Believe Me, I Have No Idea What I'm Talking About: The Effects of Source Certainty on Consumer Involvement and Persuasion

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This research explores the effect of source certainty—that is, the level of certainty expressed by a message source—on persuasion. The authors propose an incongruity hypothesis, suggesting that source certainty effects depend on perceived source expertise. In three experiments, consumers receive persuasive messages from sources of varying expertise and certainty. Across studies, low expertise sources violate expectancies, stimulate involvement, and promote persuasion when they express certainty, whereas high expertise sources violate expectancies, stimulate involvement, and promote persuasion when they express uncertainty. Thus, nonexpert (expert) sources can gain interest and influence by expressing certainty (uncertainty).

Suppose that a person is reading the entertainment section in a city newspaper to find a good restaurant for celebrating a special occasion, and a food critic has listed several strong arguments in favor of a particular bistro. It seems reasonable to surmise that the more certainty, or confidence, the critic expresses about this recommendation, the more likely the reader will be to take the advice and book the reservation. However, is it possible that by voicing certainty, the critic will undermine the persuasiveness of the recommendation? Are there conditions under which the critic could gain influence by expressing uncertainty? This research explores the possibility that the effect of expressed certainty on persuasion varies according to the source's perceived expertise. We hypothesize that whereas nonexpert sources can become more persuasive by expressing certainty about their recommendations, expert sources can become more persuasive by expressing uncertainty. In three experiments we seek to identify the process through which and the conditions under which these effects emerge.

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THEORETICAL BACKGROUND

Attitude Certainty

Over the years, researchers have conceptualized the feeling of confidence or conviction about an opinion or evaluation as attitude certainty (Abelson 1988; Gross, Holtz, and Miller 1995; Petrocelli, Tormala, and Rucker 2007). Attitude certainty has stimulated considerable interest in both consumer behavior and social psychology, primarily because it is known to dictate the consequences of an attitude for attitude-relevant thought and action. For example, controlling for attitude valence and extremity, attitudes held with certainty are more resistant to change (Bassili 1996; Muthukrishnan, Pham, and Mungale 2001; Tormala and Petty 2002), more influential over behavior and choice (Berger and Mitchell 1989; Bizer et al. 2006; Fazio and Zanna 1978; Krishnan and Smith 1998), and less conducive to systematic processing (Clarkson, Tormala, and Rucker 2008; Maheswaran and Chaiken 1991) than attitudes held with uncertainty.

Interestingly, while numerous studies speak to the crucial impact of attitude certainty (Tormala and Rucker 2007), far less attention has been devoted to understanding this impact at the interpersonal level. That is, when an individual expresses certainty or uncertainty regarding his or her own opinion or recommendation, how does that affect other consumers' attitudes and behavior? This question is important

as people often form and express their attitudes in social contexts (e.g., Tormala et al. 2009), and access to the opinions and recommendations of others has increased tremendously with the advent of online resources and social networking Web sites. Within this context, expressions of certainty could provide a natural and straightforward way to shape one's persuasiveness. The current research explores this issue. Specifically, we examine situations in which the author of a message expresses certainty or uncertainty about his or her attitude or recommendation, and we assess what effect the level of expressed certainty has on other consumers' susceptibility to persuasion.

Source Certainty

What effect does source certainty have on persuasion? One potentially compelling prediction is that source certainty generally enhances the persuasive impact of a message. The logic would be that expressing certainty increases one's perceived credibility—for example, knowledge or expertise—and credibility, in turn, has a robust positive effect on persuasive outcomes (see Petty and Wegener 1998; Pornpitakpan 2004). In fact, according to dual-process theories such as the elaboration likelihood model (ELM; Petty and Cacioppo 1986) and the heuristic-systematic model (HSM; Chaiken, Liberman, and Eagly 1989), high source credibility can increase persuasion at both low (Petty, Cacioppo, and Goldman 1981) and high (Chaiken and Maheswaran 1994; Tormala and Clarkson 2007) levels of cognitive elaboration.

Consistent with this account, indirect evidence from outside of the attitudes literature points to a positive effect of source certainty on persuasion. Price and Stone (2004) found that financial advisors who expressed high confidence about their stock forecasts (i.e., high probabilities that their estimates were accurate) were perceived as more knowledgeable, and were more frequently chosen, than were advisors who expressed only moderate confidence. Similarly, in research on other kinds of judge-advisor systems, Sniezek and Van Swol (2001) found that advisors who expressed high confidence were trusted more and were more likely to have their advice accepted by others. Even in the domain of eyewitness testimony, the confidence of a witness is a reliable predictor of his or her perceived credibility (Tenney et al. 2007; Whitley and Greenberg 1986). In each domain, this confidence heuristic is so powerful that it can overwhelm the role of judgmental accuracy (Keren and Teigen 2001; Price and Stone 2004; Yates et al. 1996; cf. Tenney et al. 2007). Taken together, these results imply that high source certainty should be more persuasive than low source certainty, and this effect should be mediated by perceived source credibility.

However, persuasion in a typical consumer context is very different from persuasion in the settings studied in past source certainty research. First, in source certainty studies, the experimental context typically has been devoid of any information beyond the source's judgment (advice) and level of certainty. By contrast, in the typical consumer context, source credibility is often plainly apparent, meaning it does not have to be inferred from expressed certainty, and there are additional arguments or persuasive cues available to consider. Second, past source certainty research has focused on situations in which there is an objectively correct outcome or answer (e.g., whether a stock will gain or lose value). When consumers receive persuasive messages about goods and services, however, the best decision is often a matter of subjectivity. Source certainty might play a different role in this situation. In particular, whereas certainty might be positively correlated with accuracy when there is an objectively correct judgment at stake (Lindsay, Read, and Sharma 1998; Sniezek and Von Swol 2001), this is not true in situations calling for subjective judgments such as attitudes.

An Informational Incongruity Hypothesis

In contrast to the main effect prediction that source certainty engenders persuasion through perceived credibility, we hypothesize that source certainty can have a dynamic effect on persuasion that is moderated by source credibility. More specifically, we propose that source certainty has markedly different consequences depending on the perceived expertise of the source in question. Consider the case in which a consumer receives strong arguments in favor of a particular product or service. Under nonexpert source conditions, we predict that source certainty will have a positive effect on persuasion such that consumers are more persuaded when the source of the message expresses high compared to low certainty. Under expert source conditions, however, we predict that source certainty will have a negative effect on persuasion, such that consumers are more persuaded when the source expresses low compared to high certainty.

Why would source expertise moderate the effect of source certainty on persuasion? We approach this issue from the perspective of informational incongruity and consumer involvement—that is, the feeling of personal engagement or interest a consumer has in a persuasive message or attitude object. According to both the ELM (Petty and Cacioppo 1986) and the HSM (Chaiken et al. 1989), people tend to become more involved with a message or object, as evinced by increased cognitive elaboration, when they perceive any incongruity among salient persuasion variables (e.g., Baker and Petty 1994; Maheswaran and Chaiken 1991; Smith and Petty 1996; Tormala and DeSensi 2008; Wood and Eagly 1981). The logic is that incongruity violates expectancies, which feels surprising, raises involvement, and promotes cognitive elaboration. Increased elaboration, in turn, can boost persuasion provided that the arguments in the persuasive message are at least reasonably strong (e.g., Miniard et al. 1991; Newman and Dolich 1979; Petty and Cacioppo 1979, 1986; Petty, Cacioppo, et al. 1981; Petty, Cacioppo, and Schumann 1983).

In one demonstration, Baker and Petty (1994) presented participants with a persuasive message and examined the effects of numerical source status (i.e., minority vs. majority) and message position (i.e., pro- vs. counterattitudinal) on feelings of surprise and cognitive elaboration. They reasoned that people would find a message more surprising,

and therefore process it more deeply, following incongruent (i.e., majority/counterattitudinal, minority/proattitudinal) compared to congruent (i.e., majority/proattitudinal, minority/counterattitudinal) source-message pairings. Consistent with this prediction, they found evidence for greater argument quality effects on attitudes—a well-established indicator of increased elaboration (Petty and Cacioppo 1986)—under incongruent rather than congruent conditions. Thus, Baker and Petty found greater persuasion by strong but not weak arguments following perceived incongruity. This finding is also consistent with Wood and Eagly's (1981) attribution model of persuasion, which suggests that knowledge about the source of a message can shape expectancies about the quality and content of that message. Here too, the theory is that incongruent information (e.g., a communicator advocating an unexpected position) violates expectancies, thereby capturing attention, reducing perceived bias, and increasing elaboration, which can boost persuasion in response to strong arguments.

Most directly relevant to the current research, Ziegler, Diehl, and Ruther (2002) manipulated multiple source characteristics simultaneously and found that incongruity within the same source increased elaboration of a persuasive message. In one study, Ziegler et al. presented participants with a persuasive message, and they manipulated the evaluative consistency of the source's likability and expertise. For instance, some participants learned that the source was high in likability and expertise, whereas others learned that the source was high in likability but low in expertise. Results indicated that participants processed the message more deeply when source characteristics were incongruent. Moreover, deeper processing fostered persuasion when the message contained strong but not weak arguments.

Following the same logic, we submit an incongruity-based interaction hypothesis for the effects of source expertise and source certainty on persuasion. First, we hypothesize that message recipients will experience greater expectancy violation—perceiving a message as more surprising and unexpected—when source expertise and source certainty are incongruent (e.g., low expertise/high certainty) rather than congruent (e.g., high expertise/high certainty). Second, if true, message recipients should feel more involved with a message following incongruent as opposed to congruent expertise and certainty information. Finally, to the extent that the message itself contains strong arguments, greater involvement should foster greater persuasion due to increased cognitive elaboration. When the message contains weak arguments, however, greater involvement should reduce, eliminate, or even reverse this effect (Petty and Cacioppo 1979; see Petty and Wegener 1998). At a minimum, we hypothesize greater persuasion by strong than weak arguments when involvement is posited to be high—that is, when source expertise and source certainty are incongruent. We test these predictions in a series of three experiments.

OVERVIEW

In experiment 1 we conduct an initial exploration into the possibility that source expertise and source certainty interact to determine expectancy violations. We hypothesize that when consumers receive a message from a nonexpert source, they will experience greater expectancy violation when that source expresses high compared to low certainty. Conversely, when consumers receive a message from an expert source, they will experience greater expectancy violation when that source expresses low compared to high certainty. In other words, we hypothesize that certainty will be more surprising and unexpected from nonexperts, whereas uncertainty will be more surprising and unexpected from experts. In addition, experiment 1 examines numerous potential perceptions of source attributes emanating from these manipulations to assess the diverse range of influences that expressions of certainty might have.

In experiment 2 we explore the implications of source certainty for involvement and persuasion. Building on experiment 1, we hypothesize that when consumers receive a strong message from a low expertise source, that message will be more involving and persuasive when the source expresses high rather than low certainty. When consumers receive a strong message from a high expertise source, however, we expect to reverse this effect. Moreover, we predict that felt involvement will mediate the persuasion outcome. Thus, assuming strong arguments, expressions of high certainty will help and hurt low and high expertise sources' efforts to garner interest and influence, respectively.

Finally, experiment 3 directly tests our elaboration account by manipulating argument quality and measuring participants' cognitive responses. We propose that compared to congruity between source expertise and source certainty (i.e., low expertise/low certainty or high expertise/high certainty), source incongruity (i.e., low expertise/high certainty or high expertise/low certainty) will promote involvement in the form of cognitive elaboration, which will manifest as enhanced argument quality effects on both thought favorability and persuasion. Furthermore, we hypothesize that thought favorability will mediate the persuasion effect.

If the predicted interaction results are obtained, the current studies would make an important contribution to consumer research. To begin with, they would provide evidence that source certainty is not merely a proxy for source credibility, though the two have been correlated in past research. Furthermore, the predicted results would reveal novel yet theoretically grounded strategies for both nonexperts and experts to boost their potential influence. By uncovering a positive effect of source certainty under low expertise conditions, for instance, this research would suggest that individuals lacking in established expertise (e.g., laypeople, anonymous consumers posting online product reviews) can gain interest and influence by expressing certainty about their attitude or recommendation. In the case of high expertise, the predicted results would suggest a negative effect, whereby experts gain interest and influence by expressing uncertainty. This prediction is counterintuitive—from a ra-

tional perspective consumers should be most persuaded when the source of a message is high in both expertise and certainty—but it is compatible with our incongruity hypothesis.

EXPERIMENT 1

The primary objective of experiment 1 was to provide an initial test of our incongruity hypothesis. In particular, we explored the effects of source expertise and source certainty on participants' self-reported expectancy violations. As outlined already, we hypothesized that expertise and certainty would have an interactive effect on expectancy violations, such that messages from nonexperts would feel more surprising and unexpected when they expressed certainty, whereas messages from experts would feel more surprising and unexpected when they expressed uncertainty. Experiment 1 tested this hypothesis by presenting participants with a persuasive message—a restaurant review—from a source varying in expertise and certainty.

A secondary objective was to examine other source perceptions that could be affected by our manipulations of expertise and certainty. We were especially interested in addressing the alternative possibilities that expressions of certainty versus uncertainty from an expert or nonexpert could differentially affect source likability (Wood and Kallgren 1988), perceived source similarity (i.e., how similar participants believed the source was to themselves; Mackie, Worth, and Asuncion 1990), or even perceived source honesty or trustworthiness (Priester and Petty 1995, 2003), all of which have been shown to influence persuasion in past research. Each of these potential source impressions could be particularly relevant to understanding the persuasive advantage posited to accompany experts' expressions of uncertainty. That is, perhaps experts who acknowledge their own uncertainty are viewed as more likable, more like "me" (i.e., the message recipient), or simply more honest.

In fact, classic research on the pratfall effect (Helmreich, Aronson, and LeFan 1970) suggests that experiencing a public pratfall (e.g., spilling a cup of coffee on oneself) can increase the attractiveness, or likability, of people high in competency. The logic is that pratfalls make highly competent individuals seem more human. In the current context, one might predict that by expressing uncertainty, experts acknowledge a weakness that increases their likability, perceived similarity ("this person is human after all, just like me"), or honesty, which boosts persuasion. If true, this finding would support the direction of effect we posit for expert sources but not the process we have outlined. To explore this issue, we measured these additional source impressions, along with perceived expertise and certainty, following the persuasive message.

Participants and Design

One hundred five undergraduates participated in a laboratory study for monetary compensation. Participants were randomly assigned to one of four conditions in a 2 (source expertise: high or low) × 2 (source certainty: high or low) between-participants factorial design.

Procedure

Participants were welcomed by an experimenter and seated at one of seven partitioned computer terminals. The experimenter directed participants' attention to their computer screens where all experimental materials were presented. On the opening screen, participants learned that the study was related to consumer communication and the distinct modalities through which consumers receive information—for example, newspaper clippings, e-mails, Web pages, and the like. Participants were further instructed that they would be presented with information about a product or service in one such modality, after which we would assess their reactions.

Following these instructions, all participants were told that they would be reading a restaurant review taken from an online journal written by someone named Daniel Christiansen. After reading a description of the author and his qualifications, participants continued to the next screen where they read a favorable review of a fictitious Italian restaurant named La Scarola. This review constituted the persuasive message. The review text was presented as if it had been copied from an online journal, containing a title, a posting date, and a paragraph about the restaurant. Across conditions, the review was favorable toward the restaurant. For instance, the author described La Scarola as elegant and welcoming, favorably assessed the entrees and desserts (e.g., "At the end of the meal, the espresso was good and the desserts were terrific."), and concluded with a rating of four out of five stars. When participants finished reading the review, they rated the source on a number of dimensions, completed measures of expectancy violation, and were then thanked and debriefed.

Independent Variables

Source Expertise. According to random assignment, the author of the restaurant review (Daniel Christiansen) was either high or low in expertise. In the high expertise condition, he was described as a nationally renowned food critic and regular contributor to the food and dining section of a major area newspaper. Moreover, the opening line of his review indicated that he was highly familiar with local Italian restaurants. In contrast, in the low expertise condition, the author was described as a networks administrator at a nearby community college who kept a personal Web journal. The opening line of this review indicated that he normally ate fast food.

Source Certainty. Participants were also randomly assigned to source certainty conditions. In the high certainty condition, the title of the review was "La Scarola—a confident 4 out of 5," and the author expressed certainty about his evaluation of the food and the restaurant at two points in the review (e.g., "Having eaten there for dinner, I can

confidently give La Scarola a rating of 4 [out of 5] stars."). In the low certainty condition, the title of the review was "La Scarola—a tentative 4 out of 5," and the author expressed uncertainty at these same points (e.g., "Having eaten there only once, I don't have complete confidence in my opinion, but I suppose I would give La Scarola a rating of 4 [out of 5] stars.").

Dependent Measures

Source Impressions. Following the restaurant review, we assessed impressions of the reviewer (i.e., the source) on a variety of dimensions that could be relevant to understanding the effects of source expertise and certainty on persuasion. We introduced these measures with the following instructions: "We would now like to ask you about the reviewer of La Scarola; that is, the person who wrote the review you read of the restaurant (Daniel Christiansen)."

Immediately thereafter, we assessed source likability using two questions: How much do you think you would like this reviewer as a person? How favorable or unfavorable is your impression of the reviewer as a person? These questions were accompanied by scales ranging from 1 (not at all, unfavorable) to 9 (very much, favorable). Responses were highly correlated ($r = .85$, $p < .001$) and, thus, were averaged to form a composite index.

Next, we assessed perceived source similarity. This measure consisted of two items assessing how similar participants believed the reviewer was to themselves and how much participants felt they had in common with the reviewer. Responses, provided on scales ranging from 1 (not at all similar, nothing in common) to 9 (very similar, a lot in common), were highly correlated ($r = .84$, $p < .001$) and were averaged to form a composite index.

Following the similarity measure, participants rated source expertise on two items: How knowledgeable do you think the reviewer is about restaurants in general? How much of an expert do you think the reviewer is about restaurants? Responses, given on scales ranging from 1 (not knowledgeable, not at all expert) to 9 (very knowledgeable, very expert), were averaged to form a composite index of source expertise ($r = .90$, $p < .001$).

We next measured perceptions of source trustworthiness. On two scales, participants were asked to indicate the extent to which they believed that the restaurant reviewer was honest and trustworthy. Responses were provided on scales ranging from 1 (not at all honest, not at all trustworthy) to 9 (very honest, very trustworthy) and averaged to form an aggregate index ($r = .69$, $p < .001$).

Finally, participants rated source certainty on a single global item. Specifically, participants indicated the degree to which the author appeared to be certain about his rating of the restaurant. This scale ranged from 1 (not at all certain) to 9 (very certain).

Expectancy Violation. At the crux of the incongruity hypothesis is the notion that mismatches in source attributes (e.g., low expertise/high certainty or high expertise/low certainty) are unexpected and surprising. To explore this possibility in the current experiment, near the end of the session we asked participants to report how surprising and how unexpected they found Daniel Christiansen's review to be. Responses were provided on two scales ranging from 1 (not at all surprising, not at all unexpected) to 9 (extremely surprising, extremely unexpected). These responses were significantly correlated ($r = .75$, $p < .001$) and were thus averaged to create a composite index of expectancy violation.

Results

Source Impressions. We began our analysis with the various source impression measures. For each index we conducted a 2 × 2 ANOVA with source expertise and source certainty as the independent variables. The means and standard errors from each of these analyses are presented in table 1. Most germane to our central hypotheses were the analyses of perceived source expertise and perceived source certainty, so we began with those indices.

On the source expertise index, we found a significant main effect for the expertise manipulation ($F(1, 101) = 15.05$, $p < .001$) such that participants rated the source as having greater expertise in the high ($M = 4.79$) rather than low ($M = 3.40$) expertise condition. Interestingly, there also was a main effect of the source certainty manipulation on perceived expertise ($F(1, 101) = 4.38$, $p < .04$); perceived expertise was greater in the high ($M = 4.44$) compared to low ($M = 3.75$) certainty condition. Of importance, however, there was no interaction between source expertise and source certainty ($F(1, 101) = 1.45$, $p > .23$).

We next submitted the source certainty index to analysis. In this case, there was only a main effect of the source certainty manipulation ($F(1, 101) = 76.61$, $p < .001$); participants perceived the high certainty source as more certain ($M = 6.89$) than the low certainty source ($M = 3.75$). Neither the main effect for source expertise nor the expertise × certainty interaction approached significance (F's < 1). Thus, while there was some evidence for the "confidence heuristic" observed in past studies (e.g., Price and Stone 2004), whereby expressed certainty can increase perceived credibility, the reverse relationship was not observed.

Additional source impressions were analyzed in the order in which the measures appeared. For source likability, we found a marginal main effect of source certainty ($F(1, 101) = 3.07$, $p < .09$), such that participants liked the high certainty source ($M = 5.19$) more than the low certainty source ($M = 4.69$). There was no main effect for the expertise manipulation ($F < 1$) nor an interaction ($F(1, 101) = 1.71$, $p > .19$). On the source similarity index, there were no main effects (F's < 1) and no interaction ($F(1, 101) = 1.78$, $p > .18$). Finally, on source trustworthiness, we found a marginal main effect of the source expertise manipulation ($F(1, 101) = 3.65$, $p < .06$); ironically, the low expertise source ($M = 6.60$) was trusted slightly more than the high expertise source ($M = 6.04$). There were no other effects on this index (F's < 1).

TABLE 1

SOURCE IMPRESSIONS AS A FUNCTION OF SOURCE EXPERTISE AND SOURCE CERTAINTY IN EXPERIMENT 1

Source impression	Low expertise source		High expertise source	
	Low source certainty	High source certainty	Low source certainty	High source certainty
Expertise:				
M	3.23	3.55	4.20	5.40
SE	.38	.35	.36	.37
Certainty:				
M	3.83	6.82	3.67	6.96
SE	.38	.35	.35	.36
Likability:				
M	5.00	5.13	4.41	5.27
SE	.29	.27	.28	.28
Similarity:				
M	4.44	4.21	3.94	4.46
SE	.29	.27	.27	.28
Trustworthiness:				
M	6.65	6.55	5.94	6.14
SE	.31	.28	.29	.29

Expectancy Violation. In contrast to the results on the source impression measures, we predicted an interaction on self-reported expectancy violations, reflecting greater surprise and unexpectedness when a nonexpert expressed high rather than low certainty or when an expert expressed low rather than high certainty. To test this hypothesis, we conducted a 2 × 2 ANOVA with source expertise and source certainty as the independent variables. This analysis revealed no main effects (F's < 1), but there was a significant interaction ($F(1, 101) = 7.55$, $p < .008$). As illustrated in figure 1, the low expertise review was perceived as more surprising and unexpected when the reviewer expressed high rather than low certainty ($F(1, 101) = 4.43$, $p < .04$). In contrast, the high expertise review tended to be perceived as more surprising and unexpected when the reviewer expressed low rather than high certainty ($F(1, 101) = 3.17$, $p < .08$).

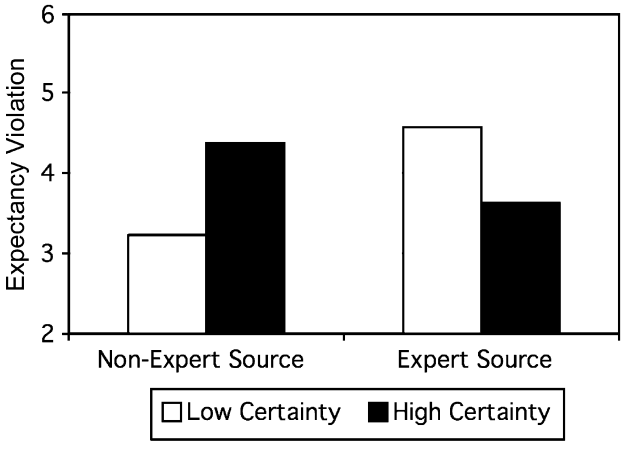
Discussion

The results of experiment 1 were consistent with our incongruity hypothesis regarding the effects of source expertise and source certainty on expectancy violations. From a low expertise source, expressions of certainty were more surprising and unexpected than expressions of uncertainty. From a high expertise source, the opposite was true. Based on this finding, expressions of certainty (vs. uncertainty) should help nonexperts engage consumers with their message, but they might hurt the efforts of experts in this regard. Indeed, as reviewed earlier, it is well-established that violating expectations can be an effective means of increasing people's involvement and elaboration (e.g., Wood and Eagly 1981). Thus, to the extent that a message contains strong arguments and increased elaboration is desirable, our findings hint at the possibility that low and high expertise sources could gain influence by strategically expressing high and low certainty, respectively. We explored this issue in the next experiment.

Also important, experiment 1 established that the incongruity hypothesis could not be accounted for by other source impressions. As outlined already, source likability, similarity, and trustworthiness have been shown in past research to play important roles in persuasion, and intuitively each has a plausible link to source certainty. In particular, as supported by research on the pratfall effect (Helmreich et al. 1970), one might expect expert sources to be perceived as more likable, similar to oneself, or honest when they express uncertainty. However, in experiment 1, we found a marginal positive effect of source certainty on perceived

FIGURE 1

SELF-REPORTED EXPECTANCY VIOLATION AS A FUNCTION OF SOURCE EXPERTISE AND SOURCE CERTAINTY IN EXPERIMENT 1



likability, a marginal negative effect of source expertise (and no effect of source certainty) on perceived trustworthiness, and no effects of either manipulation on perceived similarity. None of these results can account for the interaction on expectancy violations or the hypothesized interaction on persuasion outcomes.

Also important, source expertise did not influence perceived certainty in any way. Source certainty did increase perceived expertise, but this pattern reflected additive rather than interactive effects of the expertise and certainty manipulations. Thus, any overlap in the source perceptions caused by our manipulations in experiment 1 seems incapable of explaining the observed interaction pattern on expectancy violations. Rather, it appears that incongruity between our two focal source attributes is the key. Nevertheless, after these initial findings, the fundamental question remains: What impact does source certainty have on persuasion? Does the detection of incongruity, or violation of expectancies, indeed increase involvement and boost persuasion in response to strong arguments? We investigate this possibility in the next study.

EXPERIMENT 2

The first experiment provided initial evidence for our hypothesis that source incongruity can violate expectancies. Experiment 2 examined the implications of this effect for involvement and persuasion. Overall, the design of the experiment closely paralleled that of experiment 1. We presented participants with a favorable review of a restaurant containing strong arguments. We varied the reviewer's expertise as well as the level of certainty he expressed. When participants finished reading the review, we assessed their attitudes toward the restaurant and directly measured their feelings of involvement with the review itself. On both indices, we predicted an interaction effect. Specifically, we expected to find greater involvement and more favorable attitudes when a nonexpert source expressed certainty rather than uncertainty, as well as when an expert source expressed uncertainty rather than certainty. Furthermore, we expected felt involvement to directly mediate the attitude effect. Again, this outcome would suggest that under strong argument conditions nonexpert sources can gain interest and influence by expressing certainty, whereas expert sources can gain interest and influence by expressing uncertainty.

Participants and Design

Sixty-eight undergraduates participated in person at a behavioral research laboratory for monetary compensation. Participants were randomly assigned to conditions in a 2 (source expertise: high or low) × 2 (source certainty: high or low) between-participants factorial design.

Procedure

General procedures were very similar to those of experiment 1. Following the same cover story, participants learned that they would read a restaurant review taken from a "Reader Reports" page in the food and dining section of a newspaper. Participants read a description of the author (Stephen Stone) followed by a favorable review of a fictitious Italian restaurant named Bianco's, concluding with a rating of four out of five stars. The review text was presented as if it had been copied from a newspaper article and contained arguments established through pretesting to be strong. For example, the author described Bianco's as elegant and highlighted impressive ambience and cuisine (e.g., "The dining room had a wonderful ambience—very attractive and welcoming. . . . I tried the lasagna and found it to be rich, tasty, and filling."). Following the review, participants completed dependent measures and were debriefed.

Independent Variables

Source Expertise. According to random assignment, the author of the review was either high or low in expertise. This manipulation was virtually identical to that used in experiment 1.

Source Certainty. Participants were randomly assigned to source certainty conditions constructed in an identical manner to experiment 1.

Dependent Measures

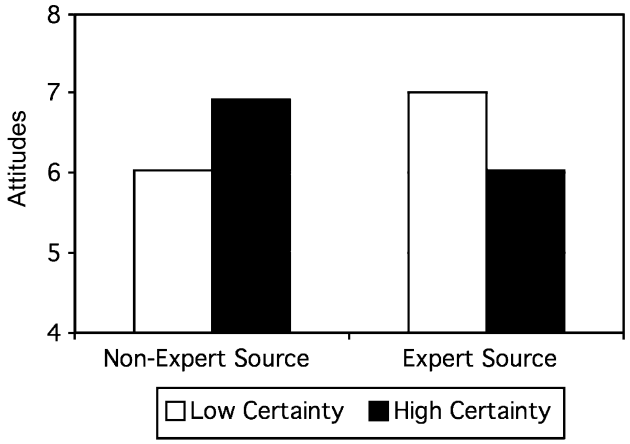
Attitudes. Immediately after reading the review, participants reported their attitudes by rating Bianco's on three semantic differential scales ranging from one to nine with the following anchors: negative-positive, bad-good, and unfavorable-favorable. Responses to these items were highly consistent ($\alpha = .96$), so we averaged them to form a composite index of attitudes toward the restaurant. Higher values indicated more favorable attitudes and, thus, greater persuasion.

Involvement. To determine participants' level of involvement or engagement with the message, we asked two questions adapted from past research (e.g., Petty and Cacioppo 1979): How involved did you feel with the review of Bianco's? How interested were you in the restaurant review? Responses, provided on scales ranging from 1 (not involved at all, not interested at all) to 9 (very involved, very interested), were averaged to form a composite index ($r = .75$, $p < .001$). Of importance, we measured involvement after attitudes to avoid biasing the persuasion outcome, which was our primary interest.

Manipulation Checks. At the end of the experiment, we asked participants to rate the author of the review on the manipulated source attributes. First, participants were asked to rate how certain the author was of his assessment of Bianco's. Ratings were provided on a single scale ranging from 1 (not at all certain) to 9 (extremely certain). Second, participants were asked to rate the level of expertise the author had about restaurants, using a scale from 1 (not expert at all) to 9 (very expert).

FIGURE 2

ATTITUDES AS A FUNCTION OF SOURCE EXPERTISE AND SOURCE CERTAINTY IN EXPERIMENT 2



Results

Manipulation Checks. We began our analysis with the manipulation check data. First, we submitted the perceived certainty measure to a 2 × 2 ANOVA with source expertise and source certainty as the independent variables. This analysis produced a main effect of the source certainty manipulation ($F(1, 64) = 42.32$, $p < .001$); participants rated the source as more certain in the high ($M = 7.32$) compared to low ($M = 4.68$) certainty condition. There was no main effect for the expertise manipulation ($F < 1$), but there was an unexpected marginal expertise × certainty interaction ($F(1, 64) = 3.32$, $p < .08$). This interaction suggested that the effect of the certainty manipulation on perceived certainty was slightly greater in the low ($M_{\text{uncertain}} = 4.17$ vs. $M_{\text{certain}} = 7.50$; $F(1, 64) = 36.84$, $p < .001$) compared to high ($M_{\text{uncertain}} = 5.25$ vs. $M_{\text{certain}} = 7.13$; $F(1, 64) = 10.36$, $p < .01$) expertise condition, though it was positive and significant in each.

Analysis of the perceived expertise data revealed only a main effect for the expertise manipulation ($F(1, 64) = 4.60$, $p < .04$). Participants rated the source as having more expertise in the high ($M = 7.06$) rather than low ($M = 6.08$) expertise condition. There was no main effect for source certainty ($F(1, 64) = 2.36$, $p > .12$) and no interaction ($F(1, 64) = 1.60$, $p > .21$).

Attitudes. Next, we submitted the attitude data to the same analysis. There were no main effects (F's < 1), but we did find a significant interaction between source expertise and source certainty ($F(1, 64) = 9.70$, $p < .004$). As illustrated in figure 2, this interaction assumed the predicted form. The nonexpert source was more persuasive, as indicated by more favorable attitudes, when he expressed certainty compared to uncertainty ($F(1, 64) = 4.77$, $p < .04$), whereas the expert source was more persuasive when he expressed uncertainty compared to certainty ($F(1, 64) = 4.94$, $p < .03$). In each case, then, source incongruity fostered greater persuasion.

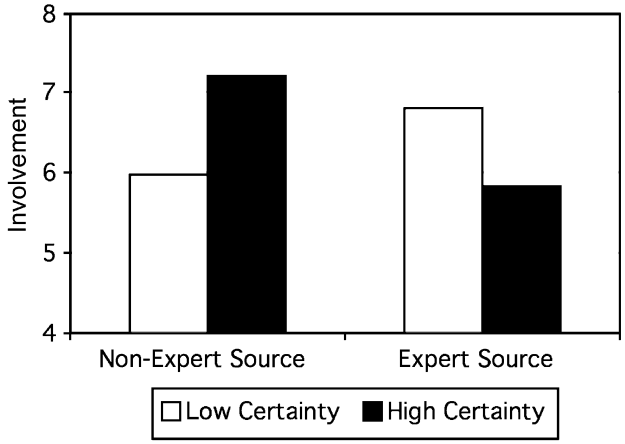
Involvement. A similar analysis of the involvement index revealed no main effects for source expertise or source certainty (F's < 1) but a significant interaction between these variables ($F(1, 64) = 11.02$, $p < .002$). As shown in figure 3, under conditions of low source expertise, participants reported greater involvement with the high rather than low certainty review ($F(1, 64) = 7.43$, $p < .01$). In contrast, under conditions of high source expertise, participants reported greater involvement with the low rather than high certainty review ($F(1, 64) = 3.97$, $p = .05$). Thus, in both conditions source incongruity generated higher involvement.

Mediation. We propose that incongruity between source expertise and source certainty leads to increased involvement, which in turn boosts persuasion in response to strong arguments. To assess the mediating role of felt involvement in this study, we conducted an analysis of mediated moderation following the procedures recommended by Muller, Judd, and Yzerbyt (2005). In particular, we examined whether felt involvement mediated the source expertise × source certainty interaction on attitudes, controlling for the expertise and certainty main effects.

As reported already, the interaction between expertise and certainty was significant for both involvement ($\beta = -.65$, $t(64) = -3.32$, $p < .002$) and attitudes ($\beta = -.62$, $t(64) = -3.12$, $p < .004$). Furthermore, involvement predicted attitudes ($\beta = .55$, $t(66) = 5.29$, $p < .001$). Finally, in a simultaneous regression analysis treating the interaction, involvement, and the expertise and certainty main effect terms as predictors of attitudes, involvement continued to be a strong predictor ($\beta = .48$, $t(63) = 4.27$, $p < .001$), whereas the effect of the interaction was reduced ($\beta = -.31$, $t(63) = -1.61$, $p > .11$). A Sobel test indicated that the me-

FIGURE 3

FELT INVOLVEMENT AS A FUNCTION OF SOURCE EXPERTISE AND SOURCE CERTAINTY IN EXPERIMENT 2



diating pathway from the expertise × certainty interaction to attitudes through involvement was significant ($Z = 2.58$, $p < .01$).

Discussion

Experiment 2 built upon the groundwork laid in experiment 1 to address our primary persuasion hypothesis. This experiment revealed the predicted interaction between source expertise and certainty on attitudes. Participants were persuaded by the message when a nonexpert source expressed high rather than low certainty in his recommendation, as well as when an expert source expressed low rather than high certainty in his recommendation. Moreover, we provided evidence for the psychological process driving this effect in showing that the interaction on attitudes was mediated by felt involvement. In short, a nonexpert source gained interest and influence by expressing certainty, whereas an expert source gained interest and influence by expressing uncertainty.

We acknowledge that this interaction pattern is counterintuitive. From a rational perspective, consumers arguably should be most persuaded by a message when the source of that message is an expert and has expressed high certainty about his or her recommendation. After all, under these conditions the arguments in the message presumably are most valid. Though intuitively plausible, this additive effect is not borne out by the results of experiment 2. In contrast, our incongruity hypothesis, emphasizing the impact of inconsistent source attributes on involvement and cognitive elaboration, fits the data well. In experiment 3, we sought to strengthen our evidence for the role of involvement and processing by manipulating argument quality and measuring participants' cognitive responses (see Petty and Cacioppo 1986).

EXPERIMENT 3

Experiments 1 and 2 provided convergent support for our incongruity hypothesis on the effects of source certainty in consumer contexts. Across experiments, we demonstrated that surprise, involvement, and persuasion were all heightened when low expertise sources expressed certainty or when high expertise sources expressed uncertainty. Experiment 2 was particularly informative in that it (1) uncovered the predicted interaction on both a traditional measure of attitudes and a direct assessment of felt involvement and (2) showed that felt involvement mediated the attitude effect. In experiment 3, we aimed to extend these findings in several important ways.

First, we sought to provide stronger evidence for the role of cognitive elaboration by manipulating argument quality—that is, the strength of the arguments contained in the persuasive message. A long history of research has revealed that under conditions of increased involvement, or elevated processing more generally, people show greater discrimination between strong and weak arguments when they receive persuasive messages (Petty and Cacioppo 1986). When message arguments are strong, this can lead to increased persuasion as observed in experiment 2. When message arguments are weak, however, this is not usually the case. Sometimes devoting increased processing to weak arguments renders those arguments actively harmful (i.e., leads them to backfire) and sometimes it simply nullifies or reduces their persuasive impact (Petty and Wegener 1998). The key for our purposes is that greater involvement facilitates greater argument quality effects. Consequently, in the current study we expected to find a three-way interaction between source expertise, source certainty, and argument quality, indicating greater argument quality effects under incongruent compared to congruent expertise and certainty conditions.

Second, to further strengthen the evidence for cognitive elaboration as the key psychological mechanism driving our effects, we included a traditional thought-listing procedure in this study. This measure allowed us to capture participants' cognitive responses and compute a thought-favorability index for each participant to assess its role in mediating the primary persuasion effects. If indeed thought favorability mediated the persuasion outcome, this would provide additional evidence for the fundamental role of involvement, manifesting in terms of information-processing differences, in the current paradigm.

Finally, having shown the predicted persuasion effect on a traditional measure of attitudes in experiment 2, experiment 3 employed an index geared more toward attitudes and intentions. Our goal in making this change was to get closer to assessing the review's impact on participants' actual interest in having a meal at the target restaurant. Past research has shown behavioral intentions to be the single best and most proximal predictor of actual behavior (e.g., Fishbein and Ajzen 1975), so measuring intentions can serve as a reasonable proxy for direct behavioral assessments.

Participants, Design, and Procedure

One hundred forty undergraduates, participating in exchange for monetary compensation, were randomly assigned to conditions in a 2 (source expertise: high or low) × 2 (source certainty: high or low) × 2 (argument quality: strong or weak) between-participants factorial design. The general procedure was similar to that of the first two experiments. Following initial instructions, participants were told that they would be reading a restaurant review taken from an online journal written by someone named Daniel Christiansen. After reading a description of the author, participants received a favorable review of a fictitious Italian restaurant named Bianco. The review text was presented as if it had been copied from an online journal (see appendix fig. A1). After reading the review, participants completed dependent measures and were then debriefed.

Independent Variables

Source Expertise and Certainty. The source expertise and source certainty manipulations were identical to the manipulations used in experiment 1.

Argument Quality. Participants were randomly assigned to receive a restaurant review containing arguments established through pretesting to be strong or weak (see the appendix). In the strong arguments condition, the review contained several cogent arguments directly relevant to the core merits of the target restaurant (e.g., wonderful ambience, delicious food, excellent service). In the weak arguments condition, the review contained more specious and idiosyncratic arguments that had little to do with the quality of the restaurant itself (e.g., colorful menu, fun dish names, excellent conversation during the meal). Of importance, both sets of arguments were unambiguously favorable toward the restaurant, but they differed in perceived quality.

Dependent Measures

Attitudes and Intentions. Our persuasion measure in this study—attitudes and intentions—consisted of two items. First, immediately after reading the review, participants were asked to indicate how much they thought they would like eating at Bianco on a scale ranging from 1 (not at all) to 9 (very much). Following this item, participants indicated how interested they would be in having a meal at Bianco, using a scale ranging from 1 (not interested at all) to 9 (extremely interested). Responses to these items were averaged to form a composite index of attitudes and intentions ($r = .85$, $p < .001$).

Thought Favorability. After the assessment of attitudes and intentions, we measured cognitive responses by asking participants to list the thoughts they had as they read the restaurant review. Instructions were as follows (adapted from Cacioppo and Petty 1981): "We are also interested in finding out about the thoughts that went through your mind as you read the information about the restaurant Bianco. Please share any thoughts you had *while you were reading* the review of the restaurant. You can type your thoughts into the boxes that appear at the bottom of this and the next several screens. Do not worry about spelling or grammar. Just make sure you express the main idea of each thought."

Participants were allowed to type as many thoughts as they wanted. We emphasized thoughts that occurred while reading the review to focus participants on their cognitive responses to the message itself rather than any thoughts that occurred after reporting their attitudes. At the end of the experiment, we presented participants with the thoughts they had listed and asked them to indicate whether each was positive, negative, or neutral with respect to the restaurant. A thought-favorability index was later computed for each participant by subtracting the number of negative thoughts listed from the number of positive thoughts listed. Higher values thus reflected a greater frequency of positive relative to negative thoughts. This approach was adopted from past work on cognitive responses and persuasion (see Petty, Ostrom, and Brock 1981).

Manipulation Checks. At the end of the study, we included two manipulation checks. These were identical to those from experiment 2, focusing on perceived expertise and certainty.

Results

Manipulation Checks. We began by analyzing perceived source expertise and perceived source certainty. Each index was submitted to a 2 × 2 × 2 ANOVA with source expertise, source certainty, and argument quality as the independent variables. On the perceived expertise index, we obtained a main effect of the source expertise manipulation ($F(1, 132) = 17.03$, $p < .001$); the source was perceived as having more expertise in the high ($M = 4.77$) rather than low ($M = 3.41$) expertise condition. There was also a main effect of argument quality ($F(1, 132) = 15.13$, $p < .001$), indicating that source expertise was rated more highly when the review contained strong ($M = 4.76$) rather than weak ($M = 3.47$) arguments. No other effects were significant on this measure (p's $> .14$).

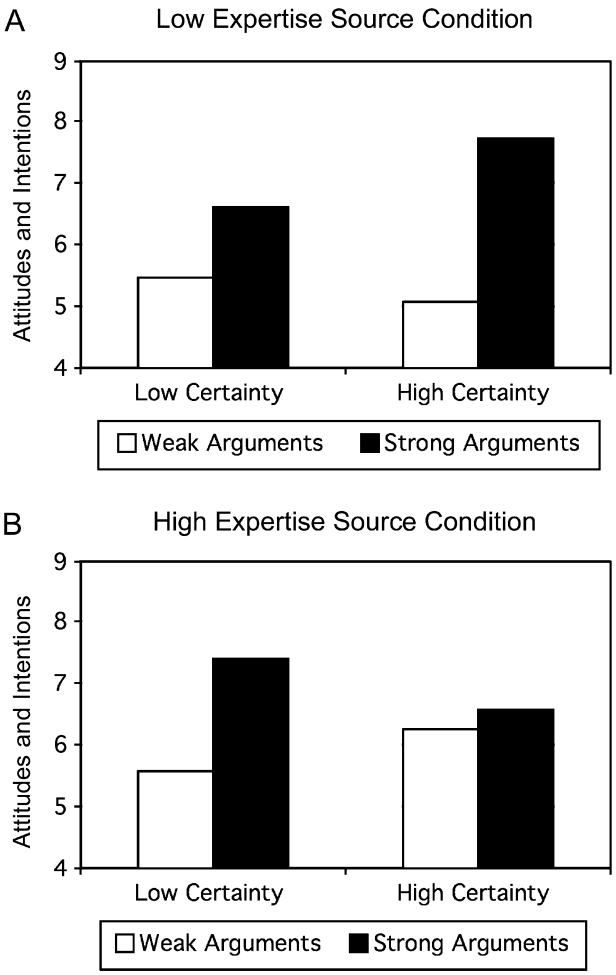
In the perceived certainty data we observed a main effect of source certainty ($F(1, 132) = 45.75$, $p < .001$). Participants rated the source as more certain in the high ($M = 7.00$) compared to low ($M = 4.79$) certainty condition. There was also a marginal main effect of argument quality ($F(1, 132) = 3.63$, $p < .06$), indicating greater perceived certainty following strong ($M = 6.26$) rather than weak ($M = 5.61$) arguments. No other significant effects emerged (p's $> .10$).

Attitudes and Intentions. We submitted attitudes and intentions to the same 2 × 2 × 2 ANOVA. This analysis revealed a main effect for argument quality ($F(1, 132) = 36.73$, $p < .001$), such that attitudes and intentions were more favorable when the review contained strong ($M = 7.07$) rather than weak ($M = 5.59$) arguments. None of the other main effects (F's < 1) or two-way interactions (p's $> .10$) were significant. Of importance, however, we did obtain the predicted three-way interaction ($F(1, 132) = 9.24$, $p < .003$).

As illustrated in figure 4, this three-way interaction involved two two-way interactions of opposing patterns. Under low expertise source conditions (top panel), there was a significant source certainty × argument quality interaction ($F(1, 65) = 4.41$, $p < .04$), such that the argument quality effect was greater when the reviewer expressed certainty ($F(1, 65) = 27.82$, $p < .001$) rather than uncertainty ($F(1, 65) = 5.07$, $p < .03$). Under high expertise source conditions (bottom panel), there also was a significant source certainty × argument quality interaction ($F(1, 67) = 4.84$, $p < .04$), but here it assumed the opposite form. In this case, the argument quality effect was significant when the reviewer expressed uncertainty ($F(1, 67) = 14.05$, $p < .001$) but not when he expressed certainty ($F < 1$). As hypothesized, then, within

FIGURE 4

ATTITUDES AND INTENTIONS AS A FUNCTION OF SOURCE EXPERTISE, SOURCE CERTAINTY, AND ARGUMENT QUALITY IN EXPERIMENT 3



expert and nonexpert source conditions, argument quality effects were greater when expressed certainty was incongruent rather than congruent with perceived expertise.

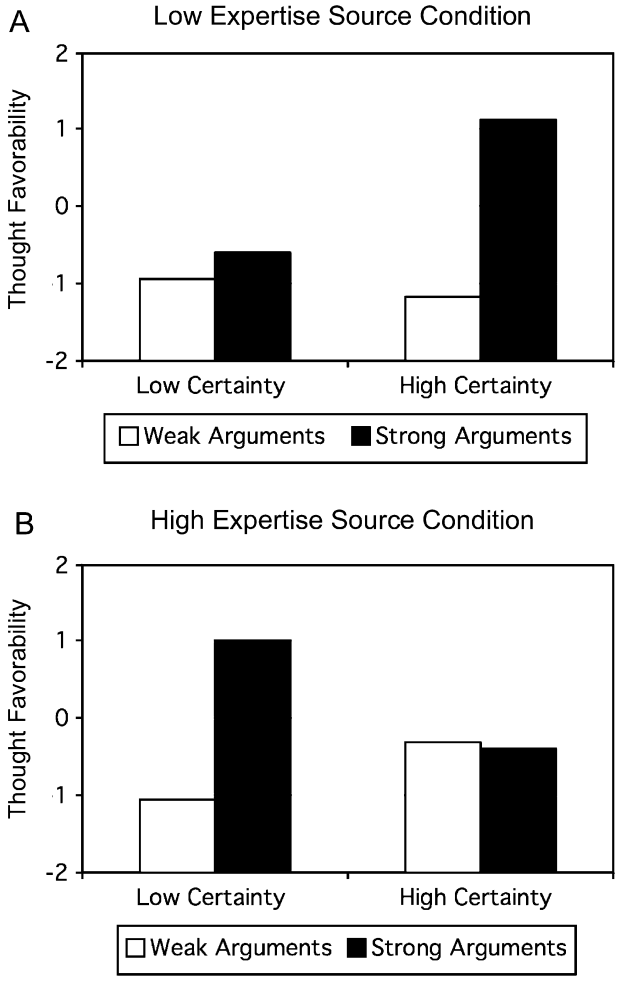
Thought Favorability. As predicted by our involvement perspective, analysis of participants' cognitive responses produced the same outcome as the analysis of attitudes and intentions. First, we found a main effect for argument quality ($F(1, 132) = 11.58$, $p < .001$). In general, thoughts were more favorable when the review contained strong ($M = .26$) rather than weak ($M = -.86$) arguments. None of the other main effects (F's < 1) or two-way interactions (p's $> .11$) were significant. Most relevant to our central interests, however, we obtained a significant three-way interaction ($F(1, 132) = 8.95$, $p < .004$).

As illustrated in figure 5, this three-way interaction involved opposing two-way interactions. Under low expertise source conditions (top panel), there was a significant source certainty × argument quality interaction ($F(1, 65) = 4.37$, $p < .05$), such that the argument quality effect on thought favorability was significant when the reviewer expressed certainty ($F(1, 65) = 12.39$, $p < .001$) but not uncertainty ($F < 1$). Under high expertise source conditions (bottom panel), there also was a significant source certainty × argument quality interaction ($F(1, 67) = 4.61$, $p < .04$). In this case, however, the argument quality effect was significant when the reviewer expressed uncertainty ($F(1, 67) = 8.23$, $p < .007$) but not certainty ($F < 1$).

Mediation. To test the mediating role of cognitive responses in determining the interaction on attitudes and intentions, we conducted a mediated moderation analysis following the same procedure as in experiment 2. In this study, we examined whether thought favorability mediated the

FIGURE 5

THOUGHT FAVORABILITY AS A FUNCTION OF SOURCE EXPERTISE, SOURCE CERTAINTY, AND ARGUMENT QUALITY IN EXPERIMENT 3



source expertise × source certainty × argument quality interaction on attitudes and intentions, controlling for all main effects and two-way interactions.

As noted already, the three-way interaction among expertise, certainty, and argument quality was significant for both thought favorability ($\beta = -.64$, $t(132) = -2.99$, $p < .004$) and attitudes and intentions ($\beta = -.61$, $t(132) = -3.04$, $p < .003$). Furthermore, thought favorability predicted attitudes and intentions ($\beta = .52$, $t(138) = 7.16$, $p < .001$). Finally, in a simultaneous regression analysis treating the three-way interaction, thought favorability, and all other main effects and two-way interactions as predictors of attitudes and intentions, thought favorability continued to be a strong predictor ($\beta = .39$, $t(131) = 5.30$, $p < .001$), whereas the effect of the three-way interaction was reduced ($\beta = -.36$, $t(131) = -1.90$, $p = .06$). A Sobel test indicated that the mediating pathway from the three-way interaction to attitudes and intentions through thought favorability was significant ($Z = 2.55$, $p < .02$).

Discussion

In summary, experiment 3 uncovered a three-way interaction among source expertise, source certainty, and argument quality on attitudes and intentions as well as thought favorability. In so doing, this study provided further, arguably stronger, evidence for the role of cognitive elaboration in guiding the effects of source expertise and source certainty on persuasion. As reviewed earlier, relative differences in argument quality effects are a well-established indicator of differential processing of persuasive messages (Petty and Cacioppo 1986). We found that argument quality effects were greater under conditions of source incongruity rather than congruity, as predicted. Moreover, in showing that thought favorability not only paralleled the persuasion outcome but also mediated it, this experiment added yet another important layer of evidence for the notion that differences in cognitive elaboration play a crucial role in driving the interactive effect of source expertise and source certainty on persuasion.

As noted, our primary objective in experiment 3 was to examine relative differences in argument quality effects across source expertise and certainty conditions. For this reason we focused our analysis on the simple effects of argument quality across conditions, and the results were compatible with our hypothesis that participants would show greater argument quality effects under incongruent than congruent source conditions. An alternative approach to our data would be to assess whether we replicated the findings of experiment 2 under strong but not weak argument conditions. Again, although increased elaboration should facilitate persuasion when message arguments are strong, this is not necessarily true when message arguments are weak. When arguments are weak, increased elaboration can have a reduced effect, no effect, or even a negative effect on persuasion.

To explore whether the interaction from experiment 2 was replicated under strong but not weak argument conditions, we reanalyzed the data by decomposing the two-way interactions underlying the three-way interaction according to argument quality rather than source expertise. That is, we analyzed the source expertise × source certainty interaction separately for strong and weak argument conditions. In the strong argument condition, this analysis revealed a significant interaction between source expertise and source certainty—reflecting positive and negative effects of expressing certainty for nonexperts and experts, respectively—for both attitudes and intentions ($F(1, 64) = 8.93$, $p < .005$) and thought favorability ($F(1, 64) = 9.35$, $p < .004$). Thus, under strong arguments, we replicated the interaction from experiment 2. In the weak argument condition, this interaction tended to reverse for attitudes and intentions ($F(1, 68) = 2.15$, $p < .15$) and for thought favorability ($F(1, 68) = 1.13$, $p < .30$), though in neither case was the reversal significant. In short, regardless of how the three-way interaction was decomposed, the argument quality moderation provided further support for an elaboration account of the effect of source incongruity on persuasion.

GENERAL DISCUSSION

Attitude certainty has been the subject of extensive research in both consumer behavior and social psychology (Tormala and Rucker 2007). Nevertheless, little attention has been paid to interpersonal effects of certainty, particularly in the domain of consumer persuasion. Previous work that has been conducted focuses on how expressing certainty affects perceived credibility in the context of stock forecasting and likelihood estimation (e.g., Price and Stone 2004; Sniezek and Van Swol 2001; Yates et al. 1996). The consistent finding is that individuals seem more credible, and are more influential over others, when they express high compared to low certainty.

Departing from the notion of a "confidence heuristic," or a robust positive effect of expressed certainty on perceived credibility (Price and Stone 2004), we took a moderation approach. We hypothesized that, assuming strong arguments were presented, a nonexpert source would induce greater persuasion by expressing certainty, whereas an expert source would induce greater persuasion by expressing uncertainty. These predictions were derived from an informational incongruity perspective, whereby incongruent expertise and certainty information would violate expectancies, stimulate involvement, and foster persuasion as long as message arguments were strong. Of course, when message arguments were weak, this hypothesis suggested that incongruity could either undermine or reverse the impact of a message on persuasion. Here, the logic was that because incongruity violates expectancies and promotes involvement, it would highlight the inherent deficiencies of weak arguments.

Across experiments—using diverse indicators of involvement and persuasion—our findings were consistent with the incongruity hypothesis. In experiment 1, participants found a message more surprising and unexpected when source expertise and source certainty were incongruent compared to congruent. In other words, the nonexpert source violated expectancies by expressing certainty, whereas the expert

source violated expectancies by expressing uncertainty. Experiment 1 was also useful in assessing a number of different source impressions potentially relevant to understanding the persuasive impact of nonexperts expressing certainty or experts expressing uncertainty. We found no effects on perceived source likability, similarity, or trustworthiness that could explain the focal interaction.

Experiment 2 directly assessed the proposed causal sequence by measuring participants' attitudes and felt involvement after presenting them with a strong persuasive message. Following the message, participants reported greater involvement and more favorable attitudes when source expertise and source certainty were incongruent rather than congruent. Furthermore, felt involvement mediated the attitude effect. Thus, the low expertise source generated greater interest and influence by expressing certainty, whereas the high expertise source generated greater interest and influence by expressing uncertainty.

Finally, experiment 3 took a different tack and directly assessed cognitive elaboration by manipulating the quality of arguments contained in the persuasive message and assessing participants' cognitive responses. We observed greater argument quality effects on attitudes and intentions as well as on thought favorability when source expertise and source certainty were incongruent rather than congruent. Viewed differently, we replicated the effects of experiment 2, finding increased persuasion under incongruent source conditions, when participants received strong but not weak arguments. Also important, thought favorability mediated the effects on attitudes and intentions. These results, in combination with the results from the first two experiments, provided convergent empirical support for the hypothesis that source incongruity violates expectancies, stimulates involvement and processing, and promotes persuasion in response to strong arguments. They also extended the findings from the first two studies by showing that source incongruity does not invariably increase persuasion. Rather, it increases elaboration, which can boost or undermine persuasion depending on argument quality.

Theoretical and Managerial Contributions

Our findings expand current understandings of attitude certainty as a psychological construct with implications for persuasion and consumer behavior more generally. Previous research related to source certainty generally supports the existence of a confidence heuristic, whereby individuals expressing high levels of confidence are more credible and influential than those expressing lower levels of confidence (e.g., Price and Stone 2004; Sniezek and Van Swol 2001). In contrast, we found that source certainty and source expertise are separable constructs that can be manipulated orthogonally. Not once in our studies did the source expertise manipulation affect perceived source certainty. Furthermore, with the exception of experiment 1, the source certainty manipulation exerted little influence on perceived expertise.

Building on this separation, the current studies are the first to demonstrate that the persuasiveness of low and high expertise sources is completely contingent upon their level of expressed certainty. A priori, one might have expected the effects of these variables to be additive such that the most persuasive source would be the expert who expressed certainty, whereas the least persuasive source would be the nonexpert who expressed uncertainty. This pattern still would reflect the conceptual distinction between source expertise and source certainty, but it would imply that the effects of these characteristics are mutually reinforcing. The crossover interactions obtained in our studies suggest that when manipulated separately, source expertise and certainty are not mutually reinforcing at all. When strong arguments have been presented, being either low or high on both can disrupt the persuasion process. Conversely, being low on one and high the other can facilitate this process.

This pattern of results points to distinct tactics that individuals with and without expertise can use to maximize their influence. Consider nonexperts. As noted earlier, past research has shown that low expertise sources generally fail to exert substantial influence (see Petty and Wegener 1998; Pornpitakpan 2004). Our findings suggest that individuals lacking in established expertise can augment their persuasive impact when they have strong arguments by strategically incorporating expressions of high certainty into their message. This finding might be especially relevant to today's consumers, for whom it is increasingly common to seek out opinions and comments from other consumers rather than established experts on a topic. Indeed, product and service recommendations from other consumers are now commonplace online, and consumer-to-consumer word of mouth is becoming increasingly prevalent every day (e.g., Dellarocas 2003).

Of importance, though, expert sources continue to be widely incorporated into advertising and general marketing strategy across communication modalities. The current research reveals that these sources stand to lose influence by expressing high certainty. Across studies, source certainty had a consistent negative effect on involvement and persuasion under conditions in which experts presented strong arguments. Ironically, then, the current research suggests that when experts have strong arguments on their side, they will be more influential if they express uncertainty rather than certainty about their opinion or recommendation. Although this notion seems counterintuitive, it follows directly from our incongruity hypothesis.

Finally, the current research builds on a small body of evidence indicating that positive source characteristics sometimes backfire (e.g., Bohner, Ruder, and Erb 2002; Kang and Herr 2006; Norman 1976; Tormala, Briñol, and Petty 2006). For example, Norman (1976) found that although expert sources were more persuasive than attractive nonexperts when strong supportive arguments were presented, expertise backfired relative to the nonexpert group when there were no supportive arguments. More recently, Kang and Herr (2006) proposed a model outlining the conditions under which seemingly positive source factors can produce negative persuasion effects. They postulated that when consumers have ample motivation and ability to process and they

detect a potential source bias (e.g., they believe they might be unduly influenced by a source's positive characteristics), they seek to adjust for that bias. This adjustment can lead to overcorrection and negative outcomes. In future work, it would be interesting to examine the extent to which correction processes like those outlined by Kang and Herr might play some role in the current effects. Ultimately, our findings might help contribute to the development of a comprehensive framework for predicting when seemingly positive source characteristics help persuasion and when they hurt it.

Remaining Questions and Future Directions

Asymmetric Incongruity? A priori, it seems reasonable to surmise that perceived incongruity might not be equivalent across the low expertise/high certainty condition and the high expertise/low certainty condition. For instance, it could be that an expert who expresses uncertainty is perceived as more incongruent than a nonexpert who expresses certainty. Overconfidence is a well-documented phenomenon (Moore and Healy 2008). Thus, consumers might be more familiar with it than underconfidence and feel less surprised when it manifests in terms of a nonexpert expressing very high certainty. In contrast, an expert confessing doubts might be construed as less normative and, therefore, create greater expectancy violation.

Although asymmetrical incongruity is a reasonable hypothesis, we found no evidence for it in the current research, particularly not in the form just described. In experiment 1, the simple effect of source certainty on self-reported surprise and unexpectedness was actually somewhat stronger in the low rather than high expertise condition. Experiments 2 and 3 uncovered generally symmetrical effects for each type of incongruity, as indicated by the simple effects of source certainty across the expert and nonexpert source conditions. Furthermore, in experiment 3 we analyzed participants' cognitive responses for any evidence of asymmetrical responses to incongruity. Specifically, we analyzed the thought listing content for references to source inconsistency or incongruity to determine if these references existed and, if so, whether they differed across conditions. We found no evidence to support the notion that source incongruity was viewed any differently across conditions. Participants' thoughts reflected evaluative reflections of the target restaurant rather than references to matching or mismatching source characteristics. Thus, none of our measures provided reliable evidence of asymmetrical incongruity. Nevertheless, this possibility is an interesting one that could be explored more systematically in future research using manipulations that vary each type of incongruity.

Other Source Characteristics. Although the current studies focus on expertise, source credibility can be derived from perceived trustworthiness as well (e.g., Priester and Petty 2003; Tormala and Clarkson 2008; Ziegler et al. 2002). After all, a person lacking expertise might still be considered credible if he or she is known to be honest or to have others' best interests in mind. Perceived trustworthiness did not provide a plausible alternative explanation for our data in experiment 1, but it is reasonable to surmise that had we manipulated trustworthiness rather than expertise, our findings might have differed. For example, because being trustworthy does not imply being knowledgeable or competent, trustworthiness and uncertainty might not be perceived as incongruent in the way that expertise and uncertainty are. Perhaps acknowledging uncertainty seems compatible with being trustworthy and, thus, fails to violate expectancies and boost involvement. Or perhaps untrustworthy sources are doubted regardless of what they claim, so message recipients discount their expressions of certainty and uncertainty alike.

Alternatively, source trustworthiness might operate similarly to source expertise if the relevant dimension of congruity is persuasiveness. When considered in isolation, for instance, trust, expertise, and certainty might all be positive forces in persuasion. If true, any mismatches among them could violate expectancies and motivate processing. The rationale would be that evaluative congruity drives the current effects, so there is no reason that these effects would fail to generalize to source trustworthiness. Similarly, other source characteristics such as likability (Wood and Kallgren 1988), celebrity status (Petty et al. 1983), physical attractiveness (Snyder and Rothbart 1971), similarity (Mackie et al. 1990), or majority status (Baker and Petty 1994) could interact with expressed certainty in the same manner as observed in the current studies. These issues will be important to address in subsequent work.

Reconciling with the Confidence Heuristic. Finally, future research should more systematically address the potential discrepancy between the current findings and past studies indicating that expressing certainty has a robust main effect on perceived credibility (Keren and Teigen 2001; Price and Stone 2004; Sniezek and Van Swol 2001; Yates et al. 1996). We obtained scant evidence for this effect in the current studies. Instead, our findings paint a more dynamic and interactive picture of how source certainty affects a source's influence. It could be that methodological differences between the current and past paradigms explain the divergent results. As noted, past studies typically have focused on predicting objective outcomes for which little or no information beyond source certainty is available. The current studies focused on subjective judgments and offered relatively elaborate persuasive messages. In the latter case, there might have been more room for involvement to play a role because there was more information to process. Perhaps in the absence of such information individuals have no other input for their judgments, so they rely on a source's expressed certainty in cue-based fashion.

Also noteworthy, the current studies included unambiguous expertise manipulations, which has not been characteristic of past research on expressed certainty. In each of our experiments, source expertise was explicitly manipulated immediately before the message was received. This aspect of our design might have attenuated any effect of source certainty on perceived credibility. Perhaps when credibility is initially ambiguous, source certainty does shape its

perception. In future research, it would be useful to examine ambiguity as a potential moderator of the effect of source certainty on perceived credibility. Exploring this issue could help build a more complete model of source certainty effects. For now, though, our findings take a new step toward understanding the broad, dynamic, and sometimes counterintuitive effect of source certainty on persuasion outcomes and processes.

APPENDIX

FIGURE A1

EXPERIMENT 3 RESTAURANT REVIEW

A **High Credibility, High Certainty, Strong Arguments Condition**

September 8, 2008
Bianco - a confident 4 out of 5

I have had the opportunity to eat at most of the Italian places nearby, but last night I was invited by a friend to try Bianco, an elegant mid-priced restaurant on the peninsula that just opened a few months ago. I really liked it. The dining room had a wonderful ambience -- very attractive and welcoming. Their menu was great too. It featured homemade pastas, at least six meat-centered entrees, and several vegetarian options. The house salad was a refreshing start to the meal. I tried their vegetarian lasagna, and thought it was rich, tasty and filling. My friend was very impressed with her pasta and roasted chicken. I am certain that the chef has done all of the dishes on the menu as well as these. The service was excellent. Our waitress was charming and extremely helpful in answering our questions and suggesting options. At the end of the meal, the espresso was good and the desserts were terrific. We particularly enjoyed the gelato. Our final bill was roughly $25 per person and I was very satisfied. Having eaten there for dinner, I can confidently give Bianco a rating of 4 (out of 5) stars.

B **Low Credibility, Low Certainty, Weak Arguments Condition**

September 8, 2008
Bianco - a tentative 4 out of 5

I usually end up eating out at fast food places, but last night I was invited by a friend to go to Bianco, a mid-priced restaurant on the peninsula that just opened a few months ago. I really liked it. The interior was decorated with frescos, which is just a personal favorite of mine. Their menu was great too. It was printed on a rich cream colored paper, with purple accents. Plus, the dishes had fun and interesting names. They really made you wonder what the meal might taste like. My friend and I enjoyed an excellent conversation during the meal -- she is one of the funniest people I have ever met. I tried the vegetarian lasagna, and my friend ate pasta and roasted chicken. Of course, I can't be certain that the chef does all the dishes on the menu similarly to these. The service included a waitress and a couple busboys, who brought our food and cleared the table when we were finished. Our waitress delivered the final bill in person, which was a nice touch, and it came to roughly $25 per person. Having eaten there only once, I don't have complete confidence in my opinion, but I suppose I would give Bianco a rating of 4 (out of 5) stars.

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