This research explores the possibility that when people receive sequential persuasive messages about different issues, the trustworthiness of the source of an early (prior) message can influence people’s motivation to process a subsequent (target) message. Participants were presented with a target persuasive message from a source of ambiguous trustworthiness. Preceding this message, participants received a message about a different issue from a source unambiguously high or low in trustworthiness. When primed to focus on similarities, participants showed greater processing of the target message when the prior source was low rather than high in trustworthiness (assimilation). When primed to focus on dissimilarities, participants showed the opposite effect (contrast). As expected, however, these effects were particularly likely to manifest for low need for cognition individuals, who are not otherwise inclined to engage in extensive processing. High need for cognition individuals engaged in extensive processing regardless of the prime and prior source manipulations.

Context effects—that is, assimilation and contrast—have been the focus of considerable attention in social judgment research. Assimilation occurs when a target stimulus is judged to be similar to the context, whereas contrast occurs when a target stimulus is judged to be different from the context. For example, one might rate a target person as more (assimilation) or less (contrast) hostile after meeting another person who is extremely hostile. Over the years, significant progress has been made in identifying the conditions under which assimilation versus contrast is more likely (e.g., Dijksterhuis, Spears, et al., 1998; Herr, Sherman, & Fazio,
Most germane to the current concerns, assimilation and contrast recently have been applied to persuasion research to understand how persuasion works in multiple message situations—that is, situations in which people receive sequential persuasive messages about different topics. This work stems from the observation that although researchers typically have studied persuasive messages in isolation, the messages we receive on a daily basis tend not to be delivered in isolation, but rather in the context of other messages. When surfing the internet, watching television, or flipping through the pages of a magazine, for example, people can be exposed to series of persuasive messages about different topics (e.g., a new sports drink, a car, a vacation destination) delivered one after another. Recent studies exploring multiple message situations have revealed that prior messages can create a persuasive context that affects the success of subsequent messages (Tormala & Clarkson, 2007; Tormala & Petty, 2007).

Tormala and Clarkson (2007), for example, examined the role of source expertise in multiple message situations. They presented participants with an initial (prior) persuasive message from a source of either high or low expertise, and then presented another (target) message about a different issue from a moderately expert source. They also manipulated whether participants were primed to think about similarities or differences. When primed to think about similarities, participants were more persuaded by the target message when the prior message came from a high rather than low expertise source (assimilation). When primed to think about differences, however, participants were more persuaded by the target message when the prior message came from a low rather than high expertise source (contrast). Moreover, these effects were mediated by the favorability of participants’ thoughts about the target message.

These findings resonate with recent models of context effects (e.g., Markman & McMullen, 2003; Mussweiler, 2003) proposing that assimilation and contrast sometimes stem from searches for similarities or differences between target and contextual stimuli. When people have similarity mindsets, they search for similarities, selectively highlighting those similarities and producing assimilation. When people have difference mindsets, they search for differences, selectively highlighting those differences and producing contrast. Thus, by creating similarity versus difference mindsets, Tormala and Clarkson (2007) presumably induced participants to focus on similarities or differences between the prior and target sources, thus fostering assimilation and contrast effects on target persuasion, respectively.

THE PRESENT RESEARCH

In short, recent studies of multiple message situations have revealed that assimilation and contrast can play an important role in determining the impact of prior messages on the persuasiveness of target messages. These studies have demonstrated that when perceptions of a target message are enhanced (e.g., by making its source seem more expert), target persuasion is increased (see also Tormala & Petty, 2007). In the present research, we explore the possibility that prior messages can affect not only the way a target message is perceived, but also the manner in which a target message is processed. In other words, we investigate whether prior
message manipulations can determine the extent to which people process target messages.

Numerous moderators of message processing have been identified previously (see Petty & Wegener, 1998). This research focuses on the role of source trustworthiness. Trustworthiness is a dimension of source credibility defined as a message source’s perceived honesty or motivation to provide accurate information (e.g., Kelman & Hovland, 1953; Mills & Jellison, 1967). In general, research suggests that untrustworthy sources elicit greater processing from message recipients than do trustworthy sources (e.g., Priester & Petty, 1995). The logic behind this effect is that whereas trustworthy sources can be assumed to present truthful information, untrustworthy sources cannot. Thus, when people receive messages from untrustworthy sources they engage in increased message scrutiny to gauge the validity of the sources’ information.

In one demonstration, Priester and Petty (1995) presented participants with a message attributed to a source of high or low trustworthiness. This source presented a persuasive message containing either strong or weak arguments. Discriminating between strong and weak arguments is a well-documented indicator of processing such that greater processing is associated with greater argument quality effects (Petty & Cacioppo, 1986). Priester and Petty found that participants’ attitudes were more influenced by argument quality when the source was untrustworthy rather than trustworthy. Interestingly, though, this effect was qualified by need for cognition (NC)—that is, individual differences in the motivation to engage in effortful thought (Cacioppo & Petty, 1982). Only low NCs showed elevated processing in response to untrustworthy sources; high NCs engaged in extensive processing regardless of source trustworthiness. In essence, whereas high NCs generally processed at a high level, low NCs did so only when an untrustworthy source motivated them to pay more careful attention.

In the current study, we applied this finding to a multiple message situation to examine the impact of prior messages, and their sources, on processing of subsequent messages. As in Tormala and Clarkson (2007), we sought to induce assimilation and contrast by priming similarity or difference mindsets. Following this manipulation we presented participants with two messages about different issues. The first (prior) message contained mixed arguments advocating a new campus policy and was attributed to a trustworthy or untrustworthy source. The second (target) message contained strong or weak arguments advocating a different policy and was attributed to a source of ambiguous trustworthiness.

Our predictions were as follows: When participants were primed to focus on similarities, we expected greater argument quality effects for the target message when the prior source was low rather than high in trustworthiness. Because similarity priming elicits assimilation, the target source should be perceived as less trustworthy (leading to more processing) following exposure to a source low in trustworthiness. When participants were primed to focus on differences, we expected greater argument quality effects for the target message when the prior source was high rather than low in trustworthiness. Because difference priming elicits contrast, the target source should be perceived as less trustworthy (leading to more processing) following exposure to a prior source high in trustworthiness. In accord with Priester and Petty (1995), however, we only expected these effects to emerge among low NCs. For high NCs, we expected a main effect for argument quality, indicating generally high levels of processing irrespective of the prime
and source manipulations. This is not to suggest that high NCs could not perceive the target source differently across prime and prior source conditions, but their general motivation to engage in extensive message scrutiny should override these perceptions.

These findings would extend past research on multiple message situations. First, they would suggest that prior messages on different topics influence not only perceptions of target messages but also people’s motivation to think about or attend to those messages. In addition, these findings would suggest that enhancing perceptions of a target message via prior message (or source) manipulations does not invariably increase persuasion, as might be inferred from prior studies (Tormala & Clarkson, 2007; Tormala & Petty, 2007). Indeed, one of the hallmark predictions of dual process theories of persuasion such as the elaboration likelihood model (Petty & Cacioppo, 1986) is that both increasing and decreasing processing can increase or decrease persuasion depending on the quality of arguments in the message. For example, when people process extensively, they are more persuaded by strong arguments but less persuaded by weak arguments, meaning increased processing does not inevitably increase persuasion. Thus, the current research expands the range of effects known to occur in multiple message situations.

METHOD

PARTICIPANTS AND DESIGN

Two hundred ten Indiana University (IU) undergraduates participated in partial fulfillment of a course requirement. Participants were randomly assigned to conditions in a 2 (prime: similarities or differences) × 2 (prior source trustworthiness: high or low) × 2 (target argument quality: strong or weak) between participants factorial design. All participants also completed the 18-item NC Scale (Cacioppo, Petty, & Kao, 1984).

PROCEDURE

Participants were seated in a room containing seven partitioned computer terminals. All experimental materials were presented on computer using MediaLab Research Software (Jarvis, 2004). The opening screen led participants to believe we were developing a personality profile of IU students, which involved characterizing students’ perceptions of themselves and others and obtaining information about students’ opinions of various campus issues. Following these instructions, participants were asked to generate a list of similarities or differences between themselves and the average IU student (see prime manipulation). After completing this task, participants received information about two policies under consideration at their university. We used issues of high personal relevance to ensure that all participants would pay adequate attention to both the prior and target sources and messages.
The first (prior) issue was a mandatory service policy. Participants were led to believe the university was considering requiring students to complete several hours of community service to graduate (see Baker & Petty, 1994). A message containing mixed (i.e., both strong and weak) arguments in favor of this policy was then presented. The message was attributed to a trustworthy or untrustworthy source. Following this message, participants were introduced to a second (target) issue—comprehensive exams (see Petty & Cacioppo, 1986). In this case, participants were told that their university was considering requiring students to pass comprehensive exams in their major areas prior to graduation. Participants then received a message, from a source of ambiguous trustworthiness, containing either strong or weak arguments advocating comprehensive exams. Following this message, participants reported attitudes toward the comprehensive exam policy, completed the NC Scale, and were thanked and debriefed.

INDEPENDENT VARIABLES

Prime. At the outset of the experiment, participants were randomly assigned to one of two priming conditions to activate either a similarity or a difference mindset. In the similarity condition, participants were asked to think of several ways in which they were similar to other IU students, and to describe four of these similarities. In the difference condition, participants were asked to describe four differences between themselves and other IU students.1

Prior Source Trustworthiness. The target issue in this study was comprehensive exams. All participants were led to believe the comprehensive exam message came from the same source, intended to be ambiguous in trustworthiness. Specifically, participants were led to believe the target message was written by Cynthia Ross, an administrator at Florida State University. No other information was provided.

The source associated with the prior message (i.e., the service program) was varied using a manipulation adapted from Priester and Petty (1995). In the low prior trustworthiness condition, the service program message was preceded by the following information:

The passage you are about to read was taken from a message written by Kenneth Sturreck. For the past several years, Mr. Sturreck has been in administration at Florida State University. Recently, Mr. Sturreck has been under fire in the Tallahassee media for being untrustworthy and intentionally mismanaging university funds. Often cited is a recent situation in which he was in charge of departmental budget cuts at Florida State. Rather than focus on his own overstaffed department, he forced other departments to take a 15% decrease in funding. Those close to Mr. Sturreck commented that they were not surprised by his actions, because he is known for being dishonest and untrustworthy.

1. This manipulation, adopted from Tormala and Clarkson (2007), was pretested to establish its effectiveness. Twenty-five participants were exposed to the same priming manipulation and the same prior and target messages from two different sources, as in the current experiment. Immediately following the second source and message, participants rated the perceived similarity of the sources on a scale ranging from 1 (not similar at all) to 9 (extremely similar). Participants rated the sources as more similar in the similarity (M = 5.23, SD = 1.54) than difference (M = 4.08, SD = 1.24) condition, t (23) = 2.04, p = .05.
In the high prior trustworthiness condition, participants received different information:

The passage you are about to read was taken from a message written by Kenneth Sturreck. For the past several years, Mr. Sturreck has been in administration at Florida State University. Recently, Mr. Sturreck has been praised in the Tallahassee media for being trustworthy and making excellent and judicious use of university funds. Often cited is a recent situation in which he was in charge of departmental budget cuts at Florida State. Rather than focus on other departments, he forced his own over-staffed department to take a 15% decrease in funding. Those close to Mr. Sturreck commented that they were not surprised by his actions, because he is known for being honest and trustworthy.

To make the prior and target sources salient and increase the likelihood that they would be the focus of any context effects observed, source information was always presented on a separate screen immediately preceding its accompanying message.2

Argument Quality. All participants received the same message about the first issue (the service program). This message was moderate in strength, comprised of both strong and weak arguments. For the target message, advocating comprehensive exams, participants were randomly assigned to receive strong or weak arguments. In the strong argument condition, participants received a series of compelling reasons to implement the exam policy (e.g., comprehensive exams would increase grade point averages by motivating students to study). In the weak argument condition, participants received a series of less compelling reasons to implement the exam policy (e.g., implementing comprehensive exams would help the university join a national trend). These arguments were adopted from Petty and Cacioppo (1986).

Need for Cognition. At the end of the experiment, participants completed the NC Scale (Cacioppo et al., 1984), which contains 18 items (e.g., “I find satisfaction in deliberating hard and for long hours.”) that participants rate on scales ranging from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). Scores were summed to form a composite NC index ($\alpha = .84$).

ATTITUDE MEASURE

Following the target message about comprehensive exams, participants rated comprehensive exams on three scales ranging from 1 to 9 with the following anchors: bad-good, harmful-beneficial, foolish-wise. Responses were averaged to form a composite attitude index ($\alpha = .89$). Higher scores indicated more favorable attitudes.

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2. We led participants to believe that the prior and target sources were from the same university to increase the plausibility of our having access to a pool of messages on campus issues. Although the shared affiliation might make similarities between the prior and target sources particularly salient, similarity presumably would accentuate assimilation and attenuate contrast in the present paradigm. Thus, to the extent that we obtained both effects, as predicted, the results would not be attributable to the shared university affiliation.
RESULTS

Following the recommendation of Cohen, Cohen, West, and Aiken (2003), we conducted a hierarchical regression on attitudes, treating prime (dummy coded: 0 = similarity, 1 = difference), prior source trustworthiness (dummy coded: 0 = low, 1 = high), target argument quality (dummy coded: 0 = weak, 1 = strong), and NC (continuous, mean centered) as predictors. This analysis revealed a main effect of argument quality ($\beta = .20, p < .01$); target attitudes were more favorable when participants received strong ($M = 5.72$) rather than weak ($M = 4.92$) arguments. There also was a marginal main effect for prior source trustworthiness ($\beta = .13, p < .07$); attitudes were more favorable in the high prior ($M = 5.58$) rather than low prior ($M = 5.05$) trustworthiness condition, suggesting an assimilative effect overall of the prior source on target attitudes. Of importance, however, these effects were qualified by a four-way interaction between prime, prior source trustworthiness, argument quality, and NC ($\beta = -.44, p < .02$). No other effects were significant, $p_s > .18$.

As predicted, the four-way interaction involved a significant three-way interaction between prime, prior source trustworthiness, and target argument quality for low NCs ($\beta = .81, p < .01$). As illustrated in Figure 1, this three-way interaction involved two opposing two-way interactions. Under similarity prime conditions, there was a significant prior source $\times$ argument quality interaction ($\beta = -.61, p < .03$); argument quality affected attitudes in the low prior trustworthiness condition ($\beta = .48, p < .05$), but not in the high prior trustworthiness condition ($\beta = -.14, p > .49$). Under difference prime conditions, this interaction was reversed ($\beta = .46, p < .05$); there was an argument quality effect in the high prior trustworthiness condition ($\beta = .51, p < .01$), but not in the low prior trustworthiness condition ($\beta = -.03, p > .86$).

Among high NCs, there was only a main effect of argument quality ($\beta = .21, p < .03$) such that attitudes were more favorable following strong ($M = 5.75$) than weak ($M = 4.86$) arguments. There were no other effects among high NCs, $p_s > .14$.

DISCUSSION

Recent studies have made initial headway in understanding the effects of prior persuasive messages, and the features associated with those messages, on perceptions of subsequent messages. Interestingly, though, multiple message research to date has focused on the possibility that prior messages can enhance perceptions of target messages and, thus, increase persuasion. The current research expands our understanding of multiple message situations by considering whether the trustworthiness of sources associated with prior messages might affect the processing of subsequent messages from other sources. By affecting processing, both enhanc-

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3 For the sake of clarity in presenting the results for high and low NCs following the four-way interaction, we used a median split on the NC index ($Mdn = 57$). Following the recommendation of Cohen et al. (2003), we re-analyzed the data using predicted means at $+1$ and $-1$ SD on NC. The results of this second analysis paralleled the reported results with the exception that the prior source $\times$ argument quality interaction was marginal ($p < .09$) following the similarity prime among low NCs.
ing and undermining perceptions of target source trustworthiness could produce more or less target persuasion. The present results were consistent with this possibility. Holding the target source constant, variations in the trustworthiness of a prior source on a different topic influenced target message processing. When primed to focus on similarities, participants showed greater processing of a target message (i.e., greater argument quality effects) when the prior source was low rather than high in trustworthiness. When primed to focus on differences, participants showed the opposite effect. These findings indicate relative assimilation and contrast following similarity and difference primes, respectively.

It is worth noting that similarity and difference mindsets were activated using a very explicit priming task in this study. As described in Footnote 1, this task has been employed previously and it was pretested to establish its efficacy. Moreover, it provided a very direct manipulation of similarity/difference focus. Nonetheless, it is reasonable to ask how similarity and difference mindsets are activated in real world persuasion contexts. We surmise that these mindsets are induced more subtly in real life, and that numerous factors could foster one mindset or another in a given situation. For instance, similarity (difference) mindsets could be activated by perceived similarities (differences) between the prior and target sources on any number of dimensions (e.g., attitudes, physical appearance), by chronic or temporary needs for affiliation or differentiation (Pickett & Brewer, 2001), or by

![Similarity Prime Graph](image1)

![Difference Prime Graph](image2)

FIGURE 1. Attitudes as a function of prime, prior source trustworthiness, and argument quality among low need for cognition individuals.
some other variable. Future research should examine more naturally occurring determinants of these mindsets.

This caveat notwithstanding, the prime and prior source manipulations produced the expected effects in the current study. For example, they influenced target message processing only among low NCs. High NCs showed substantial sensitivity to target argument quality regardless of the prime or prior source manipulations. Like Priester and Petty (1995), we submit that high NCs' processing was independent of source perceptions because high NCs are by definition highly motivated to process. Thus, they engaged in extensive elaboration across conditions. In contrast, low NCs generally process at lower levels, but can be prompted to think more carefully by situational factors such as low source trustworthiness. Low NCs did not process deeply when they perceived that the target source was trustworthy, but their processing was increased when that source's trustworthiness was cast in doubt. Although we did not assess perceptions of target source trustworthiness, the attitude data fit this interpretation.

Of importance, we do not submit that high NCs are unaffected by contextual factors or that their target source perceptions do not vary by prime and prior source. We simply argue that due to their generally high processing motivation, they based their attitudes on the quality of arguments in the target message. It could be that message arguments were more salient than the source information to high NCs. If true, perhaps the prime affected argument quality comparisons across the two messages for these individuals. The prior message in our study contained a mixture of strong and weak arguments, whereas the target message contained either strong or weak arguments, making it more or less compelling by comparison. If the prime affected high NCs' perceptions of argument quality, we would expect the mixed prior message to attenuate the impact of target argument quality following a similarity prime (by assimilating the strong or weak target arguments to the mixed prior arguments) but exaggerate the impact of target argument quality following a difference prime (by contrasting the target arguments away from the prior arguments). As reported, there was no prime × argument quality interaction in this study. Nevertheless, we examined the simple argument quality effects among high NCs and found suggestive evidence that the prime affected these individuals' perceptions of argument quality. Specifically, the argument quality effect for high NCs was stronger in the difference (β = .32, p < .03) than similarity (β = .15, p > .26) prime condition, consistent with the notion that the prime influenced high NCs' perceptions of target message quality.

CONCLUSION

The current research takes a message processing approach to understand the role of prior messages in guiding the impact of target messages. By examining processing, we have expanded the range of effects known to occur in multiple message situations. In addition to suggesting that prior message (and source) manipulations can produce relatively more or less target persuasion depending on target message quality, the processing perspective makes unique predictions that have yet to be examined in multiple message situations. For example, it is well-established that elaboration can determine the role a given variable plays in persuasion (see Petty & Wegener, 1998). Although trustworthiness affected message scrutiny
in the current study, source perceptions can also provide a simple cue to persuasion under low elaboration (Petty, Cacioppo, & Goldman, 1981) or bias the favorability of people’s thinking under high elaboration (Chaiken & Maheswaran, 1994; Tormala & Clarkson, 2007). Thus, the contextual perspective can help us predict what role a given persuasion variable will play for the target message. Also important, elaboration can determine the strength of people’s attitudes. The more people process, the stronger their attitudes tend to be (Petty, Haugtvedt, & Smith, 1995). Stronger attitudes, in turn, are more durable and consequential than weaker attitudes (Petty & Krosnick, 1995). By shedding light on target message processing, then, the contextual perspective can help predict attitude strength in multiple message situations. Our hope is that the current findings will encourage others to examine the role of prior messages in guiding the impact of target messages in future persuasion research and practice.

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