Beliefs Don't Always Persevere: How political figures are punished when positive information about them is discredited

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Recent research has extended the belief perseverance paradigm to the political realm, showing that negative information about political figures has a persistent effect on political opinions even after it has been discredited. However, little is known about the effects of false positive information about political figures. In three experiments, we find that discrediting positive information generates a "punishment effect" that is inconsistent with the previous literature on belief perseverance. We argue people attempt to adjust for the perceived influence of the false claim when the information is discredited. In this case, when trying to account for the effects of discredited *positive* information about a politician, people overestimate how much correction is needed and thus end up with a more *negative* opinion. (By contrast, people underestimate how much correction is needed to adjust for false negative information, leading to belief perseverance.) These results suggest that bogus credit-claiming or other positive misinformation can have severe repercussions for politicians.

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A growing body of evidence documents that many citizens are profoundly *mis*informed about a range of policy issues (e.g., Kull, Ramsay, and Lewis 2003; Jerit and Barabas 2006) and political figures (e.g., Public Policy Polling 2009; Pew 2010). Several studies have therefore tested whether accurate information can reduce misperceptions. Unfortunately, corrective information frequently fails to achieve the intended result (Kuklinski et al. 2000 [study 1], Nyhan and Reifler 2010).

Even when corrections are successful, however, the effects of misinformation may continue to influence opinions long after the claim in question has been debunked. For instance, psychologists have repeatedly shown that false positive or negative feedback on task performance continues to affect perceptions of individual abilities even after subjects are told that the feedback was bogus, a phenomenon that is commonly known as "belief perseverance" (see, e.g., Walster, Bersheid, and Abrahams, 1967; Ross, Lepper, and Hubbard 1975; Ross and Lepper 1980; Davies 1982; Wegner, Coulton, and Wenzlaff 1985; McFarland, Cheam, and Buehler 2007). Bullock (2007) and Cobb (2007) recently extended this approach to the political realm, showing that discredited negative information about political institutions and figures can have similarly persistent effects. ¹

However, we do not know of any research into the effects of false *positive* information about political figures. The substantive importance is obvious – politicians frequently exaggerate or fabricate claims about their record and qualifications. For instance, Senate candidates in Illinois and Connecticut were caught exaggerating their record of military accomplishments during the 2010 campaign (Politifact 2010, Hernandez 2010). If favorable beliefs about candidates persevere even after the initial

¹ Carretta and Moreland (1982) examined how supporters' beliefs about Nixon did not change during the Watergate hearings despite testimony discrediting his character. This study, however, had no control over exposure to information about Nixon so it did not actually demonstrate that belief perseverance occurred.

false information on which they were based is discredited, as the belief perseverance literature would suggest, it would create a powerful incentive for politicians to enhance their résumés and engage in bogus credit-claiming behavior.

Previous research on belief perseverance suggests that false claims should have lasting effects regardless of whether they are positive or negative. However, we report the results of three experiments showing that favorable evaluations do *not* persist after untrue positive information about a politician is corrected. Instead, the retraction of positive but false information results in *less* favorable evaluations, even though we attributed the mistaken information to a journalistic error rather than intentional deception by the politician. These results are consistent with a psychological model in which people attempt to correct for *perceived* biases (Wegner and Petty1995, 1997). In this case, naïve respondents who are not aware of the differential effects of positive and negative information will therefore under-correct for the influence of negative misinformation (leading to belief persistence) and over-correct for the influence of stereotype-inconsistent positive misinformation, leading them to view a politician more negatively after a favorable claim about them is discredited.

Previous studies of misperceptions and belief perseverance

Several previous studies have found that information intended to correct misperceptions may fail to change respondents' factual beliefs (Nyhan and Reifler 2010) or issue opinions (Kuklinski et al. 2000 [study 1], Berinsky 2007, and Sides and Citrin 2007; for more encouraging results, see Kuklinski et al. 2000 [study 2], Gilens 2001, Howell and West 2009, and Sides 2010). However, these experimental designs do not actually reveal

whether opinions continue to be influenced by false claims after they are debunked. Unless researchers can verify that they have successfully debunked the relevant misperception, it is not possible to examine whether (and how) belief perseverance affects political judgment.²

By contrast, the psychological approach to testing for belief perseverance uses research designs that permit greater control over the information that is debunked and the beliefs and opinions that are measured. Ross, Lepper, and Hubbard (1975) asked participants to discriminate between what were presented as real and fake suicide notes, a novel task on which subjects did not have strong prior beliefs about their abilities and did not place great importance on those abilities. The participants (and subjects as observers watching them) were provided with false feedback about participant performance at the task (either positive or negative). Experimenters subsequently told participants and observers that the performance evaluations were unrelated to the accuracy of their classification of the documents. Despite acknowledging that the feedback was fabricated, both participants and observers were influenced by the discredited information when asked to evaluate the participants' performance and abilities. Because the task was novel and the feedback could be fully discredited by the experimenters, there was no doubt that the misperception has been successfully debunked. As a result, Ross, Lepper, and Hubbard could be sure that the residual effects were actually belief perseverance.³

² Alternatively, misinformed respondents may have accepted that the relevant factual belief was incorrect but buttressed their existing issue opinion by drawing on other considerations.

³ It is worth noting, however, that subjects were instructed that the feedback was randomly assigned, which is not equivalent to showing that the feedback was incorrect for any particular subject. In the studies focusing on political figures and events that are discussed below, the designs go to greater lengths to fully establish that the initial information is incorrect rather than random.

Two recent studies by political scientists illustrate how these research designs can be used to demonstrate the enduring effects of false *political* information. Bullock (2007) conducted an experiment in which a hypothetical Republican Senate candidate is falsely described as holding relatively unpopular positions on the environment and education. Study participants subsequently learn the candidate does not hold those issue positions. Nonetheless, participants expressed greater disapproval of the candidate as a result of being exposed to the false information (particularly Democrats). We can be confident that these results are belief perseverance because the discrediting is indisputable (respondents were told the experimenter fabricated the relevant information) and respondents have no additional considerations to draw on to buttress their opinions.

Similarly, Cobb (2007) asked participants to read a biography of a fictitious politician. Those in the treatment conditions also read a mock newspaper article implying that this politician was guilty of a campaign finance violation and a subsequent article explaining that the politician was the victim of an accounting error committed by a third party – the supposed violation never occurred. Even though participants in the treatment conditions acknowledged the politician was completely innocent, they rated him more negatively than participants did in the control group. As in the case of the Bullock study, the hypothetical nature of the politician and the indisputable nature of the correction allow us to be confident that these results can be attributed to belief perseverance.

Perseverance for positive information about politics?

In contrast, we are not aware of prior studies that apply the belief perseverance paradigm to study positively valenced misinformation about politics. The lack of research on positive political misinformation is not surprising – it is likely that most false information about issues and candidates is negatively valenced. However, politicians can and do promote false or misleading information about themselves (résumé enhancement), their actions (bogus credit-claiming), and/or the consequences of policies they support (positive policy misinformation). If positively evaluated claims about the actions of politicians are revealed to have never occurred, will we observe belief perseverance or does something different occur?

The mechanisms typically proposed to explain belief perseverance suggest that discredited information should have a lasting effect regardless of whether it is positive or negative. For instance, Ross and his colleagues argue that belief perseverance is the result of people constructing explanations for task performance feedback that remain accessible even after the original reason for making these associations has been discredited.⁴ According to this explanation, people who encounter information about a politician would generate cognitions to account for what they have learned. Even if the information turns out to be false, those cognitions would remain highly accessible and would subsequently influence their opinions of that person. Other researchers have invoked the role of social theories (Anderson, Lepper, and Ross, 1980), schema theory (Smith, 1982), availability heuristics (Anderson and Lindsay, 1998), accessibility in memory (Carroll, 1978), and stages of information processing that make corrections inferior pieces of information (Wegner, Coulton, and Wenzlaff, 1985) to account for belief perseverance. While the precise mechanism differs between these accounts, they all suggest that false positive or negative information will have lasting effects after being discredited.

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⁴ Nisbett and Ross (1980) similarly suggest that people generate confirmatory cognitions to explain presumed performance that persist after being invalidated.

However, the broader psychology literature on correction processes suggests that discredited positive information about a politician will not necessarily have lasting positive effects. We draw in particular upon Wegner and Petty's (1995, 1997) model of flexible correction processes, which anticipates both belief perseverance and overcorrection in response to perceived biases in judgments. According to this model, individual corrections in response to known biases (e.g., discredited information) are a function of the individual's motivation to be accurate and their naïve theories about how the bias affected their judgments. Thus, a sufficiently motivated individual attempts to remove the *perceived bias*, not the *actual bias*, caused by false information. In addition, people's naïve theories about the influence of the discredited claim affect the extent to which they will revise their views.

Specifically, in contrast to negative information, we expect that individuals will tend to *overestimate* the amount of effort needed to correct for the perceived influence of false positive information. Perceptions of the bias induced by false positive information will be exaggerated because positive information is harder to recall (Gilovich 1991) and less influential than negative information (Cobb and Kuklinski 1997; Ito, Larson, Smith, and Cacioppo 1998; Baumeister, Bratslavsky, Finkenauer, and Vohs 2001; Rozin and Royzman 2001). We know of no evidence that perceivers recognize this asymmetry.

More importantly, positive information about a politician is stereotype-inconsistent, which should reduce its actual effects relative to its perceived effects.

Stereotype-inconsistent information has been shown to be more easily discounted during impression formation and to be under-utilized in trait evaluations (Wigboldus et al, 2003). In addition, exposure to stereotype-inconsistent information increases the salience

and importance of stereotypic information stored in memory (O'Sullivan and Durson, 1984). Again, we know of no evidence exists to suggest individuals are aware of the differential impact of stereotype-consistent versus stereotype-inconsistent information. Consequently, it seems likely that most people will over-correct for the exaggerated perceived influence of false positive information about a politician.

In addition to these theoretical expectations, results from previous studies do not clearly indicate that belief perseverance will extend to discredited positive misinformation about politicians. First, while Ross, Lepper, and Hubbard (1975) claimed to find belief perseverance for observers who saw an experimental participant receive bogus positive or negative task performance, their study lacked a control group, making it impossible to determine whether the change in perceptions resulting from the positive feedback condition was itself statistically significant. In addition, Ross, Lepper, and Hubbard (1975) and virtually all other subsequent studies find persistence in observers' estimates of a participant's performance and abilities at a generic task. The tasks tend to be innocuous and observers are almost always peers. Thus, social judgments tend to be made about positively- or neutrally-viewed persons performing a novel task. By contrast, politicians are not ordinarily viewed favorably (McGraw, Lodge, and Jones, 2002). We might thus expect that opinions about politicians would behave differently.

Study 1

Design

We conducted a paper-and-pencil experiment at a large public university in the South to evaluate whether debunked positive information about a politician leads to belief

perseverance. Our goal was to introduce untrue positive information about a fictitious politician that we could authoritatively retract. Studies such as Kuklinski et al. (2000) and Nyhan and Reifler (2010) have opted for greater external validity in testing corrections of false information drawn from contemporary politics, but this design choice meant that the corrective information in those studies was less authoritative and more easily resisted by participants. Following Bullock (2007) and Cobb (2007), we instead used a hypothetical scenario in which false information could be retracted with certainty.

Specifically, our manipulation attributed a political act that was likely to be viewed positively by our student subjects⁵ to a fictitious politician in a mock news story (study materials are located in Appendix A). The news story identified Michael Davis as the sponsor of the "College Cost Relief Act," a bill that provided free tuition and board for qualifying high school seniors. To ensure that participants would have no prior knowledge about the politician, he was identified as a state senator from Nevada. The retraction took place by presenting participants with a second mock newspaper article that was explicitly described as a correction. The story apologized to its readers for misattributing the identity of bill's sponsor; the real sponsor, Harold Davis, was also a state senator that shared the same last name.

We used a between-subjects design with three experimental conditions. First, a control group read biographies of Michael Davis and Harold Davis that were constructed to be substantively similar and equally positive. These respondents were not exposed to any information about the College Cost Relief Act. Second, a treatment group read the biographies and the false news story about the Act, but not the correction. Participants in the third conditions read the biography and both news stories. After reading the materials

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⁵ We verified the manipulation was effective in a pre-test using a different sample than the primary study.

they were given, participants completed a survey measuring opinions about the two senators, including feeling thermometers and candidate traits. The survey also asked subjects to recall information from the materials that they read (we prevented cheating by requiring participants to turn in stimulus materials before obtaining the questionnaire).

Results

253 undergraduates from an introductory political science course volunteered for the study in exchange for receiving course credit in a departmental subject pool.⁶ The sample was evenly split by gender (52% male, 48% female) and slightly skewed towards GOP self-identification (45% identified as Republicans and 36% identified as Democrats). These characteristics were uncorrelated with the experimental conditions, indicating that random assignment was successful.

To test for belief perseverance, we measure the effects of the experimental manipulation on two dependent variables: feelings toward Michael and Harold Davis (measured using a 1-10 feeling thermometer where 1="very coldly" and 10="very warmly") and a trait measure that asks if the named person "cares about people like you" since the bill was intended to benefit college students (on a 1-4 scale asking how well the statement applies to the person in question where 1="Not well at all" and 4="Extremely"

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⁶ In using a student convenience sample, we follow standard practice in the literature on belief perseverance. For a more general defense of student samples, see Druckman and Kam (2010).

well"). The estimated effects of the treatments on these measures are presented in the OLS models reported in Table 1.8

[Table 1]

As expected, respondents who read the biography and the false story reported significantly warmer feelings toward Michael Davis ($\beta = 0.47$, p < .05) and stronger perceptions that he cares about people like them ($\beta = 0.27$, p < .01) than the control group who read only the biographies. However, the correction has a dramatic and negative effect on these measures. The group that read the false story and the correction reported significantly *less* warm feelings toward Michael ($\beta = -0.83$, p < .01) and weaker perceptions that he cares about people like them ($\beta = -0.27$, p < .01) than the control group. The marginal effect of the correction was thus dramatic and negative for both measures ($\beta = -1.30$, p < .01 for feelings; $\beta = -0.54$, p < .01 for cares about people like you).

By contrast, participant views of Harold Davis tended to move in the opposite direction of views of Michael Davis. Unlike respondents who viewed Michael more favorably as a result of the false story, respondents who received the false story were less likely to report warm feelings toward Harold (β = -0.59, p<.05) and less likely to think he cares about people like them (β = -0.18, p<.10) than the control group, presumably as a result of an unfavorable contrast with Michael. Perceptions that Harold cares about

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⁷ We also asked about vote preference for Michael or Harold Davis. However, voting introduces a zero-sum dynamic in which the correction depresses support for Michael by making Harold more appealing – a different phenomenon than strict belief perseverance. As such, we do not discuss these findings further, but they are available upon request.

⁸ Results were identical using ordered probit. We exclude control variables because our treatment effect estimates are unbiased due to random assignment and the OLS estimates were not measurably affected by the inclusion of demographic controls (in particular, they did not offer obvious efficiency gains).

people like them increased among participants who received the correction ($\beta = 0.27$, p<.01), but their feelings toward Harold were not significantly different than those of participants in the control group ($\beta = 0.22$, ns).

To illustrate these results, Figure 1 plots mean feelings toward Michael and Harold Davis by cell (results are identical for the cares about people like you measure).

[Figure 1]

For Michael Davis, mean feelings on a 0-10 scale increase from 6.6 among respondents in the control group to 7.1 in the group exposed to the false article. However, they decline to 5.8 among respondents exposed to the false article and the retraction. Harold Davis attracts an identical 6.6 rating among controls, declines to 6.0 among those exposed to the false article, but then increases to 7.0 among those who viewed the retraction.

One potential confound is that respondents may have confused Harold and Michael Davis after reading the story or the correction. To mitigate this concern, we asked respondents which legislator was responsible for the legislation. We find that the difference between the false story and retraction conditions holds when we restrict our analysis to participants who provided the correct response based on the information available to them – Michael in the false story condition, Harold in the retraction condition (full results available upon request).

Discussion

These results provide strong initial evidence that positive misinformation does not persevere. Instead, it appears to create a *negative* response that is consistent with the theoretical claim that people will overcorrect when adjusting for the perceived effects of false positive information about a political figure.

However, the design that produced this provocative finding has an important limitation. When we created a plausible reason for retracting the positive information (the misattribution of the legislation to Michael Davis instead of Harold), we introduced a potential confound. Instead of asking respondents to evaluate a single object (themselves or another person), we had participants evaluate two objects, Michael *and* Harold Davis, in the same questionnaire. It is possible that negative feelings about Michael increased because of an unfavorable comparison with Harold rather than an overcorrection effect. For instance, studies in which participants evaluate job applicants have found interviewees are rated more negatively if they follow high quality applicants (and conversely for low quality applicants) due to contrast effects (e.g., Wexley, Sanders, and Yukl 1973). Such a contrast effect could be mistaken for belief perseverance.

Study 2

Design

We conducted a second study at the same university to address the potential limitations of Study 1. To address the concerns described above, respondents were randomly assigned to one of four treatment conditions that independently manipulated the type of information subjects received about Michael Davis (positive or negative) and the number

of politicians they were explicitly asked to evaluate (Michael only or both Michael and Harold). The first manipulation allows us to test whether our design can replicate past findings of belief perseverance about discredited negative information about politicians. If not, it may be an inappropriate approach to testing for belief perseverance resulting from positive information. The second manipulation allows us to test the alternative explanation of a contrast effect in Study 1. If asking about both candidates creates (or enhances) a contrast effect, then evaluating only Michael should decrease or eliminate the effect the negative response to discredited positive information (and likewise for a possible positive response to untrue negative information).

Unlike Study 1, we use a repeated measures design in which participants record their evaluations at each stage of the experiment (after reading candidate biographies, after exposure to the false information, and again after the retraction). As such, rather than comparing respondent attitudes across conditions, we compare respondents' views in the false story and retraction stage to their previous beliefs. To reduce respondent fatigue and minimize anchoring on previously expressed opinions, we included a word search task between the false article and the correction as a distractor.

In this study, participants received information that was nearly identical to the materials presented in Study 1 except we added a negative information condition that identifies Michael Davis as the primary *opponent* of the College Cost Relief Act and credits him with stopping the bill. (Stimulus materials are presented in Appendix B.) As before, the retraction was blamed on a mix-up that failed to correctly identify the real hero/culprit, Harold Davis. We then measure evaluations of Michael or Michael/Harold using the same measures of feelings (0-10) and perceptions of caring (1-4) as Study 1.

Results

We recruited 323 undergraduates to participate in Study 2. As before, participants received course credit for their participation, but instead of taking the study in a classroom, they took the study online. Demographics for our sample were nearly identical to the first study: 52% were male and 45% were self-identified Republicans compared to 34% self-identified Democrats. Demographic variables were not significantly associated with experimental assignment, indicating that randomization was successful.

We again analyze the data using OLS, but due to our repeated-measures design we include fixed effects and clustered standard errors to account for non-independence among responses by individuals. For simplicity, we focus on results for the Michael Davis feeling thermometer, contrasting respondent feelings between the biography stage, the false negative or positive article, and the retraction within each of the four experimental conditions. Table 2 presents the results of our OLS models, which include indicators for each stage of the study after the biography stage, which is the omitted category. The coefficients in the models represent the *change* in respondent feelings toward Davis at each stage relative to those reported after reading about his background. The test of whether belief perseverance occurs is thus whether the coefficient for the change in feelings toward Davis at the retraction stage is distinguishable from zero in the expected direction (positive or negative).

[Table 2]

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⁹Results are virtually identical if we estimate pooled models for subjects who received positive and negative information and include interactions with the comparison manipulation (available upon request).

First, we focus on the cases in which Michael Davis was falsely described as the chief opponent of the bill. These results, which are presented in the second and third columns of Table 2, demonstrate that our paradigm can successfully reproduce negative belief perseverance if questions are not asked about both candidates. As expected, the false article significantly decreases warm feelings toward Michael compared to the biographies stage (p<.01). This negative change in feelings persists when questions about Harold Davis are excluded (p<.05) but not when they are included (ns). Thus, rather than creating a contrast effect that puts Michael Davis in a favorable light (as Schwarz and Bles [1992] found when asking about politicians not involved in a scandal that had been made salient), asking about both candidates may actually attenuate belief perseverance (strengthening our conclusions from Study 1).

Figure 2 illustrates these effects by disaggregating mean feelings toward Michael Davis in the negative information conditions:

[Figure 2]

Michael's feeling thermometer score declined substantially as a result of the bogus negative story in both conditions, but this negative effect only persisted when questions about Harold Davis were excluded. Specifically, feeling toward Michael Davis among participants who were not asked about Harold Davis decreased from 6.5 to 4.5 before

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¹⁰ It is important to note that the interaction between the correction stage indicator variable and the comparison manipulation is not statistically significant when we estimate a pooled model (results available upon request). However, the null hypothesis in the belief perseverance literature is that there is no difference between participants' initial beliefs and those they report after the introduced information has been discredited or debunked. In this case, we can only reject the null in the condition in which subjects evaluate Michael alone rather than Michael and Harold together.

increasing to 6.0, while those who were asked about Harold declined from 6.6 to 3.9 but rebounded to 6.4.

We now turn to our primary concern – the effects of untrue positive information that has been discredited. Despite the design changes described above, the results for debunking positive information are almost identical to those reported in Study 1. OLS results in the fourth and fifth columns of Table 2 indicate that feelings toward Michael Davis become more favorable after receiving false positive information regardless of whether the instrument includes questions about Harold (p<.01 in both cases). However, when that information is retracted, Michael is viewed less favorably than he was at the initial stage in both positive information conditions (p<.01).

As Figure 3 demonstrates, this negative response occurs regardless of whether Michael is evaluated alone or with Harold. However, the magnitude of the effect is somewhat weaker when participants are asked to rate them both, suggesting that asking for evaluations of two politicians does not enhance a contrast effect.

[Figure 3]

When respondents read the false article, mean feelings toward Michael increased from 6.8 to 7.5 when respondents were also to evaluate Harold and from 6.6 to 7.5 when respondents were not asked questions about Harold. After the article was retracted, feelings declined to 6.3 in the Harold condition and all the way to 5.3 in the non-Harold condition. This effect is statistically significant (p<.05) when we estimate a pooled model

for the positive information conditions and include an interaction between the comparison manipulation and the correction variable (details available upon request).

Discussion

The results for Study 2 provide strong additional evidence that the retraction of positive misinformation about a political figure can produce a negative response instead of belief perseverance, confirming the finding in Study 1. We build on our previous experiment by using a repeated measures design that allows us to more carefully examine how evaluations of politicians change as information is provided and retracted. Consistent with the theoretical approach of Wegner and Petty (1995, 1997), we are able to replicate a belief perseverance effect for negative information (i.e. under-correction), but continue to see overcorrection for positive information. We also demonstrate that the inclusion of a second candidate in the questionnaire actually attenuates (rather than enhances) that effect, suggesting that a contrast effect is not responsible for the previous results.

However, the study does not eliminate an alternative explanation for our findings, which is that the discredited positive story creates an unfavorable contrast with the *counterfactual* in which the information is correct. In other words, respondents may have judged Michael Davis negatively because he *could have* been the chief sponsor of the College Cost Relief Act but wasn't (an effect that is unlike how observers might react to false feedback on another person's task performance). This contrast, which does not depend on the comparison with Harold, may change the frame of reference used to assess the political figure in question even though no information is provided about him or her.

Study 3

Design

A third study was conducted to test the interpretation that our previous results were driven by respondents' reaction to the knowledge that Michael Davis could have been the co-sponsor of the College Cost Relief Act - a counterfactual that could generate a negative reaction. In Study 3, subjects were randomly assigned to one of two conditions that closely resembled the positive misinformation/no comparison condition in Study 2. In the first condition, which mirrors the correction used in Studies 1 and 2, the correction describes the newspaper's error as simply a mistaken attribution. In the second condition, however, respondents are given an alternate correction that explicitly rules out the counterfactual scenario described above, stating that Davis "was only recently elected to the Senate and was not a member of the legislature at that time [when the bill was passed]. He will become a Senator when he is sworn into office on January 21, 2011."

Minor changes were made to the stimulus materials so that they would not contradict the alternate correction, but they were otherwise identical to those in Study 2, including the use of a word search distractor task (see Appendix C for stimulus text).

Results

Study 3 was conducted with 997 undergraduates enrolled in introductory political science classes at a different large public university in the South. As before, students participated in exchange for extra credit. The sample leaned female (62%) and Democratic (52% compared with 16% Republican).

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¹¹ We are grateful to an anonymous reviewer for suggesting this approach.

Since Study 3 uses a between-subjects design with multiple measures of feelings toward Michael Davis (after reading his biography, after reading the article, and after reading the correction), we compare how respondents' feelings toward Michael *change* from the start to the end of the study depending on whether they received the standard correction or the one that rules out the possibility of him serving as sponsor of the College Cost Relief Act. The dependent variable is thus the *difference* in feelings toward Michael Davis before receiving the misinformation and feelings toward him after reading the correction (which we expect will tend to be negative, on average, based on the findings in Studies 1 and 2). The null hypothesis we are testing is that the counterfactual correction will have no effect on the change in feelings toward Davis observed during the study relative to the standard correction that was previously used.

To illustrate that our study captures the dynamics observed in the previous studies, we first plot mean feelings toward Michael Davis at each stage in the experiment.

[Figure 4]

As in Studies 1 and 2 above, the false article describing Davis as the sponsor of the College Cost Relief Act increases positive feelings toward Davis relative to the first stage when respondents had only read his biography.

Table 3 presents the results of our OLS model of changes in feelings toward Michael Davis, which confirms the impression given by the figure above.

[Table 3]

The model shows that using a correction that rules out the possibility of Michael Davis sponsoring the bill does not significantly moderate the "punishment effect" observed in previous studies. We cannot reject the null hypothesis that the change in feelings toward him between the start and end of the study is equivalent to the standard correction.¹²

Discussion

These results suggest that respondents are not faulting Davis for failing to sponsor the College Cost Relief Act. Respondents react equally negatively towards him regardless of whether or not they are given information ruling out the possibility that he was able to sponsor the legislation. These results provide additional support for our claim that respondents' initially favorable reactions to positive information about a politician do not persist after the claim is revealed to be false. To the contrary, participants again express more negative feelings about Michael Davis at the end of the study than they had before encountering the false claim. This finding is consistent with the view that people will overcorrect for positive information about politicians that turns out not to be true.

Conclusions and implications

Previous studies have not considered whether discredited positive information generates belief perseverance in politics. Do politicians benefit from lingering good feelings created by exposure to positive information even though it is later revealed to be untrue? Unlike negative information, we show in three separate experiments that the retraction of false

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¹² To address the concern that respondents might not pay attention to the wording of the corrections, we included a pre-treatment attention filter testing whether participants read questions carefully. Our findings were identical among the group of 420 respondents that passed this question (wording and results available upon request).

positive information about a political figure results in more *negative* evaluations of that person rather than the persistence of good feelings. We believe this "punishment effect" occurs for positive information because respondents are aware they need to adjust their impressions when they learn information affecting their judgment is untrue, but they inaccurately over-estimate how much their judgments were affected by the discredited information (Wegner and Petty 1995, 1997). As a result, people tend to *overcorrect* – the opposite of belief perseverance.

In the process of conducting multiple experiments, we have sought to rule out several alternative explanations for these findings. First, our results cannot be explained by a simple contrast effect – asking participants to evaluate Michael Davis alone in Study 2 actually produced a stronger negative response to the discredited positive information than when respondents were asked about both men. Likewise, rather than observing a positive contrast effect in the case in which negative information about Michael Davis was discredited, we replicated previous negative belief perseverance results when respondents were not asked to also evaluate Harold Davis. Study 3 also ruled out the explanation that our results were driven by negative reaction to a counterfactual in which Michael Davis could have been the chief sponsor of the College Cost Relief Act and failed to do so. When we manipulated whether he was in the legislature at that time, it did not affect the negative reaction we observe in all three studies.

However, it is important to be clear that our experiments – like all research studies – have limitations. Although we attempted to create realistic stimuli, our principal concern was maximizing internal validity to allow for a stringent test of belief perseverance. Future studies could introduce more realistic manipulations and stimulus

materials. For instance, we intentionally did not identify the partisanship of the politicians in our study. However, motivated reasoning appears to play an important role in belief perseverance about partisan issues (Bullock 2007, Cobb 2007). Its role should therefore be considered in future work. In addition, as with any study that relies on a particular source to deliver information, source effects could affect how people interpret both the initial false information as well as its eventual retraction (Turner 2007). These effects are also worth investigating in the context of political belief perseverance. Finally, it is worth considering how people's attitudes and beliefs are affected by being exposed only to a correction and not the initial false information (Cheng, Renstrom, and Otatti N.d.).

While the problem of belief perseverance in politics is real, our studies demonstrate that it is not the inevitable outcome of exposure to false information that is subsequently discredited. In fact, exposure to positive misinformation can actually cause a politician to be viewed *more* unfavorably after the claim in question is revealed to be false. The implications are clear—allowing one's achievements to be exaggerated or misrepresented is perilous. Even if the political figure is not responsible for the misrepresentation, they may be viewed more negatively as a result. While the threat of such a reaction might help to constrain dishonest politicians, it could also unfairly damage the careers of people who have done nothing wrong. More generally, our results suggest that the process through which individuals revise their views of political figures will generally lead to more negative evaluations. Both discredited positive *and* negative misinformation cause politicians to be viewed more unfavorably – a result that may help to explain why they are held in such low regard.

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Appendix A: Study 1 materials

Instructions: We are studying how people feel about politicians. Please read the biographies below of two state Senators from Nevada {and then read the following newspaper [story/stories]}. After reading the biographies {and the article(s)}, please return them to your session leader, who will give you a survey in which we ask you questions about these politicians and yourself.

Michael Davis	Harold Davis
 Nevada state Senator from Reno; Born in Fargo, Cass County, North Dakota 1954; B.A., University of Nevada-Las Vegas 1979; J.D. 1983, UNLV; United States Army 1972-1974; awarded Purple Heart; Private law firm 1983-1986; Reno City Council 1986-1988; Member of the Nevada House of Representatives 1988-1996; Elected to the Nevada state Senate in 1996; Board of Directors, Helping Hands Ministries; Married, two children; 	 Nevada state Senator from Nye County; Born in Titusville, Crawford County, Montana 1950; B.A., University of Montana 1976; J.D. 1979, University of Nevada-Las Vegas; United States Navy 1968-1971; awarded Silver Star; District Prosecutor, Nye County 1980-1984; Mayor, Carson City 1984-1988; Member of the Nevada House of Representatives 1988-1992; Elected to the Nevada state Senate in 1992; Chairman, Nye County Community League; Married, three children;
 A Sampling of his Issue Positions Favors middle class tax relief Favors new laws to crack down on drug dealers Working to promote Nevada economic development 	 A Sampling of his Issue Positions Favors middle class tax relief Supports stiffer penalties for child molesters Working to expand Nevada tourism industry

Michael Davis Pushes College Cost Relief Act

By John Zaller Published Sept. 25 2007

As a result of the efforts of State Senator Michael Davis, a bill intended to help alleviate the high costs of tuition and textbooks passed both chambers of the state legislature yesterday. Starting January 1st, students enrolled in any state public university will get some immediate relief. Education and tax experts say the new legislation will significantly reduce the costs of higher education in Nevada.

Davis, the chair of the Committee on Education and the lead sponsor of the bill, was acclaimed by supporters in the state legislature, who gave him credit for prodding and cajoling enough colleagues to pass the bill. "Michael Davis is a bulldog," said Phil Converse, the student delegate to the committee. "I'm just glad he was on our side."

Analysts point to three key provisions within the legislation that will reduce costs for students and their families. First, it provides a tax deduction equal to the amount of tuition for any student who pays state taxes. Second, students will receive a tax credit that will refund half of what they spent on textbooks that school year up to a maximum of \$2,000. Finally, state lawmakers agreed to cover tuition and room and board up to a maximum of \$12,000 a year if the student maintains a "B" average and takes enough courses each semester to graduate in four years.

This combination of tax credits, deductions, and expanded financial aid drew support from both Democrats and Republicans in the legislature. State lawmakers funded the bill by a combination of cuts in corporate subsidies and new revenue being generated by the record high price of natural gas, which has been a boon to the state's coffers.

One amendment added at the last minute seemed to assure its passage. The amendment requires students to pledge to stay in Nevada for at least five years after they graduate, although the clause has no enforcement mechanism.

Senator Davis said he was moved to act after meeting with student groups and parents during regular trips back home to his district. "I could not believe the horror stories I kept hearing," said Davis. "I've been in the state legislature for two decades, and the problems just reached a critical mass. We had to act."

Corrections

Sept. 26 2007

In the first printing of yesterday's paper, we ran a story about the legislation known as the College Cost Relief Act. In the story, we incorrectly reported that state Senator Michael Davis (Reno) was the primary sponsor of this legislation. The story should have attributed the bill's origins and success to the efforts of state Senator Harold Davis (Nye County). Likewise, all of the quotes from Senator Davis in the story should have been attributed to Harold, not Michael, Davis. The error was due to an editor's mistake, which was corrected in later editions of the paper. We deeply regret this error.

A story Tuesday incorrectly identified the University of Nevada, Reno employee who lost a flash drive with the names and Social Security numbers of about 16,000 former and current students as a professor. The employee, whom the university did not name, was a member of the administrative staff.

Appendix B: Study 2 materials

Instructions: We are studying how people feel about politicians. Please read the biography below of [a state senator][the two state senators] from Nevada.

Michael Davis	Harold Davis [randomized]
 Nevada State Senator from Reno; Born in Fargo, Cass County, North Dakota 1954; B.A., University of Nevada-Las Vegas 1979; J.D. 1983, University of Nevada-Las Vegas; United States Army 1972-1974; awarded Purple Heart; Private law firm, Reno, 1983-1986; Reno City Council, 1986-1988; Member of the Nevada Assembly, 1988-1996; Elected to the Nevada State Senate in 1996; Board of Directors, Helping Hands Ministries; Married, two children; A sampling of his issue positions 	 Nevada State Senator from Nye County; Born in Titusville, Crawford County, Montana 1950; B.A., University of Montana, 1976; J.D. 1979, University of Nevada-Las Vegas; United States Navy 1968-1971 awarded Silver Star; District Prosecutor, Nye County, 1980-1984; Mayor, Carson City, 1984-1988; Member of the Nevada Assembly, 1988-1992; Elected to the Nevada State Senate in 1992; Chairman, Nye County Community League, Married, three children; A sampling of his issue positions
 Favors middle class tax relief Favors new laws to crack down on drug dealers Working to promote economic development 	 Favors middle class tax relief Supports stiffer penalties for child molesters Working to expand tourism industry

Now please read the following article, which was published in the Las Vegas Sun on January 25.

Michael Davis Pushes College Cost Relief Act

By John Zaller Published Jan. 25, 2008

As a result of the efforts of State Senator Michael Davis, a bill intended to help alleviate the high costs of tuition and textbooks passed both chambers of the state legislature yesterday. Starting March 1st, students enrolled in any state public university will get some immediate relief. Education and tax experts say the new legislation will significantly reduce the costs of higher education in Nevada.

Davis, the chair of the Committee on Education and the lead sponsor of the bill, was acclaimed by supporters in the state legislature, who gave him credit for prodding and cajoling enough colleagues to pass the bill. "Michael Davis is a bulldog," said Phil Converse, the student delegate to the committee. "I'm just glad he was on our side."

Analysts point to three key provisions within the legislation that will reduce costs for students and their families. First, it provides a tax deduction equal to the amount of tuition for any student who pays state taxes. Second, students will receive a tax credit that will refund half of what they spent on textbooks that school year up to a maximum of \$2,000. Finally, state lawmakers agreed to cover tuition and room and board up to a maximum of \$12,000 a year if the student maintains a "B" average and takes enough courses each semester to graduate in four years.

This combination of tax credits, deductions, and expanded financial aid drew support from both Democrats and Republicans in the legislature. State lawmakers funded the bill by a combination of cuts in corporate subsidies and new revenue being generated by the record high price of natural gas, which has been a boon to the state's coffers.

One amendment added at the last minute seemed to assure its passage. The amendment requires students to pledge to stay in Nevada for at least five years after they graduate, although the clause has no enforcement mechanism.

Senator Davis said he was moved to act after meeting with student groups and parents during regular trips back home to his district. "I could not believe the horror stories I kept hearing," said Davis. "I've been in the state legislature for two decades, and the problems just reached a critical mass. We had to act."

Now please read the following article, which was published in the Las Vegas Sun on January 26.

Corrections

Published Jan. 26, 2008

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A story Tuesday incorrectly identified the University of Nevada, Reno employee who lost a flash drive with the names and Social Security numbers of about 16,000 former and current students as a professor. The employee, whom the university did not name, was a member of the administrative staff.

Appendix C: Study 3 materials

Instructions: We are studying how people feel about politicians. Please read the biography below of a state senator from Nevada.

Michael Davis

- Nevada state Senator from Reno;
- Born in Fargo, Cass County, North Dakota 1954;
- B.A., University of Nevada-Las Vegas 1979; J.D. 1983, UNLV;
- United States Army 1972-1974; awarded Purple Heart;
- Private law firm 1983-1986;
- Reno City Council 1986-1988;
- Member of the Nevada House of Representatives 1988-1996;
- Elected to the Nevada state Senate in 1996:
- Board of Directors, Helping Hands Ministries;
- Married, two children;

A sampling of his issue positions

- Favors middle class tax relief
- Favors new laws to crack down on drug dealers
- Working to promote Nevada economic development

Now please read the following article from last year, which was published in the Las Vegas Sun on December 25, 2010.

Michael Davis Pushes College Cost Relief Act

By John Zaller

Published Dec. 25, 2010

As a result of the efforts of State Senator Michael Davis, a bill intended to help alleviate the high costs of tuition and textbooks passed both chambers of the state legislature yesterday. Starting September 1st, 2011, students enrolled in any state public university in Nevada will get some immediate relief. Education and tax experts say the new legislation will significantly reduce the costs of higher education in Nevada.

Davis, the chair of the Committee on Education and the lead sponsor of the bill, was acclaimed by supporters in the state legislature, who gave him credit for prodding and cajoling enough colleagues to pass the bill. "Michael Davis is a bulldog," said Phil Converse, the student delegate to the committee. "I'm just glad he was on our side."

Analysts point to three key provisions within the legislation that will reduce costs for students and their families. First, it provides a tax deduction equal to the amount of tuition for any student who pays state taxes. Second, students will receive a tax credit that will refund half of what they spent on textbooks that school year up to a maximum of \$2,000. Finally, state lawmakers agreed to cover tuition and room and board up to a maximum of \$12,000 a year if the student maintains a "B" average and takes enough courses each semester to graduate in four years.

This combination of tax credits, deductions, and expanded financial aid drew support from both Democrats and Republicans in the legislature. State lawmakers funded the bill by a combination of cuts in corporate subsidies and new revenue being generated by the record high price of natural gas.

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Senator Davis said he was moved to act after meeting with student groups and parents during regular trips back home to his district. "I could not believe the horror stories I kept hearing," said Davis. "I've been in the state legislature for two decades, and the problems just reached a critical mass. We had to act."

Now please read the following article, which was published in the Las Vegas Sun on December 26, 2010.

[original correction from Study 2]

Corrections

Published Dec. 26, 2010

In the first printing of yesterday's paper, we ran a story about the legislation known as the College Cost Relief Act. In the story, we incorrectly reported that state Senator Michael Davis (Reno) was the primary sponsor of this legislation. The story should have attributed the bill's origins and success to the efforts of state Senator Harold Davis (Nye County). Likewise, all of the quotes from Senator Davis in the story should have been attributed to Harold, not Michael, Davis. The error was due to an editor's mistake, which was corrected in later editions of the paper. We deeply regret this error.

Also, a story Tuesday incorrectly identified the University of Nevada, Reno employee who lost a flash drive with the names and Social Security numbers of about 16,000 former and current students as a professor. The employee, whom the university did not name, was a member of the administrative staff.

[not yet in office correction]

Corrections

Published Dec. 26, 2010

In the first printing of yesterday's paper, we ran a story about the legislation known as the College Cost Relief Act. In the story, we incorrectly reported that state Senator Michael Davis was the primary sponsor of this legislation. Mr. Davis was only recently elected to the Senate and was not a member of the legislature at that time. He will become a Senator when he is sworn into office on January 21, 2011. The story should have attributed the bill's origins and success to the efforts of state Senator Harold Davis (Nye County). Likewise, all of the quotes from Senator Davis in the story should have been attributed to Harold, not Michael, Davis. The error was due to an editor's mistake, which was corrected in later editions of the paper. We deeply regret this error.

Also, a story Tuesday incorrectly identified the University of Nevada, Reno employee who lost a flash drive with the names and Social Security numbers of about 16,000 former and current students as a professor. The employee, whom the university did not name, was a member of the administrative staff.

Table 1: Study 1 results (between-subjects experiment)

· ·	MD feelings	HD feelings	MD cares	HD cares
Model constant				
Biographies only	6.62***	6.59***	3.07***	3.08***
(baseline group)	(0.16)	(0.19)	(0.06)	(0.07)
IVs: Differences in feelings compared to biographies only				
Bios + False story	0.47**	-0.59**	0.27***	-0.18*
	(0.22)	(0.26)	(0.09)	(0.10)
Bios + false story +				
retraction	-0.83***	0.36	-0.27***	0.27***
	(0.22)	(0.26)	(0.09)	(0.10)
R^2	0.14	0.06	0.15	0.09
N	253	253	251	249

OLS models comparing attitudes toward candidates among respondents in a betweensubjects experiment. Independent variables are indicators for experimental conditions. Those who read only candidate biographies are the excluded category.

MD=Michael Davis, HD=Harold Davis. * p<.10; ** p<.05; *** p<.01 (two-sided)

Table 2: Study 2 results (Michael Davis feelings in a repeated-measures study)

V	Negative misinformation		Positive misinformation	
	No comparison	Comparison	No comparison	Comparison
Model constant				
Measure 1: Biographies	7.86***	6.92***	8.43***	6.61***
	(0.15)	(0.15)	(0.13)	(0.10)
IVs: Changes in feelings compared to Measure 1				
Measure 2: Bios + false	-2.07***	-2.62***	0.97***	0.69***
story	(0.32)	(0.28)	(0.24)	(0.20)
Measure 3: Bios + false	-0.50**	-0.13	-1.27***	-0.52***
story + retraction	(0.23)	(0.28)	(0.24)	(0.17)
Fixed effects	YES	YES	YES	YES
Clustered SEs	YES	YES	YES	YES
R^2	0.59	0.62	0.74	0.76
Observations	241	208	222	255
Participants	82	70	75	85

OLS models comparing attitudes toward Michael Davis among respondents in a repeated-measures study. Participants were randomly assigned to experimental conditions corresponding to the columns in the table above.

^{*} p<.10; ** p<.05; *** p<.01 (two-sided)

Table 3: Study 3 results (change in Michael Davis feelings)

	Change in MD Feelings Stage 1 to Stage 3
Not in legislature condition	0.116
	(0.135)
Constant	-1.187***
	(0.091)
R^2	0.0008
N	961

OLS models comparing attitudes toward Michael Davis among respondents in a betweensubjects experiment. The independent variable is an indicator for an experimental condition. Respondents who read a correction suggesting that Davis was in the state senate at the time the bill was passed are the excluded category.

^{*} p<.10; ** p<.05; *** p<.01 (two-sided)

Figure 1: Study 1 results

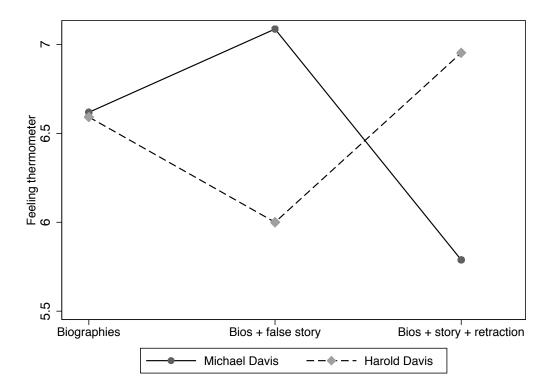


Figure 2: Study 2 positive information conditions

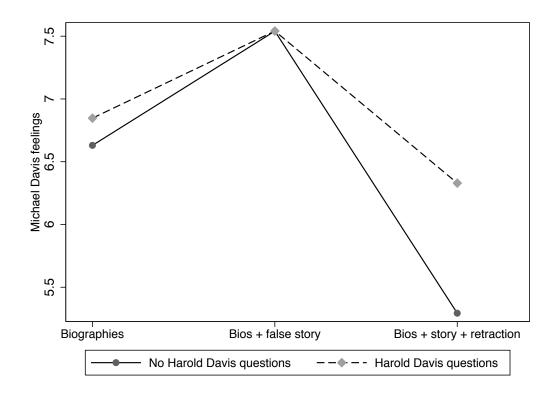


Figure 3: Study 2 negative information conditions

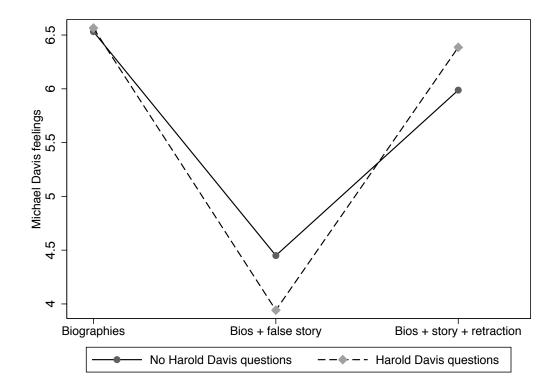


Figure 4: Study 3 results

