

A Comparison of Correction Formats: The Effectiveness and Effects of Rating Scale versus Contextual Corrections on Misinformation

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February 2015

Summary

What style of journalistic fact-checking is most convincing to readers? This study uses an online survey experiment to compare two prevailing approaches to correcting both consumer and political misinformation: fact-checks that rely only on written analysis to assess claims, and those that also deploy a graphical meter or “truth scale.” Testing a series of simulated fact-checks from a fictitious fact-checking organization, GetTheFacts.org, we find first of all that both approaches were effective on the whole, with respondents who saw either format significantly more likely than a control group to correctly evaluate a claim that had been previously debunked. Does using a truth meter make a difference? In the case of a misleading advertising claim unrelated to politics, adding a meter to the written analysis appeared to make the correction more convincing. However, both formats proved equally effective in challenging political misinformation. Both formats also yielded their largest improvements among readers who self-identified from the same party as the politician being checked. Although respondents scored best in identifying misinformation from a politician of the opposing party, seeing a correction made no significant difference in that case. Among other results, we also find that when given the choice, just over half of respondents preferred to see corrections that included a truth scale.

Introduction

Given the amount of political and consumer misinformation in society today, it is vital to understand whether and how people learn from corrections in the news media. Established fact-checking groups vary dramatically in the format they use to correct misleading claims. Some, like FactCheck.org or TruthInAdvertising.org, provide readers with a nuanced contextual analysis of the contested claim. These fact-checks may refute egregious claims in clear, decisive language, announcing in the headline or the first sentence that a speaker has distorted the truth. But they stop short of assessing statements in any systematic fashion that would allow different claims or speakers to be compared.

Other fact-checking groups, like PolitiFact.com and the *Washington Post*'s Fact Checker, offer similar analytical context but also add a "truth scale" designed to rate claims in a consistent fashion and provide a clear, visual indicator of their degree of truth¹ (see Figure 1). These truth scales may have both benefits and costs. Their clarity and certainty may make fact-checks easier for readers to process and journalists to cite, as well as induce more fear among campaigns and other targets. However, the sometimes black-and-white phrasing of truth scales also invites frequent criticism for reducing value-laden political questions to a simplistic measure and for suggesting a scientific rigor which journalistic fact-checking should not claim.²

Which approach to fact-checking is most convincing to readers? This report presents the results of an experimental study designed to answer that question. To understand how the use of a truth scale affects the impact of this emerging style of journalism, the study examines the influence of several key factors, detailed below. This includes the type of misinformation (political vs. non-political), the party affiliation of the reader, individual psychological differences, and the preference for different types of fact-checking formats. Finally, the experiments make it possible to assess how different approaches to fact-checking affect readers' attitudes toward public figures and various institutions, including the media.

¹ Amazeen, Michelle A. 2012. "Blind Spots: Examining Political Advertising Misinformation and How U.S. News Media Hold Political Actors Accountable." *Dissertation Abstracts International* 74(02). <http://gradworks.umi.com/35/39/3539244.html>; Graves, Lucas and Tom Glaisyer. 2012. "The Fact-Checking Universe in Spring 2012: An Overview." New America Foundation Media Policy Initiative Research Paper. http://newamerica.net/sites/newamerica.net/files/policydocs/The_Fact-checking_Universe_in_2012.pdf

² Graves and Glaisyer 2012; Graves, Lucas. 2013. "Deciding What's True: Fact-Checking Journalism and the New Ecology of News." Ph.D. diss., Columbia University.

Figure 1. Visual Rating Scales in Fact-Checking

PolitiFact.com	<i>The Washington Post's</i> Fact Checker	Pagella Politica (Italy)
<i>Portland Press-Herald</i>	Crikey (Australia)	<i>The Denver Post</i>

Type of Misinformation

To contribute to efforts at understanding misinformation and corrections, a cross-disciplinary approach was utilized exploring whether people react differently to fact-checks of consumer products versus political candidates.³ Although the practice of “fact-checking” has grown tremendously in recent years, its origins can be traced to the early 20th century. Some of the first unofficial fact-checkers were the muckraking journalists who challenged the claims of patent-medicine producers. For example, the work of muckrakers such as Samuel Hopkins Adams and Upton Sinclair facilitated the passage of federal regulations protecting consumers and legitimate businesses from unfair practices.⁴ Other investigative journalists launched their own publications to challenge industrial (George Seldes’ *In Fact*) and political misinformation

³ Rotfeld, Herbert Jack and Marla Royne Stafford. 2007. “Toward a Pragmatic Understanding of the Advertising and Public Policy Literature.” *Journal of Current Issues and Research in Advertising* 29(1): 67-80.

⁴ Cassedy, James H. 1964. “Muckraking and Medicine: Samuel Hopkins Adams.” *American Quarterly* 16(1): 85-99; Sulzberger, A. G. 2011. “States Look to Ban Efforts to Reveal Farm Abuse.” *The New York Times*, April 13.

http://www.nytimes.com/2011/04/14/us/14video.html?_r=0

(*I.F. Stone's Weekly*).⁵ It wasn't until the 1970s, however, that the academic marketing literature began to address consumer deception and the effectiveness of corrections.⁶ Attention to political misinformation grew throughout the 1990s as ad watch journalism took hold following the particularly contentious 1988 U.S. presidential election. The turn of the millennium saw the emergence of web-based political fact-checkers (FactCheck.org in 2003 and both PolitiFact.com and the *Washington Post's* Fact Checker in 2007) as well as non-political fact-checkers (The Consumerist Blog in 2005 and TruthInAdvertising.org in 2013). Thus, given the increasing attention to fact-checking in both political and non-political arenas, it is important to directly compare the correction of political and consumer misinformation together.

Partisan Response to Fact Checking

Correcting misinformation can be difficult, and in the political world, whether a correction is successful is often affected by a person's partisanship.⁸ This effect is called *motivated reasoning*. Motivated reasoning leads people to reject information that runs counter to their views and cling to that which reinforces those views, even in the face of contradictory evidence.⁹ For example, Democrats may be more resistant to a fact-check challenging the claims of a Democratic candidate and more accepting of a fact-check that refutes the claims of a Republican candidate. Similarly, the inverse may be true for Republicans. Some research suggests that motivated reasoning can even cause fact-checking efforts to backfire, leading people who read a correction to become *more* entrenched in their misperceptions.¹⁰ Therefore, studies designed to assess the

⁵ Dicke, William. 1995. "George Seldes is Dead at 104; An Early, Fervent Press Critic." *The New York Times*, July 3.
<http://www.nytimes.com/1995/07/03/obituaries/george-seldes-is-dead-at-104-an-early-fervent-press-critic.html>

⁶ Armstrong, Gary M., Metin N. Gurol and Frederick A. Russ. 1979. "Detecting and Correcting Deceptive Advertising." *Journal of Consumer Research* 6(3): 237-246.

⁷ Amazeen 2012; Graves 2013.

⁸ Lewandowsky, Stephan, Ullrich K. H. Ecker, Colleen M. Seifert, Norbert Schwarz, and John Cook. 2012. "Misinformation and Its Correction: Continued Influence and Successful Debiasing." *Psychological Sciences in the Public Interest* 13(3): 106-31; Nyhan, Brendan, and Jason Reifler. 2010. "When Corrections Fail: The Persistence of Political Misperceptions." *Political Behavior* 32: 303-30; Nyhan, Brendan, and Jason Reifler. 2012. "Misinformation and Fact-Checking: Research Findings from Social Science." New America Foundation Media Policy Initiative Research Paper.
http://mediapolicy.newamerica.net/sites/newamerica.net/files/policydocs/Misinformation_and_Fact-checking.pdf

⁹ Garrett, R. Kelly and B E. Weeks. 2013. "The Promise and Peril of Real-Time Corrections to Political Misperceptions." Paper presented at the ACM Conference of Computer Supported Cooperative Work, San Antonio, Texas; Nyhan and Reifler 2010; Thorson, Emily. 2013. "The Consequences of Misinformation and Fact-Checking for Citizens, Politicians, and the Media." Paper presented at the annual meeting of the Midwest Political Science Association, April, Chicago.

¹⁰ Garrett and Weeks 2013; Just, Marion R., Ann N. Crigler, Dean E. Alger, Timothy E. Cook, Montague Kern, and Darrell M. West. 1996. *Crosstalk: Citizens, Candidates, and the Media in a*

effectiveness of fact-checking must take partisanship into account.

Fact-Checking and Individual Differences

This study also explores how the type of correction format relates to both the *ability* and *motivation* of an individual to process information. Studies of information processing suggest that news consumers can only interpret a correction if they are able to understand the correction.

¹¹ Implicit corrections require greater processing skill than explicit corrections. Simple and straightforward disclosures, like including a rating scale, may be easier for people to understand than more complete and complex corrections. However, context-heavy corrections may also have some benefits. In some circumstances, making knowledge structures accessible through schematic learning (as in the context-heavy format) may increase information-processing ability.

¹² Furthermore, studies from psychology tell us that the type of mental processing a person uses when evaluating an argument is dependent upon his/her involvement with and ability to process a message. When an individual is highly involved or motivated in a decision, mental processing occurs centrally with careful and thoughtful consideration of arguments. Conversely, when an individual has low involvement or low motivation to make a decision, mental processing occurs peripherally with reliance on positive or negative signals or simple inferences.¹³ Thus, this study examines whether an individual's level of political involvement and/or "need for cognition" (inclination to pursue thinking activities) influences the type of correction format that is more effective at corrective learning.

User Preference: Context or Rating Scales?

People make conscious and often consistent choices about what type of media to consume.¹⁴ For example, some people are loyal viewers of the evening television news, others rely upon social media for news information, while still other individuals consume no news at all, instead preferring entertainment media options. Because the real world offers consumers a choice of fact-checking sites, it makes sense to give them a similar choice when testing the effectiveness of fact-checks in an experiment. Providing this choice makes it possible not only to determine what type of corrections users prefer, but also to assess whether giving people a choice affects how they react to the fact-check. For example, a partisan who *opts in* to a rating scale may be less resistant to it than one who is forced to read it. Likewise, a politically uninterested person who is forced to read a contextual correction in an experiment may learn quite a bit from it – but would that person ever choose to read such a correction in the real world? By measuring an individual's

Presidential Campaign. Chicago: The University of Chicago Press; Pfau, Michael and Allan Loudon. 1994. "Effectiveness of Adwatch Formats in Deflecting Political Attack Ads."

Communication Research 21(3): 325-341; Thorson 2013.

¹¹ MacInnis, Deborah J. and Bernard J. Jaworski. 1989. "Information Processing from Advertisements." *Journal of Marketing* 53(October): 1-23.

¹² Johar, Gita V. and Carolyn J. Simmons. 2000. "The Use of Concurrent Disclosures to Correct Invalid Inferences." *Journal of Consumer Research* 26(March): 307-322.

¹³ Petty, Richard E. and John T. Cacioppo. 1986. *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer.

¹⁴ Arceneaux, Kevin and Martin Johnson. 2013. *Changing Minds or Changing Channels? Partisan News in an Age of Choice*. Chicago: University of Chicago Press.

ability to choose, this study examines the effects of different correction formats on a variety of beliefs and attitudes.

Secondary Effects of Fact-Checking

Fact-checks may have effects beyond simply correcting misinformation.¹⁵ In particular, viewing corrections may lead people to dislike public figures who purposefully share inaccurate information and/or feel more favorably toward media outlets that engage in fact-checking. The carryover effect of (dis)trust may also extend beyond the offender to institutions like Congress, advertising or the news media industry in general.¹⁶

Study Design

In October 2014, 1,020 nationally representative respondents participated in an online survey experiment administered by the internet survey firm YouGov.¹⁷

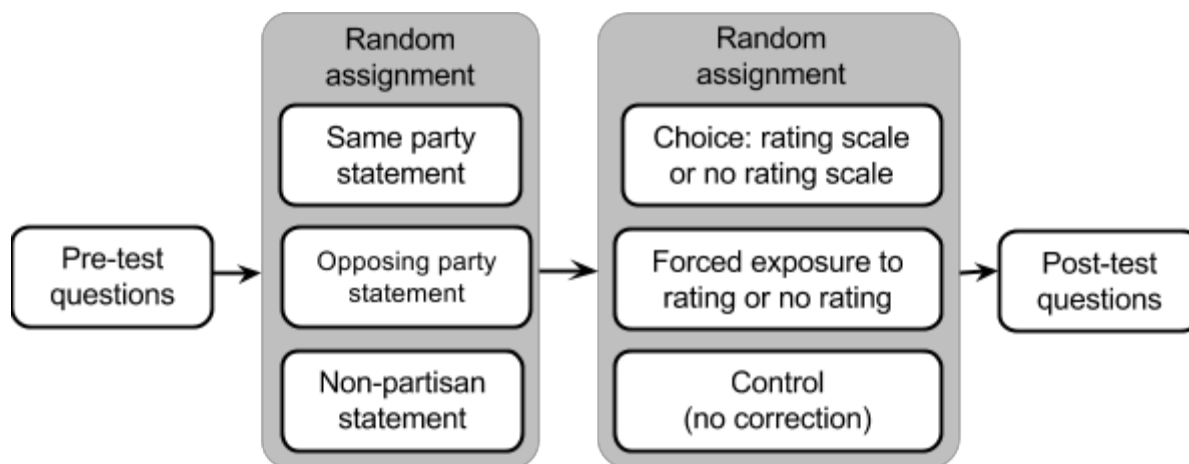
The design of the study is shown in Figure 2. Participants read a statement by a public figure and then those in the correction groups saw what looked like a real-world fact-check of that statement by a group called GetTheFacts.org. They then answered a series of questions designed to test their belief in the original statement. Each participant was randomly assigned to read a slightly different version of the correction related to (a) the political affiliation of the public figure, (b) the format of the fact-check, and (c) the ability to choose the correction format, each of which is detailed below.

¹⁵ Amazeen, Michelle A. 2013. "Making a Difference: A Critical Assessment of Fact-Checking in 2012." New America Foundation Media Policy Initiative Research Paper. http://mediapolicy.newamerica.net/publications/policy/making_a_difference_a_critical_assessment_of_fact_checking_in_2012; Thorson 2013.

¹⁶ Darke, Peter R., Laurence Ashworth and Robin J. B. Ritchie. 2008. "Damage from Corrective Advertising: Causes and Cures." *Journal of Marketing* 72: 81-97; Johar, Gita V. 1996. "Intended and Unintended Effects of Corrective Advertising on Beliefs and Evaluations: An Exploratory Analysis." *Journal of Consumer Psychology* 5(3): 209-230; Thorson 2013.

¹⁷ YouGov constructs samples using a method called "sample matching" where a random probability sample is approximated from an opt-in internet population. For more on its survey methodology, see <http://psfaculty.ucdavis.edu/bsjjones/rivers.pdf>

Figure 2. Experimental Design



Affiliation of the Public Figure

Participants were split into three groups as illustrated in Figure 2. Those assigned to the “non-partisan statement” group saw a claim made by a fictitious corporate executive: Mark Glassman, the Chief Marketing Officer of Mill Foods. Glassman’s claim was presented as follows: “On June 2, 2014, Glassman made this statement in an interview on Good Morning America: ‘A breakfast of Frosted Oat Loops is clinically shown to improve kids’ attentiveness by nearly 40 percent when compared to children who eat Wheat Puff.’” This statement serves as a nonpartisan contrast to the statements by political figures.

The other two groups both read a statement attributed to a fictitious Congressman, Daniel Stacks. The political claim was presented with the following language: “During the 2014 election, Stacks said this about his opponent, John Hunter: ‘One hundred percent of John Hunter’s ads have been negative.’” For each group, Stacks was affiliated with a different political party. For participants in the “same party statement” group, Stacks’ party affiliation matched their own as revealed in the pre-test questions (i.e., if the respondent was a Democrat then Stacks was also described as a Democrat). For those in the “opposing party statement” group, Stacks was described as being a member of the opposite party (i.e., if the respondent was a Democrat then Stacks was described as a Republican). Note that all participants, including Independents, were sorted into leaning Democrat or Republican through a series of branching questions.

Using these three variations of the affiliation of the public figure, this study compares the effects of reading a statement from a nonpartisan, nonpolitical public figure, a statement from a political figure from the same political party, and a statement from a political figure from the opposing political party.

Fact-Checking Format: Contextual or Contextual Plus Rating Scale

To test differences among types of corrections, the participants were again divided into three groups. One subset of the participants viewed the public figure's statement with no correction at all. A second group viewed the public figure's statement followed by a context-only correction, which included a few paragraphs of text explaining why the statement was largely false. The third and final group of participants viewed the public figure's statement and the same contextual correction but also saw a visual rating scale that clearly labeled the statement as "Mostly False."¹⁸

Choice of Correction Format

Most participants were not given a choice in the correction format they saw.¹⁹ That is, they were randomly assigned to one of the fact-checking format groups previously described. However, one subgroup of participants was able to choose whether they would prefer context-only corrections or corrections that included a rating scale (see Figure 3).²⁰ Including this choice makes it possible to assess what type of correction people prefer as well as whether providing news users with a choice of correction type influences the effects of the fact-check.

Figure 3. Choice Question

The job of fact-checking organizations is to evaluate whether the claims that people make are accurate. Some fact-checking organizations believe that after presenting readers with the evidence, it's important to also rank each claim on a **visual truth scale** like the one below.



Other fact-checking organizations think that it's better to present readers with the evidence and then let them judge for themselves, without the truth scale.

Which correction format would you rather see?

- ☐ Just the evidence
- ☐ The evidence plus a **visual truth scale**

¹⁸ Because fact-checkers seek out inaccuracies rather than truthful statements (Amazeen 2012; Graves 2013), we chose a statement that was assessed as inaccurate; specifically, mostly false.

¹⁹ Our procedure followed the protocol of Arceneaux and Johnson 2013.

²⁰ The authors would like to extend thanks to Paata Gaprindashvili and Georgia's Reforms Associates (GRASS) FactCheck (<http://factcheck.ge/en/>) for permission to use its rating icons in our experiment.

Measures

Several key outcome measures were assessed. Respondents reported whether, in their own opinion, they believed Stacks' or Glassman's statement. All participants evaluated how favorably they felt toward the politician and businessman as well as some journalists. Respondents also answered questions about their attitudes towards various institutions and confidence in their abilities to understand political information. Finally, in order to determine whether individual differences prompted people to choose different types of correction formats, participants answered demographic and psychological questions.

Results

Which Format is Most Effective?

The design of the study allowed comparisons between non-political and political misinformation.

Non-political misinformation: For non-political misinformation, adding the rating scale made the correction more effective. Respondents who saw a correction with both context and a rating scale were more likely to understand that Glassman's statement was incorrect²¹ compared with people who saw only a contextual correction (see Figure 4).²² The contextual correction format²³ was not statistically different than people who saw no correction at all in the non-political condition.²⁴

Political misinformation: People who read partisan statements reacted differently. Among participants exposed to political misinformation, both the context only²⁵ and context with ratings²⁶ correction formats were equally successful at correcting beliefs compared to those receiving no

²¹ ($M = 3.43$, $SD = 0.54$)

²² To measure whether the corrections were effective, participants were asked to report, in their own opinion, what they thought about the statement that they read. They could respond that the statement was true (1), mostly true (2), half true (3), mostly false (4), or false (5). These response options matched the rating scale seen by a subset of participants. We recoded the responses to this question into a "perception distance" measure. People who answered mostly false received a high score of a 4 on this measure because it was the most correct answer. People who answered either false or half true received a score of 3 on this measure because they were one scale point off from the most correct answer. People who answered mostly true received a score of 2 on the measure. Finally, people who answered true received a low score of 1 on the measure because it was the least correct answer. This led to a measure that ranged from 1 as least correct and 4 as most correct.

²³ ($M = 3.25$, $SD = 0.64$)

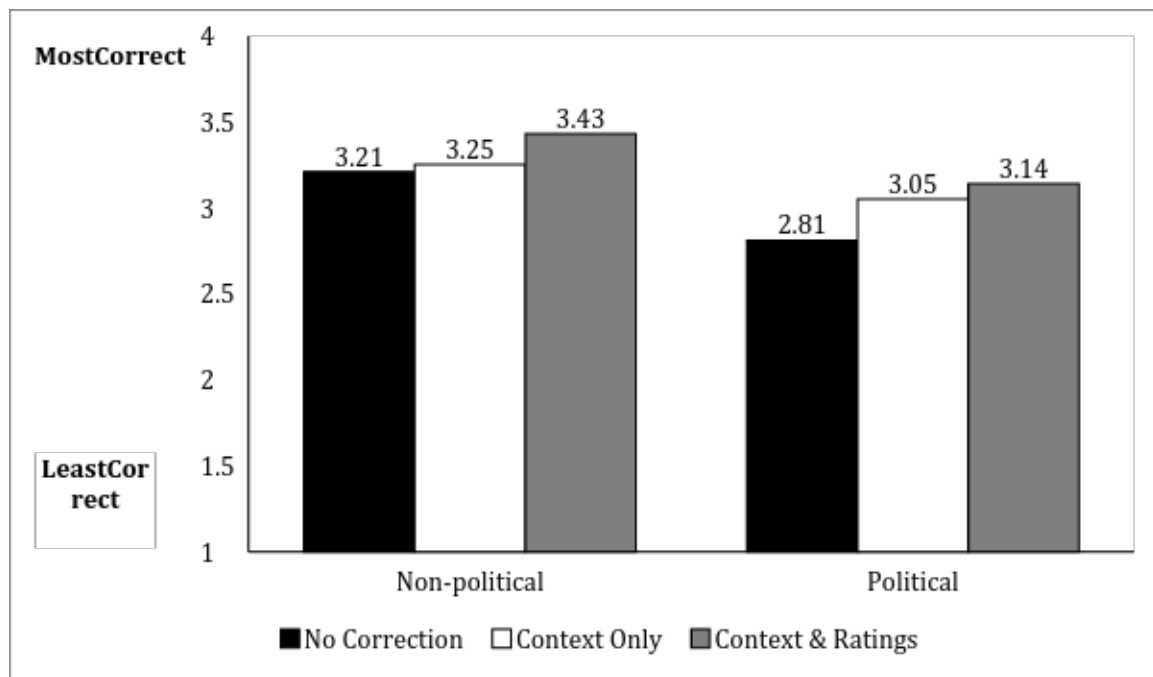
²⁴ ($M = 3.21$, $SD = 0.56$). A one-way ANOVA with the perception-distance measure as the outcome variable and correction format as the predictor variable was significant [$F(2, 340) = 4.74$, $p < .01$]. Post hoc Tukey tests signaled the significant differences were between the context with ratings format and the other two conditions.

²⁵ ($M = 3.05$, $SD = 0.65$)

²⁶ ($M = 3.14$, $SD = 0.70$)

correction.²⁷ Participants who saw a correction – no matter what kind of correction – perceived the political statement more correctly than people who did not see a correction. In other words, both types of correction formats were equally successful in helping people understand that the political statement they saw was incorrect.

Figure 4. Belief Accuracy of Correction Formats



How Does Partisanship Matter?

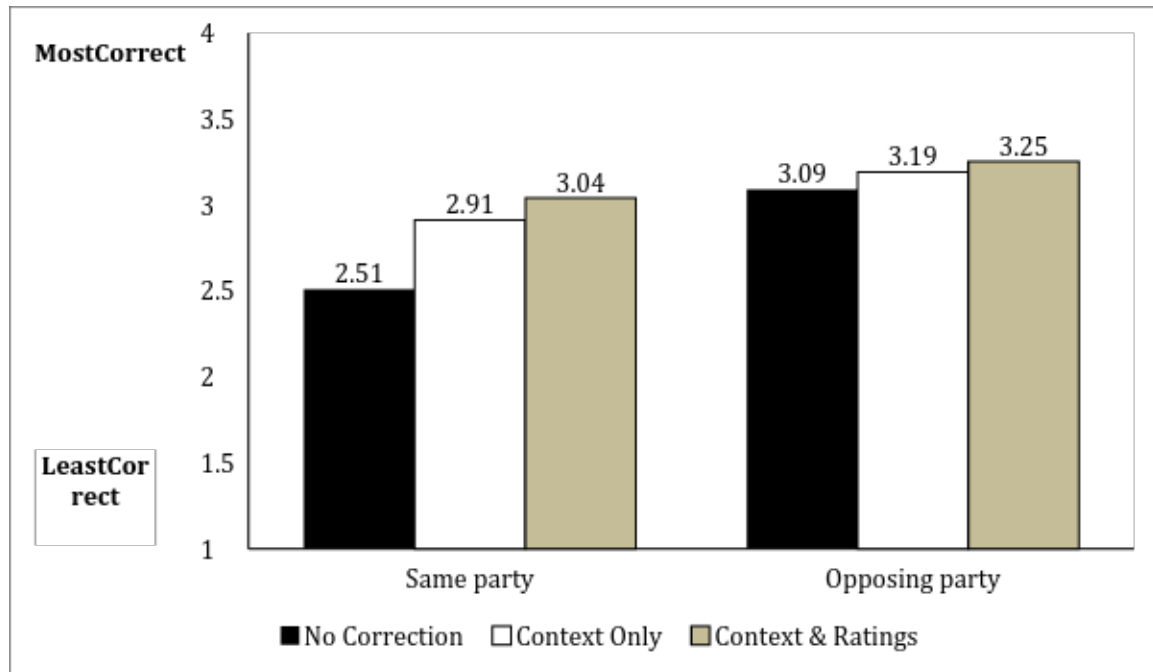
Partisanship affected participants' acceptance of the correction. When a candidate was from the same party as the participant, they were less likely to say that the corrected statement was false. Both types of correction formats, however, were successful at increasing the likelihood that respondents correctly understood the statement was mostly false.²⁸ Conversely, when a candidate was from the opposing party as the participant, people were more likely to correctly

²⁷ ($M = 2.81$, $SD = 0.72$). A one-way ANOVA with the perception-distance measure as the outcome variable and correction format as the predictor variable was significant [$F(2, 674) = 10.35$, $p < .001$]. Post hoc Tukey tests signaled the significant differences were between the no correction and the other two conditions.

²⁸ A one-way ANOVA with the perception-distance measure as the outcome variable and correction format as the predictor variable was significant [$F(2, 331) = 11.24$, $p < .000$]. Post hoc Tukey tests signaled the significant differences were between the no correction and the other two conditions.

believe that the candidate's statement was largely false.²⁹ The type of correction format made no difference in this situation: neither correction format was statistically better at correcting misinformation compared to no correction (see Figure 5). Thus, oppositional partisanship wiped out the effects of corrections that were present in same-party situations.

Figure 5. Political Misinformation Belief Accuracy of Correction Formats by Party Affiliation



Which Individual Attributes Influence Correction Format Effectiveness?

Along with partisanship, several other individual characteristics and predispositions may affect the use of fact-checks and rating scales. These include interest in politics, dislike for ambiguity, close mindedness and need for cognition (an inclination to pursue thinking activities).

Non-political misinformation: The accuracy of people's beliefs about Glassman's statement depended upon their inclination to pursue thinking activities and which type of correction format they saw.³⁰ People who enjoyed thinking activities were more correct in their understanding of

²⁹ A one-way ANOVA with the perception-distance measure as the outcome variable and the party affiliation attributed to Stacks (pro- or counter-attitudinal) as the predictor variable was significant [$F(1, 675) = 32.48, p < .001$].

³⁰ An OLS regression with *perception distance* as the outcome variable and rating vs. context only, need for cognition, political interest, dislike for ambiguity, close mindedness, and the interaction between correction format and each as predictor variables was marginally significant [$R = .26, R^2 = .07, p < .10$]. These findings held when demographic controls were added.

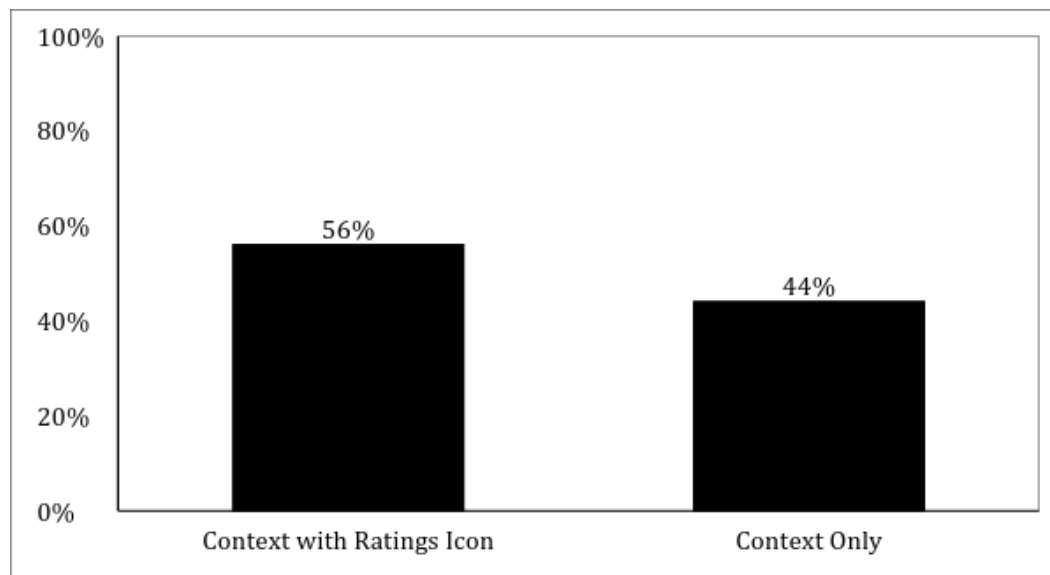
Glassman's statement when a rating scale was present.³¹ This difference was not present among people who did not enjoy thinking activities. In other words, rating scales were most effective at correcting misinformation among people who enjoy and/or pursue complex thinking.

Political misinformation: When correcting political misinformation, no other factors besides partisanship affected whether the type of correction format increased the likelihood that people understood the candidate's statement was largely false. Neither interest in politics, dislike for ambiguity, close mindedness, or need for cognition made a difference.³²

Does Choice Make a Difference in Correction Format Effectiveness?

Overall, participants selected the context and ratings icon combination more frequently (56%) than the context-only option (44% - see Figure 6).³³

Figure 6. Correction Format Preference Among Participants with a Choice



³¹ Among participants with above median need for cognition, a one-way ANOVA with the perception-distance measure as the outcome variable and correction format as the predictor variable was significant [$F(2, 162) = 7.15, p < .01$]. Post hoc Tukey tests signaled the significant differences were between the context with ratings format ($M = 3.57, SD = 0.07$) and the other two conditions – context only ($M = 3.21, SD = 0.07$) and no correction ($M = 3.26, SD = 0.10$).

³² An OLS regression with *perception distance* of the candidate as the outcome variable and need for cognition, political interest, dislike for ambiguity, close mindedness, ratings vs. context only, candidate party affiliation (pro vs. counter), and the interaction between correction format and each as predictor variables was significant [$R = .22, R^2 = .05, p < .05$].

³³ A χ^2 test [$\chi^2(1, n = 403) = 5.03, p < .05$] confirms this difference is statistically significant.

There was little in the way of individual differences among people that led them to select different kinds of fact-check formats. While none of the demographic (age, sex, race, years of education), political (party identification, political ideology, political interest) or psychological (need for cognition) variables consistently predicted the choice of rating scales over context-only formats, there was a weak relationship between close-mindedness and format preference. People who selected the context-only correction format seemed to be more close minded³⁴ than people who selected the context with ratings option.³⁵ However, this relationship disappeared when demographic factors were taken into consideration. Thus, close-mindedness is not necessarily a consistent predictor of correction format preference.

Next was an examination of whether having a choice increases the effectiveness of a correction on participants' perceptions that a speaker's statement is mostly false. Regardless of whether the statement was from a businessman or a political candidate, people who had a choice and people who did not have a choice were equally likely to perceive the statement correctly.³⁶ That is, no matter whether individuals had a choice in the correction format they saw or did not have a choice in the correction format they saw, the corrections were equally effective.

A final question related to choice of correction format was whether having a choice affected the role of partisanship. For instance, does having the option to select one of the correction formats make partisans more likely to believe the correction even when the statement is made by a likeminded partisan? No evidence was found that this was the case.³⁷ People who read a statement by an opposing politician were more correct in their belief that the candidate's statement was inaccurate than people who read a statement by a likeminded politician. Having a choice did not affect individuals' partisan reactions to the correction.

Do Corrections Have Other Effects?

Reputation of Offender

An examination of whether the experimental manipulations influenced participant feelings toward the offending individual who made an inaccurate statement (either as a businessman or as a political candidate) revealed some differences between non-political and political misinformation.

Non-political misinformation: As expected, learning that Glassman's statement was corrected by GetTheFacts.org led people to evaluate him more negatively compared to those seeing no

³⁴ ($M = 4.48, SD = 0.90$)

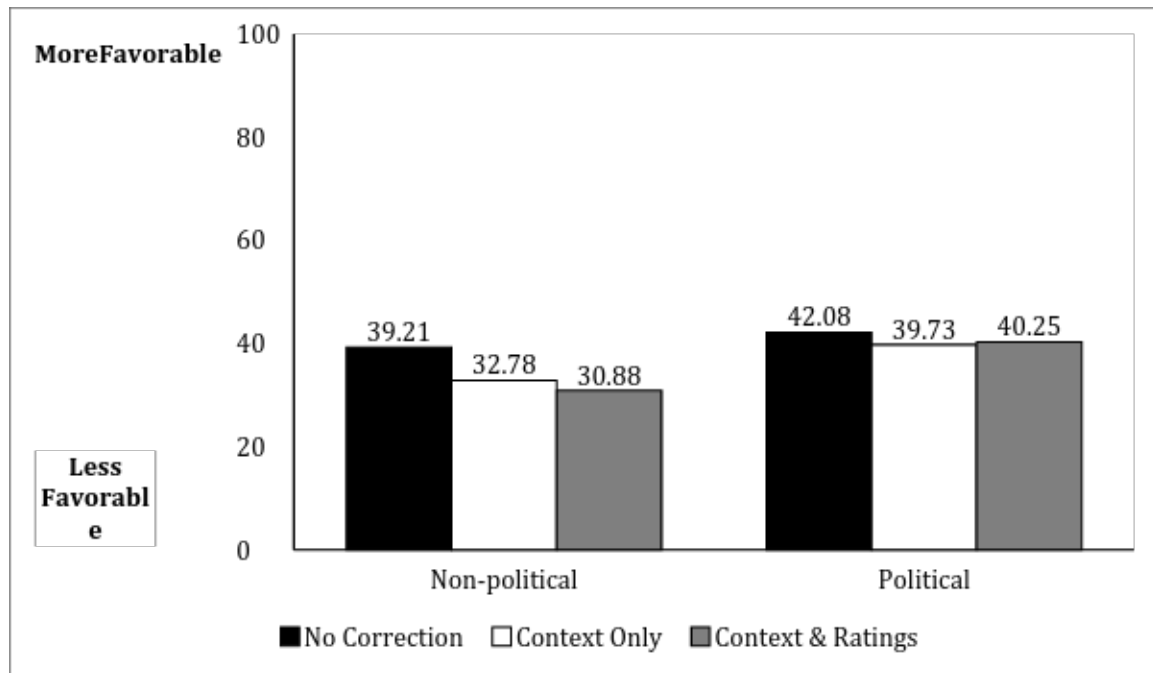
³⁵ ($M = 4.69, SD = 0.89$). A logistic regression model predicting which format was preferable (context only = 0 or context plus rating = 1) was marginally significant [$\chi^2(4, n = 348) = 7.96, p < .09$] with a significant coefficient for close mindedness ($B = .26, p < .05$).

³⁶ An OLS regression model with the *perception distance* variable as the outcome and having a choice or not having a choice as a predictor was not significant for neither Glassman the businessman ($R = .01, R^2 = .000, p = .91$) nor Stacks the candidate ($R = .03, R^2 = .001, p = .52$).

³⁷ ($R = .18, R^2 = .03, p < .001$)

correction (see Figure 7).³⁸ However, neither the type of correction format nor having a choice of which format to see had any effect on feelings toward Glassman.³⁹

Figure 7. Favorability Toward Public Figure



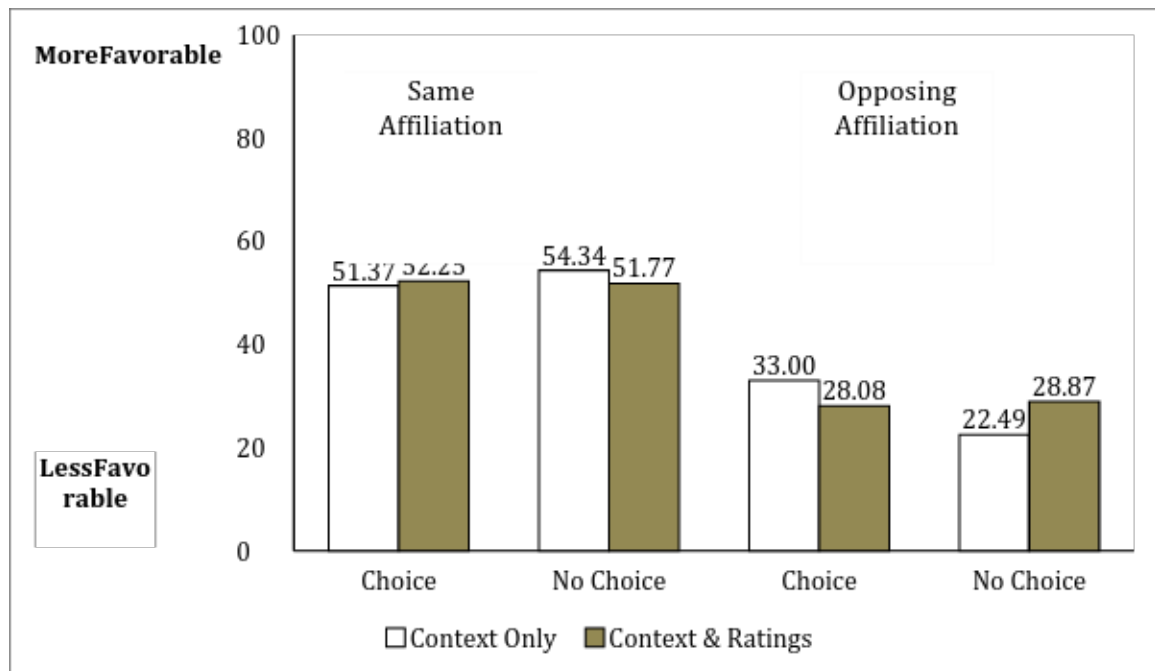
Political misinformation: In the political conditions, it was not the corrections that negatively influenced perceptions of the candidate. Figure 7 illustrates that there was essentially no difference in favorability toward the candidate between those who did not know his statement was inaccurate (the no correction group) and either of the groups that saw a correction. It was the party affiliation of the candidate that had a strong and consistent influence on people's feelings. As shown in Figure 8, participants had more favorable attitudes toward a candidate sharing their own party affiliation and less favorable feelings toward a candidate who was from an opposing party. When a candidate of the same party as the participant was exposed as making an inaccurate claim, there was no difference between the two correction formats in reputational damage. However, it appears that when an opposing candidate was exposed as making an

³⁸ A one-way ANOVA with feelings toward Glassman as the outcome variable and correction format as the predictor variable was significant [$F(2,333) = 4.00, p < .05$]. Post hoc Tukey tests signaled the significant differences were between the no correction and the two correction format conditions.

³⁹ An OLS regression model was specified to test whether the experimental conditions affected feelings toward Glassman. The model was significant ($R = .49, R^2 = .24, p < .0001$). While these findings held when control variables were added, the only experimental variable coefficient that was significant was whether the participant was in the business condition ($B = -17.21, p < .0001$).

inaccurate statement, they were more likely to be penalized when a participant was *forced* to read a contextual correction and least likely when the contextual correction was read by *choice*. Although in this situation there appears to be a relationship between partisanship, the type of correction format a participant saw and whether they had a choice in which type of format to see, the extent of the relationship is tentative at best.⁴⁰

Figure 8. Favorability Toward Political Candidate



Perceptions of GetTheFacts.org

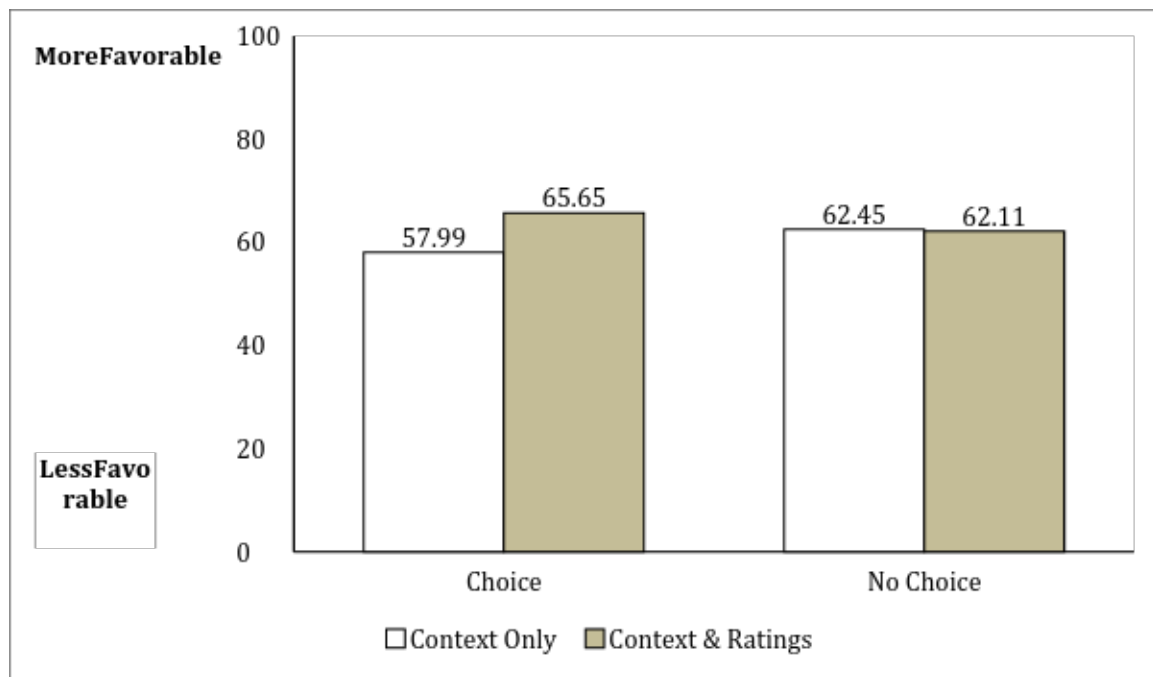
Elements of fact-checking – for instance, the format and the option to choose a format – can influence how favorably participants perceived GetTheFacts.org.⁴¹ The results indicate that people who saw a rating scale were more favorable toward GetTheFacts.org than people who

⁴⁰ An OLS regression model was specified to test whether the experimental conditions affected feelings toward Stacks. The model was significant ($R = .52$, $R^2 = .27$, $p < .0001$) with a significant coefficient for candidate party affiliation ($B = -27.82$, $p < .0001$). This finding held with the addition of control variables. An interaction between the type of correction format and whether the participant had a choice was marginally significant ($B = -9.34$, $p < .10$), but only in models that also included a three-way interaction between choice, correction format, and party affiliation the coefficient of which was not significant. The r-square change between the model with only the two-way interaction and the model that added the three-way interaction was not significant (F-change = 1.21, $p = .271$).

⁴¹ An OLS regression model was specified to test whether the experimental conditions influenced feelings toward GetTheFacts.org. The model was significant ($R = .36$, $R^2 = .13$, $p < .001$).

saw only a contextual fact-check. This effect is driven in part by choice.⁴² As illustrated in Figure 9, favorability ratings toward GetTheFacts.org were more similar when participants had no choice in the correction format they saw. When given a choice, however, exposure to a context-only correction led to less favorable ratings than the context plus ratings format.

Figure 9. Favorability Toward GetTheFacts.org



Beyond general favorability toward GetTheFacts.org, perceived credibility was unaffected by any of the experimental manipulations other than partisanship.⁴³ Participants who were exposed to a correction that was about a candidate from an opposing party perceived GetTheFacts.org as more credible than when it corrected a candidate from the same party.⁴⁴

⁴² An interaction variable between the correction format (0 = context only / 1 = correction plus context) and whether a person had a choice of correction (0 = no choice / 1 = choice) was added to the model, which was also significant ($R = .38$, $R^2 = .14$, $p < .001$) as was the interaction coefficient.

⁴³ Participants responded to five items to measure credibility of GetTheFacts.org. Each item was measured using a 7-point semantic differential scale: fairness (unfair vs. fair; $M = 4.87$, $SD = 1.43$), level of bias (biased vs. unbiased; $M = 4.50$, $SD = 1.58$), story coverage (does not tell the whole story vs. tells the whole story; $M = 4.48$, $SD = 1.52$), accuracy (inaccurate vs. accurate; $M = 4.71$, $SD = 1.41$) and trustworthiness (untrustworthy vs. trustworthy; $M = 4.66$, $SD = 1.44$). The five measures were significantly correlated (Chronbach's alpha = 0.95), so they were averaged to form a five-item credibility measure ($M = 4.65$, $SD = 1.34$).

⁴⁴ An OLS regression with *credibility* as the outcome variable and rating vs. context only, choice of correction format, and party affiliation of candidate as predictor variables was significant.

Political Efficacy

None of the experimental manipulations influenced participants' sense of political efficacy.⁴⁵ In other words, neither the type of correction format nor the ability to choose which format to see made people feel any differently about how well they understand and/or were able to influence public affairs.

Institutional Trust

None of the experimental manipulations influenced the degree of trust participants had in Congress, businesses or the media.

Discussion and Recommendations

The results of this study suggest, foremost, that corrections do help people to more accurately understand the world around them.⁴⁶ Also important, however, is that the either/or frame of consideration surrounding the use of rating icons in correction formats is misguided. Both contextual corrections and ones that also employ a visual rating serve useful purposes for journalistic fact-checking.

The effectiveness of a correction format varies based upon the type of misinformation that is being corrected. For non-political misinformation, corrections were most effective when they included a truth scale. This outcome may be due in part to the low-involvement nature of the misinformation, which, in this case, concerned health claims about a breakfast cereal. The results suggest that the use of a ratings icon in conjunction with a contextual correction is more effective in non-political corrections because of an individual's "need for cognition." People who are willing to engage in thinking activities were more accurate in their beliefs when a ratings icon

These findings held when control variables and interactions were added. [$R = .32$, $R^2 = .10$, $p < .0001$].

⁴⁵ An OLS regression with *efficacy* as the outcome variable and rating vs. context only, choice of correction format, and party affiliation of candidate as predictor variables was not significant [$R = .06$, $R^2 = .00$].

⁴⁶ This finding is consistent with other studies on the effectiveness of fact-checking such as: Fridkin, Kim, Patrick J. Kenney and Amanda Wintersieck. 2015. "Liar, Liar, Pants on Fire: How Fact-Checking Influences Citizens' Reactions to Negative Advertising." *Political Communication* 32(1): 127-151; Min, Young. 2002. "Intertwining of Campaign News and Advertising: The Content and Electoral Effects of Newspaper Ad Watches." *Journalism & Mass Communication Quarterly*, 79(4): 927-944; O'Sullivan, Paul B. and Seth Geiger. 1995. "Does the Watchdog Bite? Newspaper Truthboxes and Political Attack Ads." *Journalism & Mass Communication Quarterly* 72(4): 771-785; although also see Ansolabehere, Stephen and Shanto Iyengar. 1996. "Can the Press Monitor Campaign Advertising?" *Harvard International Journal of Press/Politics* 1: 72-86; Nyhan, Brendan and Jason Reifler. 2010. "When Corrections Fail: The Persistence of Political Misperceptions." *Political Behavior*, 32, 303-330.

was employed for a non-political correction. The implication is that the cues provided by the ratings icon may have facilitated the processing of information given the low-involvement nature of the stimulus: cereal. Since most consumer advertising is geared toward low-involvement purchases,⁴⁷ corrections of consumer-related misinformation may be most effective when they use a truth scale in conjunction with a contextual correction.

In contrast, the correction format had no effect when political misinformation was involved. The effectiveness of political corrections was almost entirely dependent upon the party affiliation of the person who made the claim and not the format of the correction. When the candidate was of the same party as the respondent, both correction formats were equally effective at correcting misinformation. However, when the candidate was from the opposing party, neither correction format was effective.

These results reinforce the difficulty of overcoming partisan-driven motivated reasoning. Across all of the models, partisanship was the largest predictor of the political correction's effectiveness. Even providing people with a choice of correction format did not mute the effect of partisanship. Beyond effectiveness, this study indicates that the credibility of fact-checkers is also highly dependent upon partisanship. People find fact-checkers more credible when they correct the opposition and less so when they correct one's own party. These findings suggest that "tweaking" correction formats with changes like the addition of a rating scale or additional degrees of truth may not be worth the effort for political corrections. For example, the *Voice of San Diego* recently released new categorizations for its fact-checking efforts, like "Huckster propaganda," in order to move away from the true-false binary that seemed to enrage so many readers. However, these results suggest that such efforts may not mitigate complaints: partisans will object regardless of the format.

The notion of choice also plays into decisions about the type of correction format journalists should use. While a majority of respondents preferred to see a ratings icon, there was a substantial minority of people who preferred to not see such an icon and only read the contextual correction. Although there was no evidence that a choice in format resulted in a more effective correction, the ability to choose did have at least one benefit: people who were given a choice of what type of correction to view evaluated the fact-checking organization more favorably. This benefit of choice suggests that the current state of fact-checking—where people are able to choose between organizations like FactCheck.org and PolitiFact—may be the ideal scenario for maximizing trust in fact-checking institutions. However, the other side of the coin is that people who are *not* able to choose the format are less favorable toward the fact-checking organization. This implies that people who come to their non-preferred fact-checking format unintentionally—for example, in social media or news coverage—may end up evaluating the organization more negatively.

The use of a context-only correction may have one benefit over the use of ratings. When a context-only format is a deliberate choice, it may result in less reputational damage to an

⁴⁷ Arens, William F., David H. Schaefer, and Michael F. Weigold. 2015. *Advertising* (2nd edition). New York: McGraw-Hill.

opposing candidate than when people are forced to read a contextual correction. Perhaps forcing people to make sense of information about someone with whom they do not share political views leads to resentment that is lessened if they are able to approach that information in a format of their choice. Thus, in an era of heightened political polarization, the multitude of fact-checking organizations with varying correction formats may serve to mitigate some of the reputational negativity.

While none of the experimental manipulations influenced the degree of trust participants had in Congress, businesses or the media, this lack of an effect is noteworthy because other studies have raised concern about the potentially deleterious effects of corrections. Particularly in the consumer product arena, there has been apprehension that exposing inaccuracies in advertising may unfairly damage the reputation of other businesses.⁴⁸ These results suggest this concern is unwarranted. At the same time, the absence of effects also demonstrates that the perceived credibility or attitudes toward a specific news organization is not generalizable to journalistic institutions at large. In other words, news organizations are essentially responsible for their own credibility and trust, at least as it relates to offering fact-checking. However, as fact-checking increasingly spreads to more news organizations, and as other practices that may challenge the credibility of news organizations, such as native advertising, continue to change the ecology of journalism, monitoring the institutional impacts of these practices should continue.

Like any experimental study, there are certain limitations to these findings. First, the nature of the product selected for the non-political information, breakfast cereal, is likely a low-involvement category. Although we found corrections using both context and a visual rating to be most effective, whether this effect would hold true in higher-involvement categories, such as automobiles or technology, remains to be seen. Future studies should examine a variety of non-political categories with different levels of consumer involvement.

It is also important to acknowledge that the direction and degree of inaccuracy, “mostly false,” may have affected our results. Particularly for the political misinformation, we saw evidence that the credibility of the fact-checking organization was affected by whether the correction involved a like-minded or oppositional candidate. People found the fact-check to be less credible when a claim from a candidate who was of their same party affiliation was exposed as “mostly false” and more credible when an oppositional candidate’s claim was labeled “mostly false.” It is possible that the results would be the complete opposite if the evaluated claim was found to have been “mostly true.” People may find fact-checkers more credible when they reinforce the relative accuracy of a like-minded candidate and less so when an opposing candidate’s claim is supported.⁴⁹ While our study intentionally focused on fact-checks of inaccurate statements, future research should address the inverse relationship that may exist with more accurate statements.

⁴⁸ See Darke et al. 2008.

⁴⁹ Indeed, Fridkin et al. 2015 found that fact-checks challenging the accuracy of a claim were more powerful than those that were confirmatory.

Conclusions

The enterprise of fact-checking continues to grow. In the United States, fact-checking references in newspapers have increased over 900% since 2001 and increased over 2,000% in broadcast media.⁵⁰ Worldwide, at least 89 fact-checking organizations have been documented in locations such as Turkey, Uruguay, and South Korea.⁵¹ Moreover, the practice of fact-checking now extends beyond just politics. The accuracy of blockbuster movies such as “Argo” and “Selma” has been checked.⁵² Sites such as TruthInAdvertising.org have emerged to verify the accuracy of marketing and advertising claims about consumer products and services. Even the political fact-checkers have begun expanding their targets beyond politics: in 2015, PolitiFact fact-checked the claim of a national insurance advertiser during Super Bowl XLIX and FactCheck.org introduced its SciCheck feature to focus on scientific claims.⁵³ As the practice of fact-checking expands, so too must our understanding of whether and how people learn from corrections in the news media. Given the varying types of misinformation in society and the split format preferences of the public, both context-only and context with a ratings icon format have a future in fact-checking.

Acknowledgments

The authors thank the American Press Institute and the Democracy Fund for supporting this research. We also extend thanks to Paata Gaprindashvili and Georgia’s Reforms Associates (GRASS) FactCheck (<http://factcheck.ge/en/>) for permission to use its rating icons in our experiment. The analysis and any errors herein are our own.

⁵⁰ Amazeen 2013.

⁵¹ Adair, Bill and Ishan Thakore. 2015. “Fact-checking Census Finds Continued Growth Around the World.” Duke Reporters’ Lab.

<http://reporterslab.org/fact-checking-census-finds-growth-around-world/>

⁵² “Fact-checking ‘Argo’: A Great Escape That Takes Some Leaps.” 2012. National Public Radio, December 18.

<http://www.npr.org/2012/12/25/167537259/fact-checking-argo-a-great-escape-that-takes-some-leaps>; Lockett, Dee. 2014. “How Accurate is *Selma*?” *Slate*, December 24.

http://www.slate.com/blogs/browbeat/2014/12/24/selma_fact_vs_fiction_how_true_ava_duvernay_s_new_movie_is_to_the_1965_marches.html

⁵³ Contorno, Steve. 2015. “Nationwide Super Bowl Ad Claims Accidents Are the Leading Cause of Death Among Children.” PolitiFact.com, February 2.

<http://www.politifact.com/truth-o-meter/statements/2015/feb/02/nationwide/nationwide-super-bowl-ad-claims-accidents-are-lead/>; Kiely, Eugene. 2015. “FactChecking Science-based Claims.” FactCheck.org, January 28.

<http://www.factcheck.org/2015/01/factchecking-science-based-claims/>