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Research Article

Confidence via correction: The effect of judgment correction on consumer confidence

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Abstract

At times, consumers are motivated to reduce the influence of a product recommendation on their judgments. Based on previous research, it is unclear whether this correction process will increase or decrease consumers' confidence in their judgments. We find that source credibility moderates the effect of correction on confidence: correction decreases confidence when a product recommendation comes from a high credibility source but increases confidence when the same message comes from a low credibility source. As a result, correction increases the effectiveness of recommendations from low credibility sources on purchase intentions. Notably, this "confidence via correction" effect is further moderated by elaboration, such that the effect is attenuated for high elaboration consumers. Our results have implications for understanding consumers' reactions to persuasive messages and for both marketing practitioners and consumer protection agencies using correction cues to influence message persuasiveness.

Keywords: Confidence; Correction; Credibility; Persuasion; Advertising

Introduction

Consumers are often bombarded with persuasive messages recommending products. At times, consumers are motivated to correct their judgments, meaning that they try to reduce the influence of biasing factors on their judgments. Correction processes occur when consumers believe that their judgments have been influenced (Meyers-Levy & Malaviya, 1999; Tormala & Petty, 2004) and can be instigated in several ways such as via explicit instructions to correct (Wegener & Petty, 1995), disclosures (Johar & Simmons, 2000) or contextual information that calls consumers' attention to potentially biasing information (Schwarz & Bless, 1992). For example, after reading an advertisement recommending a product, a consumer might be warned by a friend to avoid being influenced by the manufacturer's opinion.

In this paper, we examine how prompting consumers to correct their judgments for the influence of a product recommendation affects consumers' confidence about their judgments of the recommended product. It is important to understand shifts in confidence because confidence can directly affect consumers' behavior (Tsai & McGill, 2011). Confidence has been found to affect delays in purchasing (Greenleaf & Lehmann, 1995), willingness to pay (Thomas & Menon, 2007), behavioral intentions (Barden & Petty, 2008), and likelihood of purchasing an advertised product (Wan, Rucker, Tormala, & Clarkson, 2010). Thus, correction prompts that increase or decrease consumers' confidence may have important implications for their purchase intentions and behavior.

Previous research has not explicitly examined the effect of correcting for the recommender's influence on consumer confidence, and examination of the literature leads to mixed predictions about the direction of the effect. It has been suggested both

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that correction may decrease confidence (Tormala, DeSensi, & Petty, 2007) and that it may increase confidence (Meyers-Levy & Malaviya, 1999; Tormala & Petty, 2004). We identify a moderator to reconcile these competing predictions and clarify how correction cues affect consumers' confidence. Building upon work on flexible correction processes (e.g., Wegener & Petty, 1995), we hypothesize that the effect of correction on confidence depends on how consumers believe they were influenced. We test this moderator in a series of five studies.

Because consumers believe high and low credibility sources influence their judgments differently, we find that correction decreases confidence when a message comes from a high credibility source such as an independent agency but increases confidence when a message comes from a low credibility source such as a marketer or manufacturer. As a result, correction cues tend to boost purchase intentions after consumers receive a recommendation from a low credibility source. We call this the "confidence via correction" effect. We also show that the confidence via correction effect is moderated by elaboration. Because high elaboration consumers believe they are influenced less by credibility cues than low elaboration consumers, high elaboration consumers correct their judgments less than low elaboration consumers. Thus, low elaboration consumers (e.g., those who are distracted) are particularly susceptible to being influenced by messages from low credibility sources when they correct their judgments. In the next section, we provide the rationale for our predictions.

Theoretical background

The effect of correcting for the recommender's influence on consumer confidence

Sometimes consumers may be motivated to reconsider their judgments following a product recommendation. For example, after visiting an auto showroom, a consumer may be warned by a friend to avoid being influenced by the salesperson. She may then attempt to update or "correct" for the influence of the salesperson on her evaluation of the cars. This correction process offers interesting implications for marketing because it suggests that consumer judgments are changeable even after they are formed (Meyers-Levy & Malaviya, 1999).

Models of correction processes propose that when individuals believe they have been influenced, they "reset" their judgments (Set/Reset model; Martin, 1986) or "exclude" this information from their judgments (Inclusion/Exclusion model; Schwarz & Bless, 1992). The Flexible Correction Model adds to this literature the idea that individuals correct their judgments based on their naïve theories about how they have been influenced (Wegener & Petty, 1995; Wegener, Petty, Smoak, & Fabrigar, 2004). Thus, to correct their judgments consumers must have some intuition about whether and how the source of the recommendation affected them (Wilson & Brekke, 1994). When attempting to eliminate a perceived bias, people correct in the direction opposite to which they believe they have been influenced, regardless of the actual influence (Wegener & Petty, 1995). For example, if consumers believe that a liked (disliked) source produces more (less) favorable pre-correction judgments, correcting for the influence of a liked (disliked) source should make consumers' post-correction judgments less (more) favorable (Petty, Wegener, & White, 1998).

While previous research has demonstrated the effect of correction on judgments such as attitudes and behavioral intentions (for a review, see Wegener et al., 2004), little is known about the effect of correction on second order cognitive processes (i.e., thoughts about thoughts; Briñol, Rucker, Tormala, & Petty, 2004) such as the confidence with which consumers hold judgments. To date, it is not clear how correction may affect the subjective experience of confidence, if at all (Nussinson & Koriat, 2008), and examination of the literature leads to two competing predictions. One prediction is that being prompted to correct one's judgments will consistently decrease confidence. This view builds on research suggesting that correction cues highlight potential bias. When potential bias is made salient, consumers may think they have based their opinions on illegitimate information and, as a consequence, become less certain about their judgments (Tormala et al., 2007). A second prediction is that being prompted to correct one's judgments will consistently increase confidence. This view builds on the argument that correction induces consumers to engage in further processing to form their final judgment, which should increase their confidence (Meyers-Levy & Malaviya, 1999).

Consistent with recent theories of correction suggesting that the direction of correction is contingent on the believed influence of the context (Wegener & Petty, 1995; Wegener et al., 2004), we propose a third possibility. We hypothesize that correction may either decrease or increase consumers' confidence depending upon how consumers appraise the influence. Specifically, we identify a moderator, source credibility, which allows us to reconcile these competing predictions and test the underlying process.

Moderation by source credibility

Source credibility is the degree to which a source is believed to be expert and trustworthy in communicating accurate and truthful information (Hovland, Janis, & Kelley, 1953). The trustworthiness component of credibility has been shown to be intrinsically associated with certainty (Sorrentino, Holmes, Hanna, & Sharp, 1995). More generally, high source credibility increases the confidence consumers have in their thoughts about an advertised product (Briñol, Petty, & Tormala, 2004) and the confidence associated with a decision (Fitzsimons & Lehman, 2004) because consumers perceive information from credible sources to be more valid (Chaiken & Maheswaran, 1994; Kruglanski & Thompson, 1999). Consumers may feel more (less) confident in response to high (low) credibility information even if the favorability of their opinions is unchanged (Briñol, Petty, et al., 2004).

Research on correction finds that consumers correct when they a) are motivated and able to correct, b) perceive a biasing influence, and c) hold beliefs about the direction of influence (Petty et al., 1998; Wegener & Petty, 1995, 1997). When consumers are motivated to correct their judgments, they evaluate the

situation and correct for salient sources of influence such as the credibility of the recommender (Wegener & Petty, 1995). Consumers may correct either for influences they deem illegitimate or for influences they deem legitimate (e.g., a recommendation from an expert) if they are motivated to form a judgment free of any bias, that is, when they have a desire to be accurate (Petty et al., 1998) or want to assess the 'true' qualities of the target (Wegener & Petty, 1997). Consumers correct their judgments in the direction opposite to which they believe they have been influenced (Wegener & Petty, 1995).

If consumers believe their confidence has been boosted by high source credibility (Kruglanski & Thompson, 1999), prompting them to correct their judgments after exposure to a message from a credible source should reduce their confidence. In contrast, if consumers believe their confidence is low due to a low credibility source, prompting them to correct after exposure to a message from a low credibility source should increase their confidence. Thus, rather than consistently decreasing or increasing confidence as predicted by earlier work, we predict that the effect of correction will be moderated by the perceived credibility of the source.

H1. When consumers are prompted to correct their judgments after receiving a message from a high (low) credibility source, post-correction confidence will be lower (higher) than pre-correction confidence.

Confidence and purchase intentions

Previous research suggests that confidence has strong implications for behavioral intentions and behavior (Tsai & McGill, 2011). Confidence serves as a strong guide for behavior, increasing behavioral intentions (Barden & Petty, 2008) and the likelihood of purchasing an advertised product (Wan et al., 2010). When consumers' assessments of a product are favorable (unfavorable), high confidence should make them more (less) likely to purchase the product than low confidence (Wan et al., 2010). Thus, we predict that confidence will mediate the effect of source credibility and correction on purchase intentions.

H2. Confidence will mediate the interactive effect of source credibility and correction on purchase intentions.

Elaboration as a boundary condition

The proposed interaction between source credibility and correction is based on consumers' beliefs about how they have been influenced by the message. Thus, one way to provide evidence for our proposed underlying process is to find conditions under which consumers' beliefs about the degree to which a message has influenced them differ (a moderation-of-process experimental design; Spencer, Zanna, & Fong, 2005). If some consumers believe they are influenced more by source credibility than others, the former should be more likely to correct their judgments when they encounter a correction cue.

Previous research suggests that level of elaboration affects the degree to which consumers are influenced by source credibility as well as the degree to which they believe they are influenced by source cues. Under low elaboration, such as when they are distracted or too briefly exposed to persuasive messages, consumers are more likely to take source factors like credibility into consideration compared to consumers devoting their full attention (Petty & Cacioppo, 1984, 1986). Research also shows that consumers believe they are influenced more by source cues if they do not have sufficient cognitive resources (Douglas, Sutton, & Stathi, 2010; Vogel, Kutzner, Fiedler, & Freytag, 2010).

Because elaboration changes consumers' beliefs about influence, we expect level of elaboration to moderate the interaction between source credibility and correction. Empirical evidence suggests that low and high elaboration individuals are equally likely to correct their judgments and tend to correct in the same direction as long as they are motivated to correct and believe they were influenced (Petty et al., 1998). In some cases, low elaboration may impede correction by decreasing motivation (Johar & Simmons, 2000; Meyers-Levy & Tybout, 1997; Wilson & Brekke, 1994), but when consumers are given explicit correction cues, low and high elaboration consumers should be equally motivated (Petty et al., 1998; Wegener & Petty, 1995). Where we should observe the most notable difference between low and high elaboration consumers is in the degree to which they believe they have been influenced.

If high elaboration consumers believe they were influenced less by source credibility than low elaboration consumers (Douglas et al., 2010; Vogel et al., 2010), high elaboration consumers should correct their judgments less when they are instructed to correct (Wegener & Petty, 1995; Wilson & Brekke, 1994). Thus, we predict that the effect of correction on confidence will be attenuated for high elaboration consumers relative to low elaboration consumers.

H3. The interactive effect of source credibility and correction will be attenuated for high (vs. low) elaboration consumers.

We test our hypotheses in a series of five studies. Study 1 demonstrates the confidence via correction effect (H1–H2) using a message recommending a product. Study 2 checks the robustness of the effect using a message recommending against a product. Study 3 directly manipulates consumers' beliefs about how they were influenced by a recommendation. Study 4 provides additional evidence for the underlying process by showing that high elaboration attenuates the effect (H3). Study 5 tests H1–H3 in a within-subjects design, illustrating how correction can change an individual consumer's confidence and purchase intentions.

Study 1: The confidence via correction effect

Method

This study employed a 3 (high credibility vs. control vs. low credibility) × 2 (no correction vs. correction) design. Participants were 267 university students (50% male, average age = 22.9) who were randomly assigned to study conditions. Two hundred sixty-five of the participants completed the paper-based survey in exchange for a candy bar, financial compensation or course credit.

First, all participants read a favorable recommendation for phosphate detergent (adapted from Tormala, Briñol, & Petty,

2006; see Appendix A). We chose phosphate detergent for our initial study because this product category was largely unfamiliar to participants, allowing us to control for existing attitude favorability. Participants wrote at least six sentences describing their thoughts about the product, encouraging them to form an initial positive judgment based on the information we presented. For confidence to affect purchase intentions directly (H2) judgments must be clearly positive or negative; if consumers' judgments of the recommended product are mixed, increasing judgment confidence may not affect purchase intentions (Briñol, Petty, et al., 2004).

Next, participants learned about the source of the recommendation. We manipulated source credibility by varying the trustworthiness of the source and we included a control condition without an attributed source. Adapting from Tormala et al. (2006), participants in the high credibility condition learned that the information they had just read was "taken from a pamphlet produced by a federal agency that investigates consumer products and strongly recommends consumers to use phosphate detergents." Participants in the low credibility condition read that the information was "taken from a pamphlet produced by a major soap and detergent company that makes phosphate detergents and strongly recommends consumers to use them." Participants in the control condition read that the information they had just read was "taken from a pamphlet that strongly recommends consumers to use phosphate detergents." We do not expect correction in the control condition because consumers should only correct when they perceive the source of the message to be a potential source of bias (Wegener & Petty, 1995; Wilson & Brekke, 1994).

Finally, participants in the correction condition read the following instruction before completing the dependent measures (adapted from Wegener & Petty, 1995): "In the next section, you will be asked to answer several questions about these detergents. It is very important that your answers be based on your own opinion of the detergents, rather than anyone else's opinion." Participants in the no correction condition completed the dependent measures immediately after the source credibility manipulation.

Following the manipulations, confidence was measured using two items ("how certain are you about which detergent is better?" and "how certain are you about your preference for one of the detergents?" $r = .82$, $p < .01$) ranging from 1 (not at all) to 7 (very certain). Purchase intentions were measured with two items ("I prefer/would be more willing to buy: 1 = standard detergent, 7 = phosphate detergent;" $r = .79$, $p < .01$). Because confidence and purchase intentions were correlated ($r = .36$, $p < .01$), we tested for discriminant validity by submitting the confidence and purchase intentions items to a Varimax rotated factor analysis, which explained 90.24% of the variance. Confidence items loaded on the first factor (all loadings > .93) and purchase intentions items loaded on the second factor (all loadings > .91). Source credibility was checked using two items ("how much do you trust the producer of the pamphlet you have read?" and "to what extent do you think the producer of the pamphlet you have read is being sincere?" $r = .76$, $p < .01$) ranging from 1 (not at all) to 7 (very much).

Results

Table 1 reports the means and standard deviations across conditions.

Manipulation check

Demonstrating a successful manipulation of credibility, a 3 (source credibility) × 2 (correction) ANOVA showed only a main effect of credibility on trustworthiness ($F(2, 259) = 6.70$, $p < .01$). Participants perceived the federal agency to be more trustworthy than the manufacturer ($M_{\text{low credibility}} = 3.19$, $M_{\text{control}} = 3.48$, $M_{\text{high credibility}} = 3.94$).

Confidence

A 3 × 2 ANOVA with confidence as the dependent variable revealed only the predicted interaction between source credibility and correction ($F(2, 259) = 5.43$, $p < .01$). Providing support for H1, correction decreased confidence in the high credibility condition ($M_{\text{no correction}} = 4.39$, $M_{\text{correction}} = 3.60$; $F(1, 259) = 4.66$, $p < .05$), increased confidence in the low credibility condition ($M_{\text{no correction}} = 3.42$, $M_{\text{correction}} = 4.33$; $F(1, 259) = 6.20$, $p < .05$), and did not affect confidence in the control condition ($M_{\text{no correction}} = 4.34$, $M_{\text{correction}} = 4.26$; $F(1, 259) = .03$, $p > .86$; see Fig. 1).

Purchase intentions

A 3 × 2 ANOVA on purchase intentions revealed only the predicted interaction between source credibility and correction ($F(2, 259) = 4.13$, $p < .05$). Planned contrasts indicate that correction decreased purchase intentions in the high credibility condition ($M_{\text{no correction}} = 5.16$, $M_{\text{correction}} = 4.59$; $F(1, 259) = 4.24$, $p < .05$), increased purchase intentions in the low credibility condition ($M_{\text{no correction}} = 4.35$, $M_{\text{correction}} = 4.90$; $F(1, 259) = 3.89$, $p < .05$), and did not affect purchase intentions in the control condition ($M_{\text{no correction}} = 5.02$, $M_{\text{correction}} = 5.17$; $F(1, 259) = .15$, $p > .70$).

Mediation analysis

To test whether confidence mediates the interactive effect of correction and source credibility on purchase intentions (H2), we used mediated moderation analysis (Muller, Judd, & Yzerbyt, 2005). First, we regressed purchase intentions on source credibility, correction and their interaction. Only the interaction between source credibility and correction was significant ($\beta = .28$, $SE = .09$, $t(261) = 2.83$, $p < .01$). Next, we regressed the mediator, confidence, on the same variables. Only the interaction between source credibility and correction was significant ($\beta = .42$, $SE = .13$, $t(261) = 3.27$, $p < .01$). Finally, we regressed purchase intentions on source credibility, correction, confidence, the interaction between source credibility and correction, and the interaction between confidence and correction. In this regression, the mediator affected purchase intentions ($\beta = .26$, $SE = .04$, $t(259) = 5.77$, $p < .01$) and the interaction between credibility

Table 1
Studies 1 and 2: Means (and standard deviations) of dependent measures as a function of credibility and correction.

	No correction			Correction		
Study 1	High credibility	Control	Low credibility	High credibility	Control	Low credibility
Trustworthiness	4.11 (1.46)	3.55 (1.68)	3.01 (1.45)	3.77 (1.58)	3.41 (1.31)	3.38 (1.43)
Confidence	4.39 (1.93)	4.34 (2.15)	3.42 (1.72)	3.60 (1.85)	4.26 (2.03)	4.33 (1.75)
Purchase intentions	5.16 (1.30)	5.02 (1.65)	4.35 (1.06)	4.59 (1.61)	5.17 (1.38)	4.90 (1.51)
N	54	28	51	51	27	54
Study 2						
Expertise	5.02 (1.29)		1.99 (1.17)	4.82 (1.06)		1.72 (.78)
Confidence	5.01 (1.35)		2.67 (1.34)	4.37 (1.55)		3.15 (1.29)
Purchase intentions	1.95 (.91)		2.86 (1.15)	2.49 (1.17)		2.45 (1.10)
N	58		60	60		68

and correction was reduced to marginal significance ($\beta = .17$, $SE = .09$, $t(259) = 1.79$, $p = .08$). No other effects were significant (all $p > .20$). Supporting H2, a Sobel test confirms mediation ($z = 2.84$, $p < .01$).

To rule out an alternative process in which purchase intentions influence confidence, we conducted a reverse mediation analysis. When confidence is the dependent variable and purchase intentions is the mediator, the interaction between credibility and correction remains significant ($t(259) = 2.31$, $p < .02$), suggesting that our proposed model is a better fit for the data.[2]

Discussion

The results of study 1 support Hypotheses 1 and 2. Correcting for the influence of a high credibility recommendation significantly reduces confidence while correcting for the influence of a low credibility recommendation significantly increases confidence. Further, confidence mediates the interaction between source credibility and correction on purchase intentions.

In study 2, we verify the robustness of the effect by examining the pattern of results for a message recommending that consumers *do not* use phosphate detergents (Appendix A). In this case, greater confidence (that the product is not good) should lead to lower purchase intentions and the relationship between confidence and purchase intentions should be negative (Wan et al., 2010). Such results will help us distinguish the two constructs: if in study 2 the pattern of results is the same for confidence but reverses for purchase intentions, we have evidence that these two variables are distinct. Showing a different pattern of results for confidence and purchase intentions will also highlight the uniqueness of the confidence via correction effect relative to previous correction effects shown in the literature, which have focused on attitudes or behavioral intentions (e.g., Wegener et al., 2004).

Study 2: Reversing the relationship between confidence and purchase intentions

Method

This study employed a 2 (high credibility vs. low credibility) × 2 (no correction vs. correction) design. Participants were 246 students (61% male, average age = 20.73) who participated in a computer-based study during a one-hour session for course credit.

The procedure was similar to that of study 1. To test the robustness of the source credibility effect, we manipulated the expertise rather than the trustworthiness of the recommender. In the high credibility condition the source was a "federal research institution" and in the low credibility condition the source was a "local high-school freshman" (adapted from Tormala et al., 2006). The correction manipulation was the same one used in study 1, as were the measures of confidence ($r = .71$, $p < .01$) and purchase intentions ($r = .76$, $p < .01$). As in study 1, a factor analysis (84.3% of explained variance) showed that the confidence (loadings > .78) and purchase intentions (loadings > .90) items loaded on distinct factors. The perceived credibility of the recommender was measured with two expertise items ($r = .90$, $p < .01$; "how much expertise do you think the producer of the report has on the topic?" and "how much knowledge does the producer of the report has about phosphate detergent?").

Results

Table 1 reports the means and standard deviations across conditions.

Manipulation check

Suggesting that our credibility manipulation was successful, only the main effect of credibility on expertise was significant in a 2 (source credibility) × 2 (correction) ANOVA ($M_{\text{high credibility}} = 4.92$, $M_{\text{low credibility}} = 1.86$; $F(1, 242) = 490.78$, $p < .01$).

[2] We conducted similar reverse mediation tests for our other studies. In study 2, mediation and reverse mediation yielded similar results: the interaction between credibility and correction became non-significant when purchase intentions was the mediator and confidence was the dependent variable ($t = -1.48$, *ns*). However, as in study 1, our proposed model was a better fit for the data in studies 3 and 4. When we conducted reverse mediation tests, the interaction remained significant in studies 3 ($t = 2.69$, $p < .01$) and 4 ($t = -3.23$, $p < .01$), showing that purchase intentions do not mediate the effect of the interaction on confidence.

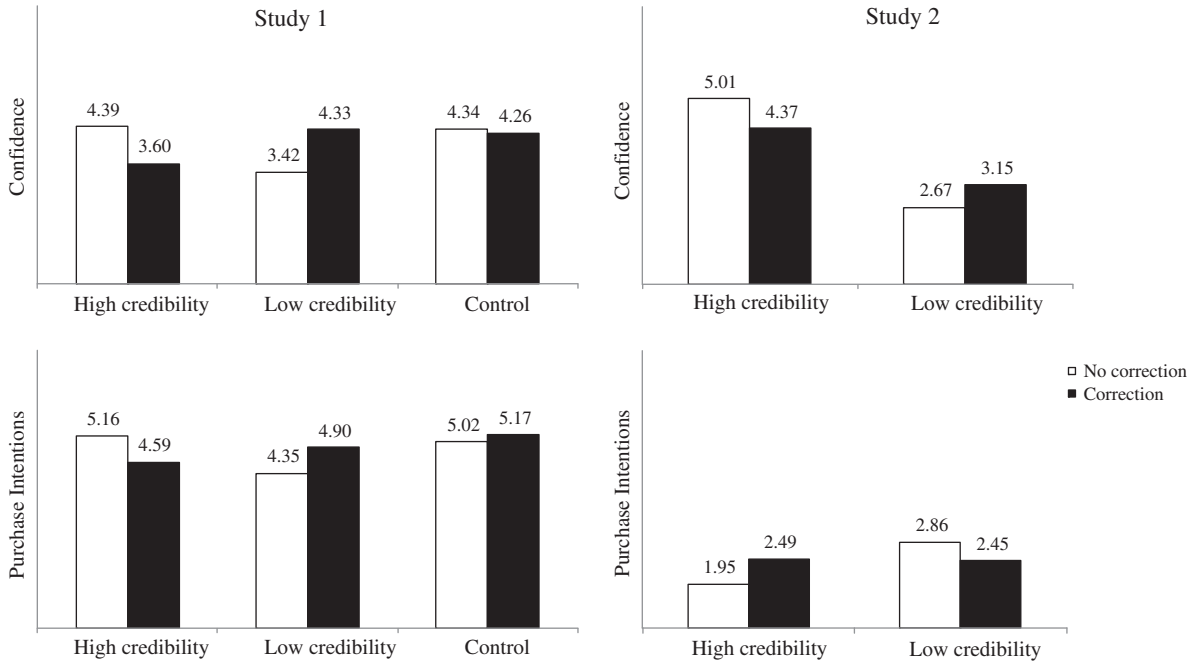

Fig. 1. Studies 1 and 2: Effect of correction on confidence and purchase intentions both depend on credibility of the recommender. However, when the recommendation is favorable (study 1; left panel), confidence and purchase intentions are positively correlated. When the recommendation is unfavorable (study 2; right panel), confidence and purchase intentions are negatively correlated.

Confidence

A 2 × 2 ANOVA with confidence as the dependent variable revealed a main effect of source credibility ($F(1, 242) = 101.95$, $p < .01$) that was qualified by the predicted interaction ($F(1, 242) = 9.93$, $p < .01$). Consistent with study 1's results, correction decreased confidence in the high credibility condition ($M_{\text{no correction}} = 5.01$, $M_{\text{correction}} = 4.37$; $F(1, 242) = 6.18$, $p < .01$) but increased confidence in the low credibility condition ($M_{\text{no correction}} = 2.67$, $M_{\text{correction}} = 3.15$; $F(1, 242) = 3.84$, $p < .05$; see Fig. 1).

Purchase intentions

A 2 × 2 ANOVA with purchase intentions as the dependent variable revealed a main effect of source credibility ($F(1, 242) = 9.72$, $p < .01$) qualified by the predicted interaction between source credibility and correction ($F(1, 242) = 11.75$, $p < .01$). Reversing the results of study 1 for purchase intentions as we expected, correction increased purchase intentions when credibility was high ($M_{\text{no correction}} = 1.95$, $M_{\text{correction}} = 2.49$; $F(1, 242) = 7.34$, $p < .01$) but decreased purchase intentions when credibility was low ($M_{\text{no correction}} = 2.86$, $M_{\text{correction}} = 2.45$; $F(1, 242) = 4.52$, $p < .05$).

Mediation analysis

We followed the procedures described in study 1 to test mediation, but we expected the relationship between confidence and purchase intentions to be negative. In the first regression both source credibility ($\beta = -.217$, $SE = .070$, $t(242) = -3.12$, $p < .01$) and the interaction between source credibility and correction predicted purchase intentions ($\beta = .238$, $SE = .070$, $t(242) = 3.43$, $p < .01$). In the second regression, source credibility ($\beta = .892$, $SE = .088$, $t(242) = 10.09$, $p < .01$) and the interaction between source credibility and correction predicted confidence ($\beta = -.279$, $SE = .088$, $t(242) = -3.15$, $p < .01$). In the third regression, confidence negatively affected purchase intentions ($\beta = -.400$, $SE = .044$, $t(240) = -9.09$, $p < .01$), the effect of source credibility was reduced ($\beta = .14$, $SE = .073$, $t(240) = 1.96$, $p > .05$), and the effect of the interaction between source credibility and correction became non-significant ($\beta = .11$, $SE = .073$, $t(240) = 1.55$, $p > .12$; Sobel $z = 2.98$, $p < .01$).

Discussion

Study 2 replicates the results of study 1 for confidence and shows that when the message recommends against a product, the results for purchase intentions reverse those found in study 1. These results provide additional support for H1 and H2 and highlight the clear distinction between our confidence and purchase intentions constructs.

It is possible, however, that our results emerge because participants find it easier to correct for a persuasive message when source credibility is low rather than high, making them more confident. To rule out this alternative explanation, we keep both source credibility and the recommendation constant in study 3 and directly manipulate participants' beliefs about the influence of the message. Another goal of study 3 is to provide a stronger test of the underlying process. If the effect of correction on confidence depends on consumers' beliefs about how they were influenced, manipulating beliefs directly should replicate the results of studies 1 and 2 even if participants

receive exactly the same recommendation. By directly manipulating the underlying process, we can conduct a stronger test of our theory (Spencer et al., 2005).

Study 3: Manipulating beliefs about influence

Method

This study employed a 2 beliefs about influence (comply vs. resist) × 2 correction (no-correction vs. correction) between-subjects design. Participants (40% male, average age = 31.54) were 175 members of a national online panel who completed the survey for a small payment.

Participants were told that we were examining different modes of communication and that they would be asked several questions while they read through a magazine. Our manipulations were presented via several articles within the magazine, all following the same format, font, and color scheme. First, participants were asked to read an article in the "science corner" section of the magazine, which manipulated participants' beliefs about influence. Instead of manipulating source credibility as we did in studies 1 and 2, we manipulated consumers' beliefs about influence. Consumers usually comply with high credibility sources and resist low credibility sources (Hovland et al., 1953; Kirmani & Campbell, 2004). Moreover, it is reasonable for them to predict they will do this because they believe credible sources provide more valid information (Campbell & Kirmani, 2008; Kruglanski & Thompson, 1999). Thus, our manipulation was designed to replicate the effect of source credibility by making participants believe that they would be more likely to comply with (resist) a persuasive message while holding the source of the recommendation constant.

In the comply (resist) condition, participants read: "Decades of research with consumers have demonstrated that consumers tend to comply with (resist) comparative messages. Dozens of studies in psychology show that reading a message that compares the characteristics of one product with those of its competitors has a favorable (unfavorable) impact on consumers. This is because comparative messages typically provide more (only selected) information about product features than other messages, increasing the salience of superior features of the product (in an attempt to create an artificial advantage for the product)." This text was followed by a manipulation check ("The theory you just learned about suggests that reading comparative messages makes consumers more likely to 1 = resist/9 = comply").

Next, participants read an article about orange juice that provided information about two brands and recommended the brand Simply Orange. The recommendation was similar to those used in the previous studies but we adapted our stimuli to compare two well-known brands of orange juice, the recommended brand Simply Orange and the non-recommended brand Florida's Natural (Appendix B). We chose these brands because a pretest indicated that these real brands were similar in terms of familiarity to our respondents (M = 3.98 vs. 3.84 in 5-point scales; $t(62)$ = 0.82, $p > .41$) and were purchased in similar proportions (9.2% bought Simply Orange and 6.2% bought Florida's Natural; $t(62) = 0.62$, $p > .53$). After reading the recommendation, participants were encouraged to list their thoughts about Simply Orange. Finally, participants in the correction condition read a warning adapted from Petty et al. (1998) and Wegener and Petty (1995). The warning, also presented as part of the magazine, read: "Other information not related to the product you are evaluating may influence your opinion about the product. Do not let non-product-related factors influence your opinion. Judge products on their merits and do not let any biasing factors affect your judgments."

Following the manipulations, participants rated their purchase intentions with two items ("If you were to purchase orange juice right now, which one would you be more willing to buy/which one would you prefer: 1 = Florida's Natural, 9 = Simply Orange;" $r = .91$, $p < .01$). Confidence was measured using two items similar to those of studies 1 and 2 adapted to orange juice ($r = .81$, $p < .01$). As in studies 1 and 2, a factor analysis (88.2% of explained variance) showed that the items of confidence (loadings > .87) and purchase intentions (loadings > .95) loaded on distinct factors. In addition, we measured participants' confidence in their thoughts ("How certain are you about your attitude towards Simply Orange?") with one item ranging from 1 (not at all) to 9 (very much).

We also measured the degree to which participants agreed with the message (i.e., their attitude towards the products; "what is your opinion of the two brands of orange juice?" 1 = I like Florida's Natural better, 9 = I like Simply Orange better). We expected agreement with the message (attitudes) to remain constant across conditions because we kept source credibility constant across conditions. If we find an effect on confidence but not on attitudes, we can distinguish the confidence via correction effect from previous findings showing that participants adjust their attitudes in response to correction prompts (e.g., Wegener et al., 2004). Finally, as a manipulation check for correction, participants rated the extent to which they tried to ignore the recommendation while rating the juices (1 = not at all, 9 = very much).

Results

Table 2 reports the means and standard deviations across conditions.

Manipulation checks

Confirming the efficacy of the belief manipulation, a 2 (beliefs) × 2 (correction) ANOVA shows that participants in the comply condition believed consumers would be influenced more by the recommendation than those in the resist condition ($M_{comply} = 8.01$, $M_{resist} = 3.43$; $F(1, 171) = 291.45$, $p < .01$). Confirming the efficacy of the correction manipulation, a 2 × 2 ANOVA shows that participants in the correction condition thought they ignored the recommendation more than participants in the no correction condition ($M_{no\ correction} = 4.64$, $M_{correction} = 5.53$; $F(1, 171) = 7.16$, $p < .01$). No other effects were significant (all $p > .7$).

Attitudes

As expected, attitudes were positive and there were no significant effects of the manipulations on agreement with the message (M = 6.24, SD = .19; all $p > .2$).

Confidence

A 2 × 2 ANOVA with judgment confidence as the dependent variable reveals only the predicted interaction ($F(1, 171)$ = 12.09, $p < .01$). Correction decreased confidence in the comply ($M_{\text{no correction}} = 6.92, M_{\text{correction}} = 5.84; F(1, 171) = 6.32, p < .01$) and increased confidence in the resist condition ($M_{\text{no correction}} = 5.87, M_{\text{correction}} = 6.92; F(1, 171) = 5.82, p < .01$). As expected, a similar ANOVA with thought confidence as the dependent variable reveals a similar interaction ($F(1, 171) = 3.94, p < .05$).

Purchase intentions

A 2 × 2 ANOVA on purchase intentions reveals only the predicted interaction between belief and correction ($F(1, 171)$ = 5.58, $p < .05$). Planned contrasts indicate that correction marginally decreased purchase intentions in the comply condition ($M_{\text{no correction}} = 6.89$, $M_{\text{correction}} = 5.90$; $F(1, 171)$ = 3.38, $p = .06$) and directionally increased purchase intentions in the resist condition ($M_{\text{no correction}} = 5.85$, $M_{\text{correction}} = 6.68$; $F(1, 171) = 2.28$, $p = .13$).

Mediation analysis

We followed the procedures described in study 1 to test mediation. As shown in Table 4, mediation was significant (Sobel $z = 2.97$, $p < .01$).

Discussion

The results of study 3 provide evidence for the mechanism underlying the confidence via correction effect. When the source and the recommendation are held constant and beliefs about influence are manipulated, we replicate the effect of correction on confidence, suggesting that beliefs about influence drive the effect. Moreover, we show that confidence but not agreement with the message is influenced by these manipulations and that confidence mediates the effect on purchase intentions.

Table 2
Study 3: Means (and standard deviations) of dependent measures as a function of credibility and correction.

	No correction		Correction	
	Comply	Resist	Comply	Resist
Confidence	6.92 (1.91)	5.87 (2.31)	5.84 (2.01)	6.92 (1.77)
Purchase intentions	6.89 (2.53)	5.85 (2.81)	5.90 (2.22)	6.68 (2.55)
N	44	45	45	41

Study 4: High elaboration as a boundary condition

In study 4 we examine high elaboration as a boundary condition to provide further support for our proposed underlying mechanism. If low and high elaboration consumers hold different beliefs about the influence of source credibility, elaboration should moderate the confidence via correction effect (H3).

Method

Study 4 employed a 2 (high credibility vs. low credibility) × 2 (no correction vs. correction) × 3 (low elaboration vs. control vs. high elaboration) design. Participants were 454 members of a national panel (54% male, average age = 29.24) who completed the online survey in exchange for a small payment.

First, we manipulated high and low elaboration using established manipulations. We also included a control condition to provide a baseline for the high and low elaboration conditions and allow us to directly compare the results of this study with studies 1–3. In the control condition, participants were told: "You are part of a group of people participating in this research. Please read the information and answer the questions." In the low elaboration condition, participants read the same introduction but were then asked to keep track of the number of times they blinked their eyes while completing the study (they reported the number of blinks before the manipulation check questions). This manipulation (Williams, Fitzsimons, & Block, 2004) was expected to reduce cognitive resources. In the high elaboration condition, participants read a modified introduction designed to increase motivation: "You are part of a very small group of people being asked to participate in this research, so your responses are very important to us. Please read thoroughly, pay close attention to the information you are reading, and answer each question carefully" (Petty & Cacioppo, 1986). This manipulation was pretested with 46 participants drawn from the same population of the study. After the elaboration manipulation instructions pre-test participants read the orange juice recommendation used in study 3 and responded to the question: "How much attention did you pay to the information?" (1 = I paid little attention; 9 = I paid much attention). A one-way ANOVA showed the expected effect of both elaboration manipulations relative to the control condition ($M_{\text{low elaboration}} = 5.88$, $M_{\text{control}} = 6.69$, $M_{\text{high elaboration}} = 7.85$; $F(2, 43) = 5.42$, $p < .01$).

We expected participants in the high elaboration condition to believe source credibility would influence them less than participants in the low elaboration condition (Douglas et al., 2010; Vogel et al., 2010). To validate this prediction, we conducted a pretest with 144 members of a national online panel using a 2 (high credibility vs. low credibility) × 2 (low elaboration vs. high elaboration) between-subjects design. We manipulated low and high elaboration using the manipulations described above. Next, participants read the recommendation of orange juice and learned that the source of the recommendation was either a federal agency or the manufacturer, as in study 1. We measured participants' beliefs about how the message influenced them ("How do you believe knowing the source of the information affects your confidence in your judgments?")

using two items ($r = .92$, $p < .01$; "it makes me less/more confident" and "it makes me less/more certain") Consistent with previous research, a 2 × 2 ANOVA with beliefs as the dependent variable revealed an interaction between credibility and elaboration ($F(1, 140) = 5.67$, $p < .02$). Low elaboration participants believed high source credibility made them more confident than low source credibility ($M_{\text{low credibility}} = 5.85$, $M_{\text{high credibility}} = 7.06$; $F(1, 140) = 8.28$, $p < .01$), but there was no difference in the perceived influence of high and low source credibility for high elaboration participants ($M_{\text{low credibility}} = 6.40$, $M_{\text{high credibility}} = 6.24$; $p > .48$).

After the elaboration manipulation, study participants read the same orange juice recommendation used in study 3 with the credibility manipulation. To test whether our effect is robust to contexts in which consumers know the source prior to being exposed to the message, in this study we presented the source prior to the recommendation. In the high credibility condition, participants learned that the information to follow was "taken from a report produced by Consumer Reports, a magazine responsible for investigating consumer products." In the low credibility condition, participants learned that the information was "taken from a report produced by the manufacturer of Simply Orange orange juice."

After reading the recommendation, those in the correction condition read a manipulation of correction adapted from Petty et al. (1998) and Wegener and Petty (1995): "In the next section, you will be asked to answer several questions about your personal opinion of these brands of orange juice. It is important that you are careful not to let your personal feelings toward the recommender influence your judgment of the orange juices. Please judge the product on its merits and do not let any biasing factors affect your judgments."

We measured confidence ($r = .84$, $p < .01$) and purchase intentions with the same items used in study 3 ($r = .85$, $p < .01$; factor analysis again showed that they loaded on distinct factors). Manipulation checks measured trustworthiness of the recommender ("to what extent do you think that the producer of the report had your best interests at heart?") and correction ("to what extent did you try to ignore your personal reactions to the recommender while judging the product?"). All measures used 9-point scales.

Results

Table 3 reports the means and standard deviations across conditions.

Manipulation checks

A 2 (source credibility) × 2 (correction) × 3 (elaboration) ANOVA with trustworthiness as the dependent measure showed a main effect of credibility ($M_{\text{low credibility}} = 4.33$, $M_{\text{high credibility}} = 4.88$; $F(1, 429) = 6.90$, $p < .01$). The same 2 × 2 × 3 ANOVA with the correction manipulation check as the dependent measure showed only a main effect of correction ($M_{\text{no correction}} = 4.69$, $M_{\text{correction}} = 6.16$; $F(1, 435) = 50.38$, $p < .01$).

Confidence

To test H3, we compared the control condition (in which the results should be similar to studies 1–3) and the low elaboration condition with the high elaboration condition. A 2 × 2 × 3 ANOVA with confidence as the dependent variable revealed a 2-way interaction between credibility and correction ($F(1, 442) = 16.97$, $p < .01$), replicating the results of our earlier studies. The analysis also revealed the predicted 3-way interaction ($F(2, 442) = 6.52$, $p < .01$). Supporting H3, the interaction between source credibility and correction was significant in the low elaboration condition ($F(1, 442) = 19.35$, $p < .01$) and in the control condition ($F(1, 442) = 10.44$, $p < .01$) but not in the high elaboration condition ($F(1, 442) = .24$, $p > .62$). In the low elaboration condition, correction decreased confidence when credibility was high (*Mno correction* = 7.05, *Mcorrection* = 5.40; $F(1, 442) = 12.46$, $p < .01$) and increased confidence when credibility was low (*Mno correction* = 6.01, *Mcorrection* = 7.20; $F(1, 442) = 7.14$, $p < .01$). Similarly, in the control condition, correction decreased confidence when credibility was high ($M_{\text{no correction}} = 6.72$, $M_{\text{correction}} = 5.53$; $F(1, 442) = 6.28$, $p < .01$) and increased confidence when credibility was low ($M_{\text{no correction}} = 5.65$, $M_{\text{correction}} = 6.64$; $F(1, 442) = 4.27$, $p < .05$).

Purchase intentions

A 2 × 2 × 3 ANOVA with purchase intentions as the dependent variable revealed a 2-way interaction between source credibility and correction ($F(1, 442) = 10.64$, $p < .01$), replicating our earlier studies. We also observed the predicted 3-way interaction ($F(2, 442) = 8.28$, $p < .01$), showing that the interaction between source credibility and correction was significant in the low elaboration condition ($F(1, 442) = 8.42$, $p < .01$) and in the control condition ($F(1, 442) = 16.45$, $p < .01$), but not in the high elaboration condition ($F(1, 442) = 1.87$, $p > .17$). In the low elaboration condition, correction decreased purchase intentions when credibility was high ($M_{\text{no correction}} = 7.30$, $M_{\text{correction}} = 6.34$; $F(1, 442) = 4.19$, $p < .05$) and increased purchase intentions when credibility was low ($M_{\text{no correction}} = 6.58$, $M_{\text{correction}} = 7.49$; $F(1, 442) = 4.24$, $p < .05$). Similarly, in the control condition, correction decreased purchase intentions when credibility was high ($M_{\text{no correction}} = 7.08$, $M_{\text{correction}} = 5.84$; $F(1, 442) = 6.83$, $p < .05$) and increased purchase intentions when credibility was low ($M_{\text{no correction}} = 5.50$, $M_{\text{correction}} = 7.00$; $F(1, 442) = 9.74$, $p < .01$).

Mediation analysis

Because the predicted interaction between source credibility and correction was significant only in the low elaboration and control conditions, we performed a mediated moderation analysis for these conditions. Supporting H2, we find evidence for mediation in both of these conditions. Table 4 summarizes the mediation results.

Table 3
Study 4: Means (and standard deviations) of dependent measures as a function of credibility and correction.

	Low elaboration				Control				High elaboration			
	Low credibility		High credibility		Low credibility		High credibility		Low credibility		High credibility	
	No correct	Correct	No correct	Correct	No correct	Correct	No correct	Correct	No correct	Correct	No correct	Correct
Confidence	6.01	7.20	7.05	5.40	5.65	6.64	6.72	5.53	6.54	6.07	6.31	6.17
	(2.51)	(1.74)	(1.71)	(2.21)	(1.90)	(1.95)	(1.98)	(2.34)	(1.62)	(2.03)	(2.21)	(1.87)
Purchase	6.58	7.49	7.30	6.34	5.50	7.00	7.08	5.84	6.76	6.13	6.60	6.87
intentions	(1.99)	(1.76)	(1.97)	(2.04)	(1.92)	(1.86)	(2.07)	(2.05)	(2.09)	(2.27)	(2.24)	(1.97)
N	40	43	40	35	33	38	34	38	37	36	38	42

Discussion

The 2-way interaction between source credibility and correction replicates the results of previous studies and provides additional support for the confidence via correction effect (H1) as well as the mediating role of confidence (H2). Further, the 3-way interactions we observe for both confidence and purchase intentions demonstrate that the confidence via correction effect is moderated by elaboration (H3). By showing that high elaboration attenuates the effect relative to the control condition, study 4 provides additional evidence that the effect is driven by consumers' beliefs about how source credibility has influenced them.

In addition to providing support for our proposed mechanism, these findings provide empirical evidence to answer an important theoretical question about correction. Our results suggest that resources for correction are independent from resources to process information, meaning that low elaboration individuals may engage in correction if they are motivated to correct and believe they have been influenced (Petty et al., 1998). Finally, showing that the confidence via correction effect is strong under low elaboration conditions has high managerial relevance because consumers are often distracted when exposed to marketing messages.

Study 5: Within-subjects shifts in confidence

In studies 1–4, we relied on between-subjects differences between the no correction and correction conditions to demonstrate the confidence via correction effect. In study 5 we measure the effect of correction at the individual level by adapting a method developed by Meloy and Russo (2004) to capture shifts in judgments over time.

Method

This study employed a 2 (high credibility vs. low credibility) ×2 (pre-correction vs. post-correction) × 2 (low elaboration vs. high elaboration) mixed design. Source credibility and elaboration were between-subjects factors and correction was a within-subjects factor. Eighty university students (53.8% male) completed the computer-based study for course credit.

First, as in study 4, we asked participants in the low elaboration condition to keep track of the number of times they blinked their eyes while completing the study; in the high elaboration condition, we emphasized to participants that they were part of a very small group of people, that their responses were very important to us and that they should read the materials thoroughly and answer the questions carefully. Then, participants read a recommendation of Vita Coco, a real brand of coconut water, over another real brand, Harvest Bay. The text of the recommendation was similar to that used in studies 3 and 4, adapted to coconut water. To manipulate source credibility, we varied the trustworthiness of the recommender. In the high credibility condition, participants read that the information they "just read was taken from a pamphlet comparing natural fruit drinks produced by a federal agency responsible for investigating consumer products." In the low credibility condition, the information they "just read was provided by the manufacturer of the recommended natural fruit drink."

After reading the recommendation participants were asked to think about the decision as a horse race and to imagine that the

Table 4
Summary of mediation analyses.

	(a) Source × correction → purchase intentions		(b) Source × correction → confidence		(c) Confidence → purchase intentions		(c′) Source × correction → purchase intentions with confidence	
	Beta	t value	Beta	t value	Beta	t value	Beta	t value
Study 1	.172	2.83*	.198	3.27*	.338	5.77*	.105	1.79
Study 2	.212	3.43*	−.168	−3.15*	−.588	−9.09*	.101	1.55
Study 3	.178	2.36*	.257	3.48*	.414	5.74*	.071	.99
Study 4 low elaboration	−.237	−3.03*	−.328	−4.32*	.485	6.58*	−.083	−1.12
Study 4 control	−.332	−4.15*	−.260	−3.17*	.342	4.31*	−.244	−3.10*

Note: In study 3, beliefs (instead of source credibility) was the independent variable.
* $p < .05$.

two brands were horses running a race for their preference (Meloy & Russo, 2004). This metaphor justified asking participants about the recommended product twice. Items were adapted from Meloy and Russo (2004) to measure purchase intentions ("Think about this decision as a horse race, and imagine that the two brands of coconut water are horses running this race…which horse is in the lead at the current time?" and "if you were to buy coconut water right now, which one would you prefer?" $r = .71$, $p < .01$) and confidence ("How confident are you that this horse will win the race?").

After answering these questions, all of the participants received the same correction instructions as in study 4, adapted to coconut water. Next, participants responded to additional purchase intentions and confidence questions with slight variations in the wording ("Think about this decision as a horse race again. Which horse is in the lead right now?" "if you were to purchase coconut water right now, which one would you prefer?" and "how confident are you that this horse will win the race?"). All items were measured using scales ranging from 1 to 9.

Results and discussion

Table 5 reports the means and standard deviations across conditions.

Confidence

A 2 × 2 × 2 repeated measures ANOVA with confidence as the dependent variable revealed a main effect of elaboration ($F(1, 76) = 12.55$, $p < .01$), a marginal main effect of credibility ($F(1, 76) = 3.19$, $p < .08$), a 2-way interaction between source credibility and correction ($F(1, 76) = 6.52$, $p < .02$), and a 3-way interaction ($F(1, 76) = 7.76$, $p < .01$). The 2-way interaction is consistent with our previous studies and supports H1. The 3-way interaction is consistent with study 4 and supports H3, indicating that the interaction between source credibility and correction was significant in the low elaboration condition ($F(1, 76) = 12.67$, $p < .01$) but not in the high elaboration condition ($F(1, 76) = .03$, $p > .86$). In the low elaboration condition, correction decreased confidence when credibility was high ($M_{\text{pre-correction}} = 7.14$, $M_{\text{post-correction}} = 6.10$; $F(1, 76) = 5.36$, $p < .05$) but increased confidence when credibility was low ($M_{\text{pre-correction}} = 5.14$, $M_{\text{post-correction}} = 6.64$; $F(1, 76) = 7.32$, $p < .01$). In the high elaboration condition, no effects were significant (all $p > .15$).

Purchase intentions

A 2 × 2 × 2 repeated measures ANOVA with purchase intentions as the dependent variable revealed a marginal main effect of elaboration ($F(1, 76) = 3.26$, $p < .08$), a 2-way interaction between source credibility and correction consistent with our previous studies ($F(1, 76) = 7.78$, $p < .01$), and a 3-way interaction ($F(1, 76) = 4.34$, $p < .05$). The 3-way interaction shows that the interaction between source credibility and correction is significant in the low elaboration condition ($F(1, 76) = 10.56$, $p < .01$) but not in the high elaboration condition ($F(1, 76) = .28$, $p > .59$). In the low elaboration condition, correction decreased purchase intentions when credibility was high ($M_{\text{pre-correction}} = 6.88$, $M_{\text{post-correction}} = 6.28$; $F(1, 76) = 5.47$, $p < .05$) but increased purchase intentions when credibility was low ($M_{\text{pre-correction}} = 6.14$, $M_{\text{post-correction}} = 6.89$; $F(1, 76) = 5.17$, $p < .05$).

Discussion

Correction has the predicted effects on confidence and purchase intentions even when we examine changes in the same consumers over time. One limitation of this study is that low elaboration was induced by limiting cognitive resources and high elaboration was induced by increasing motivation. Although these are different dimensions of elaboration, the control condition in study 4 suggests that results in the low elaboration condition should replicate our earlier results.

General discussion

Although previous research shows that credible sources are usually more influential than non-credible sources (e.g., Hovland et al., 1953; Kirmani & Campbell, 2004), our findings add to the increasing body of research suggesting that this might not always be the case. We show that when consumers correct their judgments for the influence of a low credibility recommendation, it can significantly increase their confidence in their judgments and their purchase intentions. In five studies we demonstrate this "confidence via correction" effect by showing that the predicted relationships hold when either the trustworthiness or the expertise dimension of source credibility is manipulated, when the product category is either familiar or unfamiliar, when the correction cue is general ("it is important that your answers be based on your own opinion") or specific to the source ("it is important that you do not let your personal feelings toward the recommender

Table 5
Study 5: Means (and standard deviations) of dependent measures as a function of credibility and correction.

	Low elaboration				High elaboration			
	Low credibility		High credibility		Low credibility		High credibility	
	Pre correct	Post correct	Pre correct	Post correct	Pre correct	Post correct	Pre correct	Post correct
Confidence	5.14 (2.54)	6.64 (2.06)	7.14 (1.46)	6.10 (1.90)	7.44 (1.63)	7.00 (1.88)	7.89 (1.49)	7.56 (1.72)
Purchase intentions	6.14 (1.78)	6.89 (1.76)	6.88 (1.37)	6.28 (1.43)	7.01 (1.59)	6.79 (1.65)	7.66 (1.60)	7.25 (1.96)
N	14		21		27		18	

influence your judgment"), and when correction is manipulated between or within-subjects. Thus, we believe that the confidence via correction effect is robust and can occur under a variety of conditions.

We contend that the confidence via correction effect is driven by how consumers believe they were influenced by the message. In studies 1, 2, 4, and 5, we show an interaction between source credibility and correction that is consistent with a belief-driven process. In study 3, we manipulate beliefs directly and find a consistent pattern of results. In studies 4 and 5 we predict and find that the confidence via correction effect is attenuated for high elaboration consumers. Because high elaboration consumers believe they are less influenced by source credibility, they correct their judgments less than low elaboration consumers. In sum, the studies collectively provide strong evidence for the underlying process mechanism based on participants' beliefs about how messages influence them.

We rule out several alternative explanations for the effect. First, we distinguish between confidence and other constructs such as agreement with the message and purchase intentions. Factor analysis shows that confidence and purchase intentions consistently load on separate factors, and study 2 shows that confidence and purchase intentions are negatively rather than positively correlated when the source recommends against instead of for a product. Study 3 shows that even when participants' attitudes towards a product are unchanged, increased judgment confidence due to correction can increase purchase intentions. Another possible explanation is that participants find it easier to correct for a message from a low than from a high credibility source. We rule this out in study 3 by holding source constant across conditions.

Our results are also inconsistent with correction simply reducing the extremity of judgments (regression to the mean). In study 1, participants do not correct in the control condition, suggesting that participants were correcting for the believed influence of source credibility rather than simply reporting more moderate views (Wegener & Petty, 1995). In studies 1 and 2, we find that the source credibility effect significantly reverses in the correction relative to the no correction condition. If regression to the mean drove the effect, we would expect correction to attenuate rather than reverse the difference across credibility conditions. In studies 4 and 5, we show that the confidence via correction effect is moderated by elaboration. If the results simply reflected regression to the mean, we should not observe this interaction with elaboration (Pezdek & Eddy, 2001). Finally, in our studies the means are not very close to the scale end-points, suggesting that we do not have ceiling or floor effects where regression to the mean is more likely to occur.

Theoretical contributions

This research highlights the effect of correction on consumers' confidence. It was unclear from previous work how correction would affect the subjective feeling of confidence with which consumers holds their judgments. We find that correction decreases confidence when consumers believe their confidence was boosted by the high credibility of the message source but increases confidence when consumers believe their confidence was reduced by the low credibility of the source. Our results suggest that at least under some conditions, consumers adjust their confidence based on their conscious beliefs about how they have been influenced.

Second, our findings provide evidence that cognitive resources for correction are at least partially independent from resources used for message information processing (Petty et al., 1998). We find that low elaboration consumers who are instructed to correct their judgments are particularly susceptible to the confidence via correction effect because they believe their judgments were influenced more by source credibility. This is an important result because earlier research has suggested that elaboration constraints impede correction (Johar & Simmons, 2000; Meyers-Levy & Tybout, 1997). Our results identify conditions under which low elaboration consumers correct more than high elaboration consumers.

Limitations and future research

Although we examine our effects with both messages recommending that consumers use a product (studies 1, 3, 4, 5) and messages recommending against a product (study 2), one limitation of our research is that we do not investigate situations in which participants disagree with the position advocated in the message. In studies 1 and 2 we used an unfamiliar product to induce a positive or negative opinion that was consistent with the recommendation. In studies 3, 4 and 5, in which we used real products and brands, pretests indicated that participants liked them, so the recommendations for the product were mostly consistent with participants' initial impressions. It would be interesting to examine what happens when a recommendation conflicts with consumers' initial opinions. Fitzsimons and Lehman (2004) show that when a recommendation and consumers' initial opinions are inconsistent, consumers may not only ignore the recommendation but also make choices that contradict it. It is possible that if consumers hold a prior judgment that conflicts with the position advocated in the message, correction will have a different effect on confidence and purchase intentions.

Another potential area for future research is examining how initial correction is related to future changes in judgments in response to persuasive messages. Correction is interesting because it shows that judgments are malleable even after they have been initially formed (Meyers-Levy & Malaviya, 1999). Are judgments that have been corrected less subject to further changes in response to persuasion, and does this depend on what initially prompted consumers to correct? All of our studies used explicit manipulations of correction. Because research has shown that more or less subtle correction cues lead to the same predicted effect (Wegener & Petty, 1997), it is likely that our effect would generalize to situations in which correction is prompted less explicitly, but sequences of correction over time deserve examination in future research.

Another interesting topic to examine is the accuracy of consumers' beliefs about how various factors influence their judgments. In study 4, we show that high elaboration consumers

believe their confidence is influenced less by source credibility than low elaboration consumers and that high elaboration consumers use these beliefs to inform their correction processes. Notably, however, some prior work suggests that under certain conditions (e.g., when consumers counterargue a counterattitudinal message) credibility has a stronger effect on confidence under high than under low elaboration conditions (Tormala & Petty, 2004). Neither study 4 nor 5 shows an interaction between credibility and elaboration on confidence, suggesting that in our studies the level of confidence generated by messages from high vs. low credibility sources does not differ based on elaboration. However, in both studies we observe a three-way interaction between credibility, correction and elaboration. The beliefs-driven confidence via correction effect seems to operate in the low elaboration condition but not in the high elaboration condition, when participants do not believe their confidence is influenced by credibility. Discrepant findings for beliefs about influence vs. actual influence raise the intriguing question of how accurately consumers predict their responses to influence and consequently correct for it.

Consumer and managerial implications

From a consumer welfare perspective, our results provide useful information for consumer protection agencies, which are often regarded as high credibility sources. Our findings suggest that high credibility agents should avoid situations in which consumers may correct their judgments after receiving their recommendations. For example, Consumer Reports, a nonprofit organization whose goal is to help consumers make better choices, publishes reports comparing products and brands within a variety of categories (e.g., a comparison across brands of sedan cars). Their reports include a description of the products and their performance, similar to the recommendations we used as stimuli in our studies. If consumers are prompted to correct for the influence of a high credibility source such as Consumer Reports, they might lose confidence in their judgments, and the persuasiveness of their recommendations might decrease. Such organizations should also be careful when issuing warnings to protect consumers, as these warnings might induce correction and backfire. For example, Consumer Reports and the American Federal Trade Commission's Bureau of Consumer Protection often publish short articles to warn consumers about potentially false claims. A recent article was titled "Don't let a telecommunications provider bamboozle you" (Giorgianni, 2011). Ironically, such a warning could prompt consumers to correct for the influence of a low credibility telecommunications salesperson, making consumers more confident and more receptive to the message delivered by the salesperson.

On the other hand, consumers often perceive marketing agents to be less than credible (Campbell & Kirmani, 2008). Traditional strategies for increasing the persuasiveness of recommendations have typically focused on increasing the trustworthiness of the source. Our research shows that when consumers correct their judgments, they actually become more likely to purchase a product recommended by a low credibility source such as the manufacturer. This raises the interesting possibility that marketers could use correction prompts as a substitute for source credibility to increase consumers' willingness to follow their recommendations.

Our research provides some guidance for marketers to leverage the correction process. Research suggests that it should not matter how consumers' correction processes are activated or who delivers the correction cue (Wegener & Petty, 1997), making it possible for marketers to instigate judgment correction themselves, perhaps even within the message itself. Therefore, we can imagine a salesperson describing the benefits of a car to a customer in an auto showroom and then saying "this car is really great, but don't let my opinion influence you," subtly increasing the chances that the consumer ultimately buys the car. We are also reminded of a recent ad run by General Motors in which they described the advantages of the Chevy Silverado and then admonished consumers "don't take our word for it, discover it for yourself." It is plausible that this suggestion increased consumers' confidence by prompting consumers to correct for the recommendation. Interestingly, Chevrolet sales were significantly higher after this ad campaign, and sales of the Silverado in particular enjoyed year-over-year gains (General Motors, 2011).

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Appendix A. Favorable [unfavorable] recommendations for study 1 [study 2]

Among the various brands of laundry detergents currently on the market, those containing phosphates are by far the best [far from the best]. Phosphate detergents are vastly superior [inferior] in cleaning power to other high quality, standard detergents. They clean clothes more [less] thoroughly and leave them smelling much better [less fresh] compared to standard forms of detergent. As a result, they allow clothes to be cleaned less frequently, which extends the life of clothing [they require clothes to be cleaned more frequently, which decreases the life of clothing]. Perhaps because phosphate detergents are cheaper to produce and more effective, they have consistently topped the charts in customer satisfaction over the past few years.

More importantly, phosphate detergents are significantly less [more] harmful to the environment than non-phosphate detergents. Indeed, for ordinary household use, it is now widely accepted that phosphate detergents are [not] the cleanest and [or the] safest type of detergent on the market. In fact, standard [phosphate] detergents typically contain EDTA, a chemical additive associated with harmful environmental consequences even in small amounts. Thus, it is wisest [not] to use phosphate detergents for household laundry.

Appendix B. Recommendation for studies 3 and 4

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