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ASSOCIATIVE LEARNING THEORY AND DECAY OF
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THE OHIO STATE UNIVERSITY, PH.D., 1978
ASSOCIATIVE LEARNING THEORY AND
DECAY OF PERSUASION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Michael Harry Baumgardner, B.S., M.A.

* * * * *

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1978

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to my father Merrill
and my son Jason
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CHAPTER I
INTRODUCTION

Ideally, opinions should reflect a consideration of all available information. Well-informed opinions are important in many situations — for example, opinions can guide purchasing decisions and voting choices. The mass media transmit a great amount of opinion-relevant information on various issues through the presentation of persuasive messages. However, the sheer volume of transmitted information makes complete information retention difficult, if not impossible. If total information retention places too heavy a demand on memory, how do recipients take message information into account in subsequent opinion-relevant situations?

A message recipient may select any of a number of information processing strategies for dealing with persuasive message information (cf. Greenwald, in press). One such strategy, which can overcome the information overload problem, is to (a) evaluate a message's implications for a particular issue and (b). retain only the results of that evaluation for later retrieval. The stored evaluation permits persisting influence of message information on opinion without requiring retention of the specific information on which the evaluation was based. The goal of this dissertation is to present an associative learning analysis of persuasion that assumes that message recipients process persuasive information in
Evaluative Response Analysis:
An Associative Learning Interpretation
of Persistence of Persuasion

The persuasive communication setting resembles a paired-associate learning task. In paired-associate learning, a stimulus item is paired with a response item and a subject's task is to learn this pairing so as to be able to retrieve the correct response when later presented with the stimulus alone. The present analysis assumes that exposure to persuasive information on some topic (stimulus) leads recipients to evaluate the topic of persuasion (response). Persistence of persuasion may then depend on the ability of the recipient to retrieve the earlier evaluative response in subsequent opinion-relevant situations. In the remainder of this dissertation, this conceptualization will be referred to as evaluative response analysis.
The Role of Learning in Persuasion

Most applications of general learning principles to the area of attitudes have been concerned with attitude acquisition. Leonard Doob (1947) defined attitude as a learned, implicit anticipatory response to an object — an unobservable response that occurs prior to, or without, any overt response. Attitude learning theorists have more generally accepted a definition of attitude stressing the evaluative component of this implicit response (Osgood, Suci, and Tannenbaum, 1957). Many have argued that such implicit evaluative responses can become associated with attitude objects through classical conditioning (cf. Staats, 1967, 1968, 1969; Staats & Staats, 1957, 1958; Zanna, Kiesler, & Pilkonis, 1970) or instrumental conditioning (cf. Hildum & Brown, 1956; Insko, 1965; Scott, 1957; Weiss, 1968; Lott & Lott, 1968). However, in the area of communication-induced persuasion, some attitude learning theorists have chosen instead to view attitude change and its persistence as a process of verbal associative learning (cf. Hovland, Janis, & Kelley, 1953; Greenwald, 1968). The evaluative response analysis differs from such previous analyses in specifying that the critical associative learning necessary for persistence of persuasion involves the topic of persuasion and an evaluative response based on communication information. Earlier analyses have focused on other types of associative learning that may occur in persuasion settings. These are now reviewed.
Message Content Learning

One form of associative learning involves the association of message facts and arguments with the topic of a persuasive communication. A number of theorists have endorsed the idea that retention of actual communication content, learned at the time of initial persuasion, mediates persistence of persuasion (e.g., Hovland et al., 1953; Miller & Campbell, 1959; Watts & McGuire, 1964; Cook & Wadsworth, 1972), although others have concluded that the evidence is weak (cf. Greenwald, 1968; Insko, 1967; McGuire, 1968; Petty, 1977). A number of studies have provided relevant data. For example, Anderson and Hubert (1963) had subjects evaluate people described by a set of adjectives. They found a primacy effect for evaluations but a recency effect for recall of the adjectives. Hovland and Weiss (1951) found that high and low source credibility conditions differed in the percentage of subjects whose attitude changed from immediate to delayed posttests, but did not differ in the delayed recognition of message details. Papageorgis (1963) and Watts and McGuire (1964) have found that opinion change and message retention follow different time trends (although both tend to decay over time). In a now classic study, Miller and Campbell (1959) proposed a model of order effects based on the assumption that communication impact decays according to the negatively accelerating curve of Ebbinghaus (1913). They confirmed several predictions concerning the relative superiority of the first or second of two opposing communications as a function of the time interval between the two messages and between the messages and opinion posttest. While retention of message arguments followed a pattern similar to opinion, the average within-group correlation between
opinion and retention was \(-.10\) (ns) indicating that time may affect opinion and retention independently. In a conceptual replication, Insko (1964) found similar results. Other investigators have found only weak positive correlations between opinion and retention of message arguments among subjects tested at the same posttest interval (cf. Watts & McGuire, 1964; Wilson & Miller, 1968; Greenwald, 1968; Petty, 1977).

In general, studies directly comparing a measure of message retention with opinion change have been unsuccessful in relating opinion change and message retention in any simple manner. However, other methodological strategies have been used in determining the importance of associative learning involving message arguments. In relevant studies, Johnson and Watkins (1971) found that repeating an argument five times (to increase retention of message arguments) facilitated persistence of persuasion. Wilson and Miller (1968) and Ronis, Baumgardner, Leippe, Cacioppo, and Greenwald (1977) also found message repetition to enhance persistence of persuasion. In another related study, Greenwald (1968) presented 6 pro and 6 con arguments on an issue concerning foreign aid. Some subjects were asked to underline and rehearse either the 6 pro or the 6 con arguments. While subjects recalled more of the underlined arguments, they did not differ in opinion either immediately or after a week, suggesting that greater learning of arguments did not facilitate persistence of persuasion.
Message-Cue Learning

A message acceptance cue leads recipients to accept the information presented in a persuasive communication. Alternatively, a message rejection cue leads recipients to discount message information. For example, a high credibility message source serves as an acceptance cue while a low credibility source serves as a rejection cue.

The dissociative cue hypothesis (Hovland, Lumsdaine, and Sheffield, 1949) stresses the importance of associative learning involving message cues for delayed persuasion effects. According to this hypothesis, recipients form associations between messages and cues to accept or reject message information. As these cues are forgotten over time, a message from a high credibility source will become less persuasive, while a message from a source low in credibility will become more persuasive (a sleeper effect).

A sleeper effect, as defined above, has been difficult to demonstrate, although the proper experimental conditions for a strong test are difficult to establish (cf. Cook and Flay, 1978). Nonetheless, there is some evidence that the retention of message acceptance cues is important for persistence of persuasion. Kelman and Hovland (1953) assessed attitude change both immediately and three weeks after reading a persuasive message. Source credibility (high vs. low) and whether or not the source of the communication was reinstated at the time of delayed posttest were varied. Greater persistence of persuasion for a high credibility source was found when the source was reinstated. Weber (1972) varied the degree of learning of the source of a communication by mentioning the source either two or 22 times during or after reading a persuasive message.
Attitude was assessed immediately after the message and either three or seven weeks later. Weber (1972) found less decay of persuasive impact for a high credibility source when the source was mentioned 22 times. Watts and McGuire (1964) found that subjects who were able to remember a high credibility source at the time of delayed posttest showed more persistence than subjects who could not recall the source. Thus, the ability to recall a message acceptance cue (a high credibility message source) at the time of opinion posttest is related to persistence of persuasion.

Message Conclusion Learning

Another form of associative learning in persuasion involves associating a message conclusion with the communication topic. A few studies have examined the role of retention of message conclusions in persistence of persuasion. When a message conclusion was reinstated to subjects several days after they had read the message, Cook and Insko (1968) found complete persistence of persuasion. Cook and Wadsworth (1972) found better persistence when a conclusion was repeated seven times at the time of original persuasion, but only when subjects were sent a postcard telling them that a high percentage of their peers had found the message convincing. After reinstating the topic of persuasion, Watts and McGuire (1964) found greater persistence for subjects who could remember the conclusion of a message.

Additional evidence for the importance of associative learning
involving message conclusions comes from a study by Baumgardner, Leippe, Ronis, and Greenwald (Note 1). Baumgardner et al. used two sets of persuasive communications -- messages on policy issues (e.g., "Should fluorides be put in public water supplies?") and messages evaluating fictitious brands of common consumer products. Baumgardner et al. found that decay of persuasive impact for consumer-products messages followed a time course isomorphic with memory for message conclusions and that correlations between opinion and memory for message conclusions were high (ranging from .57 to .68) for this set of messages at delayed posttests. This pattern was not replicated for the policy-issues messages, possible due to a lack of decay of persuasion for these messages -- that is, substantial opinion change-message conclusion memory correlations could not be obtained due to the limited variability in these two measures.

Cognitive Response Learning

Reading a persuasive communication can lead to self-generated, attitude‐relevant cognitions about an issue. The content of these cognitive responses may mediate attitude change (cf. Greenwald, 1968; Petty, Brock, & Ostrom, in press). The association of cognitive responses with the topic of a persuasive communication is another form of associative learning in persuasion. This section reviews studies that have examined the role of retention of cognitive responses in persistence of persuasion.

Some investigators have reported within‐cell correlations between
cognitive responses and a delayed measure of opinion (Calder, Insko, & Yandell, 1974; Insko, Lind, and LaTour, 1976). However, only two studies were located in which a subject's ability to recall cognitive response content was correlated with a delayed opinion measure. Love and Greenwald (cited in Greenwald, 1968) found a significant relationship between retention of "cognitive reaction content" and opinion at delayed posttest, but not between retention of communication content and opinion. Similarly, Petty (1977) found that the ability to recall cognitive responses elicited at the time of message presentation was related to attitudes one week later, but the ability to recall message arguments was not. In addition, Petty (1977) also reported a study in which rehearsal of cognitive responses led to complete persistence of persuasion while rehearsal of message arguments led to total decay.

Summary and Conclusions

Several theorists have viewed communication-induced persuasion and its persistence as a process of associative learning. However, there is little consensus as to the nature of the associative learning necessary for persistence of persuasion. The evaluative response analysis specifies that the critical associative learning involves an association between the topic of persuasion and an evaluative response to communication information. Since complete retention of opinion-relevant information often places a heavy demand on memory, recipients may conserve the memory resource by retaining only an evaluative response to the information;
later retrieval of the evaluative response in opinion-relevant situations thus permits message information to have a persisting effect on opinion without requiring retention of the full information on which the evaluation was based.

The preceding subsections have reviewed evidence concerning the role of various other forms of associative learning in persistence of persuasion, including the learning of message content, message-cues, message conclusions, and cognitive responses. Associative learning involving evaluative responses can be closely related to other forms of associative learning. Thus, it often becomes difficult to determine the actual associative learning that mediates persistence of persuasion. For example, message repetition enhances persistence, but message repetition should lead to greater associative learning of evaluative responses as well as message content. The ability to recall a message acceptance cue (a high credibility message source) at the time of opinion posttest has been shown to be related to persistence of persuasion. However, Cook (1969) has shown that exposure to a high credibility source leads subjects to process message information to a lesser extent than when no source information is provided. In terms of the evaluative response analysis, an evaluative response may thus be based in large part on the information that the source is credible (in conjunction with the position advocated in the message). Learning source information may therefore be partially confounded with the learning of a closely related evaluative response. A message conclusion may also be strongly correlated with an evaluative response. A message conclusion is an evaluative summary of communication content. In terms of the evaluative response analysis, if
a recipient considers the conclusion valid, an implicit evaluative response may be identical to the explicit message conclusion. Thus, better learning of message conclusions should produce stronger associations between topics and evaluative responses if conclusions are considered valid. In support of this interpretation, Cook and Wadsworth (1972) found repetition of message conclusions to facilitate persistence only when recipients believed others found the message convincing — the social support manipulation probably served to increase the perceived validity of the message. In addition, Baumgardner et al. (Note 1) found substantial correlations between memory for message conclusions and opinion for a set of consumer-products messages. Subjects in that study were instructed to treat the message conclusions as valid. Finally, cognitive responses and evaluative responses may be strongly correlated. It is the evaluative content of cognitive responses that has been shown to be related to persistence of persuasion (cf. Greenwald, 1968) — that is, the number of favorable minus the number of unfavorable thoughts recalled at opinion posttest correlates well with opinion change. Thus, it may be difficult for experimental tests to distinguish between the evaluative content of cognitive responses and evaluative responses. The cognitive response analysis differs from the evaluative response analysis only in specifying that the retention of the non-evaluative components of a cognitive response is also important for persistence of persuasion.
Preview of Experiments

The evaluative response analysis assumes that the sheer volume of persuasive information transmitted in day to day living leads message recipients to employ a particular information processing strategy for dealing with opinion-relevant information. This processing strategy involves the retention of an evaluative response based on communication information. Thus, the evaluative response analysis should be most applicable in those settings where a large amount of opinion-relevant information is presented. A series of four experiments, to be reported in the remainder of this dissertation, were conducted within such a setting. These experiments, representing applications of associative learning principles to persistence of persuasion, examined the utility of the evaluative response analysis for predicting relative persistence of persuasion effects for various treatments.
CHAPTER II.
OVERVIEW OF
EXPERIMENTAL PROCEDURES

The series of experiments to be reported in this dissertation were conducted using a computer-based procedure described below. These procedures are also described in some detail by Ronis et al. (1977) and by Baumgardner et al. (Note 1).

General Description of the Computer-Based Procedure

The equipment used for the research included (a) a minicomputer, (b) a mass storage device for libraries of communications and dependent measures, (c) four video display monitors located at satellite subject stations, (d) response keyboards on which the subject at each station could provide numerical responses or other information to the computer, and (e) an experimenter's console used to initiate and monitor operation of the experiment.

After arriving for an experiment, a subject was seated at a chair in one of four subject stations (about 2 m. square). Instructions were presented over the video display monitor after minimal orienting comments by the experimenter. Up to four subjects, who could be in the same or different experiments, participated at any one time. Most of the computer's work during the experiment consisted of rapidly locating text materials (instructions, messages, or measures), displaying it on the subject's monitor, or recording subjects' responses. Subjects proceeded at a self-paced rate through an experiment.
Independent Variable of Measurement Delay

The experimental procedure consisted of a sequence of instructions, persuasive messages, and dependent measures presented over the video monitor. Opinion measurement delay intervals were defined in terms of "units" of delay between a persuasive message and opinion measure on any given topic. Reading a persuasive message or responding to an opinion measure served equivalently as one unit of delay. Delay intervals were thus manipulated in terms of units of activity rather than in fixed time units. Figure 1 provides an example. The average temporal value of one unit of delay was approximately 25 seconds (with some variation depending on the nature of the persuasive materials and the individual reading speed of a subject.

Counterbalancing and Replication

Within a given replication of an experiment, the assignment of conditions to various positions in the experimental sequence was randomized to as great a degree as possible. However, because of certain constraints (e.g., a treatment (message) could only be assigned to a particular position in the experimental sequence if the appropriate position for its associated dependent (opinion) measure was unoccupied), the actual assignment process became somewhat arbitrary. The computer implemented a counterbalancing procedure that assured that each topic appeared at each sequential position once in a group of $n$ subjects, where $n$ was the total number of topics used. Various replication strategies, discussed in conjunction with the individual experiments, were employed to reduce the confounding of treatments with sequential positions.
<table>
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<th>Measurement Delay Condition</th>
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<tr>
<td>1</td>
<td>Message - Topic 1 3 units</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Message - Topic 2 0 units</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Opinion - Topic 2 0 units</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Message - Topic 3 4 units</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Opinion - Topic 1 3 units</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Message - Topic 4 1 unit</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Message - Topic 5 2 units</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Opinion - Topic 4 1 unit</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Opinion - Topic 3 4 units</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Opinion - Topic 5 2 units</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Example of Sequence of Events Defining Measurement Delays of 0, 1, 2, 3, and 4 Units from Presentation of Persuasive Messages. Subjects Proceed through Series of Display Pages at Self-Paced Rate.
Data Analysis

The subject, topic, and treatment variables comprised a latin square design in each experiment. For reported $F$ tests to be unbiased, it must be assumed that there are no interaction effects among these three variables (the validity of this assumption cannot be assessed from the obtained data). The analysis of variance for the repeated measures designs were performed using the multivariate approach (Poor, 1973). This approach does not require the assumption of homogeneity of treatment-difference variances. However, most hypotheses were formulated as single-degree-of-freedom contrasts and tested by univariate $F$ tests. Thus, a multilevel factor such as measurement delay would be partitioned into orthogonal polynomial components (e.g., linear trend). (See Ronis et al. (1977) for a more detailed description of methods employed in data analyses.)
CHAPTER III

STIMULUS GENERALIZATION AND DECAY OF
PERSUASIVE IMPACT (EXPERIMENT ONE)

Similarity, generalization, and their interrelationship are important concepts in theories of associative learning. If a subject learns a response to a particular stimulus, there will be a tendency to make that same response to other similar stimuli. This tendency can facilitate retrieval of correct responses when similar stimuli require the same response, but inhibit retrieval when they require different responses.

These learning principles have some potential implications for persuasion effects in settings involving a large number of communication topics. In terms of the evaluative response analysis, if a subject learns a response to a topic through reading a persuasive communication, that response should generalize to other similar topics. If messages on other similar topics are designed to produce that same response, then response retrieval should be facilitated and persistence of persuasion should be greater. However, if other similar topics require different responses, then response retrieval should be inhibited and decay of persuasive impact more rapid. Experiment One examined this question.

Topics of persuasion were fictitious brands of various consumer products developed by Baumgardner et al. (Note 1). Brands within a particular product category were assumed to be more similar to each other than
to brands of other products because they share the same product category (e.g., a WILSON television set is more similar to a MILLER television set than to MILLER cereal). Thus, responses to particular brands should generalize highly to other brands within the same product category. If responses to brands within a particular product category vary, stimulus generalization should lead to rapid decay of persuasive impact. However, if responses to brands within a particular product category are similar, then stimulus generalization should facilitate persistence of persuasion within that product category.

Baumgardner et al. (Note 1) provide some data bearing on the present hypothesis. In two of their experiments, they presented clusters of messages involving brands of the same product class or of different product classes. Messages were designed to produce a variety of evaluative responses. For data collected early in the experiment, persuasive impact decayed more rapidly when brands were of the same product class, suggesting stimulus generalization led to greater difficulty in retrieving evaluative responses.
Method

Subjects

Subjects were 48 introductory psychology students at Ohio State University who participated in partial fulfillment of a course requirement.

Procedure

Persuasive materials. Twelve product categories were available for the present study (selected from recent issues of Consumer Reports by Baumgardner et al. (Note 1)): automobiles, television sets, cereals, furniture polish, electronic calculators, portable electric heaters, electric fans, movie cameras, 10-speed bikes, screwdrivers, house paints, and portable radios. Eighteen persuasive arguments were available for each product category: one favorable, one neutral, and one unfavorable towards an unnamed brand on each of six product-specific attributes. A persuasive message was formed by linking a fictitious brand name (drawn from a list (United States Social Security Administration, 1964) of the 72 most common 6-character American surnames (e.g. Wilson, Miller, etc.)) with one argument. Table 1 provides three examples.
Table 1

Three examples of consumer-products messages and a rating response scale used in Experiments One and Four.

Positive Message: Wilson Automobiles

The noise level inside a car depends on many things including the shape of the car, the quality of the suspension and the exhaust system, and, of course, the speed and the smoothness of the road. These noises affect more than comfort; a noisy car contributes to driver fatigue and ability to notice or respond to unsafe conditions.

Wilson automobiles are excellent in quietness. This contributes substantially to comfort and safety.

Average Message: Miller Televisions

Good fringe reception is a necessity for viewers located at any appreciable distance from the transmitter. Without good fringe reception, a television set's picture may become jittery and flecked with snow. It may fade in and out, and the audio may be plagued with unwanted interfering noises.

Miller television sets have average fringe reception on both the VHF and UHF bands.

Negative Message: Parker Movie Cameras

In evaluating a movie camera's convenience, one should test different brands of cameras by handling them as if one were actually making a movie. One should pay special attention to the weight and feel of the camera and to any distractions in using its controls. It should be easy to make movies without fighting the equipment.

Parker movie cameras are poor in ease of handling and convenience of use.

Rating Response Scale:

HOW WOULD YOU RATE MILLER TELEVISIONS?

---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
POOR : BELOW : AVERAGE : ABOVE : EXCELLENT
     : AVERAGE : AVERAGE :
Instructions. The key portions of the instructions given to subjects at the outset of the experiment (a) described the experiment as concerned with responses to short messages of the type often encountered in the mass media; (b) informed subjects that they would receive information about fictitious brands of consumer products; (c) advised subjects to consider any product information they received to be valid; (d) advised that opinion responses would be recorded anonymously; (e) explained how to practice using the keyboard for entering responses; and (f) encouraged subjects to locate the experimenter if procedures were unclear.

Dependent measure. Subjects responded to 15-point rating response scales. An example is provided in Table 1.

Design

Subjects encountered nine brands of each of six products (a total of 54 brands). For three of the six products, subjects received an equal mixture of positive, negative, and average messages. For the remaining three products, subjects encountered either all positive, all negative, or all neutral messages.

Two groups of 24 subjects formed treatment-sequence replications: a different assignment of treatments to sequential positions within the session was employed for each group as a protection against effects that might arise from a particular ordering of conditions. The 54 brands encountered by a subject defined a $2 \times 3 \times 3 \times 3$ factorial design in which the factors were intraproduct response similarity: (high or low), message type: (positive, average, or negative), opinion measurement delay: (0, 6, or 12 units), and block: (1, 2, or 3 -- the design of the preceding
three factors was replicated separately within three sequential blocks of the experiment).

**Results**

The results of Experiment One are presented in Figure 2. The results were as follows:

1. **Persuasive impact.** The average opinion response over all measurement delay intervals was 11.62 for positive messages, 7.88 for average messages, and 3.98 for negative messages ($F(2,45) = 225.07, p < .001$).

2. **Measurement delay.** A comparison of immediate posttest with 12-unit delay conditions (linear contrast for measurement delay) revealed reliable decay of persuasive impact for both positive ($F(1,46) = 48.78, p < .001$) and negative ($F(1,46) = 61.77, p < .001$) messages. These individual delay functions also contained significant quadratic components ($F(1,46) = 10.03, p = .003$) for positive messages; ($F(1,46) = 23.90, p < .001$) for negative messages).

3. **Intraproduct response similarity.** The critical hypothesis test was for the presence of an intraproduct response similarity (high vs. low) x linear measurement delay (0 vs. 12 units delay) x linear message type (positive vs. negative message) interaction. As predicted, there was more rapid decay with low intraproduct response similarity ($F(1,46) = 7.15, p = .010$). (All other components of the overall three-way interaction ($F(4,43) = 5.55, p < .001$) were nonsignificant.) The difference in persuasive impact for high and low intraproduct response similarity at the longest delay interval (12 units) was .94 for positive messages ($F(1,46) = 6.61, p = .006$) and .76 for negative messages ($F(1,46) = 3.37$, ...
Figure 2. Results of Experiment One.
p=.036) (both one-tailed tests).

4. **Block.** The predicted effect for intraproduct response similarity (see above) was qualified by a higher order interaction with block ($F(2,45) = 5.16, p=.010$). While the predicted effect was in the proper direction within all three blocks (i.e., more rapid decay with low intraproduct response similarity), it was stronger in Block 2 than in Blocks 1 and 3 ($F(1,46) = 8.91, p=.005$) for interaction with quadratic component of block).

5. **Treatment-sequence.** A multivariate test for interactions of within-subjects effects with the treatment-sequence factor revealed no effect for the assignment of treatments to sequential positions within the experimental session ($F(30,17) = 1.13, p=.408$).

**Discussion**

The results of Experiment One were as predicted from an evaluative response analysis of persistence of persuasion. Decay of persuasive impact in the present setting appears to be a function of learned evaluative responses generalizing to other similar stimuli. However, stimulus generalization can facilitate persistence of persuasion if similar topics require the same response. The successful application of this paired-associate learning principle to the present persuasion setting is encouraging regarding the potential utility of the evaluative response analysis.
The results of Experiment One also have some potential implications for the analysis of persistence of persuasion in non-laboratory settings. Consider an advertiser who wishes potential purchasers to learn a favorable response to a particular brand. One advertising strategy would be to contrast it with an inferior brand; alternatively, it might be compared with another favorable brand (presumably one not readily available to the audience). The present associative learning analysis suggests the latter strategy should facilitate association of a favorable evaluation with the target brand while the former strategy should inhibit that learning.
CHAPTER IV
POLICY ISSUES AND THE
evaluative response analysis of
persistence of persuasion (Experiment Two)

In addition to the set of consumer-product messages used in Experiment One, Baumgardner et al. (Note 1) developed a set of policy-issues messages. Policy issues are concerned with potential alternative courses of action. They can be stated as questions with the verb auxiliary "should" (e.g., "Should fluorides be put in public water supplies?"). From a large initial pool of policy issues, Baumgardner et al. used various judgments by pilot subjects to select a final subset of 20 policy issues that had good potential for substantial initial persuasive impact and maintenance of subjects' interest. Compared with the homogeneous consumer-products brands, the policy-issues topics comprise a diverse set of topics that may be characterized by relatively low potential for mutual associative interference (i.e., a set of dissimilar topics that have low potential for stimulus generalization of learned evaluative responses). Baumgardner et al. felt this "low level of mutual interference" could account for the complete persistence of persuasion found for the policy-issues messages, a position consistent with the evaluative response analysis.

However, before reaching conclusions about the effects of these topic set characteristics on persistence of persuasion, it is necessary to rule
out another source of differences between persuasive materials -- the persuasive messages themselves. The consumer-products and the policy-issues messages used by Baumgardner et al. differ in several respects. First, for the policy-issues messages, particular messages are clearly relevant only to a specific topic while, for the consumer-products messages, particular messages could be paired with a number of different topics (brands). Thus, the consumer-products materials more closely resemble paired-associate learning materials in that arbitrary stimulus-response pairings can be presented. Second, the consumer-products messages state directly an evaluative conclusion concerning a brand that subjects can consider valid; the policy-issues messages advocate a specific policy alternative by presenting reasoned arguments that subjects judge for themselves.

Experiment Two examined whether such message differences might be responsible for differences in persistence of persuasion. Specifically, the policy-issues materials were modified so as to resemble more closely typical paired-associate learning materials by using persuasive messages that simply stated one-word conclusions (e.g., "yes"). Subjects were encouraged to consider these conclusions valid by informing them that they were based on sound, logical arguments that were not actually presented. Decay of persuasive impact for the modified policy-issues materials would indicate that message (as opposed to topic set) differences were at least partly responsible for differences in persistence of persuasion reported by Baumgardner et al.. Persistence of persuasion would help validate the Baumgardner et al. analysis of differences in topic set characteristics (i.e., degree of homogeneity or similarity of topics
within a set) as a mediator of differences in persistence of persuasive impact.

Method

Subjects

Subjects were 48 introductory psychology students at Ohio State University who participated in partial fulfillment of a course requirement.

Procedure

Persuasive materials. Baumgardner et al. (Note 1) used a variety of selection criteria in obtaining a set of 20 policy issues. A set of 48 policy issues, available from an intermediate stage of their selection procedure, were used in Experiment Two. (The additional 28 issues differed from the original set of 20 in that they did not meet the criterion that pilot subjects show relatively high opinion change after writing arguments on one of the policy alternatives of an issue (self-persuasion criterion).) This larger set of issues was used to increase the amount of data obtained from each subject through employment of internal replications (thus reducing the total number of subjects required in the experiment). A persuasive message was formed by linking a policy issue with one of three message conclusions ("yes", "uncertain", or "no"). Table 2 provides three examples.
Table 2

Three examples of policy-issues messages and an opinion response scale used in Experiments Two and Three.

"Yes" Message Conclusion:

**TOPIC:** SHOULD THE U.S. STOP TRADE WITH COUNTRIES THAT PERMIT THE SLAUGHTER OF ENDANGERED SPECIES?

**MESSAGE CONCLUSION:** "YES"

"Uncertain" Message Conclusion:

**TOPIC:** SHOULD CHILD-PROOF SAFETY CAPS BE REQUIRED ON ALL MEDICINE CONTAINERS?

**MESSAGE CONCLUSION:** "UNCERTAIN"

"No" Message Conclusion:

**TOPIC:** SHOULD CONSUMERS BOYCOTT CEREALS CONTAINING CHEMICAL ADDITIVES?

**MESSAGE CONCLUSION:** "NO"

**OPINION RESPONSE SCALE:**

SHOULD CHILD-PROOF SAFETY CAPS BE REQUIRED ON ALL MEDICINE CONTAINERS?

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Instructions. The key portions of the instructions given to subjects (a) described the experiment as concerned with responses to short messages of the type often encountered in the mass media; (b) informed subjects that they would encounter short statements that expressed conclusions about various issues; (c) advised subjects that detailed, logical arguments had been written to support these conclusions, but that time did not permit presenting the actual arguments; (d) provided a sample topic with a "traditional" persuasive message as an example of the messages that conclusions were based on; (e) explained how to practice using the keyboard for entering responses; (f) advised that opinion responses would be recorded anonymously; and (g) encouraged subjects to locate the experimenter if procedures were unclear. Additional instructions presented at the conclusion of the experiment (a) acknowledged that detailed, logical arguments were also available to support other conclusions about the issues and (b) as an example, presented a persuasive message that supported a different conclusion concerning the sample topic encountered in the earlier instructions. These additional instructions were provided so as not to leave subjects with the impression that the experimenters considered only one conclusion appropriate for an issue.

Dependent measure. Subjects responded to 15-point opinion response scales. An example is provided in Table 2.
Design

Subjects encountered 36 persuasive messages defining a 3 x 3 x 4 factorial design in which the factors were policy conclusion statement: ("yes", "uncertain", or "no"), opinion measurement delay: (0, 6, or 12 units), and block-sequence: (1, 2, 3, or 4 -- the design of the preceding 2 factors was replicated separately (with a different ordering of experimental conditions) within four sequential blocks of the experiment). In addition, subjects encountered 12 (3 per block) control (no message) policy issues.

Results

The results of Experiment Two are presented in Figure 3. The results were as follows:

1. Persuasive impact. The average opinion response over all measurement delay intervals was 10.44 for "yes" conclusions, 9.29 for "uncertain" conclusions, and 8.36 for "no" conclusions ($F(2,46) = 14.88, p < .001$). Average opinion responses for both "yes" and "no" conclusions differed from the no-message control baseline of 9.49 ($F(1,47) = 13.89, p < .001$ and $F(1,47) = 21.18, p < .001$, respectively).

2. Measurement delay. Measurement delay had no effect. ($F < 1$ for the critical linear x linear interaction of policy conclusion statement ("yes" vs. "no") and measurement delay.)

3. Block-sequence. The block-sequence factor had no effect (main effect and interaction $p's > .05$).
Figure 3. Results of Experiment Two.
Discussion

The results of Experiment Two indicate that the policy conclusion statements are effective with no significant loss of persuasive impact within the experimental session. The average impact for a policy conclusion statement ("yes" or "no") was about 1 full scale unit (on a 15-point scale). While Baumgardner et al. (Note 1) used a 15-point scale with different anchors, they reported persuasive impact of .91 and .63 scale units for one-argument messages, 1.38 scale units for two-argument messages, and 1.89 and 1.50 scale units for four-argument messages across several experiments. Thus, the one-word conclusion statements had surprisingly high persuasive impact.

The lack of decay of persuasive impact in Experiment Two helps to eliminate message differences as a possible explanation for differences in persistence of persuasion found for policy-issues and consumer-products materials by Baumgardner et al.. The present results are also consistent with Baumgardner et al.'s conclusion that topic similarity is the crucial mediator of differences in persistence of persuasion. This idea is explored further in Experiment Three.
CHAPTER V
INCREASING THE HOMOGENEITY OF
THE SET OF POLICY ISSUES LEADS TO
DECAY OF PERSUASIVE IMPACT (EXPERIMENT THREE)

Experiment Two has demonstrated that message differences are unable to account for differences in persistence of persuasion for policy-issues and consumer-products materials. The evaluative response analysis suggests that attitude change persists for the policy-issues messages because learned evaluative responses do not generalize highly to other issues in the set (because other issues are dissimilar). Thus, associative interference is minimal and evaluative responses may be relatively easy to retrieve at the time of opinion posttest. If this analysis is correct, then the construction of a set of very similar policy issues should produce sufficient associative interference to make it more difficult to retrieve evaluative responses at delayed posttests and thus produce decay of persuasive impact.

In Experiment Three, the similarity of the policy issues, one to another, was increased to allow potential for stimulus generalization of learned evaluative responses. Decay of persuasive impact for this homogeneous set of policy issues would provide support for the present evaluative response analysis.
Method

Subjects

Subjects were 48 introductory psychology students at Ohio State University who participated in partial fulfillment of a course requirement.

Procedure

Persuasive materials. A set of 48 policy issues was constructed in the following manner. Four policy issues were arbitrarily selected from the set of 48 issues used in Experiment Two. For each of these four issues, a set of twelve issues was made up by the author. An attempt was made to make each issue within a set of twelve very similar to one another by changing only one or two key terms in the policy statement. For example, if the original issue was "Should coal be used in the production of electrical energy?", additional issues within this set would change either the word "coal" (e.g., to "petroleum" or "solar power") or the word "electrical" (e.g., to "thermal" or "kinetic"). The four sets of twelve issues that were used in Experiment Three are displayed in Table 3. The total 48 issues were randomly assigned to conditions within the experiment. Persuasive messages were formed in the same manner as described in Chapter IV (Experiment Two).

Instructions. The instructions given to subjects in Experiment Three were identical to those given in Experiment Two.

Dependent measure. Subjects responded to 15-point opinion response scales. An example is provided in Table 2 (see Chapter IV).
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UNIVERSITY MICROFILMS.
Table 3
Set of 48 policy issues used in Experiment Three.

1. Should coal be used in the production of electrical energy?
2. Should nuclear power be used in the production of electrical energy?
3. Should solar power be used in the production of electrical energy?
4. Should petroleum be used in the production of electrical energy?
5. Should coal be used in the production of thermal energy?
6. Should nuclear power be used in the production of thermal energy?
7. Should solar power be used in the production of thermal energy?
8. Should petroleum be used in the production of thermal energy?
9. Should coal be used in the production of kinetic energy?
10. Should nuclear power be used in the production of kinetic energy?
11. Should solar power be used in the production of kinetic energy?
12. Should petroleum be used in the production of kinetic energy?
13. Should state funding be channeled to wildlife preservation efforts?
14. Should state funding be channeled to energy conservation efforts?
15. Should state funding be channeled to beautification of the environment?
16. Should state funding be channeled to water pollution prevention?
17. Should federal funding be channeled to wildlife preservation efforts?
18. Should federal funding be channeled to energy conservation efforts?
19. Should federal funding be channeled to beautification of the environment?
20. Should federal funding be channeled to water pollution prevention?
21. Should municipal funding be channeled to wildlife preservation efforts?
22. Should municipal funding be channeled to energy conservation efforts?
23. Should municipal funding be channeled to water pollution prevention?
24. Should municipal funding be channeled to beautification of the environment?
25. Should a foreign language be a required course in elementary schools?
26. Should economics be a required course in elementary schools?
27. Should mathematics be a required course in elementary schools?
28. Should sociology be a required course in elementary schools?
29. Should a foreign language be a required course in high schools?
30. Should economics be a required course in high schools?
31. Should mathematics be a required course in high schools?
32. Should sociology be a required course in high schools?
33. Should a foreign language be a required course in college?
34. Should economics be a required course in college?
35. Should mathematics be a required course in college?
36. Should sociology be a required course in college?
37. Should public education be supported by property taxes?
38. Should public education be supported by sales taxes?
39. Should public education be supported by city income taxes?
40. Should public education be supported by federal income taxes?
41. Should public road repairs be supported by property taxes?
42. Should public road repairs be supported by sales taxes?
43. Should public road repairs be supported by city income taxes?
44. Should public road repairs be supported by federal income taxes?
45. Should public parks be supported by property taxes?
46. Should public parks be supported by sales taxes?
47. Should public parks be supported by city income taxes?
48. Should public parks be supported by federal income taxes?
Design

The design of Experiment Three was identical to that of Experiment Two. Subjects encountered 36 persuasive messages defining a $3 \times 3 \times 4$ factorial design in which the factors were policy conclusion statement: ("yes", "uncertain", or "no"), opinion measurement delay: (0, 6, or 12 units), and block-sequence: (1, 2, 3, or 4 — the design of the preceding 2 factors was replicated separately (with a different ordering of experimental conditions) within four sequential blocks of the experiment). In addition, subjects encountered 12 (3 per block) control (no message) policy issues.

Results

The results of Experiment Three are presented in Figure 4. The results were as follows:

1. **Persuasive impact.** The average opinion response over all measurement delay intervals was 10.34 for "yes" conclusions, 9.13 for "uncertain" conclusions, and 7.72 for "no" conclusions ($F(2,46) = 19.27, p < .001$). Average opinion responses for both "yes" and "no" conclusions differed from the no-message control baseline of 9.33 ($F(1,47) = 14.36, p < .001$ and $F(1,47) = 29.37, p < .001$, respectively).

2. **Measurement delay.** The critical hypothesis test was for the presence of a linear policy conclusion statement ("yes" vs. "no") x linear measurement delay (0 vs. 12 units delay) interaction. As predicted, increasing the homogeneity of the set of policy issues led to reliable decay of persuasive impact ($F(1,47) = 14.01, p < .001$). (All other components of the overall two-way interaction ($F(4,44) = 4.07, p = .007$) were
Figure 4. Results of Experiment Three.
nonsignificant).

3. **Block-sequence.** The block-sequence factor had no effect (main effect and interaction p's > .05).

**Discussion**

The decay of persuasive impact for the set of similar policy issues in Experiment Three provides strong support for the evaluative response analysis of persistence of persuasion. In high communication density settings, topic similarity appears to be a crucial variable for explaining differences in persistence of persuasion. When subjects encounter persuasive messages on a large number of topics, increasing topic similarity increases the potential for generalization of learned evaluative responses. When delayed opinion posttests are employed, this stimulus generalization makes it more difficult to retrieve the evaluative response to a topic that was learned at the time of initial persuasion.
CHAPTER VI
CONTEXTUAL BACKGROUND AND
PERSISTENCE OF PERSUASION (EXPERIMENT FOUR)

According to the evaluative response analysis, persistence of persuasion depends on a message recipient's ability to recall an associated evaluative response in subsequent opinion-relevant situations. To this point, experimental manipulations employed to support this analysis (by Baumgardner et al. (Note 1) and Experiments One and Three of the present study) have involved topic similarity — associative interference (or stimulus generalization) has been found to be (a) greater within a particular product class as opposed to between product classes and (b) greater when policy issues within a set are made to be more similar to one another. However, if the evaluative response analysis is valid, persistence of persuasion should be affected by any manipulations that vary the strength or retrievability of topic-evaluation associations.

In paired-associate learning, if an association is tested within a contextual background that differs from that present when the association was learned, recall is hampered (cf. Pan, 1926; Abernethy, 1940; Falkenberg, 1972). In terms of the evaluative response analysis, if an opinion posttest is presented within a contextual background that differs from that present at original persuasion, it should be more difficult to retrieve the associated evaluative response. Experiment Four varied consistency between the contextual background at message presentation and later opinion test. Greater persistence of persuasion should occur with
high stimulus context consistency.

In Experiment Four, each consumer-product message was accompanied by a policy-issue conclusion statement on the same screen. When a brand rating for a consumer-product brand was later requested, subjects were also presented with a policy-issue statement (on the same screen) and asked whether they recalled having seen a conclusion statement concerning that issue. The policy issue was either the same one that had been previously paired with the consumer-product brand (high context consistency) or was one that had not been previously presented with a conclusion statement (low context consistency).

Method

Subjects

Subjects were 36 paid respondents to a classified advertisement in the campus newspaper. Data for four additional subjects were lost due to equipment malfunction.

Procedure

Persuasive materials. The consumer-products messages described in Chapter III (Experiment One) and the policy-issues conclusion statements described in Chapter IV (Experiment Two) were used in Experiment Four. Persuasive messages were presented in pairs on one display screen: A policy conclusion statement at the top of the display screen and a consumer-products message at the bottom. Table 4 provides an example.

Instructions. The key portions of the instructions given to subjects (a) described the experiment as concerned with responses to short messages of the type often encountered in the mass media; (b) informed
Table 4

Example of display screens presenting
(a) persuasive messages and (b) dependent measures
used in Experiment Four.

(a) **Persuasive Messages:**

**TOPIC:** SHOULD THE U.S. STOP TRADE WITH COUNTRIES THAT PERMIT
THE SLAUGHTER OF ENDANGERED SPECIES?

**MESSAGE CONCLUSION:** "YES"

---

**WILSON AUTOMOBILES**

THE NOISE LEVEL INSIDE A CAR DEPENDS ON MANY THINGS, INCLUD­ing THE SHAPE OF THE CAR, THE QUALITY OF THE SUSPENSION AND
THE EXHAUST SYSTEM, AND, OF COURSE, THE SPEED AND THE SMOOTHNESS
OF THE ROAD. THESE NOISES AFFECT MORE THAN COMFORT; A NOISY
CAR CONTRIBUTES TO DRIVER FATIGUE AND ABILITY TO NOTICE OR RE­SPOND TO UNSAGE CONDITIONS.

WILSON AUTOMOBILES ARE EXCELLENT IN QUIETNESS. THIS CON­TRIBUTES SUBSTANTIALLY TO COMFORT AND SAFETY.

(b) **Dependent Measures:**

**ITEM 1:** SHOULD THE U.S. STOP TRADE WITH COUNTRIES THAT PERMIT
THE SLAUGHTER OF ENDANGERED SPECIES?

**ITEM 2:** HOW WOULD YOU RATE WILSON AUTOMOBILES?

**TASK 1:** FOR ITEM 1 ABOVE, DO YOU RECALL SEEING A "MESSAGE"
CONCLUSION" CONCERNING THIS TOPIC?

1 = YES  2 = NO

**TASK 2:** FOR ITEM 2 ABOVE, PLEASE PROVIDE A RATING ON THE
SCALE BELOW.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
POOR :  BELOW :  AVERAGE :  ABOVE :  EXCELLENT
:  AVERAGE :  :  AVERAGE :
subjects they would encounter some display screen pages that presented message-based conclusions about a policy issue together with a message concerning some fictitious brand of a consumer product; (c) informed subjects they would encounter other display screen pages that required two tasks: (1) To respond to a question concerning whether a conclusion statement concerning a specific policy issue had been previously presented and (2) to rate a fictitious consumer-products brand that had been seen earlier; (d) explained how to practice using the keyboard for entering consumer-products brand ratings; and (e) encouraged subjects to locate the experimenter if procedures were unclear.

**Dependent measures.** When dependent measures were taken, a policy issue and consumer-products brand were presented at the top of the display screen page. Subjects provided two responses. A recall measure assessed whether subjects remembered seeing the policy issue earlier with a conclusion statement ("yes" and "no" were each correct an equal number of times). A score of 1 was given if subjects were correct; a score of 0 was given for incorrect responses. After completing this task, subjects rated the consumer-products brand on a 15-point response scale. Table 4 provides an example of a display page with dependent measures.

**Design**

Two groups of 18 subjects formed treatment-reversal replications: whether a particular sequential position in the experiment was occupied by a high or low context consistency condition varied between groups. The 36 brands encountered by a subject defined a $2 \times 3 \times 3 \times 2$ factorial design in which the factors were context consistency: (high or low),
message type: (positive, average, or negative), opinion measurement delay: (0, 6, or 12 units), and block: (1 or 2 -- the design of the preceding three factors was replicated separately within two sequential blocks of the experiment).

As mentioned earlier, in low context consistency conditions, a policy issue other than the one originally paired with the consumer-product brand was presented at the time of opinion posttest. Within Block 1 of the experiment, these policy issues were ones that had not been seen previously in any form. However, in low context consistency, delayed posttest (6 and 12 units delay) conditions of Block 2, these policy issues were ones that had previously been used as foils within Block 1 (i.e., these policy issues had been seen previously in a recognition question, but had not been presented with a conclusion statement). Thus, subjects in Experiment Four saw a total of 48 policy issues -- 36 policy issues originally presented with conclusion statements and 12 policy issues used as foils in recognition tests.

Results

Opinion Data (Consumer-Products Messages)

The results of Experiment Four are presented in Figure 6. The results were as follows:

1. Persuasive impact. The average opinion response over all measurement delay intervals was 10.56 for positive messages, 7.60 for average messages, and 4.95 for negative messages ($F(2,33) = 70.39$, $p < .001$).
Figure 5. Results of Experiment Four.
2. **Measurement delay.** A comparison of immediate posttest with 12-unit delay conditions (linear contrast for measurement delay) revealed reliable decay of persuasive impact for both positive \((F(1,34) = 69.59, p < .001)\) and negative \((F(1,34) = 54.54, p < .001)\) messages. These individual delay functions also contained significant quadratic components \((F(1,34) = 35.30, p < .001)\) for positive messages; \((F(1,34) = 6.35, p = .017)\) for negative messages.

3. **Context consistency.** The critical hypothesis test was for the presence of a context consistency (high vs. low) x linear message type (positive vs. negative) x linear measurement delay (0 vs. 12 units delay) interaction. Overall, decay was not more rapid with low context consistency \((F(1,34) = 1.74, p = .196)\).

4. **Block.** The predicted 3-way interaction (see above) varied according to block \((F(1,34) = 5.43, p = .026)\). Within Block 1, as predicted, there was more rapid decay with low context consistency \((F(1,34) = 6.95, p = .013)\). However, context consistency had no effect on decay of persuasive impact within Block 2 \((F < 1)\).

5. **Treatment-reversal.** A multivariate test for interactions of within-subjects effects with the treatment-reversal factor revealed no effect for the assignment of a high or low context consistency treatment to a particular sequential position within the experimental session \((F < 1)\).
Recall Data (Policy Issues)

The policy issue recall results of Experiment Four are presented in Figure 7. The recall data were analyzed according to a 2 x 2 x 3 design in which the factors were context consistency: (high or low), block: (1 or 2), and measurement delay: (0, 6, or 12 units).

The overall proportion of correct responses to the recall measure was .864. Except for the absence of a main effect for context consistency ($F(1,34) = 1.14, p=.293$), all main effects and interactions involving the three factors in the design were significant (the 3-way interaction was at a marginal level of significance --- $F(2,33) = 3.20, p=.054$). As can be seen from Figure 5, these results can all be accounted for by the relatively poor performance on the recall measure at delayed post-tests (6 and 12 units) for the low context consistency, Block 2 conditions.
Figure 6. Recall data from Experiment Four.
Discussion

High context consistency facilitated persistence of persuasion, but only early in the experimental session. Before discussing the implications of these results for the evaluative response analysis, two other findings will be addressed: (1) The unexpected nonmonotonic trends in persistence functions (see Figure 5), especially within Block 1, and (2) the policy issues recall data.

Nonmonotonic trends. As can be seen in Figure 5, persuasion increased from 6 to 12 units delay in several conditions. Such trends may most plausibly be a function of position in the experimental sequence. For example, certain positions in the experimental sequence may be more interference prone than others, or certain positions (e.g., the first few messages in an experiment) may produce less initial persuasion. Further research is needed to determine and eliminate spurious findings arising from such position-dependent effects. However, in the present experiment, since the treatment reversal factor assured that each sequential position in the experiment was occupied an equal number of times by a high and low context consistency treatment, relative comparisons involving the context consistency factor are still informative.
Policy issues recall. Overall, subjects were quite accurate in recalling whether a conclusion statement had been presented for a particular policy issue. However, as shown in Figure 6, there was relatively poor performance on the recall measure at delayed posttests (6 and 12 units) in the low context consistency, Block 2 conditions. Rather than this actually being a function of opinion measurement delay (intervening units since the consumer-products brand message had been presented), this poor performance was very likely a result of the particular policy issues presented in these conditions — policy issues that previously had been used as foils in the recall measures within Block 1 (see earlier discussion of the design of Experiment Four). Thus, subjects probably found these policy issues familiar (they had seen them earlier in the experiment) and had difficulty recalling whether an actual conclusion statement had been presented. The results of the analyses for the policy issues recall data are relatively uninforming since they can be explained as a function of the relatively high rate of false recognition in these particular conditions.
Implications for the evaluative response analysis. High context consistency facilitated persistence of persuasion within Block 1 of the experiment. However, context consistency had no effect on decay of persuasive impact within Block 2. Thus, the results of Experiment Four provide only partial support for the evaluative response analysis.

It is unclear why the context manipulation lost its effectiveness in Block 2 of the experiment. Baumgardner et al. (Note 1) found that an associative interference manipulation (topic set homogeneity) also lost its effectiveness after the first block of an experiment. They attributed this loss of effectiveness to changes in information processing strategies employed by subjects. It is conceivable that a change in information processing strategy could account for the present results. For example, early in the experiment, subjects may have had a tendency to process the context (policy issue information) and the consumer product information as a unit since both pieces of information were presented on the same screen. Thus, the contextual stimuli may have influenced encoding operations such that they later became effective retrieval cues (cf. Tulving & Thomson, 1973) for accessing a stored evaluative response to the consumer-product brand. However, as subjects proceeded through the experiment, they may have discovered that the experiment was placing heavy demands on memory. By the second block of the experiment, subjects may have found that they could reduce this demand by processing the policy information separately from the product information — that is, to encode and store the policy issue and consumer product information as two entirely separate pieces of information. Thus, the context manipulation may have lost its effectiveness because the contextual stimuli were
no longer effective retrieval cues for stored evaluative responses.
CHAPTER VII
SUMMARY AND CONCLUSIONS

Many attitude theorists have viewed communication-induced persuasion and its persistence as a process of verbal associative learning. However, there has been little agreement as to the nature of the associative learning necessary for persistence of persuasion. Early researchers assumed that persistence depended on retention of message arguments — if a message recipient retained the message arguments, then persuasion would persist (cf. Hovland et al., 1953). More recently, other researchers, recognizing that cognitive responses to persuasion may mediate attitude change, have assumed that persistence depends on retention of these self-generated, attitude relevant cognitions (cf. Greenwald, 1968). However, these associative learning approaches have failed to recognize that complete retention of all opinion-relevant information (including self-generated cognitive reactions) is an impractical information processing strategy -- recipients are often exposed to more persuasive information in their day to day living than they can hope to retain.

The evaluative response analysis offered in this dissertation recognizes this problem of information overload and its potential implications for information processing strategies employed by message recipients. This analysis assumes that message recipients (a) evaluate a message's implications for a particular issue (based both on the arguments presented and cognitive reactions to those arguments) and (b) retain the results of that evaluation. The retrieval of the evaluative response in subsequent
opinion-relevant situations permits persisting influence of message arguments and cognitive responses on opinion without requiring any other form of information retention.

The utility of the evaluative response analysis for predicting persistence of persuasion effects was demonstrated in a series of four experiments. Experiment One demonstrated that decay of persuasive impact is related to learned evaluative responses generalizing to other similar stimuli. When similar topics require different evaluative responses, retrieval of evaluative responses is inhibited and decay of persuasive impact more rapid than when similar topics require the same evaluative response. A set of messages on fictitious brands of consumer products was used in Experiment One. In Experiments Two and Three, topics of persuasion were policy issues. Baumgardner et al. (Note 1) had previously shown that a set of policy-issue messages were able to produce total persistence of persuasion within experimental sessions. One hypothesis was that policy-issues messages produced strong associative learning because of the nature of the messages. However, Experiment Two demonstrated that even simple one-word conclusion statements were able to produce persisting impact for policy issues. An alternative hypothesis, suggested by the evaluative response analysis, was that the persisting impact for the policy-issues messages was a function of learned evaluative responses not generalizing highly to other issues in the set (because other issues were dissimilar). Experiment Three supported this hypothesis: Decay of persuasive impact was found for a set of policy issues that were constructed to be very similar to one another. Finally,
Experiment Four demonstrated that learned evaluative responses are more difficult to retrieve (and decay of persuasive impact greater) when opinion posttests are presented within a context that differs from that present at original persuasion. However, this effect was found only in the first half of the experiment.

A major conclusion to be drawn from the present series of experiments is that the evaluative response analysis represents a valuable tool for interpreting persistence of persuasion effects in a high communication density setting. However, there are several limitations to the applicability of this analysis to persuasion in general. First, the evaluative response analysis does not address factors involved in original message impact or the processes involved in acceptance of persuasion, but instead accounts for persistence of induced attitude change through an associative learning process. Second, the evaluative response analysis has only been directly applied to data generated within a computer-based procedure involving the presentation of a large number of communications and measures. Related to this point, Greenwald (in press) has suggested that message recipients can be viewed as information processors with the ability to select any of a number of processing strategies when dealing with persuasive message information. The evaluative response analysis assumes that the volume of persuasive information transmitted in day to day living leads message recipients to employ a particular processing strategy when dealing with opinion-relevant information. However, in certain settings, other forms of associative learning may also be strongly related to persistence of persuasion. For example, if a recipient must be prepared to later defend his opinion on an issue, persistence may
depend on learning message facts and arguments. The evaluative response analysis should be most applicable in those settings where a large amount of opinion-relevant information is transmitted and recipients expect opinions on topics of persuasion to be useful in subsequent opinion-relevant situations.
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APPENDIX A:

INSTRUCTIONS FOR

EXPERIMENT ONE
PRESS THE "ENTER" BUTTON ON THE KEYBOARD IN FRONT OF YOU TO RECEIVE THE FIRST PAGE OF INSTRUCTIONS.

STUDIES OF RESPONSE TO WRITTEN COMMUNICATIONS: INSTRUCTIONS

THIS EXPERIMENT IS PART OF A RESEARCH PROGRAM CONCERNED WITH RESPONSES TO SHORT MESSAGES OF THE SORT THAT CAN BE COMMUNICATED READILY VIA PRINT, RADIO, OR TELEVISION. DURING THIS SESSION, YOU WILL SEE A SERIES OF MESSAGES ON THIS MONITOR. THESE MESSAGES WILL PRESENT INFORMATION CONCERNING BRANDS OF VARIOUS PRODUCTS. AT SOME POINT DURING THE EXPERIMENT, YOU WILL BE ASKED TO EVALUATE EACH OF THE BRANDS YOU READ ABOUT. PLEASE NOTE THAT THESE EVALUATIONS WILL OFTEN BE REQUESTED AT SOME LATER TIME IN THE EXPERIMENT RATHER THAN IMMEDIATELY AFTER READING A MESSAGE.

(PRESS THE "ENTER" BUTTON WHEN READY FOR MORE INSTRUCTIONS.)
DURING THE EXPERIMENT, YOU WILL RECEIVE INFORMATION ON BRANDS OF VARIOUS COMMERCIAL PRODUCTS. SINCE YOU PROBABLY ALREADY HAVE OPINIONS CONCERNING BRANDS OF THESE PRODUCTS, THE BRAND NAMES YOU SEE WILL BE FICTITIOUS AND WILL NOT CORRESPOND TO ANY ACTUAL BRANDS. THE BASIC CONTENTS OF THESE MESSAGES HAVE BEEN TAKEN FROM ARTICLES APPEARING IN "CONSUMER REPORTS" MAGAZINE. THEREFORE, WHILE THE MESSAGES YOU READ MAY RESEMBLE ADVERTISEMENTS, YOU SHOULD CONSIDER THE INFORMATION TO BE VALID. THAT IS, YOU SHOULD CONSIDER ANY INFORMATION YOU RECEIVE ABOUT A BRAND TO BE ACCURATE.

(PRESS THE "ENTER" BUTTON WHEN READY FOR MORE INSTRUCTIONS.)

WHEN YOU HAVE FINISHED LOOKING AT A MESSAGE, PRESS "ENTER" TO PROCEED WITH THE NEXT MESSAGE OR QUESTION.

WHEN A BRAND EVALUATION IS REQUESTED, YOU SHOULD RESPOND WITH A NUMBER FROM 1 TO 15, THE NUMBERS BEING DEFINED AS ON THE SCALE YOU WILL SEE ON THE NEXT PAGE OF INSTRUCTIONS. NUMERICAL RESPONSES CAN BE ENTERED BY PRESSING ONE OR TWO DIGITS ON THE KEYBOARD, THEN PRESSING ENTER TWICE (!!). THE FIRST TIME YOU PRESS "ENTER" THE COMPUTER WILL TENTATIVELY REGISTER YOUR RESPONSE WHILE DISPLAYING IT BACK TO YOU IN THE FORM OF AN ARROW (^) LOCATED OVER THE NUMBER YOU HAVE SELECTED. AT THIS TIME YOU MAY EITHER MAKE YOUR TENTATIVE RESPONSE FINAL (BY PRESSING "ENTER" AGAIN) OR YOU MAY CHANGE YOUR RESPONSE BY PRESSING A NEW NUMBER (AND THEN PRESSING "ENTER" TWICE). IF YOU ARE SURE OF YOUR RESPONSE, IT IS PERFECTLY ALRIGHT TO PRESS "ENTER" TWICE WITHOUT WAITING FOR THE INDICATOR ARROW. THE COMPUTER WILL AUTOMATICALLY DETECT A ZERO, OR A NUMBER GREATER THAN 15, OR A NONNUMERICAL RESPONSE AS AN ERROR AND WILL GIVE YOU A MESSAGE INDICATING THAT YOU SHOULD RESPOND AGAIN.

(IF YOU UNDERSTAND THE INSTRUCTIONS TO THIS POINT, PRESS "ENTER". OTHERWISE, REREAD THIS PAGE BEFORE GOING ON.)
THIS PAGE IS INTENDED TO GIVE YOU PRACTICE IN USING THE KEYBOARD FOR ENTERING DIFFERENT RESPONSES OR IMPROPER RESPONSES (E.G. NUMBERS NOT BETWEEN 1 AND 15), OR CHANGING RESPONSES. IT WOULD BE A GOOD IDEA FOR YOU TO EXPERIMENT NOW WITH ALL OF THESE POSSIBILITIES SO THAT THE USE OF THE KEYBOARD WILL BE COMPLETELY CLEAR BEFORE PROCEEDING. (REMEMBER THAT A RESPONSE IS COMPLETELY REGISTERED ONLY BY PRESSING "ENTER" TWICE IN SUCCESSION, AND THAT YOU CAN CHANGE A RESPONSE AFTER PRESSING "ENTER" ONLY ONCE.)

HERE IS THE SAMPLE BRAND EVALUATION:
HOW WOULD YOU RATE -SONGER- SHAMPOO?

---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:---:
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
: POOR : BELOW : AVERAGE : ABOVE : EXCELLENT :
: : AVERAGE : : AVERAGE :

IN CASE YOU HAVE NOT PREVIOUSLY BEEN SO INFORMED, YOU SHOULD KNOW THAT HUMAN PARTICIPANTS IN ANY RESEARCH AT OHIO STATE UNIVERSITY ARE AT LIBERTY TO TERMINATE THEIR PARTICIPATION AT ANY TIME THEY SO DESIRE. THE PRECEDING INSTRUCTIONS HAVE DESCRIBED THE TASKS YOU WILL ENCOUNTER IN THIS EXPERIMENT. IF FOR ANY REASON YOU PREFER NOT TO PROCEED WITH THE EXPERIMENT, PLEASE INFORM THE EXPERIMENTER OF THIS. OTHERWISE, PRESS THE "ENTER" BUTTON TO CONTINUE.
PLEASE REMEMBER THE FOLLOWING !!!!!!!!!!!!!!!!

1. WHEN YOU HAVE FINISHED READING A MESSAGE, PRESS THE "ENTER" BUTTON TO CONTINUE.

2. YOU WILL SEE A RESPONSE SCALE WHEN A RATING IS BEING REQUESTED. PRESS THE "ENTER" BUTTON TWICE TO RECORD YOUR RATING AND CONTINUE.

3. YOU WILL BE ASKED TO RATE EVERY BRAND YOU READ ABOUT AT SOME POINT IN THE EXPERIMENT.

IF AT ANY TIME DURING THE EXPERIMENT, IT APPEARS TO YOU THAT THE EQUIPMENT IS MALFUNCTIONING SO AS TO PREVENT PROPER CONDUCT OF THE EXPERIMENT, PLEASE DISCONTINUE AND FIND THE EXPERIMENTER TO INFORM HIM (HER) OF THIS. (THIS IS NOT LIKELY.)

IF YOU HAVE ANY QUESTIONS ABOUT THE INSTRUCTIONS, PLEASE ASK THEM OF THE EXPERIMENTER NOW. OTHERWISE, PRESS "ENTER" AND THE FIRST MESSAGE WILL APPEAR SHORTLY.
APPENDIX B:

INSTRUCTIONS FOR

EXPERIMENTS TWO AND THREE
DURING THE COURSE OF OUR RESEARCH, WE HAVE WRITTEN WHAT WE CONSIDER TO BE VERY DETAILED AND LOGICAL ARGUMENTS THAT SUPPORT CERTAIN CONCLUSIONS ABOUT THE TOPICS YOU ARE ABOUT TO ENCOUNTER. THERE WOULD NOT BE ENOUGH TIME IN THIS EXPERIMENT FOR YOU TO READ DETAILED ARGUMENTS ON ALL OF THE TOPICS THAT WILL BE PRESENTED. THEREFORE, WE HAVE DECIDED TO PRESENT JUST THE CONCLUSIONS OF SOME OF THE ARGUMENTS. YOU MAY ASSUME THAT THESE CONCLUSIONS ARE BASED ON WHAT WE CONSIDER TO BE SOUND ARGUMENTS. FOR EXAMPLE, CONSIDER THE FOLLOWING TOPIC:

"SHOULD PUERTO RICO BE ADMITTED TO THE UNION AS A STATE?"

ON THE FOLLOWING PAGE, YOU WILL READ A SET OF ARGUMENTS THAT WE HAVE PREPARED ON THIS TOPIC.

(PRESS "ENTER" TO SEE SAMPLE ARGUMENTS AND PRESS "ENTER" AGAIN AFTER YOU FINISH READING THEM)
SHOULD PUERTO RICO BE ADMITTED TO THE UNION AS A STATE?

PUERTO RICO IS CURRENTLY ONE OF THE MOST Densely POPULATED AREAS IN THE WORLD. IF PUERTO RICO WERE GIVEN U.S. STATEHOOD IT WOULD ENCOURAGE MIGRATION OF PUERTO RICANS TO U.S. CITIES. THE MAINLAND CITIES CAN'T AFFORD TO BECOME MORE CROWDED THAN THEY CURRENTLY ARE.

SPANISH IS THE NATIVE LANGUAGE OF PUERTO RICO. LESS THAN 30% OF THE PEOPLE IN PUERTO RICO CAN SPEAK ENGLISH. CONSIDERING THE DIFFERENT CULTURE AND TRADITIONS OF THE PUERTO RICAN PEOPLE, IT WOULD BE UNWISE TO CONSIDER MAKING PUERTO RICO A STATE.

THERE IS A LOT OF ANTI-AMERICAN FEELING IN PUERTO RICO. SOME PUERTO RICANS ARE WILLING TO FIGHT FOR COMPLETE INDEPENDENCE FROM THE U.S. MAKING PUERTO RICO A U.S. STATE WOULD RESULT IN GREAT UNREST THERE AND COULD EVENTUALLY LEAD TO CIVIL WAR.

IF PUERTO RICO BECAME A STATE, IT WOULD BE NECESSARY TO START FEDERAL WELFARE, HEALTH, AND POVERTY PROGRAMS THERE BECAUSE OF THE LOW STANDARD OF LIVING IN PUERTO RICO. THIS WOULD BE A HEAVY DRAIN ON U.S. TAX REVENUES.

IF THE ISSUE OF WHETHER OR NOT PUERTO RICO SHOULD BE ADMITTED TO THE UNION AS A STATE WAS TO BE USED AS A TOPIC IN THIS EXPERIMENT, YOU WOULD HAVE ENCOUNTERED A MESSAGE AS ON THE FOLLOWING PAGE.

(PRESS "ENTER")
TOPIC: "SHOULD PUERTO RICO BE ADMITTED TO THE UNION AS A STATE?"

MESSAGE CONCLUSION: NO!

KEEP IN MIND THAT DURING THIS EXPERIMENT YOU WILL BE READING ONLY SOUND, ARGUMENT-BASED CONCLUSIONS ABOUT THE VARIOUS TOPICS YOU WILL ENCOUNTER. WHEN YOU HAVE FINISHED READING A CONCLUSION, PRESS "ENTER" TO PROCEED WITH THE NEXT MESSAGE OR OPINION QUESTION.

(PRESS "ENTER" TO CONTINUE WITH THE INSTRUCTIONS)
WHEN AN OPINION QUESTION IS PRESENTED, YOU SHOULD RESPOND WITH A NUMBER FROM 1 TO 15. THE NUMBERS BEING DEFINED AS ON THE SCALE YOU WILL SEE ON THE NEXT PAGE OF INSTRUCTIONS. NUMERICAL RESPONSES CAN BE ENTERED BY PRESSING ONE OR TWO DIGITS ON THE KEYBOARD, THEN PRESSING ENTER TWICE (!). THE FIRST TIME YOU PRESS "ENTER" THE COMPUTER WILL TENTATIVELY REGISTER YOUR RESPONSE WHILE DISPLAYING IT BACK TO YOU IN THE FORM OF AN ARROW (°) FLASHING OVER THE NUMBER YOU HAVE SELECTED. AT THIS TIME YOU MAY EITHER MAKE YOUR TENTATIVE RESPONSE FINAL (BY PRESSING "ENTER" AGAIN) OR YOU MAY CHANGE YOUR RESPONSE BY PRESSING A NEW NUMBER (AND THEN PRESSING "ENTER" TWICE). IF YOU ARE SURE OF YOUR RESPONSE, IT IS PERFECTLY ALL RIGHT TO PRESS "ENTER" TWICE WITHOUT WAITING FOR THE FLASHING ARROW. THE COMPUTER WILL AUTOMATICALLY DETECT A ZERO, OR A NUMBER GREATER THAN 15, OR A NONNUMERICAL RESPONSE AS AN ERROR AND WILL GIVE YOU A MESSAGE INDICATING THAT YOU SHOULD RESPOND AGAIN.

(IF YOU UNDERSTAND THE INSTRUCTIONS TO THIS POINT, PRESS "ENTER". OTHERWISE, REREAD THIS PAGE BEFORE GOING ON.)
THIS PAGE IS INTENDED TO GIVE YOU PRACTICE IN USING THE KEYBOARD FOR ENTERING AND CHANGING RESPONSES. MAKE SURE THAT THE USE OF THE KEYBOARD IS COMPLETELY CLEAR BEFORE PROCEEDING. (REMEMBER THAT A RESPONSE IS COMPLETELY REGISTERED ONLY BY PRESSING "ENTER" TWICE IN SUCCESION AND THAT YOU CAN CHANGE A RESPONSE AFTER PRESSING "ENTER" ONLY ONCE.)

HERE IS THE SAMPLE OPINION STATEMENT:

SHOULD WINE AND 3.2% BEER BE AVAILABLE LEGALLY TO 16-YEAR-OLDS?

---

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

NO : PROBABLY : UNCERTAIN : PROBABLY : YES

NOT : :

---

IN CASE YOU HAVE NOT PREVIOUSLY BEEN SO INFORMED, YOU SHOULD KNOW THAT HUMAN PARTICIPANTS IN ANY RESEARCH AT OHIO STATE UNIVERSITY ARE AT LIBERTY TO TERMINATE THEIR PARTICIPATION AT ANY TIME THEY SO DESIRE. THE PRECEDING INSTRUCTIONS HAVE DESCRIBED THE TASKS YOU WILL ENCOUNTER IN THIS EXPERIMENT. IF FOR ANY REASON YOU PREFER NOT TO PROCEED WITH THE EXPERIMENT, PLEASE INFORM THE EXPERIMENTER OF THIS. OTHERWISE, PRESS THE "ENTER" BUTTON TO CONTINUE.
PLEASE REMEMBER THE FOLLOWING !!!!!!!!!!

1. SEVERAL CONCLUSION-MESSAGES MAY APPEAR BEFORE YOU SEE THE FIRST OPINION QUESTION.

2. YOU WILL BE ASKED OPINION QUESTIONS FOR SOME TOPICS ON WHICH YOU HAVE SEEN NO MESSAGE.

3. YOU MAY ASSUME THAT THE CONCLUSIONS YOU READ ARE BASED ON SOUND, LOGICAL ARGUMENTS.

IF AT ANY TIME DURING THE EXPERIMENT, IT APPEARS TO YOU THAT THE EQUIPMENT IS MALFUNCTIONING SO AS TO PREVENT PROPER CONDUCT OF THE EXPERIMENT, PLEASE DISCONTINUE AND FIND THE EXPERIMENTER TO INFORM HIM (HER) OF THIS. (THIS IS NOT LIKELY.)

IF YOU HAVE ANY QUESTIONS ABOUT THE INSTRUCTIONS, PLEASE ASK THEM OF THE EXPERIMENTER NOW. OTHERWISE, PRESS "ENTER" AND THE FIRST MESSAGE WILL APPEAR SHORTLY.
This experiment was part of a continuing research project concerned with when and how persuasive messages such as television advertisements and newspaper editorials are effective.

(Press "Enter" for further instructions)

In past experiments, using a smaller number of topics, we have presented actual arguments (such as the "sample arguments" you read earlier) and found them to be persuasive. In the present experiment, we substituted message conclusions for the actual arguments. Normally, when one is studying persuasion, it is common to present only arguments that support a certain position, even though there are arguments that favor the opposite position. In past experiments that used actual arguments, some subjects received the arguments favoring one side of an issue while the remaining subjects received arguments favoring the opposite side. Therefore, in the present experiment other subjects will not necessarily read the same conclusions you have read. For example, in the beginning of the experiment, you read arguments that concluded Puerto Rico should not be admitted to the union as a state. The message conclusion was therefore "no!". If the Puerto Rico issue was to be used as a topic in this experiment, other subjects would have read a "yes!" message conclusion based on the arguments you will read on the next page.

(Press "Enter" for opposite side sample arguments.)
SHOULD PUERTO RICO BE ADMITTED TO THE UNION AS A STATE?

SINCE THE JONES ACT WAS PASSED IN 1917, PUERTO RICANS HAVE ENJOYED AMERICAN CITIZENSHIP AND ALL RIGHTS EXCEPT VOTING. SINCE THEY ARE AN INTEGRAL PART OF AMERICA, THEY DESERVE THE RIGHT TO VOTE WHICH WOULD BE GIVEN THEM BY ADMISSION TO STATEHOOD.

PUERTO RICO HAS VAST AREAS WHICH CAN PRODUCE GREAT QUANTITIES OF SUGAR, BUT FARMLAND METHODS HAVE BEEN PRIMITIVE. ADMITTING PUERTO RICO TO U.S. STATEHOOD WOULD RESULT IN DEVELOPMENT OF PUERTO RICO AND BRING ABOUT ECONOMIC PROGRESS FOR PUERTO RICO AS WELL FOR THE MAINLAND U.S.


PUERTO RICO IS ONLY 1000 MILES FROM MIAMI. ITS RELATIONSHIP TO THE U.S. HAS BEEN CLOSER THAN THAT OF HAWAII WHEN HAWAII WAS ADMITTED TO U.S. STATEHOOD. PUERTO RICO'S CLOSE RELATIONSHIP TO THE U.S. SHOULD BE OFFICIALLY RECOGNIZED BY ADMISSION AS A STATE.
SINCE WE WERE ONLY ABLE TO PRESENT YOU WITH THE CONCLUSIONS OF PERSUASIVE MESSAGES ON VARIOUS TOPICS, OUR MAJOR INTERESTS IN THE PRESENT EXPERIMENT WERE (1) WHETHER READING A MESSAGE CONCLUSION (BASED ON WHAT YOU COULD ASSUME WERE SOUND ARGUMENTS) HAD ANY EFFECT ON YOUR OPINION AND (2) WHETHER THAT EFFECT (I.E., ATTITUDE CHANGE) PERSISTED AFTER A DELAY IN ASKING YOUR OPINION (THIS WAS WHY OPINION QUESTIONS WERE SOMETIMES ASKED IMMEDIATELY AFTER READING A MESSAGE-CONCLUSION AND AT OTHER TIMES WERE ASKED LATER IN THE EXPERIMENT).

(PRESS "ENTER" FOR FINAL INSTRUCTIONS)

THE EXPERIMENT IS NOW OVER.

IF YOU HAVE ANY FURTHER QUESTIONS ABOUT THE PURPOSES OF THE EXPERIMENT OR IF YOU WOULD LIKE TO OBTAIN MORE INFORMATION ABOUT ANY ASPECTS OF THE PROCEDURES, PLEASE FEEL FREE TO ASK THE EXPERIMENTER ABOUT THEM.

PLEASE FIND THE EXPERIMENTER NOW WHO WILL GIVE YOU A SHORT QUESTIONNAIRE AND WILL ANSWER ANY QUESTIONS THAT YOU HAVE ABOUT THE EXPERIMENT.
APPENDIX C:

INSTRUCTIONS FOR

EXPERIMENT FOUR
PRESS THE "ENTER" BUTTON ON THE KEYBOARD IN FRONT OF YOU TO RECEIVE THE FIRST PAGE OF INSTRUCTIONS.

STUDIES OF RESPONSE TO WRITTEN COMMUNICATIONS: INSTRUCTIONS

THIS EXPERIMENT IS PART OF A RESEARCH PROGRAM CONCERNED WITH RESPONSES TO SHORT MESSAGES OF THE TYPE THAT CAN BE COMMUNICATED READILY VIA PRINT, RADIO, OR TELEVISION. DURING THIS SESSION, YOU WILL SEE A SERIES OF SHORT STATEMENTS THAT EXPRESS CONCLUSIONS ABOUT A VARIETY OF TOPICS OF CURRENT INTEREST ("POLICY TOPICS"). YOU WILL ALSO SEE SHORT MESSAGES THAT WILL PROVIDE YOU WITH INFORMATION CONCERNING BRANDS OF VARIOUS COMMERCIAL PRODUCTS. AT SOME POINT DURING THE SESSION, YOU WILL BE ASKED WHETHER OR NOT YOU HAVE PREVIOUSLY SEEN A CONCLUSION CONCERNING VARIOUS POLICY TOPICS. YOU WILL ALSO BE ASKED TO RATE EACH BRAND NAME YOU ENCOUNTER. (YOU WILL NOT BE ASKED TO RATE ANY BRAND FOR WHICH YOU HAVE RECEIVED NO PREVIOUS INFORMATION).

(PRESS THE "ENTER" BUTTON ON THE KEYBOARD IN FRONT OF YOU WHEN YOU HAVE UNDERSTOOD THE INSTRUCTIONS TO THIS POINT.)
DURING THE EXPERIMENT, THERE WILL BE SOME PAGES ON YOUR DISPLAY SCREEN THAT REQUIRE YOU ONLY TO READ THE INFORMATION PRESENTED. THESE "PAGES" WILL CONSIST OF TWO PARTS.

1. POLICY TOPIC CONCLUSION: AT THE TOP OF THE PAGE WILL BE THE STATEMENT OF A TOPIC OF CURRENT INTEREST AND A CONCLUSION CONCERNING THAT TOPIC. DURING THE COURSE OF OUR RESEARCH, WE HAVE WRITTEN WHAT WE CONSIDER TO BE VERY DETAILED AND LOGICAL ARGUMENTS THAT SUPPORT CERTAIN CONCLUSIONS ABOUT THE POLICY TOPICS YOU ARE ABOUT TO ENCOUNTER. THERE WOULD NOT BE ENOUGH TIME FOR YOU TO READ ALL OF THESE ARGUMENTS, SO WE HAVE DECIDED TO PRESENT JUST THE CONCLUSIONS OF SOME OF THE ARGUMENTS. YOU MAY ASSUME THAT THESE CONCLUSIONS ARE BASED ON WHAT WE CONSIDER TO BE SOUND ARGUMENTS.

2. PRODUCT BRAND INFORMATION: AT THE BOTTOM OF THE PAGE, YOU WILL SEE A FICTITIOUS BRAND NAME OF A CONSUMER PRODUCT FOLLOWED BY A SHORT MESSAGE THAT WILL GIVE YOU SOME INFORMATION THAT WILL ENABLE YOU TO FORM SOME OPINION CONCERNING THAT BRAND.

WHEN YOU ENCOUNTER A PAGE AS DESCRIBED ABOVE, PLEASE READ THE PAGE CAREFULLY, THEN PRESS THE "ENTER" BUTTON TO CONTINUE. (PRESS THE "ENTER" BUTTON NOW IF YOU HAVE FINISHED READING THIS PAGE).
There will also be another type of "page" that you will encounter on your display screen. At the top of the page you will see the statement of a policy topic (one you may or may not have seen previously) followed by a rating question concerning a particular brand of some product (one you have previously received information about). You will have two tasks to perform when you encounter this type of page.

Task 1: There will be a question printed on the page that asks you whether you recall seeing a message conclusion concerning the policy topic at the top of the page. You will press "1" on the keyboard in front of you if your answer is yes, "2" if your answer is no.

Task 2: After responding with a "1" or "2", a "response scale" will appear at the bottom of the page. You will respond to the response scale with a number between 1 and 15. On the next page of instructions, you will be given some detailed information on how to respond to this scale.

(Press "Enter" to continue)
WHEN ASKED TO RATE A BRAND, YOU SHOULD RESPOND WITH A NUMBER BETWEEN 1 AND 15, THE NUMBERS BEING DEFINED AS ON THE SCALE YOU WILL SEE ON THE NEXT PAGE OF INSTRUCTIONS. NUMERICAL RESPONSES CAN BE ENTERED BY PRESSING ONE OR TWO DIGITS ON THE KEYBOARD, THEN PRESSING ENTER TWICE (!). THE FIRST TIME YOU PRESS "ENTER" THE COMPUTER WILL TENTATIVELY REGISTER YOUR RESPONSE WHILE DISPLAYING IT BACK TO YOU IN THE FORM OF AN ARROW (^) FLASHING OVER THE NUMBER YOU HAVE SELECTED. AT THIS TIME YOU MAY EITHER MAKE YOUR TENTATIVE RESPONSE FINAL (BY PRESSING "ENTER" AGAIN) OR YOU MAY CHANGE YOUR RESPONSE BY PRESSING A NEW NUMBER (AND THEN PRESSING "ENTER" TWICE). IF YOU ARE SURE OF YOUR RESPONSE, IT IS PERFECTLY ALL RIGHT TO PRESS "ENTER" TWICE WITHOUT WAITING FOR THE FLASHING ARROW. THE COMPUTER WILL AUTOMATICALLY DETECT A ZERO, OR A NUMBER GREATER THAN 15, OR A NONNUMERICAL RESPONSE AS AN ERROR AND WILL GIVE YOU A MESSAGE INDICATING THAT YOU SHOULD RESPOND AGAIN.

IF YOU UNDERSTAND THE INSTRUCTIONS TO THIS POINT, PRESS "ENTER" TO PROCEED. READ THIS PAGE BEFORE GOING ON.

THE PAGE IS INTENDED TO GIVE YOU PRACTICE IN USING THE KEYBOARD FOR ENTERING AND CHANGING RESPONSES. MAKE SURE THAT THE USE OF THE KEYBOARD IS COMPLETELY CLEAR BEFORE PROCEEDING. (REMEMBER THAT A RESPONSE IS COMPLETELY REGISTERED ONLY BY PRESSING "ENTER" TWICE IN SUCCESSION AND THAT YOU CAN CHANGE A RESPONSE AFTER PRESSING "ENTER" ONLY ONCE.)

HERE IS THE FIRST RATING QUESTION:

HOW WOULD YOU RANK YOUR MEDICAL SHAMPOO:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
POOR BELOW AVERAGE ABOVE EXCELLENT AVERAGE
If at any time during the experiment, it appears to you that the equipment is malfunctioning so as to prevent proper conduct of the experiment, please discontinue and find the experimenter to inform him (her) of this. (This is not likely.)

If you have any questions about the instructions, please ask them of the experimenter now. Otherwise, press "Enter" and the first message will appear shortly.
IN CASE YOU HAVE NOT PREVIOUSLY BEEN SO INFORMED, YOU
SHOULD KNOW THAT HUMAN PARTICIPANTS IN ANY RESEARCH AT OHIO
STATE UNIVERSITY ARE AT LIBERTY TO TERMINATE THEIR PARTICI-
PATION AT ANY TIME THEY SO DESIRE. THE PRECEDING INSTRU-
CTIONS HAVE DESCRIBED THE TASKS YOU WILL ENCOUNTER IN THIS EX-
PERIMENT. IF FOR ANY REASON YOU PREFER NOT TO PROCEED WITH
THE EXPERIMENT, PRESS THROUGH THE EXPERIMENTER OF THIS
OTHERWISE, PRESS THE "ENTER" BUTTON TO CONTINUE.

PLEASE REMEMBER THE FOLLOWING!!!!!!!

1. SOME "DISPLAY PAGES" WILL REQUIRE YOU ONLY TO READ THE
INFORMATION PRESENTED. PRESS "ENTER" AFTER READING.

2. SOME "DISPLAY PAGES" WILL REQUIRE YOU TO ANSWER TWO
QUESTIONS: ONE QUESTION CONCERNING A POLICY TOPIC, ANOTHER QUES-
TION ASKING YOU TO RATE A PARTICULAR BRAND OF SOME PRODUCT.

3. IF YOU ARE SOMewhat CONFUSED AT THIS POINT, OPEN
YOUR DOOR AND WAIT FOR THE EXPERIMENTER (AS YOU PROCEED THROUGH
THE EXPERIMENT, YOU WILL PROBABLY FIND THAT YOU AREN'T AS CON-
FUSED AS YOU THINK YOU ARE!!).

4. FINALLY, WHILE THE MESSAGES YOU READ ABOUT BRANDS OF
CONSUMER PRODUCTS MAY HAVE SOME RESEMBLANCE TO ADVERTISEMENTS,
PLEASE CONSIDER ALL INFORMATION YOU RECEIVE TO BE VALID (THAT IS,
CONSIDER ANY INFORMATION YOU RECEIVE TO BE TRUTHFUL AND ACCURATE).