When contradictions foster persuasion: An attributional perspective

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HIGHLIGHTS

► We test the effect of contradictions, or conflicting messages from the same source, on persuasion.
► Conflicting messages sometimes offer a persuasive advantage.
► This effect is driven by favorable attributions.
► We identify several moderators.

ABSTRACT

Conventional wisdom and past research suggest that contradicting oneself, or changing one’s stated opinion, should undermine one’s persuasiveness. In contrast to this view, we propose that under specifiable conditions contradicting oneself might offer a persuasive advantage. Across a series of experiments, we find evidence for this contradiction effect and explore its mechanism and boundaries. In particular, we show that contradictions can prompt attributional processing geared toward understanding why a shift in opinion has occurred. When strong arguments are provided, they foster favorable attributions (e.g., the source thought more about the issue and/or gathered new information), which result in increased persuasive impact. When weak arguments are provided, they induce less favorable attributions, which in turn dampen or even reverse the effect. Furthermore, consistent with an attributional perspective, we find that contradictions introduce a persuasive advantage only when they come from a single source and only when trust in that source is high.

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Introduction

People hold and express opinions with varying degrees of consistency. In the political sphere, for instance, attentive voters might notice that one candidate has consistently endorsed the same position on some topic, whereas another has varied and expressed seemingly contradictory views over time. Conventional wisdom suggests that to have influence over others, it is better to be consistent rather than inconsistent in one's messaging, and that all else equal, people favor consistency in others and their opinions. In the 2004 U.S. presidential election, for example, Democratic candidate John Kerry’s defeat was at least partly attributed to his inconsistency (i.e., “flip-flopping”) on key issues such as the war in Iraq. Concerned voters appeared to interpret shifts in Kerry’s opinion as reflecting pandering or a lack of clear conviction rather than genuine belief change sparked by the acquisition of new information. Similarly, during the 2012 campaign, presidential hopeful Mitt Romney was widely criticized for showing inconsistency in his professed opinions over time.

Supporting conventional wisdom and this anecdotal evidence, a voluminous body of research suggests that when people seek to persuade others, or gain their support, they can increase their chances of doing so by conveying a consistent message over time, or repeating their core arguments and opinions. Indeed, compared to stating an argument or opinion just once, repeating that argument or opinion can make it seem more valid or true (e.g., Bacon, 1979; Begg, Anas, & Farinacci, 1992; Dechêne, Stahl, Hansen, & Wänke, 2010; Hasher, Goldstein, & Toppino, 1977; Schwartz, 1982), and can give a persuasive message more impact (Moons, Mackie, & García-Marques, 2009). The rationale is that repetition increases familiarity, which boosts the perceived validity of an argument, belief, or opinion (Arkes, Hackett, & Boehm, 1989; Skurnik, Yoon, Park, & Schwarz, 2005). In fact, repeating one’s opinion can even make it seem more valid to oneself (Fazio, 1995; Petrocelli, Tormala, & Rucker, 2007). Research on hypocrisy further supports the notion that people prefer consistency in both their own (e.g., Batson, Thompson, Seuferling, Whitney, & Strongman, 1999; Stone, Wiegand, Cooper, & Aronson, 1997) and other people’s (e.g., Barden, Rucker, & Petty, 2005; Wagner, Lutz, & Weitz, 2009) thoughts and actions.

In the current research, we question the notion that inconsistency is always bad, or harmful to one’s persuasive agenda. Consider an
example in which you are trying to decide where to go for your next vacation, and you ask a friend for advice about potential destinations. Intuitively, and based on the aforementioned research, it is reasonable to expect that the more consistent your friend is in the advice she gives, the more persuaded you will be. For instance, if you talk to your friend on two separate occasions and she offers the same advice each time ("Cancun"), that advice would seem to carry more weight and exert more influence over your decision. In contrast to this notion, the current research asks whether, and when, your friend could gain influence by contradicting herself—for example, by first telling you not to go somewhere for vacation and then changing her mind a week later and recommending the very same spot.

**The contradiction effect**

The primary goal of the current research is to explore the general possibility that conflicting messages—such as initially opposing something and then later supporting it—might sometimes offer a persuasive advantage over both one-time messages (e.g., supporting something once) and repeated consistent messages (e.g., initially supporting something and then later supporting it again). Stated differently, we investigate a potential contradiction effect in persuasion, whereby changing one's stated opinion can be an effective strategy for getting people to follow one's recommendation or adopt one's point of view.

Why would contradicting oneself offer any persuasive advantage? We examine this question from an attributional perspective, positing that because contradictions are unexpected and noteworthy, they prompt attributional reasoning focused on understanding why a shift in the source's opinion has occurred. Indeed, numerous studies have shown that expectancy violations stimulate information processing (e.g., Baker & Petty, 1994; Karmarkar & Tormala, 2010), and that unexpected events tend to spark greater attributional thinking than do more expected events (e.g., Clary & Tesser, 1983; Hastie, 1984; Lau & Russell, 1980; Pyszczynski & Greenberg, 1981; Wong & Weiner, 1981). For instance, unexpected wins by underdog teams or losses by favored teams, surprising academic success or failure, unusual willingness or unwillingness to help and, importantly, inconsistent behavior all have been shown to trigger attributional thinking (see Weiner, 1985). The logic is that unexpected events demand explanation and, thus, that unexpectedness fosters attributional reasoning geared toward providing such an explanation.

The current research adopts this core logic and applies it to a new, heretofore undocumented, consequence. That is, we follow the same underlying principle of past research on expectancy violations and attributional processing, but use it to explore and understand the potential advantage of contradictions, or opinion shifts, in persuasion. We submit that if shifts in a message source's expressed opinion are unexpected, they will prompt attributional processing on behalf of message recipients. If positive attributions are then formed for the shift, their effect could be greater persuasive impact—that is, more persuasion elicited by the second (contradictory) message than it otherwise would have. If negative attributions are formed, the opposite effect might emerge—specifically, less impact or even reversed impact for the second message. In other words, if a contradictory message stimulates attributional processing through its unexpectedness, it might produce more or less persuasion (compared to a one-time or repeated consistent messages) as a function of the favorable or unfavorable attributions recipients generate for the contradiction. For example, when a message source first opposes a policy but subsequently supports it, a positive attribution might be that the source has gathered new information or engaged in further thought about the policy that changed his or her mind, which might enhance the impact of his or her final message. In contrast, a negative attribution might be that the source is a flip-flopper or is not thinking enough about the policy, which should reduce or even reverse the impact of his or her message.

Based on this logic, an important question arises: What determines the direction of recipients' attributions for a conflicting message? That is, what moderators are suggested by an attributional account for the hypothesized contradiction effect? In the current research, we explore three factors: message strength, number of sources, and source trustworthiness.

**Message strength**

First, one important factor might be the cogency of support (or strength of arguments; Petty & Cacioppo, 1986) offered for the second—contradictory—message. To the extent that strong (i.e., convincing) arguments are provided, they should foster more positive attributions that lead to favorable message responses and, ultimately, more persuasion. If weak (i.e., unconvincing) arguments are provided for the second message, however, they might undermine positive attributions, thereby dampening or even reversing the effect. In particular, strong arguments seem likely to foster the perception that the source encountered or gathered new information and engaged in further thought about the issue at hand. Recipients might therefore infer greater thoughtfulness or due diligence on behalf of a source who changes his or her previously stated opinion with compelling reasons for doing so. Weak arguments, by contrast, leave room for doubt about the source’s reasons for shifting opinions and should undermine any favorable assumptions about the source’s level of thoughtfulness. Indeed, specious arguments make it unlikely that the source engaged in greater due diligence or had good reasons for changing his or her mind.

**Number of sources**

In addition to message strength, or argument quality, the number of sources (i.e., whether the messages come from a single source or multiple sources: Harkins & Petty, 1981; Harkins & Petty, 1987) might moderate the contradiction effect. Specifically, our attributional logic suggests that the contradiction effect should be more evident when there is a single message source rather than multiple sources. To begin with, contradictions should be more unexpected, thereby initiating the aforementioned attributional reasoning, when they come from a single source. After all, people presumably receive conflicting messages from multiple sources (compared to a single source) with greater frequency; in fact, people sometimes are explicitly encouraged to seek such input (e.g., get a second opinion). Thus, a contradiction from one source should be more unusual or noteworthy than contradictions from multiple sources.

Furthermore, and perhaps more important, contradictions from single sources seem more likely to foster the impression of thoughtfulness. When one individual contradicts another, it does not necessarily imply that she has gathered new information or engaged in further thought about the target issue. She might simply hold a different opinion. Contradicting oneself and then offering strong arguments to support the shift, however, could induce an impression of greater information consideration and thoughtfulness, thus producing the contradiction effect.

**Source trustworthiness**

Finally, the contradiction effect might be especially likely to manifest when message recipients trust the source. Source trustworthiness is a dimension of source credibility defined as a source's perceived motivation to provide accurate and truthful information (e.g., Kelman & Hovland, 1953; Priester & Petty, 1995; Tormala & Clarkson, 2008). Like the number of sources, source trustworthiness might have a two-fold influence on the contradiction effect. First, contradictions might be more unexpected or noteworthy when they come from trusted sources. Perhaps contradictions from distrusted sources are more expected, making extensive attributional reasoning stemming from an untrustworthy source contradiction less likely (see Hastie, 1984). In
fact, it could be consistency from an untrustworthy source that violates expectancies and triggers attributional processing, in which case we would expect to observe different persuasive outcomes for consistent versus conflicting messages when trust is low.

Importantly, though, trust might also moderate the contradiction effect by influencing the direction of recipients’ attributions following a contradiction. For example, if a trusted source contradicts himself, a common inference might be that he discovered new information or more thoroughly analyzed the issue after providing the initial (now contradictory) message or opinion. Particularly under conditions in which strong arguments are presented, recipients might be more generous in the attributions formed about a trustworthy source contradiction. If true, we might expect to observe increased persuasion under these conditions. When untrustworthy sources contradict themselves, however, the attributions generated for the switch might be less generous or favorable. Perhaps if people receive contradictory messages from a source they do not trust, they assume an ulterior motive, feel more guarded, or simply decide that the source is so untrustworthy that it is not worth paying further attention to his or her message. Under these conditions, contradicting oneself seems likely to backfire relative to giving consistent messages. Thus, we predict that contradictions (when strong arguments are presented) might offer a persuasive advantage under high trust, but be more likely to backfire and undermine persuasion under low trust.

Overview

We present five experiments investigating the contradiction effect in persuasion. Experiment 1 tests the basic effect – that conflicting messages can sometimes have more persuasive impact – in a medical setting in which someone seeks advice from a friend. Experiment 2 shifts the focus to a classic persuasion paradigm and explores whether the contradiction effect is more pronounced when strong arguments are provided, as hypothesized. Experiment 3 explores the attributional mechanism for this effect – that is, whether it stems from inferences formed about the source’s thoughtfulness – and examines whether number of sources moderates the effect. In Experiment 4, we manipulate source trustworthiness to examine whether the contradiction effect is more likely to emerge (backfire) under high (low) trust conditions, as suggested by our attributional account. Finally, Experiment 5 is a field study in which we manipulate general states of high or low trust and investigate whether the contradiction effect can determine a real behavioral outcome.

Experiment 1

Experiment 1 provided an initial test of the contradiction effect in an advice-taking context. In this study, we pitted conflicting (i.e., changing) advice against a single instance of internally consistent advice. All participants imagined that a trusted individual (a friend) gave them advice about a medical decision. The friend was initially reassuring (“You meet him that day and he takes a look. He tells you that the mole looks harmless and that you have no reason to worry”), but then called on the phone a few days later with different advice, saying that “he thinks it would be a good idea to remove the mole in order to conduct a skin biopsy, because it does seem to share some of the features of potentially problematic growths. This procedure involves cutting the skin to remove the mole and stitching the area up, and is the most reliable method to rule out skin cancer.”

As noted, we ran 2 different control conditions in which advice was offered just once, varying whether that one time occurred when advice was first sought or a few days later over the phone. The advice in these conditions always supported getting the mole removed and offered the exact same rationale as in the second interaction in the conflicting advice condition. In the time 1 only condition, the friend advised that it would be a good idea to remove the mole during the initial interaction: “You meet him that day and he takes a look. He tells you that it would be a good idea to remove the mole in order to conduct a skin biopsy...” In the time 2 only condition, the friend recommended the biopsy after a few days: “You meet him later that day and he takes a look. After a few days, he calls you up and tells you that he thinks it would be a good idea to remove the mole in order to conduct a skin biopsy...” Our aim was to make the final recommendation equally clear and confident across conditions, varying only whether an alternative recommendation had been made previously.

Dependent measures

Attitudes toward the advice. Immediately after reading the scenario, participants reported their attitudes toward the advice. Specifically, they reported (on 2 scales ranging from 1 to 7) how bad or good they thought their friend’s advice was and how convinced they were by the case their friend made for getting the mole removed. These two measures were averaged to form a composite index ($r = .69, p < .001$), with higher values reflecting more favorable ratings of the advice.

Behavioral Intentions. Next, participants indicated (on 2 scales ranging from 1 to 7) how likely they would be to remove the mole and whether they thought they would follow their friend’s advice to get the procedure. Responses were averaged to form a composite index ($r = .87, p < .001$), such that higher ratings reflected a greater likelihood of removing the mole.
Worry. Following behavioral intentions, participants completed a single item assessing their concern about the mole: “Following this episode, how worried would you be about the mole?” using a scale ranging from 1 (not at all) to 7 (very).

Recommendations. Next, participants indicated the extent to which they would recommend that others in a similar situation get the procedure, using a scale ranging from 1 (not recommend at all) to 7 (strongly recommend).

Source confidence. Finally, to assess whether participants did indeed perceive the final advice to be equally confident across conditions, we asked one question: “How confident would you say your friend is about the advice he is giving?” Responses were provided on a scale ranging from 1 (not at all) to 7 (very confident).

Results

We submitted each index to a one-way analysis of variance (ANOVA), with advice condition (time 1 only, time 2 only, or conflicting advice) as the independent variable. All means and standard deviations are presented in Table 1.

<table>
<thead>
<tr>
<th>Advice condition</th>
<th>Conflicting advice</th>
<th>Advice at time 1</th>
<th>Advice at time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent measures</strong></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Attitudes</td>
<td>5.74</td>
<td>1.22</td>
<td>4.29</td>
</tr>
<tr>
<td>Behavioral intentions</td>
<td>6.00</td>
<td>1.04</td>
<td>4.69</td>
</tr>
<tr>
<td>Worry</td>
<td>5.30</td>
<td>1.30</td>
<td>4.23</td>
</tr>
<tr>
<td>Recommendations</td>
<td>6.09</td>
<td>1.04</td>
<td>4.73</td>
</tr>
<tr>
<td>Source confidence</td>
<td>5.91</td>
<td>1.13</td>
<td>5.69</td>
</tr>
</tbody>
</table>

NOTE: All scales ranged from 1 to 7.

Across a range of metrics, Experiment 1 revealed that conflicting advice had a greater persuasive impact than equivalent one-time advice. This finding provided initial evidence for the proposed contradiction effect. Of importance, though, Experiment 1 also raised some key questions. For example, what is the mechanism driving this effect? We have postulated that it stems from favorable attributions generated by a shift in someone’s opinion, but it could be that in the medical domain any hint of uncertainty leads people to choose the safest course of action. In other words, perhaps in Experiment 1 contradictory advice provoked uncertainty that led participants to favor the conservative response, which in this case was to get the biopsy.

Although interesting in its own right, we think this account is unlikely to explain our results. Conceptually, it seems implausible that receiving definitive advice that a mole is problematic would be less concerning than receiving uncertain advice in the same direction. If anything, the perception that one-time advice was more certain or definitive might have made one-time advice more impactful—especially from a non-expert source like the one used in Experiment 1 (Karmarkar & Tormala, 2010). Empirically too, the tenability of this alternative account is low. Again, we made an effort to keep the final recommendation and rationale identical across conditions, and the source confidence data indicated that participants did not, in fact, perceive the ultimate recommendation to be differentially confident across conditions. Nevertheless, we addressed this issue in the next study by changing the setting to one in which there was no health risk at stake and in which the conservative response would be to disregard the advice and resist persuasion.

Also important, Experiment 1 pitted conflicting advice against one-time advice at various time points. This was useful in providing an initial demonstration of the contradiction effect, but could it be that simply receiving advice twice was the key to this effect? After all, participants in the conflicting advice condition were the only ones to receive advice on two occasions. It is theoretically possible that this could have raised the perceived importance of the issue, made it more concerning, or made existing concerns more accessible (Fazio, 1995), all of which could have yielded greater persuasive impact without having anything to do with contradictions or changing opinions. To address this issue in Experiment 2, we gave all participants two messages from the same source, but manipulated whether those messages were consistent or conflicting.

Experiment 2

In Experiment 2, we shifted the paradigm from advice giving to a more classic persuasion context. In addition to replicating the contradiction effect in a different domain, we sought to provide an initial test of our proposed attributional account. In particular, we posited that the contradiction effect would be moderated by the cogency of support offered for the ultimate message such that it would be especially prominent when strong rather than weak arguments were provided. Again, the rationale was that favorable attributions for a source’s shift in opinion (such as greater due diligence or thoughtful- ness following the initial recommendation) would be more plausible when the reasons offered for it were compelling. Thus, in Experiment 2 all participants received a persuasive message twice, but we varied whether it was consistent or conflicting and we manipulated the strength of the arguments in the second message. We predicted that there would be an interaction between message consistency and argument strength on attitudes. More specifically, the conflicting...
message was postulated to produce more persuasion than the consistent message under strong but not weak argument conditions.

Method

Participants and design

A total of 127 undergraduates participated in a laboratory study for monetary compensation. Participants were randomly assigned to conditions in a 2 (message consistency: consistent or conflicting) × 2 (argument quality: strong or weak) between-participants factorial design.

Procedure

Participants were welcomed by an experimenter and seated at one of several partitioned computer terminals. The experimenter directed participants’ attention to their computer screens where all experimental materials were presented. On the opening screen, participants received the same imagination and visualization cover story as in Experiment 1. When participants continued to the next screen, however, the paradigm was modified. Here, participants were told to imagine that they had a friend who was interested in education policy. One day, while spending time with this friend, he began to talk about a new university service program that some universities had begun to consider. For schools considering this program, students would be required to contribute time and effort over several semesters to needed university tasks. Students would not be compensated for their work, and participation would be mandatory for anyone wishing to graduate from the university. In the service program. (this description was adapted from past research; e.g., Tormala & DeSensi, 2009; see also Baker & Petty, 1994). Importantly, no arguments regarding the university service program were given at this time; the friend simply noted that it was a good idea. Then, participants read that a week later at lunch the friend expressed a negative opinion of the service program on both occasions. For example, the scenario’s description of the first interaction concluded with the line, “Your friend says that he thinks that this policy is a good idea.” Then, a week later at lunch, the friend followed-up on the same point: “He thinks it is a good idea because the University Service Program offers numerous benefits to students…” By contrast, in the conflicting message condition, the friend initially expressed a negative opinion (“Your friend thinks that this policy is a bad idea.”), followed by a change of mind the following week, saying that “it is actually a good idea because the University Service Program is a good idea because the University Service Program offers numerous benefits to students…” In neither condition were any arguments offered at time 1 (i.e., during the first interaction in the scenario); the friend merely registered his support for or opposition to the policy. The only arguments ever offered were favorable ones that followed his time 2 endorsement (i.e., a week later at lunch).

Argument quality. In the context of reading about the friend’s reasons for supporting the service program at lunch in the second part of the scenario, participants received a persuasive message containing his arguments in favor of the program. Participants were randomly assigned to receive strong or weak arguments (adapted from Tormala & DeSensi, 2009; see also Baker & Petty, 1994). In the strong argument condition, participants received several compelling reasons to implement the policy (e.g., it would improve the quality of education and increase job opportunities for graduating seniors). In the weak argument condition, participants received less compelling reasons (e.g., it would reduce leisure time and rowdiness on campus; and it would save money that could be used for nicer faculty luncheons). Importantly, although they differed in strength, both messages argued unambiguously in favor of the service program.

Attitude measure

After reading the message at time 2, participants were asked to rate the service program on two semantic differential scales ranging from 1 (oppose, foolish) to 9 (support, wise). Responses were averaged to form a composite index (r = .75, p < .001), with higher ratings reflecting more favorable attitudes.

Results

We submitted the attitude data to a 2×2 ANOVA with message consistency and argument quality as the independent variables. This analysis revealed a main effect of argument quality, F(1, 123) = 50.82, p < .001, such that attitudes were more favorable in the strong (M = 4.90) rather than weak (M = 2.83) arguments condition. There was no main effect of message consistency, F < 1. Most germane to our primary concerns, the main effect for argument quality was qualified by a significant interaction with message consistency, F(1, 123) = 4.50, p < .05. As illustrated in Fig. 1, the conflicting message tended to outperform the consistent message in the strong argument condition, F(1, 123) = 3.42, p < .07, but not in the weak argument condition (p = .27).

Discussion

In Experiment 2, we replicated the contradiction effect in a different domain and also established a boundary condition. In particular, the effect only emerged when strong arguments had been presented. In other words, it appeared to be the combination of conflicting messages and strong arguments that offered a unique persuasive advantage. This result is compatible with our attributional perspective, which suggests that contradictions (1) prompt attributional processing, and (2) foster favorable attributions when they are followed by strong but not weak arguments. Indeed, under strong argument conditions, message recipients are more likely to infer that the contradiction stemmed from greater due diligence or thoughtfulness on behalf of the message source.

As a caveat to this conclusion, it is worth noting that although the results of Experiment 2 are consistent with an attributional perspective on the contradiction effect, they also fit a more basic elaboration account. More specifically, perhaps the current results simply demonstrate that people process more extensively when they detect any
inconsistent or mixed information on the focal topic. Indeed, it is well-documented that evaluative inconsistencies and surprising combinations of information generally stimulate greater cognitive elaboration (Baker & Petty, 1994; Karmarkar & Tormala, 2010; Maheswaran & Chaiken, 1991; Smith & Petty, 1996; Wood & Eagly, 1981). For example, feeling ambivalent about an object or issue tends to raise individuals’ issue-relevant thinking (e.g., Bell & Esse, 2002; Jonas, Diehl, & Brömer, 1997; Maio, Bell, & Esse, 1996; Nordgren, van Harrevel, & van der Pligt, 2006; Petty, Tormala, Brih, & Jarvis, 2006; Tormala & DeSensi, 2008), and it is well-established that increased thinking sometimes enhances reactions to strong but not weak persuasive messages (Petty & Cacioppo, 1986).

In the context of contradictions, and in Experiment 2 specifically, perhaps people process more deeply when they perceive any message-based inconsistency, simply because they feel ambivalent and want to resolve that feeling, make sense of the inconsistency, and better understand the issue at hand. Although this could produce a contradiction effect as we have described it, it would not require an attributional mechanism and could suggest that contradictions per se do not even drive the effect. Instead, perhaps the “contradiction effect” revolves around generally increased elaboration stemming from any inconsistency. We explore this issue in the next experiment and provide stronger evidence for the attributional mechanism we have proposed.

Experiment 3

In Experiment 3, we sought to replicate and extend the findings of Experiment 2 by more directly testing the attributional mechanism for the contradiction effect. Again, we proposed that the interaction uncovered in Experiment 2 was driven by favorable attributions regarding the source’s thoughtfulness. More specifically, we hypothesized that participants would assume that the source of the message had gathered more information and engaged in more thoughtful analysis when he changed his stated opinion and then presented strong arguments.

To test this account, we took two steps. First, we manipulated the number of sources delivering the (consistent or conflicting) messages. In some cases, participants read that the same individual presented each message, whereas in other cases participants read that they received messages from two different individuals. Because our attributional account suggests that message recipients will make generous attributions regarding an individual’s thoughtfulness when that individual has a shift in opinion supported by strong (but not weak) arguments, we predicted that the contradiction effect would only emerge in the single source condition. When the second message comes from a different source, contradicting the earlier message is less diagnostic with respect to information gathering or thoughtfulness, which we expected to dampen the effect. In other words, if the contradiction effect stems from the inference that an individual source believed there was more to analyze or consider after offering an initial opinion, multiple source contradictions should not promote positive attributions in the same way as single source contradictions. Therefore, we predicted that we would replicate the findings of Experiment 2 under single source but not multiple source conditions.

What would happen under multiple source conditions? Generally speaking, multiple sources (relative to single sources) have been shown to increase recipients’ message processing and give more influence to strong arguments (Harkins & Petty, 1981, 1987). The reason is that information provided by multiple sources is perceived as more likely to be based on divergent perspectives or knowledge bases, meaning it warrants more attention. Thus, we predicted that there would be a three-way interaction between message consistency, number of sources, and argument quality. Under single source conditions, the conflicting message was postulated to produce more persuasion than the consistent message under strong but not weak argument conditions, replicating Experiment 2. Under multiple source conditions, we expected the interaction between message consistency and argument quality to be eliminated, leaving only a main effect for argument quality, unqualified by message consistency.

To provide clear mediational evidence for the role of favorable attributions, we directly assessed these attributions in Experiment 3. That is, we asked participants to report their perceptions of how much information the second source had considered and how thoughtful that source seemed to be. We expected these perceptions to closely parallel participants’ attitudes, and to mediate the predicted attitude effects. Most germane to our primary concerns, we postulated that in the single source condition participants would perceive more thoughtfulness when the source contradicted himself and then presented strong (but not weak) arguments. When a single source delivered consistent messages, we expected this effect to be attenuated. Under multiple source conditions, our predictions were less clear, though we speculated that strong arguments might generally produce greater perceptions of thoughtfulness irrespective of message consistency. Finally, as noted earlier, in order to provide further clarity surrounding the process driving our effects, we measured ambivalence in Experiment 3. Our prediction was that ambivalence would not play a central role in the contradiction effect.

Method

Participants and design

A total of 142 participants from a national online pool took part in exchange for a chance to win an Amazon.com gift card. Participants were randomly assigned to conditions in a 2 (number of sources: single or multiple) × 2 (message consistency: consistent or conflicting) × 2 (argument quality: strong or weak) between-participants factorial design.

Procedure

The overall procedure for this study was very similar to that of Experiment 2: participants read a message about a new service program that some universities ostensibly had begun to consider, and they were told to imagine that they had a friend who was interested in education policy and who raised this issue with them. Again, no arguments regarding the university service program were given when the policy was first introduced; the friend merely stated his opinion. As in Experiment 2, all of the arguments supporting the service program were presented at time 2, during the second interaction. A key difference, however, was that in this study we manipulated the source of the second message. As described below, the source was either the same friend as at time 1 or a different friend. When participants finished reading his arguments, they reported their attitudes toward the service program and completed measures of attributions and ambivalence.

Independent variables

Number of sources. Participants were randomly assigned to a single or multiple source condition. In the single source condition, the same friend expressed his opinion of the service program on both occasions, as in Experiment 2. In the multiple source condition, the friend who endorsed the service program at time 2 was not the same friend who expressed his opinion at time 2. In order to make it clear that the friends were two different people, we named them. In the single source condition, the source was named as follows: “Imagine that you have a friend named Mark, who is very interested in Education policy. …The following week, while having lunch with Mark, he brings up the University Service Program again.” In the multiple source condition, the text was altered to indicate two different individuals: “Imagine that you have a friend named James, who is very interested in Education policy. …The following week, while having
lunch with your other friend Mark, he brings up the University Service Program as well."

Message consistency. Participants also were randomly assigned to message consistency conditions. This manipulation was virtually identical to that used in Experiment 2, with the exception of minor modifications to accommodate the multiple source condition. In the consistent message condition, the friend (or friends) expressed a positive opinion of the service program on both occasions. In the conflicting message condition, the initial opinion was negative and then a positive message was presented at time 2. Again, in each condition, the arguments in favor of the policy were outlined only in the second interaction.

Argument quality. Finally, we manipulated the strength of arguments presented in support of the service program at time 2. This manipulation was identical to that used in Experiment 2.

Dependent measures

Attitudes. After reading the arguments, participants rated the university service program on two semantic differential scales ranging from 1 (unfavorable, negative) to 9 (favorable, positive) and an additional item assessing the degree to which participants believed the University Service Program would hurt (1) or help (9) students. Responses were averaged to form a composite index (α = .98), with higher ratings reflecting more favorable attitudes.

Perceived thoughtfulness. Next, participants were asked to indicate (1) how likely it was that their friend had gathered new information about the university service program before giving his final opinion, and (2) how thoughtful a person they thought their friend was. Responses, provided on scales ranging from 1 to 9, were averaged to form a composite index (r = .73, p < .001). Higher ratings indicated greater perceived thoughtfulness on behalf of the friend.

Ambivalence. Finally, to address a potential ambivalence and elaboration account for our findings, we asked participants to complete 2 ambivalence items tapping their separate negative and positive reactions to the message (adapted from Priester & Petty, 1996): “Considering only your NEGATIVE thoughts and feelings about the University Service Program and ignoring the positive ones, how negative would you say your negative thoughts and feelings toward the University Service Program are?” “Considering only your POSITIVE thoughts and feelings about the University Service Program and ignoring the negative ones, how positive would you say your positive thoughts and feelings toward the University Service Program are?” Responses were provided on separate scales ranging from 0 (No negative [positive] thoughts or feelings) to 10 (Maximum negative [positive] thoughts or feelings). Ambivalence was then calculated for each participant using a formula developed by Thompson, Zanna, and Griffin (1995): ambivalence = (P + N)/2 − [P − N], where P is the response on the positive item and N is the response on the negative item.

Results

Attitudes. We began our analysis by submitting attitudes to a 2 × 2 × 2 ANOVA with number of sources, message consistency, and argument quality as the independent variables. This analysis revealed a main effect of argument quality, F(1, 134) = 47.34, p = .001, such that attitudes were more favorable when the source provided strong (M = 6.38) rather than weak (M = 3.57) arguments. In addition, there was a significant two-way interaction between argument quality and message consistency, F(1, 134) = 6.84, p < .05. None of the other main effects, Fs < 1, or two-way interactions (ps > .48) were significant. Most importantly, however, we did obtain the predicted three-way interaction, F(1, 134) = 4.07, p < .05.

We decomposed this three-way interaction by examining the data under single and multiple source conditions. First, in the single source condition (see Fig. 2, top panel), we found a main effect for argument quality, F(1, 134) = 20.99, p < .001, such that attitudes were more favorable when strong rather than weak arguments had been presented. There was no main effect for message consistency, F < 1. Most germane to our primary hypotheses, there was a significant message consistency × argument quality interaction, F(1, 134) = 8.64, p < .05. As predicted, we observed an advantage for conflicting messages over consistent messages when the source presented strong arguments, F(1, 134) = 5.37, p < .05. When the source presented weak arguments, however, this effect tended to reverse, F(1, 134) = 3.71, p = .057.

Under multiple source conditions (see Fig. 2, bottom panel), a different pattern emerged. Most importantly, the message consistency × argument quality interaction was not significant under multiple source conditions, F < 1. Replicating the multiple source effect (Harkins & Petty, 1987), however, we did observe a main effect for argument quality, F(1, 134) = 28.21, p < .001, such that attitudes were more favorable when strong rather than weak arguments had been presented. There was no effect of message consistency under multiple source conditions, F(1, 134) = 1.01, p < .32.

Perceived thoughtfulness. Analysis of the perceived thoughtfulness index revealed an outcome that paralleled that of attitudes. First, we found a main effect for argument quality, F(1, 134) = 39.95, p < .001, such that participants generally viewed the source as more thoughtful when strong (M = 6.57) rather than weak (M = 4.55) arguments had been presented. In addition, we found a significant two-way interaction between message consistency and argument quality, F(1, 134) = 5.97, p < .05. None of the other main effects (ps > .15) or two-way interactions (ps > .11) were significant.

Most importantly, we found a three-way interaction, F(1, 134) = 3.77, p = .054. In the single source condition (Fig. 3, top panel), there was a main effect for argument quality, F(1, 134) = 25.23, p < .001, but this was qualified by a message consistency × argument quality interaction.
quality interaction, $F(1, 134) = 7.74, p < .05$. Replicating the attitude data, perceived thoughtfulness was greater under conflicting rather than consistent message conditions as long as the source presented strong arguments, $F(1, 134) = 5.02, p < .05$. When the source presented weak arguments, however, this effect tended to reverse, $F(1, 134) = 3.19, p < .08$. Under the multiple source conditions (see Fig. 3, bottom panel) the message consistency $\times$ argument quality interaction was not significant, $F < 1$. Here we found only a main effect for argument quality, $F(1, 134) = 14.72, p < .001$, such that participants viewed the source as more thoughtful when strong rather than weak arguments had been presented.

Mediation. To assess whether differences in attitudes across conditions were mediated by attributions to thoughtfulness, we conducted a test of mediated moderation (Muller, Judd, & Yzerbyt, 2005). First, as noted, we found a significant three-way interaction on both attitudes ($\beta = -2.54, p < .05$) and perceived thoughtfulness ($\beta = -1.94, p = .054$). Also important, perceived thoughtfulness predicted attitudes ($\beta = .81, p < .001$). When the three-way interaction (controlling for all main effects and two-way interactions) and perceived thoughtfulness were included in a single regression model predicting attitudes, thoughtfulness continued to be a significant predictor ($\beta = .73, p < .001$) and the three-way interaction was no longer significant ($\beta = -.72, p = .40$). Of greatest import, the mediating pathway from the three-way interaction to attitudes through perceived thoughtfulness was significant ($Z = 1.97, p < .05$).

Objective ambivalence. Finally we submitted the ambivalence measure to a $2 \times 2 \times 2$ ANOVA with number of sources, message consistency, and argument quality as the independent variables. This analysis revealed no significant effects ($ps > .11$).

Discussion

In sum, Experiment 3 provided evidence for the mechanism driving the contradiction effect, namely favorable attributions about thoughtfulness when a source changed his stated opinion. As hypothesized, when participants received strong arguments from a single source, conflicting messages fostered both perceived thoughtfulness and greater persuasion, with the former mediating the latter. When participants received weak arguments, or when the contradiction came from multiple sources, conflicting messages offered no persuasive advantage. Thus, it appears to be the unique confluence of compelling arguments and single source contradictions that elicit favorable attributions and elevate persuasive impact. This pattern of evidence is consistent with our attributional perspective on the contradiction effect.

Also consistent with this account, Experiment 3 yielded no evidence for an ambivalence effect. This null effect reduces the viability of a more general account for our findings suggesting that contradictions create global evaluative tension or ambivalence that motivates elaboration. In addition, if ambivalence were the driving force behind the contradiction effect, it is not clear why manipulating the number of sources would have moderated the effect. Indeed, evaluative inconsistency and ambivalence can be derived from two sources just as easily as from one. Our collective evidence, then, appears to be uniquely compatible with an attributional perspective on the contradiction effect.

As a final caveat to Experiment 3, it is worth noting that in some instances multiple sources might be perceived as highly likely to share common views or opinions (e.g., different individuals from the same political party or from a closely knit social group). For these kinds of multiple source combinations, inconsistent messages might be more likely to trigger attributional reasoning of the nature observed for single sources in Experiment 3. Possible nuances along these lines could be worth exploring in the future.

Experiment 4

Experiments 1–3 provide convergent support for a contradiction effect in persuasion. As detailed earlier, we believe that our attributional perspective on this effect points to three crucial moderators: the effect should emerge when the source presents strong rather than weak arguments, when the conflicting message comes from a single source rather than multiple sources, and when trust in the source is high rather than low. Experiments 2 and 3 provided evidence for the first two moderators. In addition, all three studies to this point are consistent with the notion that trust might be involved as the message source in each experiment was a friend, meaning trust presumably was high. In Experiment 4, we directly tested the moderating role of trust by manipulating perceptions of the source's trustworthiness. Our core prediction was that the contradiction effect would emerge under high but not low trust conditions.

In this experiment, we used the same core paradigm as Experiment 2 but added a manipulation of source trustworthiness. We expected to observe a three-way interaction between message consistency, trustworthiness, and argument quality. More specifically, we predicted a message consistency $\times$ argument quality interaction (as observed in Experiment 2 and the single source condition of Experiment 3) when trust in the source was high, but not when trust in the source was low. Under low trust conditions, there were two possible outcomes. On one hand, perhaps because people generally scrutinize messages from untrustworthy sources rather carefully to assess their merit (e.g., Priester & Petty, 1995; Tormala & Clarkson, 2008), participants under low trust would show a significant argument quality effect regardless of message consistency.

On the other hand, following our attributional reasoning, the two-way interaction might be reversed when trust is low, revealing
an advantage for consistent over conflicting messages when strong but not weak arguments are received. In essence, people might find an untrustworthy source’s message more unexpected or noteworthy when it is consistent, and then engage in more extensive attributional processing and arrive at a more favorable attribution and judgment following strong arguments (e.g., “I don’t trust this guy, but he consistently expresses the same view and has good reasons so maybe he has thought a lot about the issue.”). Much as an easily dismissed source in the numerical minority can gain influence by being consistent and having strong arguments (for a review see Gardikiotis, 2011), perhaps a distrusted source can as well. When an untrustworthy source contradicts him- or herself, however, the effect is likely to be very different. Here, recipients might interpret the contradiction as evidence that the source is a flip-flopper, lower their perceptions of his or her thoughtfulness, and reject his or her message regardless of argument quality. We explored this possibility in Experiment 4.

Finally, to provide further evidence that participants’ pattern of thinking differed across conditions, we added a thought listing procedure in Experiment 4 and coded thoughts (i.e., cognitive responses) for favorability. We surmised that thought favorability would show the same interaction pattern as attitudes, and that thought favorability would mediate the attitude effect.

**Method**

Participants and design

A total of 215 participants from a national online pool took part in exchange for a chance to win an Amazon.com gift card. Participants were randomly assigned to conditions in a 2 (source trustworthiness: high or low)×2 (message consistency: consistent or conflicting)×2 (argument quality: strong or weak) design.

Procedure

As in the last two experiments, participants read a message about a new university service program that some universities across the country ostensibly had begun to consider. In this study, however, participants were led to believe that the policy was real and that the source of the message they would read was a university administrator named Kenneth Sturreck. At the outset, all participants were given a brief description of Sturreck, which established him as either trustworthy or untrustworthy. Following this manipulation, participants read that Sturreck recently had been interviewed on the radio about university service programs and that in his interview Sturreck stated that these programs were either a good or bad idea. As in the other studies, no arguments regarding the university service program were given at this time; he simply stated his opinion. Then, participants read that about a week after his interview, Sturreck wrote an article for a local newspaper on the same topic, stating that he thinks that this policy is a bad idea. The following week, Kenneth wrote an article for a local newspaper in which he stated that the University Service Program is a good idea because it offers numerous benefits to students... “In his interview Kenneth stated that he thinks that this policy is a good idea. The following week, Kenneth wrote an article for a local newspaper in which he stated that the University Service Program is a good idea because it offers numerous benefits to students...”). In each condition, the arguments in favor of the policy were outlined only in the second instance—that is, in the newspaper article.

**Argument quality.** Finally, we manipulated the strength of arguments presented in support of the service program in the newspaper article. This manipulation was identical to the one used in the last two experiments.

Dependent measures

**Attitudes.** After reading the arguments, participants rated the university service program on three semantic differential scales ranging from 1 (oppose, harmful, foolish) to 9 (support, beneficial, wise). Responses were averaged to form a composite index ($\alpha = .94$), with higher ratings reflecting more favorable attitudes.

**Thought favorability.** Immediately following the attitude items, we measured cognitive responses by asking participants to list all of the thoughts they had while reading the message about the service program. Participants were allowed to enter as many thoughts that they wanted, but they listed them one at a time in individual boxes that appeared on the computer screen. We emphasized thoughts that occurred while they were reading the message to focus participants on their cognitive responses to the message itself rather than any thoughts that occurred after reporting their attitudes (see Cacioppo & Petty, 1981). At the end of the experiment, we presented participants with the thoughts they listed and asked them to indicate whether each one was positive, negative, or neutral with respect to the service program. A thought-favorability index was computed for each participant by subtracting the number of negative thoughts listed from the number of positive thoughts listed and dividing this with the number of thoughts listed. For the past several years, Mr. Sturreck has been in administration at Florida State University. Recently, Mr. Sturreck has been praised in the Tallahassee media for being trustworthy and making excellent and judicious use of university funds. Often cited is a recent situation in which he was in charge of departmental budget cuts at Florida State. Rather than focus on his own overstaffed department, he forced other departments to take a 15% decrease in funding. Those close to Mr. Sturreck commented that they were not surprised by his actions, because he is known for being dishonest and untrustworthy.

In the high trust condition, participants received different information:

For the past several years, Mr. Sturreck has been in administration at Florida State University. Recently, Mr. Sturreck has been praised in the Tallahassee media for being trustworthy and making excellent and judicious use of university funds. Often cited is a recent situation in which he was in charge of departmental budget cuts at Florida State. Rather than focus on his own overstaffed department, he forced other departments to take a 15% decrease in funding. Those close to Mr. Sturreck commented that they were not surprised by his actions, because he is known for being dishonest and untrustworthy.
difference by the total number of thoughts listed. Higher values on the thought favorability index reflected a greater proportion of positive relative to negative thoughts (see Petty, Ostrom, & Brock, 1981).

**Perceived trustworthiness.** Finally, to provide a trustworthiness manipulation check, participants were asked to indicate how much they trusted Kenneth’s opinion on a scale ranging from 1 (not at all) to 9 (very much).

**Results**

**Manipulation check**

We began by submitting the trust manipulation check to a $2 \times 2 \times 2$ ANOVA with source trustworthiness, message consistency, and argument quality as the independent variables. Of greatest import, we obtained a main effect of the trust manipulation, $F(1, 204) = 27.98, p < .001$; the source was perceived as more trustworthy in the high ($M = 5.22$) rather than low ($M = 3.67$) trust condition (note that one participant did not complete this measure so the df is reduced by 1 for this analysis). There also was an unanticipated main effect of argument quality, $F(1, 204) = 41.09, p < .001$, indicating greater perceived trustworthiness when the article contained strong ($M = 5.39$) rather than weak ($M = 3.51$) arguments. No other effects were significant ($p > .35$).

**Attitudes.** Next, we submitted the attitude index to the same ANOVA. This analysis revealed a main effect of argument quality, $F(1, 205) = 27.25, p < .001$, such that attitudes were more favorable when the source provided strong ($M = 5.93$) rather than weak ($M = 4.46$) arguments. None of the other main effects, $F < 1$, or two-way interactions ($p > .24$) were significant. Of importance, however, we did obtain the predicted three-way interaction, $F(1, 205) = 8.92, p < .01$.

As illustrated in Fig. 4, this three-way interaction involved 2 two-way interactions of opposing forms. When trust was high (top panel), there was a significant message consistency $\times$ argument quality interaction, $F(1, 205) = 4.14, p < .05$, such that the predicted advantage for the conflicting rather than consistent message emerged under strong, $F(1, 205) = 3.79, p < .05$, but not weak, $F < 1$, argument conditions. When trust was low (bottom panel), there also was a significant message consistency $\times$ argument quality interaction, $F(1, 205) = 4.78, p < .05$, but here it assumed the opposite form. Attitudes tended to be more favorable in the conflicting rather than consistent condition when the low trust source presented weak $F(1, 205) = 3.71, p < .056$, but not strong $F(1, 205) = 1.34, p = .25$, arguments.

**Thought favorability.** As predicted, analysis of participants’ cognitive responses produced an outcome similar to that of attitudes. First, we found a main effect for argument quality, $F(1, 205) = 5.52, p < .05$. In general, thoughts were more favorable when strong ($M = .09$) rather than weak ($M = .36$) arguments had been presented (note that negative skew in thoughts might suggest that the issue is counterattitudinal; our primary interest is in relative favorability across conditions). There also was a significant two-way interaction between message consistency and source trustworthiness, $F(1, 205) = 4.25, p < .05$. None of the other main effects, $F < 1$, or two-way interactions ($p > .13$) were significant.

Most importantly, we found a three-way interaction, $F(1, 205) = 4.65, p < .05$. As illustrated in Fig. 5 (top panel), there was a significant message consistency $\times$ argument quality interaction under high trust conditions, $F(1, 205) = 3.92, p < .05$, such that thoughts were more favorable in the conflicting rather than consistent message condition when a high trust source presented strong, $F(1, 205) = 6.93, p < .05$, but not weak, $F < 1$, arguments. Under low trust conditions (Fig. 5, bottom panel), the message consistency $\times$ argument quality interaction showed a non-significant tendency to reverse, $F(1, 205) = 1.17, p = .28$.

**Mediation.** To assess whether differences in attitudes across conditions were mediated by thought favorability, we conducted a test of mediated moderation following the same procedure as in Experiment 3. As noted, we found a significant three-way interaction on both
attitudes ($\beta = 3.21$, $p < .05$) and thought favorability ($\beta = 2.43$, $p < .05$). Also important, thought favorability predicted attitudes ($\beta = .61$, $p < .001$). When the three-way interaction (controlling for all main effects and two-way interactions) and thought favorability were included in a single regression model predicting attitudes, thought favorability continued to be a significant predictor ($\beta = .57$, $p < .001$), and the three-way interaction was reduced ($\beta = 1.83$, $p < .05$). Moreover, the mediating pathway from the three-way interaction to attitudes through thought favorability was significant ($Z = 2.08$, $p < .05$).

**Discussion**

In short, Experiment 4 provided another demonstration of the contradiction effect and also further established its boundaries. As hypothesized, only when recipients trusted the source and that source presented strong arguments did the conflicting message offer an advantage over the consistent message. When either of these conditions was absent, the conflicting message failed to provide an advantage. These findings are consistent with our attributional account in suggesting that recipients’ subjective interpretations of the source’s opinion shift play a key role in these effects. A trustworthy (untrustworthy) source’s contradiction is more (less) amenable to a favorable attribution regarding thoughtfulness, and thus more (less) likely to foster the contradiction effect.

**Experiment 5**

Experiment 5 had several objectives. First, we sought to further establish the robustness of the contradiction effect. To do so, we conducted the study in a field setting and measured real choice outcomes. Second, we sought to determine whether we could obtain the contradiction effect by inducing a general state of trust (versus distrust) without explicitly linking that trust to the message source. Assuming that activating a general state of trust could be sufficient to alter recipients’ attributions for a contradiction, we predicted that we would obtain the contradiction effect under high but not low trust conditions. If true, this would have practical value in highlighting the diverse means through which persuaders can use conflicting messages to their advantage.

Finally, we sought to examine whether conflicting messages require a delay to be effective. In each of the first four studies, the scenario or description used included a supposed delay between the first and second message. This could have contributed to our findings, especially as Experiment 3 revealed that the contradiction effect is at least partly driven by the perception that new information has been gathered. From a practical perspective, however, it would be useful to know if the contradiction effect can manifest in the absence of a delay. Indeed, message sources (e.g., politicians or health professionals) often have just one moment in time to interact with a target recipient. In theory, there is no reason to think a delay is essential as long as trust a person. In the high trust condition, they were asked to write about two times in their life in which they felt like they did not trust a person. In the high trust condition, they were given a written recommendation purportedly written by a previous participant who had tried both types of chocolates in the pretesting phase. This prior participant ultimately recommended the chocolate with a brown wrapper. Participants read the recommendation and then selected their chocolate. The experimenter gave participants the chocolate they chose and recorded their choice.

**Independent variables**

**Trust.** Participants were randomly assigned to a high or low trust condition. In the low trust condition, participants were asked to write about two times in their life in which they felt like they did not trust a person. In the high trust condition, they were asked to write about two times in their life in which they felt like they had complete trust in a person.

**Recommendation condition.** Participants also were randomly assigned to one of two recommendation conditions. The final recommendation was always the chocolate with the brown wrapper; the only difference was in whether an earlier conflicting recommendation had been made. In the one-time recommendation condition, the previous participant recommended the chocolate with the brown wrapper with a few reasons (“I recommend the one with the brown wrapper because it is produced locally and in these difficult economic times it is important to support the local economy. Additionally, the ingredients used to make this chocolate are also all produced locally, which makes for a higher quality chocolate as the ingredients are fresh.”). In the conflicting recommendation condition, the previous participant initially recommended the chocolate with the white wrapper, but then switched and recommended the chocolate with the brown wrapper (“I recommend the one with the white wrapper. You know what, on second thought I recommend the one with the brown wrapper because it is produced locally...”). Across conditions, the arguments supporting the final recommendation were identical.

**Choice measure**

After reading the recommendation, participants made their choice of chocolate. The percentage of participants choosing the recommended one with the brown wrapper was the key outcome of interest.

**Results**

Given that chocolate choice was binary (brown versus white wrapper), we submitted the choice data to a logistic regression analysis using trust, recommendation condition, and their interaction as parameters. Both trust ($\beta = 3.47, p = .05$), and recommendation condition ($\beta = 3.72, p < .05$) produced main effects. As illustrated in Fig. 6, though, we also found the predicted interaction between trust and recommendation ($\beta = -2.71, p < .05$). Under high trust conditions,
participants tended to choose the recommended chocolate in the conflicting rather than one-time recommendation condition ($\beta = -32$, $p = .06$). Under low trust conditions, we found a hint of reversal in this effect ($\beta = .24$, $p = .16$).

Discussion

Experiment 5 replicated the interaction between trust and contradictions in an actual choice context. In addition, it established that the contradiction effect can occur even when there is no delay between the first and second recommendation. This detail is important as it suggests that even within the context of a single message, as long as trust has been activated in some way, one can gain influence by incorporating some form of contradiction—in this case, a change of opinion within the message. Although we did not obtain process measures, we submit that the effect stemmed from the attributional logic outlined previously, whereby people perceived the source to be more thoughtful when he or she offered a conflicting recommendation. In this case, the additional thought might have taken the form of rethinking rather than gathering new information, but it would be conceptually compatible with the process delineated earlier.

General discussion

Conventional wisdom and past research suggest that if a persuader seeks to change someone’s attitude or influence his or her decisions, that persuader would benefit from delivering a consistent message and/or repeating his or her core opinion or recommendation. In contrast, the current research unveils a contradiction effect, whereby changing one’s stated opinion can under specifiable conditions introduce a persuasive advantage. Our studies suggest that contradicting oneself can enhance one’s persuasiveness relative to offering just a single message with no contradiction or even offering multiple messages that are consistent across time. We observed this effect across several distinct contexts including medical decisions, university policy assessments, and real consumer choices.

As outlined earlier, we propose an attributional account to explain these effects, whereby conflicting messages, or opinion shifts, stimulate attributional reasoning by virtue of their unexpectedness. Again, an extensive literature points to the role of expectancy violations in fostering information processing and attributional reasoning. We applied this logic to the current context, postulating that contradictions can promote persuasion as a function of the attributions they elicit. Using both moderation and mediation approaches, we found evidence for the contradiction effect and this attributional mechanism. Perhaps most germane to our hypothesized account, we showed that the effect was mediated by perceptions that the contradicting source had considered more information and engaged in more extensive thinking about the message topic. In addition, we also established several moderators that point to an attributional account. As predicted, the contradiction effect emerged only when strong arguments supported the opinion shift, when that shift came from a single source, and when trust was high. Under weak arguments, multiple source, or low trust conditions, the effect disappeared or even reversed. Thus, only when conditions encouraged favorable attributions did the effect emerge.

Alternative accounts

Of course, in addition to providing evidence for our proposed account, it is important to consider competing explanations. In the experiments reported herein, we made an effort to address explanations related to source confidence (Experiment 1) and ambivalence (Experiment 3). To reiterate, the conditional advantage of conflicting messages over consistent ones does not appear to stem from their presentation with less confidence or their impact on ambivalence, which could increase message processing. Although we would not contend that conflicting messages never have these effects, nor that the contradiction effect could not sometimes operate through these mechanisms, we found no evidence to support their role in the current studies.

Nevertheless, as we delve deeper into this topic, it is important to examine other possible accounts. As one example, consider the possibility that the contradiction effect might reflect a kind of contrast effect, whereby recipients perceive a final position to be more extreme when it is preceded by a contradictory one. After all, past research does suggest that contrast and assimilation can sometimes occur when people receive multiple unrelated messages in sequence (e.g., Tormala & Clarkson, 2007; Tormala & Petty, 2007). Though interesting, we do not view contrast as a plausible account of our findings. In particular, the multiple source study (Experiment 3) seems to rule it out. If the contradiction effect were the result of mere contrast, it presumably would emerge when two sources contradict one another (i.e., the multiple source condition) just as it does when one source contradicts himself or herself (i.e., the single source condition). The same logic would seem to apply to our trust studies (Experiments 4–5) as well. In theory, mere contrast could emerge even under low trust conditions. The fact that we did not observe the contradiction effect in these other conditions suggests that mere contrast alone cannot explain our findings.

As another example, consider research on one-sided versus two-sided message effects. There is an extensive literature on this topic, suggesting that under some conditions messages that disclose or highlight both positive and negative information can be more effective than those that disclose or highlight only the positive side (e.g., Bohner, Einwiller, Erb, & Sibler, 2003; Crowley & Hoyer, 1994; Ein-Gar, Shiv, & Tormala, 2012; Pechmann, 1992; Rucker, Petty, & Brinol, 2008). On the face of it, the contradiction effect might bear some overlap with these other findings. Could it be that changing one’s mind or advice essentially creates a two-sided message that boosts persuasion?

Although we acknowledge a superficial resemblance between these effects, we see them as conceptually and empirically distinct. First, we intentionally avoided presenting arguments on each side of the message to limit perceptions of two-sidedness. In other words, the source never offered arguments on both sides of an issue in any of our studies; he merely contradicted a previously stated opinion and then offered arguments in exclusive support of the latter point of view. Conceptually, offering arguments on both sides of an issue is distinct from changing one clearly stated position to another. And indeed, the absence of a contradiction effect on perceived source confidence and recipient ambivalence in Experiments 1 and 3 suggests that the conflicting messages were not viewed as particularly two-sided. In fact, one classic view on two-sided messages is that they operate by making the message source seem more credible or trustworthy in some way (e.g., Kamins & Marks, 1987; Smith & Hunt, 1978).
The present studies indicated that the contradiction effect was moderated by trust, but not that it induced any sense of trust. Indeed, in the study in which we directly measured trust perceptions (Experiment 4), the message consistency manipulation showed no impact. Moreover, the pattern of trustworthiness moderation in Experiment 4 provides indirect evidence against the role of trust as a mediator of the contradiction effect. We submit that if feelings of increased trust following a conflicting message drove the contradiction effect, that effect would be more likely to emerge under low rather than high source trustworthiness conditions. Indeed, untrustworthy sources have the most to gain from increases in trust, so if increased trust mediated the effect, it might be most likely to occur when trust starts off low. In contrast to this possibility, the effect only emerged when the source was seen as high in trustworthiness from the outset.

Nevertheless, to directly address the two-sided message interpretation, we conducted a brief study using the medical scenario described in Experiment 1. In this study, 54 participants (recruited through the same online national pool used for several of our experiments) imagined receiving either one-time advice or conflicting advice from a friend about getting a mole removed for a biopsy. Immediately following the recommendation to get the biopsy, participants rated the friend’s advice on a scale ranging from 1 (very one-sided) to 7 (very two-sided). We found no difference in perceived two-sidedness between the one-time ($M = 3.77$) and conflicting ($M = 3.55$) advice conditions ($F < 1$). Furthermore, in each condition participants hovered slightly under the midpoint of the scale (4) suggesting that, on balance, they did not perceive the advice to be particularly two-sided.

**Remaining questions and future directions**

Finally, it is worth considering some remaining questions and avenues for future inquiry. For example, would our findings differ if the source presented arguments the first time he raised the target issue. In all of our studies, the only arguments presented on the focal topic were provided in the second instance the topic was raised (i.e., at time 2). What would happen if the source had presented arguments at time 1? Based on our attributional perspective, we posit that the contradiction effect might hold even if a trusted source initially presented strong arguments in one direction and then later changed his or her mind without providing any arguments. Assuming trust high, message recipients could still draw inferences about thoughtful-ness in this context, concluding that the trusted individual must have reconsidered his or her opinion or received new and/or crucial information that produced the shift in opinion. In other words, generous attributions for trusted individuals could foster a contradiction effect even when no arguments are provided following the contradiction. If true, this would suggest that not explaining the reasons for a shift can be more compelling than offering weak reasons, which was shown to dampen or reverse the contradiction effect in the current research. Of course, there would be challenges in experimentally testing this possibility in a conflicting (e.g., negative to positive) versus consistent (e.g., positive to positive) message design, as the initial arguments would be of opposite valence. Thus, the message conditions would differ not only in consistency, but also in the specific content of arguments made. Nevertheless, designing a clean test to explore this issue could be an important next step.

Finally, to further gauge boundaries on the contradiction effect, it will be important in future research to investigate domains in which the effect might not emerge. As one possible candidate, consider domains in which people expect others to have some level of moral conviction (Skitka, 2010). Although we observed no differences in perceived source confidence across conditions in Experiment 1, it stands to reason that in more moralized contexts (e.g., abortion rights), contradicting oneself might foster perceptions of low moral conviction and promote different outcomes. For example, if contradicting oneself communicates a lack of conviction in a moral domain, it very well might undermine one’s persuasiveness. The link between expressed conviction and persuasion is complex (e.g., Karmarkar & Tormala, 2010), but on a moralized topic it seems likely that contradicting one’s own expressed opinion might have deleterious consequences for one’s influence. Future research on this topic would be warranted.

**Conclusion**

Understanding people’s responses to inconsistent information is an important part of predicting and shaping their attitudes toward objects and issues they encounter in their daily lives. In the current research we sought insight into this issue by exploring the effect of contradictory messages on persuasion. Traditionally, inconsistency (e.g., flip-flopping) has been viewed as a negative in persuasion, whereas as consistency (e.g., repeated messages) is believed to be a clear positive. The current research questions these assumptions. Across several experiments we observed a conditional contradiction effect, whereby shifting opinions from a single trusted source offered a persuasive advantage. We believe that this effect has both theoretical and practical import, and we hope that it opens the door to new research questions surrounding the effects of consistency versus inconsistency in persuasion.

**References**


