



## Exploring the Valence-Framing Effect: Negative Framing Enhances Attitude Strength

**George Y. Bizer**  
*Union College*

**Jeff T. Larsen**  
*Texas Tech University*

**Richard E. Petty**  
*Ohio State University*

---

*In his now-classic research on inoculation theory, McGuire (1964) demonstrated that exposing people to an initial weak counterattitudinal message could lead to enhanced resistance to a subsequent stronger counterattitudinal message. More recently, research on the valence-framing effect (Bizer & Petty, 2005) demonstrated an alternative way to make attitudes more resistant. Simply framing a person's attitude negatively (i.e., in terms of a rejected position such as anti-Democrat) led to more resistance to an attack on that attitude than did framing the same attitude positively (i.e., in terms of a preferred position such as pro-Republican). Using an election context, the current research tested whether valence framing influences attitude resistance specifically or attitude strength more generally, providing insight into the effect's mechanism and generalizability. In two experiments, attitude valence was manipulated by framing a position either negatively or positively. Experiment 1 showed that negatively framed attitudes were held with more certainty than were positively framed attitudes. In Experiment 2, conducted among a representative sample of residents of two U.S. states during political campaigns, negatively framed attitudes demonstrated higher levels of attitude certainty and attitude-consistent behavioral intentions than did attitudes that were framed positively. Furthermore, the effect of valence framing on behavioral intentions was mediated by attitude certainty. Valence framing thus appears to be a relatively low-effort way to impact multiple features associated with strong attitudes.*

---

**KEY WORDS:** Attitudes, Attitude strength, Attitude-behavior correspondence, Certainty, Framing

William McGuire was, without question, one of the most important contributors to the field of attitudes and persuasion during the latter half of the twentieth century. Although not overly prolific in his research or publication output, his influence was nonetheless enormous. This impact stemmed from several sources. First, McGuire provided some of the most comprehensive and useful reviews of the field from its ancient history to its major contemporary findings. His classic *Handbook of Social Psychology* chapter on attitude change (McGuire, 1968a) is still consulted as an authoritative reference.

Second, and perhaps even more notable, were McGuire's own conceptual contributions to the field. As a vital member of the Hovland group at Yale, McGuire successfully translated the omnibus Hovland learning model of persuasion (Hovland, Janis, & Kelley, 1953) into a more nuanced and successful theory that recognized that learning processes alone were not sufficient for persuasion to occur. That is, McGuire (1968b) postulated that yielding processes were sometimes in opposition to reception (learning) processes such as when increasingly intelligent message recipients were more likely to comprehend and learn a message but were less likely to yield to it. In addition to the reformulated learning theory, McGuire provided the first theory of persuasion addressing cognitive structure in his *probabilistic model* of belief change (McGuire, 1981). This theory was notable for mapping out both the hedonic (e.g., wishful thinking) and logical aspects of belief change and showing how change in a belief high up in one's belief structure could lead to indirect change in a logically related belief lower in the structure.

Even with these notable accomplishments, perhaps McGuire's most unique and lasting contribution to the attitudes field was his *inoculation theory* of resistance to persuasion. This theory was notable not only because of its core emphasis on resistance to change rather than change itself, but also because its biological (disease) analogy focused attention on the active processes occurring within an individual rather than the more passive learning models which emphasized reception of external information (see Petty & Cacioppo, 1981). Furthermore, inoculation research provided an early example of what became an explosion of research interest on the strength of attitudes rather than the attitude itself (Petty & Krosnick, 1995). As McGuire's inoculation theory is a starting point for our own research, we describe this approach in some detail.

### Inoculation Theory

McGuire's inoculation theory (McGuire & Papageorgis, 1961) can be traced to early research demonstrating that two-sided messages appeared capable of producing more long lasting impact than one-sided messages. Specifically, in an early study, Lumsdaine and Janis (1953) presented two groups of participants with a persuasive message that contained compelling arguments that the Soviet Union's ability to produce atomic bombs would be fairly limited for at least five years. For one group of participants, the message also included some counterarguments that

the Soviets would quickly be able to produce many atomic bombs (the two-sided message). A week later, both one- and two-sided groups were presented with a new message that derogated the position taken in the initial message. Participants who had first been exposed to the two-sided message were more resistant to the subsequent counterattitudinal message than were participants who had initially received the one-sided communication. Lumsdaine and Janis argued that the group who heard the two-sided message was more resistant because they were already familiar with the substance of the counterarguments before they heard them.

McGuire and Papageorgis (1961) extended Lumsdaine and Janis's analysis by making the counterintuitive suggestion that providing people with arguments against their initial attitudes might induce resistance to subsequent counterattitudinal appeals even in the absence of arguments that supported their initial attitudes. This was the basis of inoculation theory. In their words,

the "supportive therapy" approach of pre-exposing a person to arguments in support of his [or her] belief has less immunizing effectiveness than the "inoculation" procedure of pre-exposing him [or her] to weakened, defense stimulating forms of the counterarguments." (p. 327)

To test the notion of attitude inoculation, McGuire and Papageorgis (1961) employed cultural truisms—beliefs about which people feel strongly even though they have little or no informational basis for doing so (e.g., everybody should brush their teeth after every meal). In the first phase of the experiment, some participants read or composed essays that supported the truism. Others read or composed essays that included weak counterarguments against the truism. Two days later, participants read an essay that contained relatively strong arguments against the truism. During this session, participants reported the extent to which they believed the cultural truism. Results supported the attitude inoculation hypothesis: Participants withstood the strong counterattitudinal message more when they had previously read or composed weak counterarguments against the truism than when they had read or composed arguments in favor of the truism. The key idea of inoculation theory is that exposure to the weak counterarguments (like exposure to a dead virus) allows people to generate some counterarguments (antibodies) that are either directly useful in resisting the subsequent message or at least motivating.

Subsequent research supported the inoculation approach (e.g., Bernard, Maio, & Olson, 2003; Burgoon, Pfau, & Birk, 1995; Papageorgis & McGuire, 1961), and it has even been used as a basis for public health campaigns (see Baker, Petty, & Gleicher, 1991; Botvin, 1990). Notably, the inoculation approach requires a relatively effortful process for people to become resistant. In particular, people must be attentive to processing or generating the initial counterarguments and motivated to overcome them. Without this engagement, the technique is unlikely to be effective. At the very least, the inoculation approach requires people to take the

time to process counterattitudinal messages, which runs counter to people's tendency to avoid counterattitudinal material (Hart, Albarracín, Eagly, Lindberg, Merrill, & Brechan, 2009). In some inoculation studies (e.g., McGuire & Papageorgis, 1961), participants even composed counterattitudinal essays. This effortful approach to producing resistant attitudes fits well with the more recent literature on attitude strength, which we now address.

### **Resistance and Attitude Strength: Current Conceptualizations**

Contemporary social psychological theories of attitudes conceptualize resistance to change as one of the defining features of strong (consequential) attitudes (see Petty & Krosnick, 1995, for a review). Krosnick and Petty (1995) defined strong attitudes as those that are durable (i.e., persistent over time and resistant to change) and impactful (i.e., influential on cognition and behavior). Consistent with inoculation theory and more contemporary dual-process theories of persuasion such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (Chaiken, Liberman, & Eagly, 1989), much of the literature on attitude strength has suggested that getting people to think carefully about their attitudes can produce more durable and impactful evaluations than having people adopt attitudes with relatively little thinking (e.g., Chaiken, 1980; see Petty, Haugtvedt, & Smith, 1995, for a review). For example, in one set of studies (Haugtvedt & Petty, 1992), individuals who changed their attitudes as a result of carefully processing strong message arguments showed greater persistence of their new attitudes over time and more resistance to an attacking message than individuals who adopted the same initial attitudes but as a result of relying on simple cues requiring relatively little thinking.

Petty, Haugtvedt, and Smith (1995) suggested that when attitude change was based on considerable thinking versus reliance on simple cues, the attitudes were stronger at least in part because the attitudes were held with greater certainty. When attitudes are held with greater certainty, people are more likely to want to defend them and use them. Interestingly, if enhancing certainty is a key to strength, it might be possible to produce stronger attitudes simply by leading people to hold their attitudes with more certainty even if this certainty is not accompanied by enhanced thinking. In one study supporting this possibility, Barden and Petty (2008) showed that if people were misled into thinking that they had engaged in considerable attitude-relevant thinking, more certainty resulted and attitudes became more predictive of behavior.

Indeed, there is a growing body of research suggesting that enhanced cognitive effort may not be a requirement for attitude strength—simply inducing more certainty can be sufficient. Thus, just as real thinking and perceived thinking can result in more certainty, recent research has demonstrated that processing a perceived two-sided message can have the same effect as processing an actual two-sided message. Recall that Lumsdaine and Janis (1953) showed that actual

exposure to a two-sided message enhanced attitude strength relative to reading a one-sided message. Rucker, Petty, and Briñol (2008) assessed whether simply framing a message as two-sided could enhance attitude strength compared to a one-sided message. In a study ostensibly about evaluating advertisements, participants read several attributes about a bicycle, all but one of which were very positive. Some participants were presented with a two-sided frame: Atop the list of positive attributes was the phrase “product pros,” while atop the single negative attribute was the phrase “product cons.” Other participants were assigned to the one-sided frame: The exact same attributes were presented in the same order and format, but atop both columns was the single phrase “product specifications.” After reading the attributes, participants reported their attitudes toward the bicycle as well as the certainty with which they held their attitudes.

Rucker et al. (2008) hypothesized that when a message is framed as though both sides were presented (i.e., the two-sided message frame condition), participants will feel an enhanced perception of knowledge (i.e., being better informed about the product) relative to when a message is not framed in this way (i.e., the one-sided message frame condition). Indeed, as predicted, although participants assigned to the two-sided frame condition reported the same positive attitudes toward the product as those assigned to the one-sided frame condition, they reported greater certainty in their attitudes. These results indicate that framing can elicit metacognitive processes that influence attitude strength. Perhaps inoculation elicits similar metacognitive processes. If so, inoculation might increase attitude strength not only because it leads people to engage in opposition but because it also leads people to perceive themselves as being better informed, which enhances certainty. Actually engaging in opposition might not be necessary.

### **The Current Research: Valence Framing**

When Rucker et al.’s (2008) participants recognized that there was an opposing side as well as a supporting one, they held their attitudes with greater certainty. In the current research, we go one step further and explore whether simply framing one’s attitude as one of opposition or one of support can affect resistance to change and attitude strength more generally, and if so, whether attitude certainty is involved. Anecdotal evidence might suggest that opposers hold stronger attitudes than supporters. Indeed, history is replete with examples of people on one side of an issue acting more intensely than those on the other side. In the 1960s, for example, opponents of the Vietnam War staged protests, whereas war supporters were referred to as the “silent majority.” Opponents of abortion have been known to resort to violence, whereas abortion-rights supporters generally make fewer headlines with their actions.

Empirical research also suggests that, more generally, negative is more powerful than positive (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Consider the research showing that negative traits often have a greater impact on impres-

sions than do positive traits (e.g., Anderson, 1965; Skowronski & Carlston, 1989). Fiske (1980) showed that negative behaviors exhibit the same effect as do negative traits, and Ito, Larsen, Smith, and Cacioppo (1998) demonstrated that negative photographs engaged greater processing than equally intense positive photographs, as indexed by the late positive event-related brain potential. Other research has also supported the idea of greater weighting of negative information such as the prospect theory notion that losses loom larger than gains (Kahneman & Tversky, 1979).

In light of such widespread evidence for a *negativity bias* (Cacioppo & Berntson, 1994), Bizer and Petty (2005) suggested that simply framing attitudes negatively might enhance attitude strength regardless of whether the underlying content basis of the attitude was actually negative or positive. That is, much like Rucker et al. (2008) showed that merely framing a message as being two-sided is enough to elicit stronger attitudes, Bizer and Petty (2005) tested the notion that merely framing an attitude as being negative is also enough to enhance the strength of the attitude. We refer to the framing of one's attitude as one of opposition or support as "valence framing." In the current research, we control for the actual position adopted and address whether simply considering oneself as on the opposition side of an issue (e.g., "opposing immigration reform") has different consequences than considering oneself as on the supporting side of the same issue (e.g., "supporting the current immigration system").

### *The Valence Framing Effect*

As just suggested, any given attitudinal position can be framed as one of opposition or support. The domain of politics is one in which this distinction is especially prominent. Consider, for example, a typical U.S. election in which Democratic and Republican candidates are competing for a Senate seat. Citizens can vary in their actual preferences (whether they prefer the Republican or the Democrat), and they can also differ in how that preference is framed. For example, if asked what they thought about the Democratic candidate being elected, Democrats would consider themselves "supporters" (I support the Democrat), whereas Republicans would consider themselves "opposers" (I oppose the Democrat). Conversely, if people were asked what they thought about the Republican candidate being elected, Republicans would consider themselves "supporters" (I support the Republican), whereas Democrats would consider themselves "opposers" (I oppose the Republican). Valence framing, therefore, refers neither to actual relative preference for one candidate over another, nor to any subsequent outcomes in terms of gain or loss. Rather, in an election context it refers to whether people *conceptualize their own preferences* as support for one candidate or opposition to the other candidate.

In an initial exploration of the valence framing effect, Bizer and Petty (2005) examined whether negatively framed attitudes toward fictitious political candi-

dates would be more resistant to change (one attitude strength outcome) than positively framed attitudes. Participants read about conservative Rick Smith and liberal Chris Bredesen, who were ostensibly running for a local office. Participants were free to develop a preference for one or the other candidate based on the policy stances provided about each. A manipulation of question wording to which participants were randomly assigned determined attitude framing: Participants were either asked, “What do you think about Chris Bredesen being elected?” or “What do you think about Rick Smith being elected?” After reporting their attitudes, and thereby thinking of themselves as either “supporters” or “opposers” of the candidate mentioned, participants were presented with a message derogating their preferred candidate. Participants then reported their attitudes a second time. Regardless of which candidate participants initially preferred, participants led to frame their preferences negatively resisted the persuasive message attacking their favored candidate more than did those led to frame their preferences positively (see also Žeželj, Škorić, Bogdanović, Hristić, & Stokić, 2007). Follow-up studies suggested that the effect was not due to general priming of negativity and that the effect remained when assessing relative preferences as well as absolute preferences.

### *Beyond Resistance*

As noted earlier, resistance is but one feature of attitude strength. Strong attitudes also, for example, are held with greater certainty (e.g., Gross, Holtz, & Miller, 1995) and predict behavior better (e.g., Petty et al., 1995) than weak attitudes. Thus, it would be useful to know if valence framing affects resistance per se or if it has a more global impact on the strength of the attitudes involved. For example, would attitudes simply framed as in opposition come to be held with greater certainty and have a greater impact on behavior than those simply framed as in support? The current research addresses this issue.

Just because valence framing affects resistance does not mean that it necessarily affects other strength indicators or outcomes. Indeed, prior research has demonstrated that the various features of attitude strength are not always tightly coupled (e.g., Krosnick & Petty, 1995). For example, inducing people to resist can produce greater certainty (e.g., Tormala & Petty, 2004), but it can also have no effect on certainty (Rydell, Hugenberg, & McConnell, 2006) or even reduce certainty (Tormala, Clarkson, & Petty, 2006). Thus, it is important to examine empirically how far-reaching the impact of valence framing is. To investigate this issue, two new studies were conducted in which valence framing was varied with a question-wording manipulation. Experiment 1 involved attitudes toward fictitious candidates for the New York State Supreme Court, whereas Experiment 2 involved attitudes toward two states’ actual gubernatorial candidates. In both studies, attitude certainty was assessed after a framing manipulation and in the second study, behavioral intentions were also examined.

The current research also explored issues of mechanism. First, to assess extent of thinking as a potential mechanism underlying any increase in attitude strength, we asked participants to list the thoughts they held about the attitude object. If opposition enhances attitude strength by inducing people to think about relevant information more deeply, opposers should list more thoughts than should supporters. Second, participants in Experiment 2 also indicated the extent to which they planned to act on behalf of their preferred candidate. This allowed us to assess whether any effect of valence framing on behavioral intentions might be mediated by attitude certainty. Indeed, it might be the case that people become more confident in their negatively framed attitudes, and this enhanced certainty leads to greater intention to act in accord with these attitudes. Thus, we asked participants in Experiment 2 to indicate both attitude certainty and their behavioral intentions after the valence framing manipulation.

A final goal of the current research is to examine the generalizability of the valence-framing effect. Prior research on the valence-framing effect used novel, fictitious attitude objects about which participants previously knew nothing. Thus, it is possible that only newly formed attitudes are susceptible to valence framing. For this reason, evidence that preexisting attitudes are also susceptible to valence framing would speak to the effect's robustness and applicability to real political elections. Thus, in Experiment 2 we examined valence framing in the context of an ongoing political campaign.

## Experiment 1

### *Method*

Seventy people waiting for trains at a station in upstate New York took part in the study in exchange for a \$5 gift certificate valid at a local coffee shop. Participants ranged in age from 18 to 79 ( $M = 40.10$ ;  $SD = 17.65$ ). Participants were told that they would be reading about two candidates for a position on the State Supreme Court. Participants then read two brief passages ostensibly written by the two candidates, Daniel Mailer and Robert Summer, one of whom, determined by random assignment, was clearly (based on the description) a Republican, and the other of whom was clearly a Democrat. After reading these passages, by random assignment, one group of participants was asked whether they supported or opposed the Republican, whereas another group was asked whether they supported or opposed the Democrat. We expected that Republican participants would support the Republican candidate or oppose the Democratic candidate, depending on the framing manipulation. Similarly, we expected that Democratic participants would oppose the Republican candidate or support the Democratic candidate. Participants indicated whether they supported or opposed the presented candidate on a two-point scale. Then, to assess whether framing impacted the extent to which participants thought about their attitudes, partici-

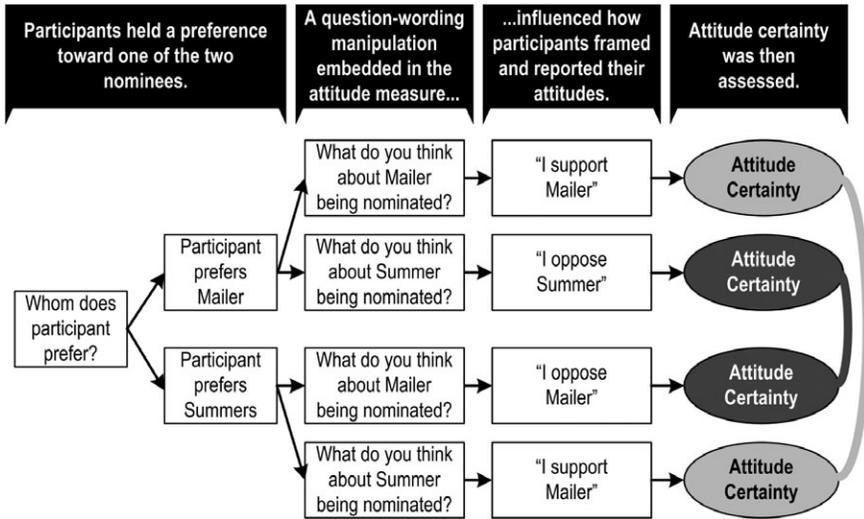


Figure 1. Schematic Illustrating Methodology for Study 1.

pants were asked to list their thoughts about their opinions in a series of boxes, listing one thought or feeling per box, as has been done in much prior persuasion research (see Cacioppo, Harkins, & Petty, 1981). Next, participants indicated how certain they were of their opinions on a 6-point scale with points labeled *slightly certain*, *moderately certain*, *somewhat certain*, *quite certain*, *very certain*, and *extremely certain*.

Participants then identified their age and gender and completed an unrelated questionnaire for several minutes. Finally, participants identified their political party identification. Participants were first asked, “Generally speaking, do you usually think of yourself as a Republican, a Democrat, or an Independent?” Participants responded on a scale with 7 points labeled *strong Democrat*, *moderate Democrat*, *weak Democrat*, *Independent*, *weak Republican*, *moderate Republican*, *strong Republican*. Participants who identified themselves as Independents were then asked, “Do you think of yourself as closer to the Democratic or Republican party?” Participants chose either *closer to the Democratic party* or *closer to the Republican party*. Figure 1 further illustrates the study’s method.

### Results

#### Manipulation Check

One participant did not indicate political party identification. As shown in Table 1, 45 of the 47 Democrats indicated support for the Democratic candidate

**Table 1.** Frequencies of Responses as a Function of Participant and Candidate Affiliation, Experiment 1

Candidate Affiliation	Democrats		Republicans	
	“Support”	“Oppose”	“Support”	“Oppose”
Democrat	22	1	4	6
Republican	1	23	11	1

( $n = 22$ ) or opposition to the Republican candidate ( $n = 23$ ). In addition, 17 of the 22 Republicans indicated support for the Republican candidate ( $n = 11$ ) or opposition to the Democratic candidate ( $n = 6$ ). Thus, our procedures resulted in nearly all participants being randomly assigned to frame their attitudes in terms of support for the candidate matching their party or in opposition to the candidate mismatching their party (as intended). For our analyses, we removed the seven participants who indicated attitudes inconsistent with their party identification and the one participant who failed to report party identification, though all results remain the same when these participants are included.

### *Certainty*

Certainty scores were submitted to an analysis of covariance (ANCOVA) in which initial dichotomous responses served as the predictor. Because information processing can differ as a function of party ideology (e.g., Jost, Glaser, Kruglanski, & Sulloway, 2003), participants' party identification served as the covariate. Participants assigned to conceptualize their attitudes negatively reported feeling more certain of their attitudes ( $M = 4.90$ ,  $SD = 1.82$ ) than those assigned to conceptualize their attitudes positively ( $M = 4.17$ ,  $SD = 1.96$ );  $F(1, 58) = 7.94$ ,  $p = .04$ ,  $\eta^2 = .07$ . Subsequent ANCOVAs indicated that this effect was not qualified by participant gender, which hypothetical candidate was identified as the Democrat, or which candidate participants reported attitudes toward (all interaction  $F$ s  $< 1.6$ ,  $ns$ ).

### *Thought Listing*

To examine whether framing influenced how much participants thought about their attitudes, we submitted the number of thoughts participants listed about their opinions to an ANCOVA in which initial dichotomous responses served as the predictor and ideology scores served as a covariate. Consistent with the hypothesis that the valence-framing effect is not mediated by extent of processing, supporters ( $M = 2.13$ ,  $SD = 1.41$ ) and opposers ( $M = 1.92$ ,  $SD = 1.53$ ) listed equivalent numbers of thoughts,  $F(1, 58) < 1$ ,  $ns$ .

*Discussion*

Experiment 1 demonstrated that merely changing the way in which people are induced to think about their voting position—as supporting one candidate versus opposing another—affects the certainty with which they hold their opinion. This finding suggests that valence framing affects more than resistance. The impact of valence framing on certainty is notable because by affecting certainty, attitude framing may be capable of influencing strength outcomes other than resistance. In addition, the fact that number of thoughts did not differ as a function of valence framing suggests that the effect on certainty was not driven by differences in extent of thinking about the candidates. Rather, it likely stems from a process whereby people infer their degree of certainty from their opposition to the issue. A growing body of literature suggests that people can infer attitude certainty by reflecting on the manner in which their opinions were formed (see Petty, Briñol, Tormala, & Wegener, 2007, for a review). For example, Tormala and Petty (2002) showed that when people were told that they resisted strong rather than weak arguments, the certainty in their original opinions was increased. Because the message they resisted was actually the same and was only described as containing strong or weak arguments, their enhanced certainty likely stemmed from an inferential process whereby people reasoned that the attitude must be better if it survived a strong (rather than a weak) attack. Notably, Tormala and Petty (2002) found that this inference-based certainty was consequential in increasing resistance to subsequent messages and in enhancing attitude-intention consistency. Similarly, and as noted earlier, people have been shown to infer greater attitude certainty when they are simply led to believe that they have engaged in more thinking about an issue in the absence of any real differences in thinking (Barden & Petty, 2008). This certainty also affected the extent to which people relied on their attitudes in guiding behavior.

It is worth reiterating that the vast majority of participants in Experiment 1 reported attitudes consistent with the political party identification they reported at the end of the experiment. Although it is possible that participants' stated attitudes toward the candidates influenced their subsequent party identification, this is highly unlikely, as political identification is a stable individual difference (e.g., Converse & Markus, 1979; Green & Palmquist, 1994).

**Experiment 2**

Experiment 2 addressed three issues. First, Experiment 2 examined whether framing would produce a strength outcome other than resistance or certainty. Most importantly, people who have stronger attitudes should be more willing to act on them (e.g., Fazio & Zanna, 1978; Rucker & Petty, 2004; Visser, Krosnick, & Simmons, 2003; White, Hogg, & Terry, 2002). Thus, if framing increases the

strength of political opinions, people should report being more likely to vote for their preferred candidate following opposition than support framing. Second, Experiment 2 investigated whether certainty mediates the effect of valence framing on behavioral intentions. Third, Experiment 2 examined whether the framing effect can be found when people already hold attitudes. Whereas all prior research on the valence framing effect used novel (fictitious) attitude objects, Experiment 2 was conducted using actual candidates running for Governor of two U.S. states in the context of real political campaigns. Furthermore, real members of the electorate were studied.

We expected that negative framing would lead to enhanced certainty and intentions to behave only among people who held a preference for one major-party candidate over the other. Among people who either disliked or liked both candidates or preferred a third-party candidate, opposition to (or support for) one candidate does not correspond to support for (or opposition to) the other candidate. As such, we would not expect framing to impact the strength of these individuals' attitudes. Indeed, participants would be hard-pressed to give sensible answers to questions about how certain they are about an attitude that they do not hold.

### *Method*

#### *Participants*

Knowledge Networks, a private polling company, collected data using representative samples of residents in two U.S. states with Gubernatorial campaigns in November of 2005, New Jersey and Virginia. Data were collected from 471 adults (253 women; 53.7%) living in New Jersey ( $n = 227$ ) and Virginia ( $n = 244$ ). Participants ranged in age from 18 to 88 ( $M = 48.63$ ,  $SD = 16.17$ ).

#### *Procedure*

Participants took part in the study between 1 and 15 weeks before the elections ( $M = 8.2$  wk,  $SD = 4.0$ ). As in Experiment 1, participants were first randomly assigned to complete a dichotomous measure of their attitudes toward one of the two major-party gubernatorial candidates. One group of New Jersey residents, for example, was asked, "What do you think about Jon Corzine being elected in the upcoming November election?" These participants were given two response options: "I support Jon Corzine being elected" or "I oppose Jon Corzine being elected." Participants then completed a follow-up continuous measure of their attitude toward the assigned candidate (e.g., Corzine) on an 11-point scale anchored by *strongly support* and *strongly oppose*. Another group was asked about the other candidate. In sum, participants were randomly assigned to report whether and the extent to which they supported either the Democratic or Republican gubernatorial candidate in their state.

Attitude certainty was then measured by two items, “How certain are you of your opinion of [Candidate]?” and “How sure are you of your opinion of [Candidate]?” Intention to behave favorably toward their preferred candidate was then measured by three items, “How likely is it that you will volunteer on behalf of [preferred Candidate]’s campaign between now and Election Day?” “How likely is it that you will try to persuade someone else to vote for [preferred Candidate] between now and Election Day?” and “How likely is it that you will vote for [preferred Candidate]?” Response options for all items were *not at all*, *not very*, *somewhat*, *very*, and *extremely*.

To determine whether participants actually preferred the candidate implied by their response on the initial dichotomous measure, participants were then asked to indicate whether they most preferred their state’s Democratic candidate, their state’s Republican candidate, someone else, or none of the candidates. Participants then reported political ideology on a scale with seven points labeled *extremely liberal*, *liberal*, *slightly liberal*, *moderate/middle-of-the-road*, *slightly conservative*, *conservative*, *extremely conservative*.

### *Data Reduction*

Participants were removed for declining to answer questions or for providing inconsistent responses. Ten participants (2.1%) indicated that they preferred the major-party candidate other than the one implied by their response to the initial dichotomous questions, seven (1.5%) declined to indicate whether they supported or opposed the candidate on the initial dichotomous question, five (1.1%) provided a response on the continuous support/oppose measure that was inconsistent with their response to the initial dichotomous measure (e.g., they initially reported supporting Corzine, but immediately afterward reported strongly opposing Corzine), and one (0.2%) declined to report his preferred candidate on the final question. A total of 20 of the 471 participants (4.2%) were removed for at least one of these reasons.

As noted earlier, we expected that the valence-framing effect should only function when support for one issue or candidate is equivalent to opposition of the other—we expected that people who prefer neither of the two candidates will not demonstrate the effect. For this reason, we separated participants into groups based upon whether they indicated an overall preference on the last item or not. Thus, 136 participants (30.2%) were categorized as not having a preference because they indicated preferring “none of them” on the final item, while an additional 25 (5.5%) were so categorized because they preferred “someone else” (presumably a third-party candidate). Thus, 161 participants (35.7%) were identified as *not having a preference*, and 290 participants (64.3%) were identified as *having a preference*.

## Results

### Attitudes

Among participants classified as having a preference, 35.71% of the participants assigned to report attitudes toward Forrester indicated “support” and 66.67% of the participants assigned to report attitudes toward Corzine indicated “support.” Furthermore, 54.85% of the participants assigned to report attitudes toward Kilgore indicated “support” and 50.00% of the participants assigned to report attitudes toward Kaine indicated “support.” To examine whether attitude extremity differed as a function of any of the relevant categorical variables, extremity was computed as the distance from the midpoint on the 7-point continuous attitude measure. A 2 (support, oppose)  $\times$  2 (Democratic candidate presented  $\times$  Republican candidate presented)  $\times$  2 (preference, no preference) ANCOVA predicting attitude extremity was then conducted with party ideology serving as the covariate. No term was significant ( $F_s < 2.4$ , *ns*).

### Certainty

To examine whether expressing opposition or support for a candidate affected attitude certainty, we first computed a certainty measure by averaging participants’ ratings of how “sure” and how “certain” they were of their opinion ( $\alpha = .95$ ). These scores, which could range from 1 to 5, were analyzed using a 2 (Valence Framing: support or opposition as indicated on the first attitude item)  $\times$  2 (Preference: preferring one candidate or not) ANCOVA predicting certainty in which party ideology served as a covariate.<sup>1</sup> There was a main effect of preference,  $F(1, 442) = 142.55$ ,  $p < .001$ ,  $\eta^2 = .24$ , such that participants with a preference were more certain ( $M = 3.67$ ,  $SD = 1.23$ ) than were participants without a preference ( $M = 2.51$ ,  $SD = 1.65$ ). The main effect of valence framing was also significant,  $F(1, 442) = 6.75$ ,  $p = .01$ ,  $\eta^2 = .02$ , such that individuals randomly assigned to be opposers reported greater certainty ( $M = 3.21$ ,  $SD = 1.42$ ) than did individuals randomly assigned to be supporters ( $M = 2.96$ ,  $SD = 1.50$ ).

As predicted, these main effects were qualified by a Valence Framing  $\times$  Preference interaction,  $F(1, 447) = 4.00$ ,  $p = .046$ . As shown in Table 2, opposers with a preference indicated higher certainty than supporters with a preference,  $F(1, 442) = 15.51$ ,  $p < .001$ ,  $\eta^2 = .04$ . Conversely, there was no effect of framing on certainty among participants without a preference,  $F(1, 442) < 1$ , *ns*. These effects

<sup>1</sup> Certainty and behavioral-intention scores were assessed in the same manner for participants who were and were not categorized as “having a preference” based upon their final attitude report. Thus, even if a participant indicated “somebody else,” for example, and was therefore categorized as not having a preference, he or she had initially supported or opposed one of the major-party candidates and then indicated certainty and behavioral intentions relevant to that candidate.

**Table 2.** Means and Standard Deviations of Certainty as a Function of Valence Framing and Participant Preference, Experiment 2

Measure	Participants with a Preference				Participants Without a Preference			
	Opposers		Supporters		Opposers		Supporters	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Certainty	3.90	0.86	3.43	0.87	2.56	1.27	2.48	1.09
Behavioral Intention	3.05	0.73	2.76	0.81	1.63	0.74	1.80	0.64

were not moderated by whether the participant was asked about the Democratic or Republican candidate,  $F(1, 443) < 1$ , *ns*.

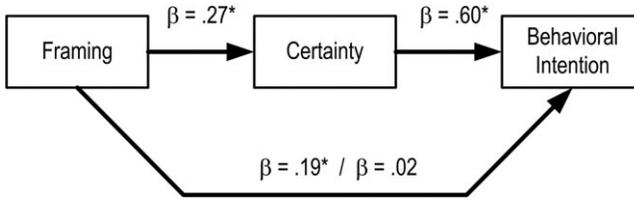
### *Behavioral Intentions*

To examine whether expressing opposition or support for a candidate affected intentions to support their preferred candidate, we averaged participants' ratings of how likely they were to vote for, try to persuade others to vote for, and volunteer on behalf of their preferred candidate ( $\alpha = .68$ ). These scores, which could range from 1 to 5, were analyzed using a 2 (Valence Framing: support or opposition as indicated on the first attitude item) x 2 (Preference: preferring one candidate or not) ANCOVA predicting behavioral intention in which party ideology served as the covariate. The effect of preference on behavioral intention was significant,  $F(1, 442) = 142.65$ ,  $p < .001$ ,  $\eta^2 = .37$ , such that participants with a preference indicated more favorable behavioral intentions toward their preferred candidate ( $M = 2.90$ ,  $SD = 0.93$ ) than did participants without a preference ( $M = 1.71$ ,  $SD = 1.27$ ). There was no main effect of valence framing on behavioral intention,  $F(1, 442) < 1$ , *ns*.

There was also a Valence Framing x Preference interaction,  $F(1, 442) = 9.52$ ,  $p = .002$ ,  $\eta^2 = .02$ . As shown in Table 2, among participants with a preference, those randomly assigned to frame their attitudes in terms of opposition indicated more favorable behavioral intentions toward their preferred candidate than did individuals randomly assigned to frame their attitudes in terms of support,  $F(1, 442) = 11.08$ ,  $p = .001$ ,  $\eta^2 = .02$ . Conversely, among participants without a preference, there was no effect of framing on behavioral intentions,  $F(1, 442) = 1.91$ , *ns*. These effects were not moderated by whether the participant was asked about the Democratic or Republican candidate,  $F(1, 443) = 1.12$ , *ns*.

### *Mediational Analyses*

To examine whether attitude certainty, which was correlated with participants' behavioral intentions ( $r = .59$ ,  $p < .001$ ), mediated the effect of framing on intentions, we conducted a series of regressions specified by Baron and Kenny



**Figure 2.** Certainty Mediates the Effect of Framing on Behavioral Intention in Study 2.

(1986) on the data from participants who had a preference (see Figure 2). As implied by the previously described analyses, regression analyses revealed significant effects of framing on certainty,  $\beta = 0.27$ ,  $t(289) = 4.75$ ,  $p < .001$  and behavioral intentions,  $\beta = 0.19$ ,  $t(289) = 3.19$ ,  $p = .002$ . A third analysis revealed a significant effect of certainty on intentions,  $\beta = .60$ ,  $t(289) = 12.80$ ,  $p < .001$ . A final analysis revealed that after controlling for the effects of certainty on intentions in an earlier step, framing had no effect on intentions,  $\beta = 0.02$ ,  $t(289) = 0.49$ , *ns*. A follow-up Sobel test ( $z = 4.43$ ,  $p < .001$ ) indicated that certainty mediated the effect of framing on participants' intentions to support their preferred candidate.

### Discussion

Experiment 2 documented a new effect of valence framing using real candidates for whom people already held attitudes in the context of a real election. Our results show that simply expressing momentary opposition to the disliked candidate made people more likely to intend to engage in relevant political behaviors than did expressing support for their preferred candidate. Specifically, among participants with a preference for one candidate over another, those induced to perceive their attitudes negatively (i.e., opposing the other candidate) reported being more willing to volunteer for the campaign of, donate money to, and intend to vote for their own preferred candidate than people induced to perceive their attitudes positively (i.e., supporting their candidate). As expected, no such effect was found among participants without a preference. Finally, the effects of valence framing on behavioral intentions were mediated by the impact of framing on attitude certainty. People were more certain when induced to think of their electoral preference as one of opposition rather than support, and this enhanced certainty was responsible for the fact that framing attitudes negatively led to more attitude-consistent behavioral intentions.

### General Discussion

In both Experiments 1 and 2, participants induced to frame their attitudes negatively (i.e., in opposition) subsequently reported holding their preferences

with greater certainty. In Experiment 2, those participants also reported more attitude-consistent behavioral intentions. These results clarify the nature of the valence-framing effect. Indeed, from prior research (Bizer & Petty, 2005), it was unclear whether valence framing only enhances resistance to persuasion or whether it also has other strength-related consequences. Second, the current research suggests that framing might influence attitude strength consequences by affecting the certainty with which people hold their attitudes. In both Studies 1 and 2, valence framing affected certainty, and in Study 2, certainty mediated the impact of valence framing on behavioral intentions. Across the two studies, it appears that valence framing influences attitude strength in general rather than resistance to persuasion in particular. In addition, Experiment 2 demonstrated the effect among members of the electorate with preexisting preferences for real candidates, but not among members of the electorate without such preferences. These findings further speak to the generalizability, robustness, and boundary conditions of the effect.

### *Implications*

A wealth of research has examined how outcomes, issues, and policies can be framed in various ways and how differences in framing can influence a variety of cognitive and behavioral processes (e.g., Nelson & Kinder, 1996). Most famously, Kahneman and Tversky (1979) showed how framing outcomes in terms of losses or gains could influence decision-making processes. Our data build upon this research by demonstrating that just as outcomes can be framed in positive or negative terms (e.g., as gains or losses), the attitudes themselves can also be framed with respect to their valence. Moreover, just as outcome framing can affect the attitudes adopted, attitude valence framing can affect the strength of one's attitudes.

The current studies also speak to the field of survey research. Much research has demonstrated that question wording can influence attitude responses (e.g., Schuman & Presser, 1981; Schwarz, 1999; Sudman & Bradburn, 1982; Torangeau & Smith, 1996). Our experiments suggest that even when question wording has no apparent influence on the attitude reports themselves (e.g., what percentage of people support or oppose a candidate or some issue), question wording can have subtle but pervasive influences on attitude strength. Our research thus serves as a warning to survey researchers that asking whether people support one position or oppose the opposite position can influence respondents in ways that cannot be detected with standard attitude measures. For example, the current research suggests that when individuals are asked about abortion policy, they could report a greater willingness to engage in issue-relevant action if the survey questions lead them to think of themselves as "anti-abortion" rather than "pro-life."

Finally, the powerful effect that negative political campaigning seems to have on attitudes and behavior (e.g., Goldstein & Freedman, 2002; Lau & Pomper, 2002; Martin, 2004) might also be explained, in part, by valence framing. It might be that the power of negative campaigning comes from both the negative information provided about a candidate's opponent as well as the fact that attitudes become framed in terms of opposition to one of the candidates. In this sense, negative campaigning appears to involve a sort of "one-two punch." Whereas prior research has demonstrated that negative campaigning can make voters' attitudes toward an opponent less favorable (e.g., Ansolabehere & Iyengar, 1995; Lau & Pomper, 2002), the current research suggests that negative framing of attitudes can also garner greater behavioral support for the favored candidate.

### *Directions for Future Research*

Although the current research suggests that attitude certainty could be one reason why valence framing affects attitude strength consequences such as behavioral-intention measures and resistance to persuasion, the current work does not identify why people would feel more certain of attitudes framed as opposition rather than support. Thus, one avenue for further research is to gain an understanding of the determinants of enhanced certainty. It is possible that people might reason that they have more information or more powerful information for negatively framed attitudes than for positively framed attitudes. This perception of a relatively greater store of information (i.e., I already knew that I supported my candidate, but now it is clear that I also oppose the other candidate) may in turn lead people to be more certain of their attitudes, thereby leading to various strength consequences such as resistance to persuasion, and attitude-congruent behavioral intentions.

In addition, investigating the potential multidirectionality of the effect could prove to be interesting. Whereas the current research demonstrated that leading people to frame attitudes negatively led to stronger attitudes, it is possible that the reverse could also be true—that strengthening an attitude could lead people, on their own accord, to frame the attitude negatively. This question could be tested by learning whether attitudes that have been strengthened through some manipulation are more likely to be framed negatively than those attitudes left in their natural state. Similarly, it would be possible to test whether naturally strong attitudes are generally more likely to be stated in the negative than are naturally weak attitudes. Either way, such an investigation would help enhance our understanding of the valence-framing effect in particular and of attitude strength more generally.

### **Conclusion**

Whereas it was previously unclear whether effects of valence framing were limited to attitude resistance, the current research showed that valence framing

can also affect certainty and behavioral intentions. By demonstrating such effects, it seems that negative framing does enhance attitude strength more generally. Also, Study 2 demonstrated the effect among a representative sample of citizens in a context of high consequence. Finally, we note that although early research on resistance to persuasion and the strength of attitudes was inspired by William McGuire's inoculation theory and appeared to indicate that inducing resistance required effortful practice in counterarguing, the current research reinforces other contemporary studies in demonstrating that such high-effort strategies do not provide the only ways to strengthen people's attitudes. Simply encouraging people to think of themselves as opposing one side of an issue, rather than supporting the other side, can strengthen attitudes, making them more resistant to change and more likely to impact behavior. The current work therefore also suggests that perhaps increased attitude certainty played a role in mediating the effects of inoculation treatments on resistance to change in McGuire's classic research.

### ACKNOWLEDGMENTS

Study 1 was supported by National Science Foundation grant BCS 0544799 awarded to the first author. We thank Diana Mutz, Arthur Lupia, and Time-Sharing Experiments for the Social Sciences (TESS) for providing support for Experiment 2 (TESS Project #321). We thank Jamie Luguri for her invaluable assistance with Study 1 in terms of conceptualization and design of materials. Correspondence concerning this article should be sent to George Bizer, Department of Psychology, Union College, Schenectady NY 12308, e-mail: bizerg@union.edu; Jeff Larsen, Department of Psychology, Texas Tech University, Lubbock TX 79409, e-mail: jeff.larsen@ttu.edu; or Richard Petty, Department of Psychology, Ohio State University, Columbus OH 43210, e-mail: petty.1@osu.edu

### REFERENCES

- Anderson, N. H. (1965). Averaging versus adding as a stimulus-combination rule in impression formation. *Journal of Experimental Psychology*, *75*, 153–165.
- Ansolabehere, S., & Iyengar, S. (1995). *Going negative: How political advertisements shrink and polarize the electorate*. New York: Free Press.
- Baker, S. M., Petty, R. E., & Gleicher, F. (1991). Persuasion theory and drug abuse prevention. *Health Communication*, *3*, 193–203.
- Barden, J., & Petty, R. E. (2008). The mere perception of elaboration creates attitude certainty: Exploring the thoughtfulness heuristic. *Journal of Personality and Social Psychology*, *95*, 489–509.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, *323*–370.

- Bernard, M. M., Maio, G. R., & Olson, J. M. (2003). The vulnerability of values to attack: Inoculation of values and value-relevant attitudes. *Personality and Social Psychology Bulletin*, *29*, 63–75.
- Bizer, G. Y., & Petty, R. E. (2005). How we conceptualize our attitudes matters: The effects of valence framing on the resistance of political attitudes. *Political Psychology*, *26*, 553–568.
- Botvin, G. J. (1990). Substance abuse prevention: Theory, practice, and effectiveness. *Crime and Justice*, *13*, 461–519.
- Burgoon, M., Pfau, M., & Birk, T. S. (1995). An inoculation theory explanation for the effects of corporate issue/advocacy advertising campaigns. *Communication Research*, *22*, 485–505.
- Cacioppo, J. T., & Berntson, G. G. (1994). Relationship between attitudes and evaluative space: A critical review, with emphasis on the separability of positive and negative substrates. *Psychological Bulletin*, *115*, 401–423.
- Cacioppo, J. T., Harkins, S. G., & Petty, R. E. (1981). The nature of attitudes and cognitive responses and their relationships to behavior. In R. Petty, T. Ostrom, & T. Brock (Eds.), *Cognitive responses in persuasion* (pp. 31–54). Hillsdale, NJ: Erlbaum.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, *39*, 752–766.
- Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic information processing within and beyond the persuasion context. In J. S. Uleman (Ed.), *Unintended thought*. New York: Guilford.
- Converse, P. E., & Markus, G. B. (1979). Plus ça change: The new CPS election study panel. *American Political Science Review*, *73*, 32–49.
- Fazio, R. H., & Zanna, M. P. (1978). On the predictive validity of attitudes: The roles of direct experience and confidence. *Journal of Personality*, *46*, 228–243.
- Fiske, S. T. (1980). Attention and weight in person perception: The impact of negative and extreme behavior. *Journal of Personality and Social Psychology*, *38*, 889–906.
- Goldstein, K., & Freedman, P. (2002). Campaign advertising and voter turnout: New evidence for a stimulation effect. *Journal of Politics*, *64*, 721–740.
- Green, D. P., & Palmquist, B. (1994). How stable is party identification? *Political Behavior*, *16*, 437–466.
- Gross, S. R., Holtz, R., & Miller, N. (1995). Attitude certainty. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 215–245). Mahwah, NJ: Erlbaum.
- Hart, W., Albarracín, D., Eagly, A. H., Lindberg, M. J., Merrill, L., & Brechan, I. (2009). Feeling validated versus being correct: A meta-analysis of selective exposure to information. *Psychological Bulletin*, *135*, 555–588. doi:10.1037/a0015701.
- Haugtvedt, C. P., & Petty, R. E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. *Journal of Personality and Social Psychology*, *63*, 308–319.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communications and persuasion: Psychological studies in opinion change*. New Haven, CT: Yale University Press.
- Ito, T. A., Larsen, J. T., Smith, N. K., & Cacioppo, J. T. (1998). Negative information weighs more heavily on the brain: The negativity bias in evaluative categorizations. *Journal of Personality and Social Psychology*, *75*, 887–900.
- Jost, J. T., Glaser, G., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, *129*, 339–375.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*, 263–291.
- Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1–24). Mahwah, NJ: Lawrence Erlbaum Associates.

- Lau, R. R., & Pomper, G. M. (2002). Effectiveness of negative campaigning in U.S. Senate elections. *American Journal of Political Science, 46*, 47–66.
- Lumsdaine, A. A., & Janis, I. L. (1953). Resistance to “counterpropaganda” produced by one-sided and two-sided “propaganda” presentations. *Public Opinion Quarterly, 17*, 311–318.
- Martin, P. S. (2004). Inside the black box of negative campaign effects: Three reasons why negative campaigns mobilize. *Political Psychology, 25*, 545–562.
- McGuire, W. J. (1964). Inducing resistance to persuasion: Some contemporary approaches. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 1, pp. 191–229). San Diego, CA: Academic Press.
- McGuire, W. J. (1968a). The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), *Handbook of social psychology* (2nd Ed., Vol. 3, pp. 136–314). Reading, MA: Addison-Wesley.
- McGuire, W. J. (1968b). Personality and attitude change: An information-processing theory. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 171–196). New York: Academic Press.
- McGuire, W. J. (1981). The probabilistic model of cognitive structure and attitude change. In R. Petty, T. Ostrom, & T. Brock (Eds.), *Cognitive responses in persuasion*. Hillsdale, NJ: Erlbaum.
- McGuire, W. J., & Papageorgis, D. (1961). The relative efficacy of various types of prior belief defense in producing immunity against persuasion. *Journal of Abnormal and Social Psychology, 62*, 327–337.
- Nelson, T. E., & Kinder, D. R. (1996). Issue framing and group-centrism in American public opinion. *Journal of Politics, 58*, 1055–1078.
- Papageorgis, D., & McGuire, W. J. (1961). The generality of immunity to persuasion produced by pre-exposure to weakened counterarguments. *Journal of Abnormal and Social Psychology, 62*, 475–481.
- Petty, R. E., Briñol, P., Tormala, Z. L., & Wegener, D. T. (2007). The role of meta-cognition in social judgment. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (2nd ed., pp. 254–284). New York: Guilford Press.
- Petty, R. E., & Cacioppo, J. T. (1981). *Attitudes and persuasion: Classic and contemporary approaches*. Dubuque, IA: Wm. C. Brown.
- Petty, R. E., & Cacioppo, J. T. (1986). *Communication and persuasion: Central and peripheral routes to attitude change*. New York: Springer/Verlag.
- Petty, R. E., Haugtvedt, C. P., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences*. Hillsdale, NJ: Erlbaum.
- Petty, R. E., & Krosnick, J. A. (1995). *Attitude strength: Antecedents and consequences* (pp. 93–130). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Rucker, D. D., & Petty, R. E. (2004). When resistance is futile: Consequences of failed counterarguing for attitude certainty. *Journal of Personality and Social Psychology, 86*, 219–235.
- Rucker, D. D., Petty, R. E., & Briñol, P. (2008). What’s in a frame anyway? A meta-cognitive analysis of the impact of one versus two sided message framing on attitude certainty. *Journal of Consumer Psychology, 18*, 137–149.
- Rydel, R. J., Hugenberg, K., & McConnell, A. R. (2006). Resistance can be good or bad: How theories of resistance and dissonance affect attitude certainty. *Personality and Social Psychology Bulletin, 32*, 740–750.
- Schuman, H., & Presser, S. (1981). *Questions and answers in attitude surveys*. New York: Academic Press.
- Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist, 54*, 93–105.

- Skowronski, J. J., & Carlston, D. E. (1989). Negativity and extremity biases in impression formation: A review of explanations. *Psychological Bulletin*, *105*, 131–142.
- Sudman, S., & Bradburn, N. M. (1982). *Asking questions*. San Francisco: Jossey-Bass.
- Torangeau, R., & Smith, T. W. (1996). Asking sensitive questions: The impact of data collection mode, question format, and question context. *Public Opinion Quarterly*, *60*, 275–304.
- Tormala, Z. L., Clarkson, J. J., & Petty, R. E. (2006). Resisting persuasion by the skin of one's teeth: The hidden success of resisted persuasive messages. *Journal of Personality and Social Psychology*, *91*, 423–435.
- Tormala, Z. L., & Petty, R. E. (2002). What doesn't kill me makes me stronger: The effects of resisting persuasion on attitude certainty. *Journal of Personality and Social Psychology*, *83*, 1298–1313.
- Tormala, Z. L., & Petty, R. E. (2004). Resistance to persuasion and attitude certainty: The moderating role of elaboration. *Personality and Social Psychology Bulletin*, *30*, 1446–1457.
- Visser, P. S., Krosnick, J. A., & Simmons, J. P. (2003). Distinguishing the cognitive and behavioral consequences of attitude importance and certainty: A new approach to testing the common-factor hypothesis. *Journal of Experimental Social Psychology*, *39*, 118–141.
- White, K. M., Hogg, M. A., & Terry, D. J. (2002). Attitude-behavior relations: The role of ingroup norms and mode of behavioral decision-making. *Basic and Applied Social Psychology*, *24*, 91–103.
- Žeželj, I., Škorić, M., Bogdanović, S., Hristić, D., & Stokić, D. (2007). Valence framing of political preferences and resistance to persuasion. *Psihologija*, *40*, 365–383.