, it is difficult to do.

Researching news corrections

Hettinga (2011) explored best practices for making journalistic corrections online. The main recommendation was that corrections in digital media should be appended in the original article where the error occurred (instead of the traditional way of listing all corrections in one section). The author notes the *New York Times* does both: attaching corrections to the original story and listing the previous week's corrections in a central location (Hettinga, 2011). While the *New York Times* puts the correction on the bottom of the story page, many online newspapers like *The Milwaukee Journal Sentinel* list it at the top of the original story (Hettinga, 2011). Placement at the top of the story could increase credibility (Hettinga & Appelman, 2018).

Hettinga (2011) also discusses the practice of “scrubbing” where online editors will simply change the content of a story after it was originally published, thereby scrubbing the error from the record. This is commonly considered an appropriate action for addressing typos and grammatical errors, but not for changing factual information. Digital media content editors vary widely on whether correcting information via scrubbing, without ever acknowledging the information was wrong, is an acceptable practice (Hettinga, 2011).

Hettinga, Appelman, Otmar, Posada, and Thompson (2015) conducted a content analysis of corrections of four major newspapers (the *New York Times*, the *Washington Post*, *The Wall*

Street Journal, and the *Los Angeles Times*). The authors found similarities in how corrections are handled across all four papers. However, the study did not talk much about digital corrections. Perhaps it is because there is no widespread standard of practice, but the literature related to online corrections is limited. Or, perhaps scrubbing hinders researchers' ability to study online corrections as it's hard to know when a correction was actually issued.

Hettinga and Appelman (2014) found most newspaper corrections to have low impact. In a content analysis of *The New York Times* corrections, the majority of the corrections were in people's names, titles, non-age numbers, and dates. Researchers concluded these corrections had very little impact on society. Whether or not a correction is low impact or high impact can determine how journalists handle the correction.

For this analysis we focused on how users respond to high-impact corrections to maximize relevance for the News Co/Lab corrections project. Not all these corrections related specifically to news content. We included studies that examined different tactics for correcting the record, such as the impact of third-party fact-checking. We also looked at studies that featured misinformation in the form of advertising or in which information was corrected on platforms like social media or, as opposed to news sites. The common thread is the focus on user behavior when encountering corrected information.

We identified three main themes that arise when trying to correct information: scope, messaging, and reach. Following the findings related to each theme, we offer recommendations to inform future research on digital corrections and the development of newsroom policies.

Scope: It's hard to “un-ring the bell” of misinformation

The effects of misinformation can be lasting and have a major influence on what someone believes about a topic regardless of a successful correction. In political news, experimental evidence suggests that resistance to corrections is driven largely by motivated reasoning (Thorson, 2016). The idea that partisans are often unwilling to accept new information that runs counter to their views is known as belief persistence. However, Thorson (2016) goes beyond this notion and finds evidence of effects on attitudes that persist despite an effective correction. Thorson (2016) calls this phenomenon “belief echoes (p. 461).”

Thorson (2016) notes that journalists and fact-checkers who attempt to design effective corrections assume that once a piece of information has been corrected or discredited, the misinformation will cease to affect attitudes and preferences. In three separate experiments, Thorson discovers this assumption is false. Using a political ad about a candidate, participants were presented with facts about the candidate that were then fully discredited. The results of the experiment showed that participants evaluated the candidate significantly more negatively than those in the control group, despite being equally certain that the misinformation was false. The attitudinal effect was more pronounced for those participants of the opposing political party. However, same party participants also viewed the candidate more negatively despite the effective correction.

A recent meta-analysis broke misinformation into three topic areas: politics, marketing and health (Walter & Murphy, 2018). Consistent with previous studies, the analysis discovered that it is more difficult to correct misinformation in the context of politics and marketing than health (2018). The authors argue that one explanation for why corrections have a more moderate

effect on politics than health is education, as acceptance of health and scientific authority typically correlates more positively with higher levels of education (Walter & Murphy, 2018). However, among more educated political partisans, correction attempts are less effective, perhaps, because the person is more invested in their stance and therefore less likely to accept a counterargument that calls into question certain aspects of his or her social identity. Nyhan, Porter, Reifler, and Wood (2019) did find that people hold more factually accurate beliefs after being exposed to a fact-check about a political candidate; however, this did not translate to a change in attitude toward the candidate.

Another common problem in accepting corrections is known as the backfire effect (Peter & Koch, 2016). In the area of science, for example, journalists often report on the common myths that are refuted with scientific facts. The backfire effect takes place when the misinformation is restated along with the correction, which may increase the likelihood that people misremember it as true in certain situations (2016). In a web-based experiment, the researchers found evidence for a systematic backfire effect that occurs after a few minutes and strengthens after five days. This happens because the repeated presentation of an idea strengthens processing fluency, in addition to the fact that memory for contextual details fades off faster than for the information itself (Peter & Koch, 2016; *see also* Fazio, Rand & Pennycook, 2019). Other research has shown that clarifying a correction to minimize misunderstanding actually made people more likely to rely on the original misinformation (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). Results are mixed on the backfire effect; other studies show no signs of a backfire effect when correcting misinformation (Garrett, Nisbet, & Lynch, 2013; Wood & Porter, 2018; Nyhan, Porter, Reifler, & Wood, 2019).

Time is also a factor when analyzing the effectiveness of a correction. Most experimental studies correct the misinformation immediately or within a short period of time, which may increase message acceptance (Crozier & Strange, 2018). However, in the real world, misinformation may not be corrected for hours, days or even weeks, which may reduce the effectiveness of the correction because the misinformation has been solidified in memory (Crozier & Strange, 2018). The longer the delay in correcting the misinformation, the more imperative it is to make the correction more salient.

Messaging: Psychological influences of corrections

Studies have shown that the content of a message can have a big influence on how the information is processed, or whether it is accepted as true. Research on debunking falsehoods reveals that corrective messages that integrate retractions with alternative explanations, or coherence, are much more effective (Walter & Murphy, 2016). If corrections rely only on retractions or simply fact-check the information, it might create an incoherent message. A more coherent explanation for how and why the false information started will lead to the likelihood that people will substitute the false information with the new claims (Walter & Murphy, 2016). Many corrections come in the form of a brief passage inserted in a news article or are subtly placed at the end which may not provide enough contradictory evidence to tip the scales of acceptance of the new information (2016).

Weeks (2015) also found evidence that the stronger the counterargument, the stronger the improvement in belief accuracy despite partisanship and emotions. In an experimental study gauging how anger and anxiety affect partisanship and misinformation, Weeks posits that there is a “tipping point” by which the exposure to enough contrary evidence will change perceptions

despite the presence of anger and anxiety (p. 703). In other words, the corrections in this case provided strong arguments for why each of the claims was false, which helped override partisans' anger and motivated reasoning in accepting the new information. It's important to note that this study used information that was not widely known or did not receive widespread media attention. The corrections also allowed for participants to update beliefs about a topic, but maintain their attitude toward the political party. It may be that more firmly held beliefs that have been in the public sphere for a long time yield different results. However, the study offers evidence that misperceptions can be corrected with the right messaging.

Source credibility in correcting messages has a relatively weak effect related to political information (Walter & Murphy, 2016), yet is shown to be more effective in areas of science (Vraga & Bode, 2017). Explanations for the discrepancy are linked to a growing erosion in public trust of official sources. However, unfamiliarity with medical and scientific information allows for more open-mindedness of information from certain sources (Vraga & Bode, 2017). In an experimental study correcting information about the Zika virus on social media, researchers found misperceptions about Zika were significantly reduced when the corrected information cited the Centers for Disease Control (CDC) versus corrections that did not quote the CDC (2017). This evidence suggests some power in the source lending credibility to the information. However, it can also be the case that source credibility is a function of belief (Walter & Murphy, 2016).

Messages that allow people to form judgements immediately during reception rather than memory-based can reduce backfire effects (Peter & Koch, 2016). Prompting readers to form attitudes by stating, "What is your opinion?" or, "Make up your mind!" may help to debunk the

myth, but only where the myths are immediately rectified (2016). If too much time has passed, triggering immediate judgements may not have any benefits or may actually solidify the myth. A certain amount of attitudinal processing will allow people to accept new information more readily.

In a recent study about fact-checking, researchers tested the effectiveness of different fact-checking formats and tones. The experiment compared video with narration against a long-form Factcheck.org article, as well as humorous and non-humorous delivery of the video message (Young, Jamieson, Poulsen & Goldring, 2018). While the fact-checking proved effective in all methods used, the video format demonstrated a significantly greater belief correction than the long-form Factcheck.org article (2018). This held true for both the humorous and non-humorous videos, suggesting effectiveness had more to do with format than tone (2018).

In another fact-checking study, researchers discussed the phenomenon of intended construct activation, which occurs when message recipients accurately comprehend a message, but refuse to act on the information (Garrett, Nisbet, & Lynch, 2013). Viewed as a threat to their intellectual autonomy, the fact-checking message pushes these individuals to embrace the false belief more strongly (2013). However, this study focused solely on unintended construct activation, which occurs when recipients focus on something other than the intended message, so the findings may not be generalizable to other contexts. Still, the results of the study may be particularly useful in evaluating how the context of certain messages or corrections affects belief accuracy.

Reach: Effective corrections on social media

Several studies have looked at social media as an avenue to disseminate fact-checking information or corrections of misinformation. Margolin, Hannak and Weber (2018) discovered that social context plays a major role in whether accurate information gets shared on social media. Their research examined real corrections made on Twitter during two time periods: January 2012 to April 2014, and November 2015 to February 2016. The authors test the theory that people are more likely to accept explanations that challenge their statements about a subject when there is a social connection to the corrector (Margolin, Hannak & Weber, 2018). In other words, their social network provides them with incentive to seek the truth (2018).

In another study related to political fact-check sharing on social media, researchers found that the majority of participants generally only shared fact-checking information that reinforced their current attitudes (Amazeen, Vargo & Hopp, 2018). In addition, only a small contingent of people are engaged in sharing political fact-checks on social media — just 11% of the respondents in this study posted at least one fact-checking article on Facebook or Twitter (2018). Factors that increased the likelihood that people would post a fact-check to their Facebook or Twitter page include age, ideology, political behavior and need for orientation (2018).

Furthermore, when everyday people correct each other on social media, it is important to include a source or sources corroborating the evidence to mitigate misperceptions (Vraga & Bode, 2018). Sourcing in these circumstances seems to lend more credibility to the information. Social media curation is another function that may have a positive impact on correcting misinformation (Bode & Vraga, 2015). Social media algorithms are often criticized for giving

users the same types of information and preventing them from seeing a diversity of content. However, an experimental study showed how this curation can have a positive effect on correcting misinformation, by supplying corrective information in several different related news items (2015). Using the Facebook function that allows users to click on related news links, researchers posted misinformation and then manipulated related articles to either confirm or correct the misinformation or do both. The findings suggested that misperceptions were significantly reduced when related stories corrected the original post (2015).

Recommendations for effective corrections in journalism

From the above review of the literature, there are some practical implications for journalistic practices in the area of correcting misinformation. We mean to apply these recommendations to high-impact corrections that significantly change the record. Several of our recommendations coincide with those from a 2017 meta-analysis by Chan, Jones, Hall Jamieson, and Albarracin.

1. **Reduce mentions of the misinformation** Avoid attracting further attention or generating additional arguments around the misinformation. The more detailed thoughts that support the misinformation, the more likely the false belief will stick in the recipients memory or will create motivated reasoning to reject any correction of the information. Numerous studies have demonstrated that it is very difficult to correct false beliefs, especially in the political world, and in a lot of cases corrections create a backfire effect.

2. **Create what researchers call “coherence” with the corrective message to induce healthy skepticism.** The stronger the counterarguments, the greater the chance to overcome motivated reasoning. Provide as much detail about the new information as possible, but be careful about contextual cues that might undermine the message (i.e. a photograph that accompanies the correction that goes against the cultural hegemony).
3. **Provide credible sources in the correction.** Citing credible sources in a correction can help audiences accept the new information. Keep in mind, sources in the political world, such as public officials, are not always trusted as much as they are in the fields of health and science (i.e. the CDC). Still, sourcing yielded positive results in fact-checking information shared on social media.
4. **Know your audience.** Understanding who tweets and shares stories on social media as well as what kinds of stories they share will allow news outlets to leverage these gatekeepers when trying to get a message out into the public sphere. Certain demographics tend to share corrective information more than others. Certain social network users keep each other in check by correcting each other on social media. Examining these digital audience behaviors will help when crafting corrective messages.
5. **Use different platforms and modes.** Reach has a lot to do with getting users to share the information across social media platforms, but getting corrective messages into the related stories function on Facebook increases the odds of acceptance by recipients.

Encourage users to “share the facts.” Information campaigns are also more effective when they are curated and aggregated by many different outlets. When possible and relevant, incorporate video in the message since this format has been shown to be more effective than long-form articles.

Conclusion

There is a lot of opportunity to contribute to our understanding of journalistic corrections in the digital age. Limited existing research makes it difficult to know what is effective when it comes to specific methods of online journalism corrections. However, related studies on how audiences respond to receiving corrected information offer some relevant conclusions that can lead to practical recommendations for news organizations. While the research is mixed on whether corrections are effective in changing what a person knows about a topic, studies, included here, offer some hope for overcoming the challenges of motivated reasoning and memory effects often associated with corrections that contradict existing beliefs.

Research indicates corrections on social media are most effective when they are shared by people within one’s social network. Since spreading the word, or reaching as much of an audience as possible, is a goal in trying to successfully correct information, engaging in more of an information campaign is better than issuing a single, one-time correction. The most effective corrections are ones in which the message is treated as salient and convincing. The News Co/Lab plans to test the hypothesis that automating a correction process or alerting people of corrections may help in getting the word out that a story has updated information. Further, we believe news outlets may be able to increase their influence by encouraging recipients to share the information

and engage in the correction process along with them. Any such protocol would need to distinguish between high and low impact corrections so as not to inundate the recipient with too much information.

Future research should also look at whether corrections are better received from the journalism organization itself, or other sources. It may be beneficial for news outlets to work in tandem with each other and with outside organizations when engaging in an information campaign. This is especially vital when correcting a false belief of high importance, or when the misinformation is harmful to society.

Works cited

- Amazeen, M. A., Vargo, C. J., & Hopp, T. (2018). Reinforcing attitudes in a gatewatching news era: Individual-level antecedents to sharing fact-checks on social media. *Communication Monographs*. doi: 10.1080/03637751.2018.1521984.
- Bode, L., Vraga, Emily. K. (2015). In related news, that was wrong: The correction of misinformation through related stories functionality in social media. *Journal of Communication*, 65, 619–638. doi: 10.1111/jcom.12166
- Chan, M. P. S., Jones, C. R., Hall Jamieson, K., and Albarracin, D. (2017). “Debunking: A Meta-Analysis of the Psychological Efficacy of Messages Countering Misinformation.” *Psychological Science*, 28(11), 1531-1546. doi:10.1177/0956797617714579.
- Crozier, W. E., Strange, D. (2019). Correcting the misinformation effect. *Applied Cognitive Psychology*, 33(4), 585-595.
- Fazio, L. K., Rand, D. G., & Pennycook, G. (2019). Repetition increases perceived truth equally for plausible and implausible statements. *Psychonomic bulletin & review*, 1-6.
- Garrett, R. K., Nisbet, E. C., Lynch, E. K. (2013). Undermining the corrective effects of media-based political fact checking?. The role of contextual cues and naive theory. *Journal of Communication*, 63(4), 617–637.
- Hettinga, K. E. (2011). Cultivating accountability through the use of corrections in online newspapers. The Pennsylvania State University, ProQuest Dissertations Publishing.
- Hettinga, K. E., Appelman, A. (2014). Corrections of Newspaper Errors Have Little Impact. *Newspaper Research Journal*, 35(1), 51-63.

- Hettinga, K. E., Appelman, A., Otmar, C., Posada, A., Thompson, A. (2018). Comparing and contrasting corrected errors at four newspapers. *Newspaper Research Journal*, 39 (2), 155-168.
- Hettinga, K. & Appelman, A. (2018). Errors and corrections in digital news content. Paper presented at the Association for Education in Journalism and Mass Communication, Washington D.C.
- Lewandowsky, S., Ecker U. K. H., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest*, 13(3), 106-131.
- Maier, S. R. (2009). Confessing errors in a digital age. *Nieman Reports*, 63(3), 46.
- Margolin, D. B., Hannak, A. & Weber, I. (2018). Political fact-checking on Twitter: when do corrections have an effect? *Political Communication*, 35 (2), 196–219.
- Nyhan, B., Porter, E., Reifler, J., & Wood, T. J. (2019). Taking fact-checks literally but not seriously? The effects of journalistic fact-checking on factual beliefs and candidate favorability. *Political Behavior*, 1-22.
- Peter, C. & Koch, T. (2016). When debunking scientific myths fails (and when it does not): The backfire effect in the context of journalistic coverage and immediate judgements as prevention strategy. *Science Communication*, 38(1), 3–25.
- Silverman, C. (2009). Reliable news: Errors aren't part of the equation. *Nieman Reports*, 63(1), 34.

- Thorson, E. (2016). Belief Echoes: The persistent effects of corrected misinformation. *Political Communication*, 33(3), 460-480. DOI: 10.1080/10584609.2015.1102187
- Vraga, E. K. & Bode, L. (2017). Using expert sources to correct health misinformation in social media. *Science Communication*, 39(5), 621–645. doi:10.1177/1075547017731776
- Vraga, E. K. & Bode, L. (2018). I do not believe you: how providing a source corrects health misperceptions across social media platforms. *Information, Communication & Society*, 21(10), 1137-1353. doi.org/10.1080/1369118X.2017.1313883
- Walter N. & Murphy S. T. (2018). How to unring the bell: a meta-analytic approach to correction of misinformation. *Communication Monographs* 85(3):423–441.
<https://doi.org/10.1080/03637751.2018.1467564>
- Weeks, B. E. (2015). Emotions, partisanship, and misperceptions: How anger and anxiety moderate the effect of partisan bias on susceptibility to political misinformation. *Journal of Communication*, 65(4), 699–719.
- Wood, T., & Porter, E. (2018). The elusive backfire effect: Mass attitudes' steadfast factual adherence. *Political Behavior*, 41(1), 135-163.
- Young, D. G., Jamieson, K. H., Poulsen, S., & Goldring, A. (2018). Fact-checking effectiveness as a function of format and tone: Evaluating FactCheck. org and FlackCheck. org. *Journalism & Mass Communication Quarterly*, 95(1), 49-75.