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Effects of Expectation Violation and Validation Process on Message Processing Modes

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Abstract

Two experiments with Korean undergraduate student samples examined the issue of whether expectation violation or validation process in the face of a minority source would generate systematic message processing. In Experiment 1, participants were assigned to source status (a majority *vs.* a minority) \times argument quality (strong arguments *vs.* weak arguments) inductions in a between-subject factorial design and were exposed to a counter-attitudinal persuasive message. Results from Experiment 1 showed that participants engaged in systematic processing of the majority source. However, it was not clear whether expectation violation or negative personal interests generated systematic processing of the majority source. Therefore, participants in Experiment 2 were exposed to a persuasive message whose position was only against their attitudes but not against their personal interests. Results revealed that both expectation violation and validation process were associated with systematic processing.

Effects of Expectation Violation and Validation Process on Message Processing Modes

Whether or not a majority or a minority source generates systematic message processing has been a topic of much research. While some researchers have found that a majority source generated systematic processing (Martin & Hewston, 2003, Experiment 2; Martin & Hewston, 2001; Experiment 2), others reported that a minority source generated systematic processing (Baker & Petty, 1994, Experiment 1; Erb et al., 2002; Martin & Hewston, 2003, Experiment 2). In the presence of conflicting results, Baker and Petty (1994) argued that expectation violation resulted in systematic processing of both majority and minority sources. It has been suggested that, when a majority or a minority source was presented in such a way that it violated people's expectations, either of these message positions, or both, led to systematic message processing.

More recently, however, researchers found that minority source status but not expectation violation was responsible for systematic message processing (Erb et al., 2002; Martin & Hewston, 2003). As a result, research attention has shifted from whether a majority or a minority source generates systematic processing to whether expectation violation or a minority source generates systematic processing. The present study directly addresses this issue and examines whether expectation violation would be associated with systematic processing, irrespective of source status. As Martin and Hewstone (2003) observed, results that a minority source generated systematic processing must be confirmed by replication. As a set of replications of studies by Baker and Petty (1994) and Martin and Hewstone (2003), the present study attempts to enhance understanding of the influence of majority and minority sources.

Source Status and Systematic Processing

The Heuristic/Systematic Model (HSM) specifies two ways through which individuals may change their attitudes. One is systematic processing, and the other is heuristic processing (Eagly & Chaiken, 1993). Systematic processing is conceptualized as comprehensive and careful consideration of message content that requires a great amount of cognitive resources. Thus, individuals who engage in systematic processing are influenced more by valid and cogent arguments contained in a message and less by weak arguments. As opposed to systematic processing, heuristic processing refers to message processing that requires only a minimum level of cognitive resources. When people engage in heuristic processing, they are more likely to rely on simple decision rules to make a judgment rather than to scrutinize arguments contained in a message.

Given that individuals are cognitive misers who make only minimum amounts of cognitive efforts (Taylor & Fiske, 1978), they must be motivated to attend to a message when they engage in systematic processing (Petty & Cacioppo, 1986). Among the many factors that motivate individuals to engage in systematic processing, source status (numerical majority or numerical minority) has received extensive attention in persuasive communication. Specifically, research has focused on which source status motivates individuals to engage in systematic processing. While some studies have supported Moscovici's conversion theory's prediction that a minority source generates systematic processing (Martin & Hewston, 2003, Experiment 2; Martin & Hewston, 2001; Experiment 2), other studies have found results consistent with the objective consensus approach that a majority source generates systematic processing (Baker & Petty, 1994, Experiment 1; Martin & Hewston, 2003, Experiment 2).

According to conversion theory (Moscovici, 1980, 1985), people experience conflict from disagreement with the majority position and try to reduce the conflict by comparing their attitudes with the majority position. Since identification with the majority position is socially desirable, people conform to the majority position without much consideration of the issue. In

contrast, when people disagree with the minority position, they engage in a validation process through which they confirm and validate their own position before they disregard the minority position. When exposed to a disagreeing minority position, people are motivated to find out what the distinctive minority saw and understood. In sum, people engage in systematic processing when a message is presented by a minority source rather than by a majority source.

On the other hand, the objective consensus approach (Mackie, 1987) argues that people invest cognitive resources in processing a majority position but not a minority position. In this view, people assume that a position supported by the majority reflects social reality and that the arguments contained in the message are cogent and valid. Thus, people's attention is directed to the arguments in the message, resulting in systematic processing of the message.

In the presence of the controversy, Baker and Petty (1994) argued that it was not the source status itself that was responsible for systematic processing, but the imbalance between individuals' attitudes and the source status. Baker and Petty found that participants engaged in systematic processing of a majority source, a minority source, or both when they observed an imbalance between their attitudes and the source status (counter-attitudinal position is supported by the majority or pro-attitudinal position is supported by the minority) but not when individuals observed a balance between their attitudes and the source status (counter-attitudinal position is supported by the minority or pro-attitudinal position is supported by the majority).

Baker and Petty (1994) explained their results using the false consensus effect. According to the false consensus effect, people generally believe that they share their attitudes with the majority of the population (Ross, Greene, & House, 1977). Thus, when people learn that their position is not supported by the majority, they experience surprise because their expectations are violated. As a result, people are motivated to find out why the majority of the population supports a position that they themselves are against or why only a minority supports their own position.

By identifying the psychological variable underlying the majority and minority influence, Baker and Petty (1994) seemed to resolve the controversy about which source status instigated systematic processing. More recently, however, Martin and Hewston (2003) have argued that there had been a methodological flaw in Baker and Petty's study. Specifically, the message used in Baker and Petty's study was not only against participants' attitudes but also against their (and the majority's) personal interests. Thus, participants engaged in systematic processing of a majority source because they were motivated to find out why the majority of the population supported a position against their own (and the majority's) personal interests.

To remedy the limitation that expectation violation was confounded with negative personal interests, Martin and Hewston (2003) conducted experiments that controlled for negative personal interests. In their experiments, the message position was only against participants' attitudes but not against their personal interests. The results showed that systematic processing occurred for a minority source, but not for a majority source, regardless of whether or not there was imbalance between participants' attitudes and source status.

Thus, Martin and Hewstone (2003) argued that expectation violation did not generate systematic processing, but a majority source arguing for negative personal interests invoked systematic processing in Baker and Petty's study (1994). In other words, participants did not process a counter-attitudinal message in a systematic way to understand why most people favored an aversive position but to understand why most people supported a position against their personal interests. Martin and Hewstone concluded that the validation process in the face of a disagreeing minority generated systematic processing and that expectation violation did not.

Although Martin and Hewstone (2003) successfully decomposed negative personal interests from the message position and found that expectation violation was not associated with systematic processing, there is a need for replication on this issue because numerous empirical studies have reported that expectation violation is responsible for systematic processing (e.g., Erb et al., 2002; Maheswaran & Chaiken, 1991; Ziegler, Diehl, & Ruther, 2002).

Thus, the current study examines whether expectation violation or the validation process generates systematic processing. In Experiment 1, participants are exposed to a message whose position is both against their attitudes and their personal interests. In experiment 2, participants are exposed to a message that is only against their attitudes but not against their personal interests.

Experiment 1

In Experiment 1, which source status (a majority or a minority) would invoke systematic processing when the message position is against participants' attitudes and against their personal interests at the same time is examined. As Baker and Petty (1994) and Martin and Hewstone (2003) found, participants are expected to process a majority-endorsed message in a systematic way. One way to discern whether or not participants engaged in systematic processing is to manipulate argument quality (strong arguments *vs.* weak arguments). If participants engage in systematic processing of a message, and thus scrutinize message content, attitude change would result exclusively from strong arguments rather than weak arguments. Examining the impact of argument quality on attitude has been proven valid in detecting systematic processing (Petty & Cacioppo, 1986; Eagly & Chaiken, 1993).

In addition to attitudes, participants who engage in systematic processing would also have more positive thoughts about the message when they are presented with strong arguments than when they are presented with weak arguments. In the present study, the majority source is equivalent to the violated message condition and the minority source is equivalent to the non-violated condition because the message position is against participants' attitudes and their personal interests. The following hypotheses are advanced:

- H1: Participants' attitudes toward tuition increases will be more positive after exposure to strong arguments than after exposure to weak arguments in the majority source condition but not in the minority source condition.
- H2: Participants will generate more positive thoughts about tuition increases after exposure to strong arguments than after exposure to weak arguments in the majority source condition but not in the minority source condition.

Method

Subjects and design The total of 267 undergraduates aged from 20 to 27 participated in the experiment. The participants were students taking various courses at a university in Seoul, Korea. All participants were randomly assigned to the conditions of argument quality (strong *vs.* weak arguments) \times source status (majority *vs.* minority) between-subject factorial design.

Stimulus material To choose a message topic, a pilot study was conducted on an independent sample of 49 college students. The appropriate message topic was one that participants regarded as personally relevant and whose position was against their attitudes and their personal interests. For this purpose, two message topics were selected for the pilot study. One was tuition increases and the other was the administration of a comprehensive exam to undergraduate students. In the pilot study, respondents answered questions concerning the extent

to which they perceived each message topic as personally relevant, against their personal interests, and against their attitudes.

For the personal relevance of each message topic, respondents were instructed to mark on a 7-point scale (1 = least important and 7 = most important). As for the degree to which respondents regarded each message topic as against their personal interests, they were asked to mark on another 7-point scale (1 = very negative personal interest and 7 = very positive personal interest). Respondents' attitudes on each message topic were measured using five 7-point semantic differential scales (bad-good, foolish-wise, negative-positive, ineffective-effective, and unconvincing convincing). Finally, it was necessary to measure respondents' perceptions of other students' attitudes toward each message topic to see whether participants perceived that they shared their attitudes with other students. For this purpose, respondents were told to mark on a 7-point scale (1 = against and 7 = for) about their perceptions of other students' attitudes toward tuition increases.

The results of the pilot study showed that the increase of tuition was a better message topic than a comprehensive exam for the present research purposes in all respects. Respondents regarded tuition increases as more personally relevant ($M = 5.29$, $SD = 1.79$) than a comprehensive exam ($M = 4.04$, $SD = 1.70$), $t(48) = 5.00$, $p < .001$, $\eta^2 = .34$. In addition, respondents perceived tuition increases as more strongly against their interests ($M = 2.14$, $SD = 1.24$) than a comprehensive exam ($M = 3.49$, $SD = 1.47$), $t(48) = 6.75$, $p < .001$, $\eta^2 = .49$. Additionally, the increase of tuition was perceived as more strongly against their attitudes ($M = 2.19$, $SD = 1.19$) than a comprehensive exam ($M = 3.24$, $SD = 1.42$), $t(48) = 5.25$, $p < .001$, $\eta^2 = .36$. The Cronbach's α for the five items composing the attitude scale on a tuition increase and a comprehensive exam were .94 and .95 respectively. Finally, respondents perceived that other students' positions against tuition increases ($M = 2.20$, $SD = 1.43$) and against a comprehensive exam ($M = 2.75$, $SD = 1.23$) did not differ significantly, $t(48) = 1.77$, $p = ns$, $\eta^2 = .00$.

The manipulation of majority and minority source status was also important in the construction of experimental stimulus. According to Martin, Gardikiotis, and Hewstone (2002), the majority exerted its influence when presented in the form of a percentage, but not in the form of a 'majority' label. Thus, participants in Experiment 1 were exposed to a specific number in a percentage form instead of a 'majority' label. Martin et al. (2002) conducted three experiments and found that both 82% and 52% were perceived as the majority position.

Many persuasive communication studies on majority and minority influence have defined a majority source as more than 80% (Maheswaran & Chaiken, 1991; Mackie, 1987; Martin, Hewstone, & Martin, 2003). However, the current experiment defined the majority source as 55%. The reason for the selection of 55% over more than 80% was that subjects might not believe that more than 80% of other people would support a message position arguing for their own negative personal interests. In this respect, 55% manipulation was considered safer than 82% in terms of experimental stimulus believability. On the other hand, 15% was selected for the minority source manipulation because, according to the pilot study mentioned above, respondents believed that about 15% of other students would agree with tuition increases.

Since message quality was also an important variable in this experiment, special care was taken to construct a persuasive message with strong arguments or weak arguments. Here, a high quality message refers to a message containing strong arguments, and a low quality message refers to a message containing weak arguments. First, a pool of arguments for the increase of tuition was compiled. Then, an independent sample of 58 respondents scored each argument on its persuasiveness on a 7-point scale (1 = not at all persuasive; 7 = very persuasive). Thus, four

arguments with the highest scores ($M = 4.17$, $SD = 1.15$) constituted a high quality message and four arguments with the lowest scores ($M = 1.74$, $SD = 0.78$) constituted a low quality message. The finished experimental stimuli were in the form of newspaper articles.

Procedure Subjects participated in the experiment in groups of 20-50 each time. They received a booklet containing a persuasive message on its cover and the post survey questionnaire. Once they completed reading the persuasive message, they tore it off the booklet and gave it to a nearby experimenter. Then, participants indicated their responses on the measures (i.e., manipulation check and dependent measure items) included in the booklet.

Dependent measures Participants were measured on two dependent measures. First, participants were asked to indicate their attitudes toward tuition increases on five 7-point semantic differential scales (bad-good, foolish-wise, negative-positive, ineffective-effective, and unconvincing-convincing). Second, participants were asked to list all the thoughts they had had when they were reading the persuasive message. Then they went back to their thoughts and rated each thought as positive, negative, or neutral. For those thoughts not rated by participants, two coders who did not know the purpose of this experiment rated each thought. The second dependent measure was used as a supplementary criterion to decide the degree to which participants engaged in systematic processing.

Results

Among the 267 students who participated in Experiment 1, the data from 15 participants were discarded because they did not recognize correct source status. Participants perceived the message topic to be personally relevant ($M = 5.22$, $SD = 1.43$). Participants' responses were analyzed using ANOVAs and t-tests.

Attitudes A 2 (argument quality: strong or weak arguments) \times 2 (source status: majority or minority) ANOVA yielded two significant main effects for argument quality and source status on attitudes. First, a main effect for argument quality indicated that participants had more positive attitudes toward the advocated position after exposure to strong arguments ($M = 3.19$) than after exposure to weak arguments ($M = 2.60$), $F(1, 248) = 9.32$, $p < .001$, $\eta^2 = .03$. Second, a main effect for source status indicated that the majority source status generated more positive attitudes ($M = 3.23$) than the minority source status ($M = 2.51$), $F(1, 248) = 15.28$, $p < .001$, $\eta^2 = .06$. The interaction between argument quality and source status was not significant, $F(1, 248) = 0.90$, $p = ns$, $\eta^2 = .00$.

Hypothesis 1 predicted that attitudes toward tuition increases would be more positive after exposure to strong arguments than to weak arguments in the majority source condition but not in the minority source condition. Results showed that participants engaged in systematic processing of the majority source when the message position was against their expectations and against their personal interests. There was a significant difference in attitudes between participants who read strong arguments ($M = 3.53$, $SD = 1.28$) and participants who read weak arguments ($M = 2.85$, $SD = 1.32$) in the majority condition, $t(138) = 4.00$, $p < .001$, $\eta^2 = .10$. These results revealed that participants in the majority condition distinguished between strong arguments and weak arguments. In contrast, there was no significant difference between participants who read strong arguments ($M = 2.70$, $SD = 1.52$) and those who read weak arguments ($M = 2.34$, $SD = 1.24$) in the minority condition, $t(110) = 1.38$, $p = ns$, $\eta^2 = .02$. These results were consistent with H1.

Cognitive responses Hypothesis 2 predicted that participants would generate more positive thoughts about tuition increases after exposure to strong arguments than to weak arguments only in the majority source condition but not in the minority source condition.

Cognitive responses were analyzed by calculating the ratio of the number of positive thoughts to the total number of thoughts (positive, negative, and neutral thoughts). There was a significant main effect for message quality, $F(1, 183) = 19.29, p < .001, \eta^2 = .09$. However, there was no significant main effect for source status, $F(1, 183) = 0.55, p = ns, \eta^2 = .00$ and no interaction, $F(1, 183) = 0.69, p = ns, \eta^2 = .00$.

An independent sample t-test revealed that participants exposed to strong arguments generated more positive thoughts ($M = 0.28, SD = 0.38$) than participants exposed to weak arguments ($M = 0.07, SD = 0.17$) in the majority source condition, $t(108) = 3.62, p < .001, \eta^2 = .11$. Also, participants exposed to strong arguments generated more positive thoughts ($M = 0.24, SD = 0.33$) than participants exposed to weak arguments in the minority source condition ($M = 0.06, SD = 0.17$), $t(72) = 2.81, p < .001, \eta^2 = .10$. These results supported the prediction that systematic processing would occur in the majority condition but did not support the prediction that systematic processing would not occur in the minority condition. Thus, the data were inconsistent with H2.

Discussion

Hypotheses in Experiment 1 addressed the issue of whether or not participants would engage in systematic processing of a majority source when the message position was against participants' attitudes and their personal interests. Results on attitude measures were consistent with those by Baker and Petty (1994) and Martin and Hewstone (2003). When the message position was both against participants' attitudes and their personal interests, they distinguished between strong arguments and weak arguments. Thus, attitude measures supported H1, which predicted that participants would process the majority, but not the minority, source in a systematic way. However, cognitive response measures showed that systematic processing occurred both for the majority and the minority sources. These results were inconsistent with H2. While argument quality effects indicated that systematic message processing occurred only in the majority source condition and not in the minority source condition, cognitive response measures did not support these predictions.

One possible explanation for these seemingly conflicting results is that participants might have been exposed to many arguments concerning the topic before they participated in the experiment. The increase of tuition was a salient topic for college students, and thus they were able to generate their own opinions (positive or negative) as a result of previous exposure to arguments for and against tuition increase. Given that many arguments in the message were adopted from discourse with college students, this possibility may explain the results. This explanation favors the use of attitude measures over thoughts as an important criterion in the determination of systematic processing. In sum, results from Experiment 1 indicate that expectation violation (a majority source that argued for negative personal interests) invoked systematic processing.

Experiment 2

In Experiment 2, which source status would generate systematic processing when the message position was only against subjects' attitudes but not against their personal interests was examined. To separate negative personal interests from the message position, participants were exposed to the information that a tuition increase would not be implemented in the next five years. As a result, the message position was against participants' attitudes but not against their personal interests. In Experiment 2, recall of arguments was measured in order to discern the message processing modes of participants. If participants engaged in systematic processing, they would remember more arguments than if participants engaged in non-systematic processing.

Thus, the number of recalled arguments was used as a supplementary criterion to decide the extent to which participants processed the persuasive message systematically. The more arguments participants remembered, the more systematic processing was judged to have occurred.

Martin and Hewstone (2003) found that participants engaged in systematic processing of a minority source whether or not it was combined with expectation violation; however, studies on persuasive communication have found that expectation violation is an important motivational factor that generates systematic processing (Erb et al., 2002; Maheswaran & Chaiken, 1991; Ziegler, Diehl, & Ruther, 2002). Thus, the following research questions are posed.

RQ1: How will participants' attitudes toward tuition increases change after they are exposed to strong or weak arguments in the majority or the minority source conditions?

RQ2: How will the number of arguments participants remember differ after they are exposed to strong or weak arguments in the majority or the minority source conditions?

RQ3: How will the number of positive thoughts participants have differ after they are exposed to strong or weak arguments in the majority or the minority source conditions?

Method

A total of 207 students, aged from 20 to 27, participated in the experiments. The participants were students taking various courses at a university in Seoul, Korea. All participants were randomly assigned to the cells of an argument quality (strong vs. weak arguments) \times source status (majority vs. minority) between-subject factorial design. The source status manipulation, the argument quality manipulation, and the procedure were the same as in the first experiment. As dependent variables, recall of arguments was measured, as well as attitudes and cognitive responses. Participants were instructed to write down all the arguments that they remembered from the persuasive message. To decompose negative personal interests from the message position, participants were exposed to the information that the tuition increases would not be implemented in the next five years.

Results

Among the 207 participants, the data from 6 participants were not included in the analysis because they could not remember correct source status. Participants regarded the message topic as personally relevant only at a moderate level ($M = 4.10$, $SD = 1.70$). Participants' responses were analyzed using ANOVAs and t-tests.

Attitudes A 2 (argument quality; strong or weak arguments) \times 2 (source status; majority or minority) ANOVA yielded a significant main effect for message quality, $F(1, 197) = 49.39$, $p < .001$, $\eta^2 = .20$, but no significant main effect for source status, $F(1, 197) = 0.004$, $p = ns$, $\eta^2 = .00$. There was also a significant interaction effect between message quality and source status, $F(1, 197) = 5.80$, $p < .05$, $\eta^2 = .02$. The main effect for message quality indicated that participants exposed to strong arguments showed more agreement with the proposed position ($M = 4.70$) than participants exposed to weak arguments ($M = 3.30$); however, participants' attitudes were not significantly different whether they were exposed to the majority source ($M = 3.96$) or to the minority source ($M = 4.01$). Participants exposed to the majority source were more likely to have positive attitudes when they learned that the message was supported by the majority than when they learned that the message was supported by the minority.

To answer RQ1, which addressed how participants' attitudes toward tuition increases would change after they were exposed to strong *versus* weak arguments in the majority *versus* the minority source condition, an independent t-test was conducted. The results showed that participants in the majority source condition had more positive attitudes after exposure to strong arguments ($M = 4.44$, $SD = 1.53$) than after exposure to weak arguments ($M = 3.54$, $SD = 1.24$), $t(91) = 3.15$, $p < .001$, $\eta^2 = .10$. The same results were obtained in the minority source condition. Participants had more positive attitudes after exposure to strong arguments ($M = 4.90$, $SD = 1.33$) than exposure to weak arguments ($M = 3.06$, $SD = 1.42$), $t(106) = 6.97$, $p < .001$, $\eta^2 = .31$. These results implied that participants engaged in systematic processing both in the majority and the minority conditions.

Recall of arguments RQ2 asked how the number of arguments participants remembered would differ after they were exposed to strong *versus* weak arguments in the majority *versus* the minority source condition. There was a significant main effect for message quality, $F(1, 146) = 4.78$, $p < .05$, $\eta^2 = .03$, but not a significant main effect for source status, $F(1, 146) = 1.21$, $p = ns$, $\eta^2 = .00$. Participants who read strong arguments remembered more arguments ($M = 2.89$) than participants who read weak arguments ($M = 2.48$); however, there was not a significant difference in recall of arguments between the majority source condition ($M = 2.55$) and the minority source condition ($M = 2.83$). There was a significant interaction between message quality and source status, $F(1, 146) = 4.80$, $p < .05$, $\eta^2 = .03$.

An independent t-test showed that participants remembered the same number of arguments in the majority source condition whether they were exposed to strong arguments ($M = 2.55$, $SD = 1.09$) or weak arguments ($M = 2.55$, $SD = 0.83$), however, participants in the minority source condition remembered more arguments after exposure to strong arguments ($M = 3.07$, $SD = 0.87$) than after exposure to weak arguments ($M = 2.38$, $SD = 1.05$), $t(81) = 3.30$, $p < .001$, $\eta^2 = .12$.

Cognitive responses RQ 3 asked how the number of positive thoughts participants had would differ after they were exposed to strong *versus* weak arguments in the majority *versus* the minority source condition. Cognitive responses were analyzed by calculating the ratio of the number of positive thoughts to the total number of positive, negative, and neutral thoughts. There was a significant main effect for message quality, $F(1, 157) = 32.15$, $p < .001$, $\eta^2 = .17$. These results indicated that subjects exposed to strong arguments ($M = 0.31$) generated more positive thoughts than subjects exposed to weak arguments ($M = 0.05$). There was not a significant main effect for message quality, $F(1, 157) = 0.37$, $p = ns$, $\eta^2 = .00$, or a significant interaction effect between message quality and the source status, $F(1, 157) = 0.52$, $p = ns$, $\eta^2 = .00$. Participants did not differ in their cognitive responses whether they were exposed to the majority source ($M = 0.18$) or the minority source ($M = 0.19$).

An independent t-test showed that participants in the majority source condition generated more positive thoughts after exposure to strong arguments ($M = 0.30$, $SD = 0.35$) than after exposure to weak arguments ($M = 0.08$, $SD = 0.22$), $t(71) = 3.28$, $p < .001$, $\eta^2 = .13$. Similar results were found in the minority source condition. Strong arguments generated more positive thoughts ($M = 0.31$, $SD = 0.33$) than weak arguments ($M = 0.02$, $SD = 0.09$), $t(86) = 5.09$, $p < .001$, $\eta^2 = .23$.

Discussion

Research questions in Experiment 2 addressed whether expectation violation or the validation process in the presence of a minority source would generate systematic processing. Attitude measures and cognitive responses indicated that participants engaged in systematic

processing of both a majority source and a minority source; however, recall of arguments did not provide any evidence that systematic processing occurred as a result of expectation violation, the validation process, or both. As in Experiment 1, participants might have been exposed to arguments for and against tuition increases before they participated in the experiment. Thus, attitude measures were used as the sole criteria to decide the presence of systematic processing among participants. In sum, results from Experiment 2 showed that both expectation violation and the validation process were responsible for systematic processing.

It might be the case that systematic processing occurred irrespective of the source status because the increase of tuition was an important issue among college students; however, participants in Experiment 2 were told that the tuition increase would not be implemented in the next five years. As a result, participants in Experiment 2 rated the increase of tuition as only moderately important. Thus, issue relevance was not responsible for systematic processing of both a majority and a minority source. Rather, there seemed to have been more than one underlying process that generated systematic processing of a majority and a minority source. On the one hand, participants were motivated to engage in systematic processing of the majority source because their expectations were violated. On the other hand, participants whose expectations were not violated also engaged in systematic processing of the minority source to validate their positions before they disregarded the minority position.

Conclusion

The present study included two experiments designed to examine whether expectation violation or the validation process in the face of a minority source would generate systematic processing. Because of conflicting results reported on this issue, this study replicated two studies conducted by Baker and Petty (1994) and Martin and Hewstone (2003). The results indicated that both expectation violation and the validation process could generate systematic processing. Thus, individuals engage in systematic processing when they feel a need to do so, whether the need is to solve conflict created by expectation violation or to validate their positions in the face of a disagreeing minority.

Although a great deal of effort was put forth to ensure valid results, the present study is not without limitations. First, the message topic used in both experiments was familiar to college students in both experiments, which, in turn, led to a slightly foggy interpretation of recall measures and cognitive response measures. Second, the present study examined expectation violation only in the form of a majority source (the majority supports a position with which participants disagreed) but not in the form of a minority source (the minority supports a position with which participants agreed). Thus, the results from the present study provide only partial answers to the influence of expectation violation and validation process on message processing. It might be that expectation violation in the form of a minority source generates different message processing modes.

Despite these limitations, the present study has the important implication that both expectation violation and the validation process are important motivational factors that generate systematic processing. As such, the present study presents very useful communication strategies for those who try to maximize persuasive effects by using a majority status. Studies in persuasive communication and social psychology suggest that attitude change occurs as a result of mere exposure to a majority source status without much message scrutiny, particularly when the message topic was not important to participants (Eagly & Chaiken, 1993; Petty & Cacioppo, 1986). Thus, these studies imply that the focus of effective communication strategies should be to activate the consensus *heuristic*, “consensus implies correctness.” Results from the present

study, however, suggest that communicators may not obtain their desired outcomes by solely focusing on the majority status in expectation violation situations. In this situation, message quality is as important as source status.

The present study also suggests that marginalized minority groups in societies might benefit more from using strong arguments supporting their position rather than from employing emotional appeals to the public. Since people are still willing to listen to minority positions in order to validate their own positions, minority groups should make sure to be able provide strong arguments for those people; however, given the limited resources assigned to minority groups in societies, they need to make wise decisions about which strategy, emotional appeals or strong arguments, would work best.

Although the present study provides evidence that both expectation violation and the validation process generate systematic processing, further replication on this issue is necessary. In addition to replication, future research should also try to discover moderating variables that make one factor more powerful than the other in generating systematic processing. There have already been some scholarly endeavors in this respect. For example, Shuper and Sorrentino (2004) found that uncertainty orientation was an important variable that moderated systematic processing and these two motivational factors. In other words, uncertainty-oriented individuals were more likely to engage in systematic processing when a source status and a source's position were incongruent than when they were congruent. The opposite phenomenon was observed for certainty-oriented individuals. In addition to uncertainty-orientation, there are other diverse variables, such as issue relevance, source characteristics (in-group or out-group source), and cognitive complexity, that have been studied in persuasive communication but have not been fully explored in combination with majority and minority influence. Thus, the incorporation of these diverse factors into studies on source status is expected to enrich our understanding of the influence of the majority and the minority.

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