

The Effects of a Salient Self-Schema on the Evaluation of Proattitudinal Editorials: Top-Down Versus Bottom-Up Message Processing

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The effects of a salient self-schema on message evaluation were studied. Subjects were identified who characterized themselves using trait adjectives that reflected the prototype of either a "religious" or a "legalistic" person. Equally persuasive sets of proattitudinal messages were developed empirically using weak arguments. Half of the messages were developed to reflect a "religious" perspective on the issue (capital punishment, abortion) whereas half were developed to reflect a "legalistic" perspective on the issue. Religious and legalistic subjects were then exposed to religious or legalistic arguments supporting an equally acceptable position (e.g., eliminating capital punishment). Afterward, subjects evaluated the persuasiveness of the communication and listed their thoughts as part of a "curriculum development project." Results suggested that subjects when exposed to a schema-relevant message arguments for a position in which

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they believed were more positive about the quality of the message arguments and in their cognitive responding. These data extend the heuristic value of self-schemata to the area of attitudes and suggest that cognitive responses in persuasion are subjectively rather than objectively rational.

Recipients of persuasive communications have at their disposal vast quantities of internal and external information. One method of selecting and processing the available data is to adopt various cognitive schemata for ascribing meaning to and discerning implications of these data (Neisser, 1976). One level of cognitive schemata that has been found to be particularly powerful in guiding information processing is the level representing the organization of the idiomatic data constituting the "self" (Cacioppo & Petty, 1981a; Markus, 1977; Rogers, 1977; Rogers, Kuiper, & Kirker, 1977; see Greenwald, 1980). The mnemonic benefits derived from the activation of a self-schema, for example, suggest that external information heeded by a person is more likely to come into contact with long-term memorial pools when the individual's self-schema is activated than when it is not (e.g., Rogers et al., 1977; see Taylor & Crocker, 1981 for a recent review). Applying this logic to the study of persuasion suggests the following: if somewhat novel, but easily understandable, message arguments are presented to a person, then a ceiling effect for message comprehension might obtain; however, evidence that these externally provided message arguments have come into greater contact with organized associative processes when a self-schema is activated than when it is not might nevertheless be observable in the profile of idiosyncratic cognitive responses the person generates when exposed to the persuasive communication. Since our interest in the present study was to examine the effects of self-schemata on the elaboration rather than comprehension of the externally provided persuasive arguments, brief, easily comprehensible message arguments were employed.

Assumptions

There are several assumptions in the present investigation that should be stated explicitly. The first assumption is that a high level of message comprehension might be achieved while leaving some latitude for the enhancement or diminution of cognitive response processes. Direct evidence for this assumption is available in the research on distraction and persuasion (see Petty & Brock, 1981, for a review of the last 17 years of experimentation on distraction and persuasion). Briefly, at moderate, in contrast to low, levels of distraction during a persuasive communication, people display predictably distinctive levels of message elaboration while also exhibiting equivalent levels of message comprehension and retention. For instance, Petty, Wells, and Brock (1976) reported that: (a) when subjects were exposed under low, in contrast to moderate,

levels of distraction, to weak arguments for the recommendation that student tuition be raised, subjects achieved equivalent levels of message recall, but produced more unfavorable thoughts and resistance to persuasion; and (b) when subjects were exposed to strong arguments for the recommendation under low, in contrast to moderate, levels of distraction, these individuals again achieved equivalent levels of message recall, but generated more favorable thoughts and exhibited more susceptibility to persuasion. Of course, at high levels of distraction, message comprehension as well as message elaboration tend to be sacrificed, and the strong influence of people's idiosyncratic thoughts about the recommendation on their susceptibility or resistance to the recommendation is undermined (e.g., Romer, 1979). This suggests the reasonable view that cognitive responses in persuasion are *a* rather than *the* determinant of attitude change (cf. Petty, Cacioppo, & Goldman, 1981). In sum, the research on distraction and persuasion provides support for our first assumption by illustrating that: (a) variations in the extent to which people respond idiosyncratically to a persuasive communication can be found, and these variations can exert strong influences on persuasion, when message comprehension is equally high across experimental conditions; and (b) determining factors, such as external distraction or cognitive schemata, that alter the extent or nature of cognitive response processes in persuasion can advance, within a limited domain, our understanding of attitudes and persuasion (see Petty & Cacioppo, 1981).

A second assumption revolves around the activation of the self-schema. We found in pilot testing that there was minimal overlap between the trait adjectives people used to describe the prototypes of "religious" and "legalistic" persons. Using trait adjectives, we then identified individuals who characterized themselves as reflecting the prototype of *either* a religious *or* a legalistic person. Counterarguable message arguments supporting one of two proattitudinal recommendations were also developed. Half of the messages were written to reflect a "religious" perspective on the issue (capital punishment or abortion), whereas half were designed to reflect a "legalistic" perspective on the issue. It was assumed that the self-schema of legalistic subjects would more likely be activated, or be invoked more completely, when exposed to the legalistic, in contrast to religious, message arguments, whereas the self-schema of religious subjects would more likely be activated when exposed to the religious, in contrast to the legalistic, message arguments. Indirect evidence for this assumption is available from the now several programs of research showing that cognitive schemata can be activated differentially by varying the relevance to a schema of the external information to which subjects are exposed (e.g., see recent reviews by Cantor & Mischel, 1979; Wyer & Carlston, 1979).

Message Processing under the Guidance of a Self-Schema

The notion that the relative activation of a self-schema during exposure to a persuasive communication enhances the likelihood that the externally presented message arguments are related to long-term memorial structures and pools of items, coupled with the preceding pair of assumptions, leads directly to the expectation of the following interaction: Subjects possessing a religious self-schema should produce more idiosyncratic responses pertaining to the topic of the persuasive communication when this communication reflects a religious than when it reflects a legalistic perspective on the recommendation, whereas subjects possessing a legalistic self-schema should produce more cognitive responses pertinent to the topic when the persuasive communication reflects a legalistic than when it reflects a religious viewpoint. To assess the number of cognitive responses pertinent to the topic without including items that are mere restatements of the externally provided message arguments, an adaptation of Greenwald's (1968) procedure for content analyzing the *origin* of cognitive responses was employed (see Cacioppo & Petty, 1981b).

Two additional, mutually exclusive influences of self-schemata on message processing seemed likely in the present investigation. First, recipients, who by their exposure to schema-reflective messages (e.g., legalistic recipients reading legalistic arguments for a recommendation) have access to more associative information pertaining to the topic of the recommendation, might be better able to think about the objective basis of the externally provided message arguments and determine the cogency of the arguments. The motivational effects of the activated self-schema, if present, would presumably operate to raise the likelihood that the recipient would think objectively about, and veridically evaluate, the persuasive message. This type of schematic processing has been referred to as "bottom-up" (see Bobrow & Norman, 1975), since the processing of external information is viewed as impartial and data-driven. Thus, the bottom-up model of schematic processing yields a view of recipients as rational, intuitive scientists, where activation of a self-schema increases the individuals' ability and, perhaps, their motivation to veridically evaluate a persuasive communication.

An alternative model of schematic processing is referred to as "top-down" (Bobrow & Norman, 1975). According to this model, recipients' message processing may be biased systematically by an activated self-schema. There is now a large body of literature that indicates cognitive schemata can bias the processing of external data, typically in a manner that contributes to the perseverance of the guiding schema (e.g., Mahoney, 1977; Ross, Lepper, & Hubbard, 1975; see Craik, 1979). For instance, a study of the schematic influence of attitudes on information processing led Lord, Ross, and Lepper (1979) to conclude:

Instead of viewing people as impartial, data-driven processors, the present research suggests our models must take into account the ways in which intuitive scientists assess the relevance, reliability, representativeness, and implications of any given sample of data or behavior within the framework of the hypotheses or implicit theories they bring to the situation (p. 2108).

It seems possible, therefore, that recipients' salient self-schema may invoke top-down rather than bottom-up message processing. That is, the recipients' self-schema may not only serve to organize information in long-term memory, but it may also serve as a subjective theory that biases the assimilation of the message arguments in such a manner that the schema is maintained or strengthened. Thus, when a persuasive message is written to reflect a perspective on an issue congruent with, rather than irrelevant to, the recipients' self-schema, the activation of the self-schema may guide a filling-in, or strengthening, of the arguments presented, thereby leading to the perception of the message being more persuasive. In sum, top-down processing suggests that recipients act *subjectively* rather than objectively rational when responding cognitively to and evaluating a persuasive communication.

The persuasive communications employed in the present study were constituted by weak, counterarguable message arguments to create the conditions necessary for a crucial test between the bottom-up and top-down models of schematic influence on cognitive responses to and evaluations of proattitudinal editorial messages. Strong arguments were not employed since both models yield identical predictions: A schema-reflective message should be evaluated more favorably than a schema-unreflective message. Thus, using strong message arguments does not contribute to a crucial test between the competing formulations of top-down and bottom-up processing (see Stinchcombe, 1968). The use of weak message arguments *does* allow a crucial test to be constructed: (a) According to the bottom-up model, a schema-reflective, in contrast to a schema-unreflective, message should be evaluated *less* favorably because objective processing, and the consequent discernment of the poor quality of the externally provided message arguments, is enhanced, whereas (b) according to the top-down model, a schema-reflective, in contrast to a schema-unreflective, message should be evaluated *more* favorably because of the augmentation (e.g., favorable thought production) that is inclined.

There are undoubtedly limiting conditions to this test, since there are data supporting the operation of both top-down and bottom-up processing in various contexts (cf. Bobrow & Norman, 1975). One possible limiting factor that we should note at the outset is the polarity of the editorial recommendation. In the present study, editorial recommendations were *proattitudinal* to subjects. We selected to use proattitudinal rather than

counterattitudinal recommendations to avoid pitting the schematic forces operating to maintain a self-schema against those operating to maintain an initial attitude. Moreover, the recommendations were selected to be equally proattitudinal to legalistic and religious subjects. Thus, since their initial attitudes were equated, the schematic biasing attributable to their attitudes per se (Lord et al., 1979) were not a contributing factor in between-group comparisons. A variety of ancillary features of the self-schemata and messages used in the present study were designed to minimize other potentially masking influences on message processing and evaluation. For instance, as noted previously, the messages were developed using somewhat unique but easily comprehensible arguments for the recommendations. The arguments constituting the religious and legalistic messages were also equated for their persuasiveness in preliminary testing. Finally, (a) the extent to which subjects classified as legalistic characterized themselves using adjectives reflecting the prototype of a legalistic person was balanced with the extent to which subjects classified as religious characterized themselves using adjectives reflecting the prototype of a religious person; and (b) the extent to which subjects classified as legalistic characterized themselves using adjectives reflecting the prototype of a religious person was balanced with the extent to which subjects classified as religious characterized themselves using adjectives reflecting the prototype of a legalistic person. Thus, the present study provides a test of the existence and nature of the influence of self-schemata on message processing, but it does not provide any hint of the pervasiveness or strength of this influence in persuasion generally.

METHOD

Session 1

Subjects. Sixty-three introductory psychology students from the University of Notre Dame received extra course credit for participating in a study on "curriculum development." Subjects believed that they were to participate in two independent studies rather than in two sessions of a single experiment. Subjects were told that the first study involved the development of student selection procedures for a "Congressional Issues Seminar" that would begin the following semester, and that the second study concerned the development of the curriculum for the Congressional Issues Seminar.

Selection of schema-related adjectives. Two hundred forty trait-adjectives were chosen from Anderson's (1968) 555 personality trait words. The 240 adjectives were selected by the experimenters as those that would be most likely to be used by people to distinguish a legalistic from a religious person. This list of 240 adjectives then served as the pool of items employed in pilot work.

The pilot testing consisted of having 35 introductory psychology students rate the 240 adjectives as to their relevance for describing two types of people: a religious person and a legalistic person. The order of presentation of the adjectives and rating of relevance were randomly determined across subjects.

Three measures were considered in our selection of adjectives: (a) Anderson's (1968) ratings of likeableness; (b) mean ratings of relevance obtained in the pilot study; and (c) mean discriminant scores, which we calculated by subtracting the relevance rating of each

word for describing a legalistic person from the relevance rating for describing a religious person. A list of 15 adjectives was chosen to identify a legalistic person, and another list of 15 was chosen to identify a religious person. The adjectives were selected to maximize the discriminant scores given that, by *t*-tests, there were no differences between the lists in the above three measures (e.g., mean discriminant scores within each list were approximately equal, etc.). For instance, "honest" was rated as characterizing a religious person, whereas "shrewd" was rated as characterizing a legalistic person.

Six additional adjectives were selected as control items. Three were rated as highly and equally relevant for describing religious and legalistic people (e.g., intelligent), whereas three were rated as equally irrelevant for describing religious and legalistic people (e.g., cautious). These adjectives were included to assess if differences in response latencies existed between the groups of subjects later identified as possessing a religious or legalistic self-schema. Three more adjectives were selected randomly to be used as practice items.

Each of the 39 adjectives thereby selected was prepared on a 2 × 2-in. slide. A forward and a reverse order of the 36 test adjectives were prepared for presentation to subjects in Session 1. The three practice adjectives, of course, always preceded the test adjectives.

Apparatus. A carousel slide projector was modified to allow the experimenter to control the presentation of slides from a remote site while obtaining a digital readout in milliseconds of the subjects' response latencies (i.e., slide onset to subject's response). A panel housing a button labeled "me" and another labeled "not me" was interfaced to the apparatus and placed on a table in front of the subject. The labels were interchangeable to allow counterbalancing across subjects. Subjects responded to the presentation of an adjective by pressing one of the two buttons.

Procedure. Subjects, who were tested individually, were told that they were participating in a study concerned with developing a method of selecting outstanding students from a variety of academic disciplines to participate in an interdisciplinary seminar on congressional issues. Subjects first completed a brief questionnaire containing filler items and initial attitude measures about Congress and congressional issues (e.g., implementing capital punishment, legalizing marijuana, legalizing abortion, instituting a National Health Plan, etc.). Subjects' initial attitudes toward a variety of issues were thereby obtained. Afterward, the procedure to identify subjects who had either a strong religious or a strong legalistic self-schema was initiated.

Subjects were told simply that we wanted to relate how people described themselves with the other data being collected in this session. The panel housing the push buttons was placed before the subject. The subject was told to keep the middle and index fingers of the dominant hand on the buttons at all times, and to respond as quickly as possible when a word was presented on the screen by pressing the "me" or "not me" button. The "me" button should be pressed, subjects were told, if the word was self-descriptive, whereas the "not me" button should be pressed if the word was not self-descriptive.

During the testing phase of the session, the experimenter prompted the subject before each slide by asking, "Are you ready?" Following each response, the subject's decision (me or not me) and response latency (in milliseconds) were recorded. The average interslide interval was about 10 sec.

Session 2

Selection of subjects, topics, and message arguments. Markus (1977) classified subjects on the basis of their self-ratings regarding their independence/dependence and subsequently treated reaction times for endorsing independent/dependent trait adjectives as a dependent measure. She found that people who described themselves as independent responded "me" faster to trait adjectives associated with independence than those associated with dependence (they also endorsed more of the former), whereas people who described themselves as dependent responded "me" faster to trait adjectives associated with dependence than

those associated with independence (they, too, endorsed more of the former). To increase the reliability of our classification procedure, we combined our judgmental and chronometric measures to form an index of self-schema. Since reaction times (RT) typically form skewed distributions, each subject's distribution of reaction times was divided into five segments (quintiles). The fastest quintile was assigned a value of 5, the next fastest a value of 4, and so on. Faster reaction times were given higher weights because, following the report of Markus (1977), faster RTs are likely to indicate increased certainty on the part of the subjects about their "me"/"not me" judgments. "Me" responses were given a value of +1, whereas "not me" responses were given a value of -1. For each subject, the sum of the 15 legalistic adjective responses, so computed, was subtracted from the 15 religious adjective responses. The 20 subjects with the highest scores were classified as having a religious self-schema. Another 20 with the most negative scores on this index were classified as having a legalistic self-schema. The remaining 23 subjects were classified as aschematics and were eliminated from our final analysis (cf. Markus, 1977). Although the initial pool, following classification, contained 20 religious and 20 legalistic subjects, one subject who failed to return for Session 2 brought the number of religious and legalistic subjects tested to 20 and 19, respectively.¹

Statistical tests were also performed to determine the initial attitudes of those subjects who had been classified as religious or legalistic. Recall that these subjects had expressed their attitudes toward recommendations to implement capital punishment and to governmental support of abortion. Subjects expressed their attitudes toward each recommendation using a 6-point scale where 1 was labeled "highly opposed" and 6 was labeled "highly favorable." The tests revealed that both religious ($M = 2.70$) and legalistic ($M = 3.05$) students at the University of Notre Dame were opposed to governmental support of abortion and that these students did not significantly differ in this initial attitude ($F < 1$). Similarly, both religious ($M = 3.25$) and legalistic ($M = 3.84$) students were opposed to the government reinstating capital punishment and, again, they did not significantly differ in this initial attitude ($F < 1$). Hence, these topics were selected for use in the second session.

¹ The present classification procedure yielded results that are generally comparable with what would be expected given Markus' (1977) separate treatment of judgmental and chronometric data. The number of endorsed schematic adjectives (religious, legalistic), for each group, was also analyzed. As expected, those classified as religious in their self-schemata endorsed more religious adjectives ($M = 12.55$) than legalistic adjectives ($M = 8.10$), whereas those classified as legalistic in their self-schemata endorsed more legalistic adjectives ($M = 12.32$) than religious adjectives ($M = 9.21$). Aschematics endorsed slightly more religious adjectives ($M = 11.60$) than legalistic adjectives ($M = 10.65$). The established differences among the groups on the religious adjectives was shown to be statistically significant, $F(2, 56) = 18.36$, $p < .001$, as were the differences among the groups on the legalistic adjectives, $F(2, 56) = 18.54$, $p < .001$. Newman-Keuls comparisons of the religious and legalistic groups revealed a reliable difference between the two groups on the number of endorsed adjectives of each kind (p 's $< .05$).

For the control adjectives, the groups did not differ in the number of endorsements.

Finally, analysis of response latencies indicated that subjects who had been classified as religious tended to respond more quickly to religious ($M = 222.8$ msec) than to legalistic ($M = 238.5$) adjectives (n.s.); subjects classified as legalistic responded more quickly to legalistic ($M = 200.0$ msec) than to religious ($M = 210.6$ msec) adjectives, $F(2, 60) = 7.52$, $p < .005$; and subjects classified as aschematic responded similarly to legalistic ($M = 208.0$ msec) and religious ($M = 205.4$ msec) adjectives, $F < 1$. Responding "me" vs "not me" does not appear to account for these differences, since subjects responded to the descriptive ($M = 202.8$ msec) control adjectives similarly. Hence, these results in general replicate Markus (1977).

Also prior to Session 2, lists of 30 arguments each were prepared on two topics, abortion and capital punishment. Each list contained 10 religious, 10 legalistic, and 10 aschematic arguments on the topic. Aschematic arguments were defined as those which were neither religious nor legalistic in their appeal. Pilot testing employing 12 students enrolled in a research course followed and involved presenting the two lists, in random orders, to the students, who rated each argument twice. Ratings were obtained of the persuasiveness (1 = very unpersuasive, 7 = very persuasive) of and the religious/legalistic perspective (1 = religious, 4 = neutral, 7 = legalistic) reflected in each argument. All arguments were rated along one dimension at a time, and the order of ratings was counterbalanced across subjects.

Five religious, five legalistic, and three aschematic arguments were selected for each topic. Selected were arguments whose mean persuasiveness ratings were equal (as determined by *t*-tests) across the three sets of arguments for each topic, and whose mean religious/legalistic ratings indicated that religious and legalistic arguments differed from one another but were equally extreme. Two messages were then constructed for each topic using these arguments.

The message began with the statement that (fictitious) Democratic Representative Martin C. Garnet, Jr., recently issued a statement from the congressional Subcommittee on Abortion (capital punishment). Representative Garnet, subjects were told, had corresponded a great deal with committee members, found the committee to be split deeply on this issue, and noted that the committee was hesitant to issue a final recommendation at this time. Representative Garnet then went on to present examples of the arguments members had against governmental support of abortion (reinstating capital punishment).

At this point, subjects were exposed to the specific (proattitudinal) message arguments developed for this research. Religious messages were constructed using the five religious and three aschematic arguments, whereas the legalistic messages were constructed using the five legalistic and three aschematic arguments. Examples of legalistic arguments are: "The right to life is one that is constitutionally safeguarded" and "It is a right that has always been considered unalienable." Examples of religious arguments are: "The command to 'do unto others as you would have them do unto you' prohibits the taking of any life" and "There is a sacramental quality to the nature of life that demands that we show the utmost reverence for it."²

Procedure. Subjects were tested approximately a month following Session 1 in a language laboratory constructed so that no two subjects could have visual or auditory contact. In any one session, both religious and legalistic subjects participated and both religious and legalistic messages were presented.

Subjects were reminded that the psychology department was cooperating with the university administration to develop a curriculum for a Congressional Issues Seminar. The session, it was explained to subjects, was designed to examine various modalities for conveying class material. Subjects then donned headphones and listened to one of the four taped messages that had been prepared. That is, subjects heard a message on either abortion or capital punishment with message arguments reflecting either a religious or legalistic perspective on the issue.

Dependent variables. Immediately after listening to the message, subjects responded to six questions about the presentation using 6-point scales. The third item, which was the critical measure, stated "I found the message" and was followed by a 7-point scale where 1 was labeled "very persuasive" and 7 was labeled "nonpersuasive." (Before analysis, all scales were transformed so that the higher the number, the more of an attribute, e.g., increased persuasiveness.) The other items to which subjects responded dealt with the acceptability of presenting class materials over headphones in a language laboratory, the

² Messages are available on request.

ease they had in thinking about the topic, the ease in making judgments about the issue, the personal importance of the issue to them, and the articulateness of the speaker.

Next, a listing of "everything about which you thought during the presentation" was obtained (see Cacioppo, Harkins, & Petty, 1981, for a discussion of the thought-listing procedure).

Finally, recognition tests were prepared for each topic using the three aschematic arguments, three of the five legalistic arguments, and three of the five religious arguments. A comparable set of nine arguments, three religious, three legalistic, and three aschematic, was randomly selected from the original pool of 30 arguments, exclusive of those selected for use in the messages, and was included in the recognition test. Thus, the recognition test for each topic consisted of 18 arguments, six of which the subjects had actually heard.

Subjects were instructed to rate whether or not they had heard each of the 18 arguments constituting the recognition test. Subjects provided the ratings on 7-point unipolar scales, where 1 indicated "definitely heard" and 7 indicated "definitely not heard." Afterward, subjects were questioned about suspicions, debriefed, thanked, and dismissed. No subject expressed anything near the true experimental hypotheses.

Following data collection, two judges who were blind to the experimental hypotheses and conditions scored the thought listings. Counted as topic-specific thoughts were statements that made reference to the specific topic, recommendation, or message arguments in contrast to comments about the source or context. Statements that represented a recitation of externally provided message arguments were not counted.

Judges rescored these data along the polarity dimension. Counted as unfavorable thoughts were statements directed against the advocated position that mentioned specific unfavorable consequences, statements of alternative positions, challenges to the validity of the arguments in the message, and statements of affect opposing the recommendation. Counted as favorable thoughts were statements in favor of the advocated position that mentioned specific favorable consequences, statements ruling out alternatives, statements that supported the validity of the message arguments, and statements of affect supporting the recommendation. All other listed items were counted as neutral/irrelevant thoughts. Similar items were counted as one.

Judges agreed on over 90% of the ratings, and disagreements over ratings were resolved through discussion.

RESULTS AND DISCUSSION

Preliminary Analyses

A 2 (self-schema) \times 2 (message perspective) \times 2 (topic) analysis of variance indicated that the topic produced no significant main effects or any interactions on the major dependent measure. Graphic displays of the data and analyses of ancillary measures, however, suggested that the obtained effects were more apparent on the topic of capital punishment than on abortion, possibly because the invariant position of the University of Notre Dame and the Catholic Church on the latter issue provided a restrictive influence.

The analyses of the recognition test indicated that subjects were adept at distinguishing between the message arguments to which they had been exposed. Whether or not the arguments represented a perspective reflective of their self-schema was not an important influence (F 's $<$ 1). Hence, a high level of message comprehension was achieved across the experimental conditions.

Tests of Hypotheses

Table 1 contains the means for the dependent measures. The first test supported expectations that neither the recipient's self-schema nor the perspective reflected by the message arguments *alone* altered topic-specific thinking but, rather, that these factors in combination did: Recipients tended to generate more topic-specific thoughts when the message perspective was reflective than when it was unreflective of their self-schema, $F(1, 31) = 4.43, p < .04$. Follow-up tests of the simple main effects revealed two marginal effects: an effect of self-schema for legalistic messages, $F(1, 31) = 3.21, p < .10$, and an effect of message perspective for subjects with a legalistic self-schema, $F(1, 31) = 2.85, p < .10$. No other test approached significance. This finding is consistent with the notion that a relevant self-schema yields access to a greater store of topic-relevant information in memory. Importantly, no significant effects were obtained in analyses of the total number of thoughts listed. This suggests that the greater number of topic-specific thoughts generated when exposed to schema-reflective, in contrast to schema-unreflective, arguments is due to the influence of the activated self-schema on message elaboration rather than on message attention and comprehension.

The next set of analyses provided the test between the top-down and bottom-up models. Neither the message perspective nor the self-schema main effect was significant, but the interaction predicted by the top-down model was significant, $F(1, 31) = 4.72, p < .04$: Religious subjects judged the religious messages to be particularly persuasive, whereas legalistic subjects maintained the opposite opinion about the messages (see Table 1). Simple main effects tests revealed that the effect of self-schema for

TABLE 1
EFFECTS OF RECIPIENTS' SELF-SCHEMATA AND MESSAGE PERSPECTIVE ON MESSAGE PROCESSING

Dependent measure	Legalistic recipients		Religious recipients	
	Legalistic messages	Religious messages	Legalistic messages	Religious messages
Persuasiveness of message	4.38	2.36	3.44	3.73
Topic-specific thoughts	4.75	3.11	3.27	3.82
Favorable thoughts	1.38	0.82	0.67	1.73
Unfavorable thoughts	0.25	1.09	0.67	0.64
Neutral thoughts	4.50	3.27	3.89	3.00
Ease in thinking about issue	5.00	4.73	4.22	4.55
Ease in judging issue	4.37	3.18	3.22	4.18
Personal importance of issue	4.75	3.91	4.33	4.91
Articulateness of the speaker	5.00	3.27	4.00	4.55
Acceptability of the teaching method	4.37	3.18	4.22	3.91

religious messages approached significance, $F(1, 31) = 3.89, p < .10$, whereas the effect of message perspective for legalistic subjects attained significance, $F(1, 31) = 7.13, p < .05$. No other test approached significance.

Analyses also provided tentative support for the operation of augmentation predicted by the top-down model. Recipients tended to generate more favorable thoughts when exposed to a persuasive message that was constituted by schema-reflective arguments, $F(1, 31) = 2.92, p < .10$ (see Table 1). Simple main effects tests indicated that this effect was significant for religious subjects, $F(1, 31) = 4.84, p < .05$, whereas it was not statistically significant for legalistic subjects. Although tests for unfavorable thought production were not significant, the pattern of results was the complement of that found for favorable thought production (see Table 1). Interestingly, and unexpectedly, the predominance of favorable or unfavorable thoughts to the weak message arguments appeared to be influenced by the combined factors of self-schema and message perspective. Inspection of Table 1 suggests that the number of favorable thoughts actually exceeded the number of unfavorable thoughts generated when the externally provided message arguments reflected the recipient's self-schema.

Ancillary Analyses

ANOVAs of the ancillary measures, which were included to heighten the plausibility of the cover story, revealed two effects. First, the speaker was rated as being more articulate when he delivered message arguments that were reflective of the recipients' self-schemata, $F(1, 31) = 9.56, p < .01$ (see Table 1 for the presentation of the cell means). Simple main effects tests yielded one significant finding: The effect of message perspective was strong for legalistic subjects, $F(1, 31) = 4.85, p < .05$. In addition, the effect of self-schema for religious messages approached significance, $F(1, 31) = 3.13, p < .10$. Consistent with the top-down model and the results above, this pattern indicates that subjects thought more positively of the source and message when the speaker was employing a perspective reflecting their self-schematization. Subjects also reported that it was easier to judge, $F(1, 31) = 6.18, p < .02$, but no easier to think about ($F < 1$), the issue when there was a congruence between their self-schemata and the perspective reflected by the message arguments. No other test on these measures (including simple main effects tests) was significant.

Less interestingly, presenting the materials over headphones in a language laboratory was rated as being a less acceptable method for conveying the materials in the seminar when subjects heard the religious ($M = 3.55$) than when they heard the legalistic ($M = 4.29$) message arguments, $F(1, 31) = 6.25, p < .03$. Presumably, subjects felt that

TABLE 2
WITHIN-CELL CORRELATIONS BETWEEN COGNITIVE RESPONSES AND THE JUDGED
PERSUASIVENESS OF THE MESSAGE

Cognitive response measure	Legalistic recipients		Religious recipients	
	Legalistic messages	Religious messages	Legalistic messages	Religious messages
Favorable thoughts	+.69*	+.59*	+.70**	+.69**
Unfavorable thoughts	-.39	-.58*	-.32	-.01
Neutral thoughts	-.26	-.07	-.16	.00
Topic-specific thoughts	+.32	+.26	-.27	+.37

* $p \leq .10$.

** $p < .05$.

religious arguments were better presented in some other context (e.g., church). No other effect or interaction approached significance on this or any other measure.

Within-cell correlations were calculated between the ratings of message persuasiveness and the cognitive response data. The results are depicted in Table 2. Inspection of the table highlights the strong positive covariation between favorable thought production and rated message persuasiveness and, to a lesser extent, the negative covariation between unfavorable thought production and rated message persuasiveness.

These data would seem to indicate the viability of the present methodology as well as tentative support for two conclusions: (a) a recipient's salient self-schema can influence the cognitive responses to and evaluations of a persuasive communication, and (b) the self-schema influences cognitive responses and message evaluation in a top-down rather than bottom-up fashion. An intriguing implication of this study, therefore, is that more extensive message elaboration does not necessarily portend more objective or discerning responses to and evaluations of the externally provided message arguments.³

³ One final note of caution is probably warranted. Our support for the top-down over the bottom-up model rests on the assumption that the message arguments employed were proattitudinal, but "weak" rather than "strong." Therefore, it is always possible to argue that if the arguments employed had been weaker, support for the bottom-up model might have emerged. Since the persuasiveness of the arguments employed in the present study clearly was rated below the midpoint on a 7-point scale by the subjects exposed to them (Table 1), we suspect that the top-down model applies to the great majority of proattitudinal arguments that people would typically encounter. Nevertheless, the present study does not rule out the possibility that if the arguments encountered were ridiculous, people might show greater derogation if they were schema-relevant rather than irrelevant.

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