

Access to Attitude-Relevant Information in Memory as a Determinant of Persuasion: The Role of Message Attributes

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Recipients with access to attitude-relevant information in memory were thought to draw on these beliefs and prior experiences to evaluate the validity of message arguments. Consistent with this idea, persuasion for these recipients was largely a function of the perceived validity of message content: Messages containing high-quality arguments were more persuasive than messages containing low-quality arguments, whereas variations in a structural attribute of the message (its length) proved to have little impact on opinion change. In contrast, people who tend to retrieve little attitude-relevant information were believed to be less able to evaluate the validity of message arguments in terms of information accessed

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from memory. Instead, it was anticipated that they would base their opinion judgments on a more superficial analysis of persuasion cues, focusing on attributes like message length. Consistent with this reasoning, these recipients were more persuaded by long than short messages. Recipients with moderate levels of retrieval functioned much like the high-retrieval subjects. © 1985 Academic Press, Inc.

Social psychological theorizing about attitudes has tended to emphasize the importance of either internal cues (Fishbein & Ajzen, 1975) or external factors (Bem, 1972) as the basis for attitude judgments. Recent information-processing analyses have focused on the impact of both kinds of information on opinions (Chaiken & Baldwin, 1981; Eagly & Himmelfarb, 1978), and research has supported the idea that attitude-relevant internal cues as well as external factors should be considered when predicting opinion judgments (Wood, 1982).

To explore the impact of internal and external cues, previous research first assessed subjects' retrieval of attitude-relevant beliefs and prior experiences from memory (Wood, 1982). Then subjects were presented with a counterattitudinal persuasive message or were given the opportunity to derive their opinion from a recent behavioral incident. People with access to relevant internal cues apparently used these data to critically evaluate the message or the behavior and consequently the new information had little impact on their opinions. In contrast, subjects who had little access to such information appeared to rely more on currently available external cues and thus were more likely to change their opinions to be consistent with the message position or with the behavior.

The information-processing strategy used by message recipients with access to relevant information in memory can be understood in terms of a systematic or central route to persuasion (Chaiken, 1980; Petty, Cacioppo, & Goldman, 1981). According to this view, recipients actively attempt to comprehend and evaluate the arguments in the message and to assess their validity in relation to the message's conclusion. To conduct this kind of detailed analysis, recipients must be willing to exert the cognitive effort necessary to process message content. Yet it may be that, in addition to motivation, a systematic analysis requires the ability to evaluate message content in terms of one's beliefs and prior experiences (cf. Petty & Cacioppo, 1981). Given that recipients with access to relevant information can marshal the internal support necessary to critically evaluate new data (Wood, 1982), and given that the message topic is at least moderately involving so that they are motivated to use this information, they are likely to conduct a systematic analysis of the message.

Beliefs and prior experiences retrieved from memory should represent a highly valid, trustworthy source of information on which to base one's opinions. If high-retrieval recipients follow a systematic strategy, the message will be evaluated in the context of these valid internal cues.

Messages should prove persuasive only when, on the basis of this analysis, they are judged to provide a veridical perspective difficult to refute. High-quality messages supported by factual evidence are particularly likely to be judged valid and thus should be more persuasive than poor-quality messages. When recipients are engaged in detailed processing of message content, surface attributes of a message such as its length may, however, generally have little impact on perceived validity and consequently on persuasion. It is anticipated, then, that high-retrieval recipients will be relatively unaffected by variations in message length.

Recipients with access to little attitude-relevant data in memory appear to make minimal use of beliefs and prior experiences when responding to new information. A critical analysis of the validity of message arguments may prove difficult for these recipients. Consequently, their opinions are likely to be based on a relatively superficial assessment of persuasion cues. This processing strategy involves the use of general rules, or cognitive heuristics, developed by people through their past experiences and observations (Chaiken, 1980).¹ From this perspective, persuasion cues such as source attributes directly affect acceptance of the message's overall conclusion without affecting reception or evaluation of the message's content.

Although the heuristic strategy was initially explored in terms of processing source rather than message cues, more recently it was suggested that structural or surface attributes of the message may be processed in a heuristic manner (Chaiken, 1982). If, in people's experience, strong, compelling messages are, to a greater extent than weaker ones, associated with longer, more detailed arguments, people may learn a rule suggesting that length implies strength. Application of this heuristic would result in long messages being more persuasive than short ones. In support of this idea, Petty and Cacioppo (1984) recently found that subjects apparently following heuristic processing rules agreed more with messages containing nine (vs three) arguments. In contrast, variations in argument quality are often detected only with a careful assessment of the validity of message content, and thus quality should have little impact on the opinions of recipients employing a heuristic strategy.

¹Although systematic processing (Chaiken, 1980) appears similar to what Petty and Cacioppo (1981) have called the central route to persuasion, Chaiken (1982) recently argued that the heuristic strategy is not synonymous with Petty and Cacioppo's description of the peripheral route. In addition to the simple rules or cognitive schemata suggested by the heuristic model, the peripheral label refers to classical and operant conditioning models of attitude change. Since our notion of the processing strategy followed by subjects with little access to relevant information in memory closely conforms to the definition of a heuristic approach, this more specific term will be used in the remainder of the paper.

The Present Research

The ideas outlined above were tested in an experiment which manipulated message length and argument strength. It was anticipated that subjects with access to relevant information would be more persuaded by strong than weak messages but would be little affected by variations in length. Subjects with little access, in contrast, were expected to find long messages more persuasive than short ones but to be little influenced by variations in argument strength. Subjects with moderate levels of access may prove responsive to variations in both message strength and length.

METHOD

Subjects

One hundred twenty-two University of Wisconsin, Milwaukee, psychology students participated in a two-session study on attitude assessment for extra course credit. Two of these subjects participated only in the first session and thus are not included in the analyses. Subjects participated in both sessions in groups of about 12.

First Session: Procedure

Subjects completed questionnaires assessing their opinions and other responses to seven social issues, including the message topic, preservation of the environment.

Measuring Instruments

Opinions. Subjects indicated their initial opinions on the topic "preservation of the environment" on a 15-point scale with 1 anchored by "very favorable" and 15 anchored by "very unfavorable."

Belief retrieval. To determine the extent to which subjects could retrieve attitude-relevant beliefs, they were given 2 min to list on a questionnaire the characteristics and facts they believed to be true about each of several issues, including preservation of the environment (see Wood, 1982). The number of discrete beliefs each subject listed about preservation was judged by two independent raters, $r(118) = .99$.

Behavior retrieval. To assess subjects' retrieval of attitude-relevant experiences, they were given 2 min for each topic to list specific instances of times when they had engaged in relevant actions. The number of discrete behaviors each subject listed about preservation was judged by two raters, $r(118) = .94$.

Second Session: Procedure

Subjects returned 1 to 2 weeks later to complete the second session, in which they again expected to indicate their opinions in a variety of formats. The rationale, adapted from Jones and Brehm (1967), for preceding the opinion questionnaire by a persuasive message was that being exposed to someone else's opinion and the arguments he or she uses to support this opinion gets people in the "right frame of mind to be critical and careful about evaluating their own opinions" and therefore makes it possible to measure their opinions more accurately.

The experimenter distributed a handout explaining that each subject would read a transcript of an interview (actually hypothetical) that had been tape-recorded as part of an opinion survey conducted on campus. Participants in this survey, including students, faculty, and visitors had (supposedly) been asked to give an opinion on an issue and then to support that opinion with evidence. The interview topic for all subjects was preservation of the

environment, an issue that in pretesting was rated by subjects as moderately involving ($M = 9.91$ on a 15-point scale).

The experimenter then randomly distributed the four versions of the interview transcript so that each subject received one. The transcript began with an interviewer asking an interviewee (source), for some background information. The source was portrayed as a graduate student in biology. In response to the interviewer's question, he stated that "I am not very strongly in favor of preservation." His reasons for stating an antipreservation position comprised the experimental manipulations.

After reading the transcripts, subjects completed a questionnaire that assessed their opinions on a variety of social issues, including preservation. The experimenter then explained that she was interested in subjects' reactions to the interviews. Subjects completed a questionnaire that elicited their thoughts about the transcript, along with other responses (see below). Finally, subjects were debriefed and excused.

Independent Variables

Message quality. The arguments presented in the message were chosen through pretesting to present either strong or weak support for an antipreservation position. The strong arguments were supported by factual evidence derived from credible sources, such as the *Wall Street Journal*, whereas the weak arguments relied on less credible support, such as the opinions of a friend's father who was on the board of directors of an automobile company in Detroit.

The message containing strong arguments stated essentially that (a) environmental regulations inhibit economic growth, increase unemployment, and cut into capital normally used for such things as worker safety controls and worker retirement benefits; (b) given continued increases in the world's population, preserved land will be needed for farming so that the United States can supply enough grain to less developed countries; and (c) to reduce our dependence on foreign oil we need to increase reliance on native coal and shale oil. The weak message included the following three arguments: (a) future generations will not be around to appreciate the environment—the nuclear arms build up in the Soviet Union and the United States will result in a third world war which will destroy most of the life on this planet; (b) industrialists in this country do not want to preserve because environmental controls reduce the amount of money they can make; and (c) reliance on coal is necessary to solve the energy crisis, even though it would adversely affect air quality by increasing the levels of sulfur dioxide and particulates in the atmosphere.

The vocabulary level in the strong and weak messages was approximately the same and pretest ratings indicated that the message arguments were comparable in how easy they were to understand.

Message length. Two versions of each argument were developed, one long and one short, and interview transcripts were composed of three short or three long arguments. Although the long arguments were somewhat wordier and contained more detail than the short ones, both versions of each argument presented essentially the same information, and in fact were rated similarly by pretest subjects in terms of strength and ease of comprehension. The average number of words in the long arguments was 160 for strong messages and 158 for weak messages. The average number of words in the short arguments was 83 for strong messages and 71 for weak messages.

Measuring Instruments

Opinions. Subjects' final opinions concerning preservation were assessed on the same scale used to assess their initial opinions.

Cognitive responses. Subjects were given 2.5 min to list their thoughts about what the communicator said in the message. Following a modification of Chaiken's (1980) coding scheme, statements were classified by two independent coders as communicator oriented,

global message oriented, or message content oriented and further were categorized as positive, negative, or neutral. Examples of statements placed in each category, along with interrater reliability coefficients are positive communicator, $r(118) = .83$, "He seemed to know a lot about the topic;" negative communicator, $r(118) = .73$, "The guy was a jerk;" neutral communicator, $r(118) = .68$, "He must have been a student;" positive global message, $r(118) = .89$, "His ideas were OK;" negative global message, $r(118) = .80$, "His statistics were questionable;" neutral global message, $r(118) = .71$, "He talked a lot;" positive message content, $r(118) = .76$, "It is important to send grain to underdeveloped nations;" negative message content, $r(118) = .69$, "I didn't believe his claims about unemployment;" neutral message content, $r(118) = .71$, "Other people make the same point about foreign oil."

Perception of the communicator. Subjects rated the communicator on 15-point bipolar scales with positive poles being expert, well read, and knowledgeable. These ratings proved to be highly correlated, r 's(118) ranged from .60 to .75, and were averaged into an index representing source expertise.

Perception of the message. On 15-point scales, subjects rated the strength of the message arguments, how carefully the message was thought out, how convincing it was, and how fairly it evaluated the evidence. These ratings proved to be correlated, r 's(118) ranged from .52 to .72, and were combined into an index representing message validity.

Other measures. Subjects were asked to summarize each argument the communicator used to support his position, and two independent judges determined the number correctly recalled, $r(118) = .78$. Subjects were also asked to write down the overall position the communicator took in the interview. Two judges classified these responses as representing no recall, partial recall, or accurate recall, $r(118) = .77$. Six subjects (retained in the analysis) were judged to have no recall of the message position.

RESULTS

The number of beliefs each subject in Session 1 indicated concerning preservation of the environment and the number of behaviors each indicated were summed to form a retrieval index.² A three-way split was performed on this index, with cutpoints at less than 4 and greater than 6, to yield 39 low-retrieval, 41 medium-retrieval, and 40 high-retrieval subjects. Extent of Retrieval (low vs medium vs high) \times Message Strength (strong vs weak) \times Message Length (long vs short) analyses of variance were calculated, along with appropriate contrasts.

Analyses on the index of message validity (see Table 1) revealed that the message strength manipulation was appropriately perceived: Messages with strong arguments were judged considerably more valid than messages with weak ones, $F(1, 108) = 120.72$, $p < .001$. No other effects were obtained on this measure.

Analyses on the communicator expertise index (see Table 1) revealed

²When retrieval of beliefs and retrieval of behaviors were employed separately in the analyses, the behaviors variable proved to be a stronger predictor of opinion change than beliefs. Yet the relation between beliefs and opinions was in the same direction as that between behaviors and opinions. For ease of presentation, the two retrieval measures were combined into an index in the reported analyses.

TABLE 1
 MEAN SOURCE AND MESSAGE RATINGS, POSTOPINIONS, AND COGNITIVE RESPONSES AS A FUNCTION OF SUBJECTS' RETRIEVAL, MESSAGE LENGTH, AND MESSAGE QUALITY

	Low retrieval			Medium retrieval			High retrieval					
	Strong message		Weak message	Strong message		Weak message	Strong message		Weak message			
	Long message	Short message	Long message	Short message	Long message	Short message	Long message	Short message				
Perceived message validity	10.61	10.42	6.84	5.95	10.81	11.06	5.30	5.53	11.05	9.50	6.34	5.17
Perceived source expertise	10.73	10.74	8.29	8.36	11.63	10.88	8.26	7.97	11.67	10.08	9.13	6.30
Adjusted post-opinions	4.92	3.59	5.86	4.21	4.65	4.08	3.46	3.63	4.01	3.95	2.93	2.76
Global message oriented thoughts	1.17	1.70	1.99	1.68	1.28	1.11	0.97	1.23	1.60	1.33	0.84	1.79
Message content-oriented thoughts	0.81	1.30	0.64	0.93	0.99	0.77	1.25	1.06	1.85	1.26	1.73	1.37

Note. Higher numbers represent perception of message as more valid, perception of source as more expert, less favorability toward preservation of the environment, and more thoughts. Cell *n*'s range from 8 to 14.

that the communicator was considered more expert when delivering a strong than weak message, $F(1, 108) = 45.82, p < .001$. In addition, the communicator was rated more expert when his message was long rather than short, $F(1, 108) = 3.79, p = .05$. No other effects were obtained on this measure.

Opinions

Analysis of covariance was conducted on the postopinions, with preopinions as the covariate. A test for homogeneity of the covariate regression coefficients indicated that they did not differ across experimental conditions. Analyses of variance indicated that the preopinions did not vary across conditions, and that preopinions ($M = 2.18$) differed significantly from postopinions ($M = 4.21$), $F(1, 119) = 93.90, p < .001$.

Opinion means, which are the postopinion scores adjusted on the basis of the analysis of covariance, appear in Table 1. Consistent with prior work (Wood, 1982), the main effect for retrieval was significant, $F(2, 107) = 3.87, p < .05$, indicating that subjects with higher access to attitude-relevant information showed less opinion change, $F(1, 107) = 9.37, p < .01$ for linear trend.

Variations in message strength were expected to affect the opinion change of high- but not low-retrieval recipients. Consistent with this hypothesis, the interaction between message strength and retrieval was marginally significant, $F(2, 107) = 2.78, p < .07$. The linear component of this interaction was significant, $F(1, 107) = 5.63, p < .05$. Further, planned comparisons revealed that, as anticipated, strong messages were significantly more persuasive than weak ones for high-retrieval recipients, $F(1, 107) = 3.94, p < .05$, whereas message strength had less effect on the opinion change of medium-retrieval recipients, $F(1, 107) = 2.06, p < .16$. Low-retrieval recipients revealed a nonsignificant tendency to be more influenced by weak than strong messages, $F(1, 107) = 1.85, n.s.$

Variations in message strength, in contrast, were expected to affect low- but not high-retrieval subjects. Although the predicted interaction between message length and retrieval was not significant, $F(2, 107) = 1.84, p < .17$, the linear component of the interaction was marginally significant, $F(1, 107) = 2.85, p < .10$. Further, planned comparisons revealed that long messages were more persuasive than short ones for low-retrieval recipients, $F(1, 107) = 6.73, p < .05$, but not for medium- or high-retrieval recipients (F 's < 1).

Cognitive Responses

Analyses were conducted on each type of thought emitted by subjects, as well as several derived scores: global message, message content, and

communicator thoughts. For brevity, only the analyses on the derived scores will be presented.³

High-retrieval recipients' focus on message content and low-retrieval recipients' focus on structural attributes of the message should be apparent in the cognitive responses they produced. These responses were subjected to an Extent of Retrieval (high vs medium vs low) \times Message Strength (strong vs weak) \times Message Length (long vs short) \times Type of Thought (global message vs message content vs communicator oriented) analysis of variance with repeated measures on the last factor (see Table 1).⁴ A main effect for type of thought, $F(2, 216) = 3.50, p < .05$, indicated that subjects listed more global message and communicator oriented thoughts than message content thoughts (p 's $< .05$). Also, a main effect for retrieval, $F(2, 108) = 4.70, p < .01$, indicated that high-retrieval recipients listed more thoughts than medium- or low-retrieval ones (p 's $< .001$), and medium- and low-retrieval subjects did not differ. As anticipated, an interaction between retrieval and type of thought, $F(4, 216) = 2.35, p < .06$, revealed that higher retrieval recipients indicated more message content thoughts than lower retrieval recipients, $F(1, 216) = 3.98, p < .05$, for linear trend. Further, low-retrieval recipients tended to list more global message thoughts than medium-retrieval subjects, $F(1, 216) = 4.10, p < .05$, and somewhat more than high-retrieval ones, $F(1, 216) = 3.47, p < .10$. No differences were obtained between the retrieval groups on the number of communicator oriented thoughts.

Comprehension and Recall of Message Position

High-retrieval subjects recalled slightly more message arguments than medium- or low-retrieval subjects (M 's = 2.73, 2.59, and 2.49, respectively),

³In addition, analyses were conducted on the evaluative quality of subjects' thoughts. An Extent of Retrieval (high vs medium vs low) \times Message Strength (strong vs weak) \times Message Length (long vs short) \times Evaluative Thoughts (positive vs negative vs neutral) analysis of variance was calculated with repeated measures on the last factor. A main effect for type of thought, $F(2, 216) = 141.88, p < .001$, indicated that subjects tended to list more negative thoughts ($M = 3.24$) than neutral ($M = .54$) or positive ($M = .58$) ones (p 's $< .001$). A main effect for retrieval, $F(2, 108) = 4.59, p < .05$, indicated that high-retrieval recipients ($M = 4.43$) listed more thoughts than medium ($M = 3.45$) or low ($M = 3.90$) retrieval ones (p 's $< .001$). Also, an interaction between type of thought and argument strength, $F(2, 216) = 23.36, p < .001$, indicated that strong messages elicited more favorable thoughts ($M = 1.05$) and fewer counterarguments ($M = 2.57$) than weak messages (M 's = .10 and 3.92, for favorable thoughts and counterarguments, respectively, p 's $< .001$). Neutral thoughts were unaffected by strength. In addition, an interaction between type of thought and retrieval, $F(4, 216) = 3.28, p < .05$, indicated that high-retrieval recipients provided more negative thoughts ($M = 3.39$) than medium ($M = 2.45$) or low ($M = 2.59$) retrieval recipients (p 's $< .01$). Further, no differences were obtained between the retrieval groups on neutral or positive thoughts (F 's < 1.02).

⁴The analysis was initially calculated with preopinions as a covariate. Since the covariate did not account for a significant proportion of the variance (F 's < 1), it was dropped from the analysis.

$F(1, 108) = 2.76, p < .11$, for linear trend. No effects were obtained in the analysis on recall of the advocated position.

Correlational Analyses

Analyses were conducted to explore the relation between opinion change and possible mediators of change, including the source and message ratings, message comprehension, and cognitive responses. Partial correlations were calculated between opinions and each of these mediators, adjusted for the experimental variations. A perception of the message as high quality tended to enhance change, $r(111) = .27, p < .05$. More importantly, for high-retrieval subjects, a large number of positive message content thoughts tended to enhance opinion change, $r(35) = .28, p < .10$. Unexpectedly, for medium-retrieval subjects, positive communicator oriented thoughts tended to enhance persuasion, $r(36) = .22, p < .20$. For low-retrieval recipients, positive global message thoughts enhanced opinion change, $r(34) = .27, p < .15$, and negative global message thoughts tended to slightly attenuate change, $r(34) = -.19, p < .25$. No other correlations approached significance.⁵

DISCUSSION

The results of this experiment were consistent with our hypotheses. First, it is important to note that in this study, as well as in prior work (Wood, 1982), recipients with higher levels of access to attitude-relevant information in memory tended to change their opinions less than recipients with little access. This finding is consistent with the idea that recipients with higher levels of retrieval relied to a greater extent on internal data when deciding what opinion to state, whereas lower retrieval recipients relied more on external data when forming attitude judgments.

Consistent with a systematic or central route to persuasion (Chaiken, 1980; Petty & Cacioppo, 1981), high-retrieval recipients were expected to predicate their opinion change on the quality of message content. Access to internal cues was expected to enable recipients to critically evaluate the validity of message arguments in terms of beliefs and prior experiences. Further, given that pretesting demonstrated the message topic was moderately involving, high-retrieval subjects should have been relatively motivated to conduct this kind of detailed analysis. Indeed, they tended to find messages with strong arguments more persuasive than messages with weak ones, yet did not find long messages more persuasive than short ones. That high-retrieval recipients focused on message content is further indicated by the fact that they recalled slightly

⁵Simple effects tests comparing, for high- vs low-retrieval recipients, the magnitude of the correlations between opinion change and positive message content thoughts, positive global message thoughts, and negative global message thoughts yielded no significant results.

more message arguments than lower retrieval subjects, and they generated more message content thoughts and fewer global message thoughts. Correlational analyses substantiated the idea that high-retrieval subjects' positive reactions to the message arguments were instrumental in their adopting the advocated position.

In contrast, low-retrieval recipients' relative lack of access to internal data was believed to impair their ability to conclusively evaluate the validity of message content. Low-retrieval subjects were expected to employ a more heuristic strategy (Chaiken, 1980), basing their opinions on a relatively superficial assessment of persuasion cues. Consistent with this idea, these recipients tended to find long messages more persuasive than short ones, yet were unaffected by variations in message quality. Low-retrieval recipients' cognitive responses indicated that they focused more on the structural features of the message and less on message content than higher retrieval subjects. Further, correlational analyses suggested that opinion change tended to be enhanced to the extent that low-retrieval subjects generated positive global reactions to the message and tended to be slightly impaired to the extent they generated negative global reactions.

Moderate-retrieval recipients apparently relied, to some extent, on their evaluations of the validity of message content, and thus their opinion change was most similar to that of high-retrieval subjects. They were slightly more persuaded by strong than weak messages yet were unaffected by variations in message length. Further, they generated somewhat fewer global message oriented thoughts and more message content thoughts than low-retrieval subjects.

It is important to note that, although the manipulations of message length did not affect high- or medium-retrieval recipients' opinions, these subjects were sensitive to variations in noncontent cues, as indicated by the fact that the communicator delivering a long message was perceived as more expert than one delivering a short message. The fact that persuasion cues other than argument quality affected these recipients' perceptions is consistent with the assumption that people do not engage exclusively in heuristic or systematic processing, but rather these two modes of analysis can proceed in parallel (Chaiken, 1982). Careful analysis of the semantic content of the message, however, appeared to provide information contradicting simple heuristics based on message length, and thus this variable had little impact on persuasion.

In a similar manner, low-retrieval recipients were not totally insensitive to the manipulation of argument quality. Although the strength cue had little effect on their opinions, manipulation checks revealed that they rated the message more valid, and the communicator who delivered it more expert, when the message was high rather than low quality. Low-retrieval recipients also generated more favorable thoughts and fewer

counterarguments to strong than weak messages. The effects of message quality on these recipients' responses can be explained if we assume that evaluations of quality sometimes reflect little more than minimal information processing. Message strength was manipulated, in part, by whether the arguments were supported by statistical evidence and whether they were derived from credible sources. Low-retrieval recipients could thus evaluate strength by noting relatively superficial attributes of the arguments rather than conducting an elaborate assessment of the arguments' intrinsic validity. However, it appears that judgments of message validity based on argument strength were somewhat inconclusive, or at least were made with less confidence than judgments of validity derived from message length, since strength had no impact on low-retrieval recipients' opinion change. It is interesting to note that the same pattern of results was obtained in prior work which used a similar manipulation of message quality (Petty, Cacioppo, & Goldman, 1981). In this previous experiment, recipients apparently employing simple decision rules perceived messages with strong (vs weak) arguments to be of higher quality yet did not find them more persuasive.

Interpretation of the Retrieval-Persuasion Relationship

We have argued that recipients with high (vs low) access to attitude-relevant information tend to have more stable opinions because they can draw on their own topic-relevant beliefs and prior experiences while evaluating new data. The possibility must be considered, however, that retrieval's effects on persuasion stem from some general motivational state or other individual difference variable. To test this idea, an analysis was conducted predicting opinion change on preservation from accessibility on another topic, psychological research. Similar to prior work (Wood, 1982), this analysis yielded no significant effects, suggesting that the accessibility measures tap a topic-specific attribute.

Given the positive relation obtained in pretesting between retrieval and subjects' ratings of involvement, $r(46) = .51, p < .001$, it is also important to consider whether the observed effects of retrieval on persuasion are due to involvement in the attitude topic. From an information-processing perspective, global factors such as involvement are causally remote predictors of persuasion, and their effects are best understood in terms of their influence on recipients' message processing. Although traditional conceptualizations suggest an inverse relation between involvement and persuasion (e.g., Sheriff & Hovland, 1961), more recent work indicates that involvement increases issue-relevant thinking and thus may enhance opinion change when the message contains high-quality arguments (Petty & Cacioppo, 1979). Involvement's effect on opinion change thus may depend on information-processing mediators such as subjects' extent of thought and, potentially, degree of access to relevant information.

In the present experiment, any relation between involvement and opinion change can plausibly be understood in terms of involvement's effects on cognitive mediators such as retrieval. Since involvement has been found to relate to opinions in a manner similar to retrieval (Wood, 1982), it may serve to enhance access to relevant data in memory and lessen reliance on external cues. Indeed, research on personality attributes has suggested involvement enhances processing of self-relevant data (Markus, Crane, Bernstein, & Siladi, 1982). From this perspective, global factors such as involvement are causally remote predictors of opinions, and the more immediate information-processing determinant of persuasion, access to attitude-relevant information, was measured directly in the present research.

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