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## MESSAGE COMPREHENSIBILITY AND PERSUASION: EFFECTS OF COMPLEX LANGUAGE IN COUNTERATTITUDINAL APPEALS TO LAYPEOPLE

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The influence of complex language in a counterattitudinal appeal to laypeople was examined using dual process theories of persuasion. These theories propose that persuasion can result from cognitive elaboration of message arguments, or from more peripheral/heuristic strategies that do not involve argument scrutiny. One hundred four undergraduates listened to a counterattitudinal speech that varied in argument strength, wording complexity/comprehensibility, and source status. They then completed an attitude measure, a thought listing task, and an argument recall task. When arguments were easy to comprehend, attitudes were more favorable when the arguments were strong versus weak. When arguments were difficult to comprehend, attitudes were more favorable when the source was of high versus low status. Mediation analyses suggested that cognitive elaboration mediated persuasion when comprehension was easy, whereas cognitive elaboration as well as less effortful peripheral/heuristic processing mediated persuasion when comprehension was difficult.

Professionals must often communicate expert information to laypeople. Often these communications are attempts at persuasion to a particular point of view or course of action. For example, physicians may recommend a particular diagnosis and treatment regimen to their patients, financial advisors may try to persuade clients toward a specific invest-

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ment strategy, and academics may try to convince laypeople of the validity of their research findings. Unfortunately, the expert's message is sometimes expressed in language that contains technical terminology and jargon or uses infrequent words and grammatical structures. Such language may be difficult for the layperson to comprehend (for discussions of problems with expert language, see Christy, 1979; Forsterlee, Horowitz, & Bourgeois, 1993; Kratz & Marshall, 1988; Musialowski, 1988). The purpose of the present study was to use dual process theories of persuasion (for reviews, see Eagly & Chaiken, 1993; Olson & Zanna, 1993; Petty, 1994) to investigate the effects of such complex appeals on laypeople's attitudes.

From an intuitive analysis of this issue, one might reason that the use of complex language in a counterattitudinal appeal would render the message ineffective because such language lowers comprehension, and message comprehension is a prerequisite for persuasion (as Hovland, Janis, & Kelley argued in 1953). However, research showing that comprehension is not a necessary prerequisite to attitude change (see Eagly & Chaiken, 1993) contradicts this analysis. More recent work on cognitive approaches to persuasion afforded us a different perspective on the possible effects of complex language. Specifically, guided by Petty and Cacioppo's Elaboration Likelihood Model (ELM; 1986) and Chaiken's Heuristic-Systematic Model (HSM; 1980, 1987), we reasoned that complex language in a counterattitudinal appeal would influence attitudes by determining the *type of processing* engaged in by message recipients.

According to the ELM and the HSM, persuasion can result from two types of processes. First, persuasion can occur as a result of scrutinizing the arguments in the message. Pro and anti-message thoughts, or cognitive elaborations, generated as a result of argument scrutiny, mediate this type of persuasion. Cognitive elaboration of message arguments is referred to as "central route" processing in Petty and Cacioppo's ELM and as "systematic" processing in Chaiken's HSM. Second, persuasion can occur as a result of attention to some cue, other than the arguments themselves, that the message is valid. Examples of these cues are the attractiveness, likability, or popularity of the message source (e.g., Pallak, Murrioni, & Koch, 1983; Petty, Cacioppo, & Schumann, 1983; Roskos-Ewoldsen & Fazio, 1992), source expertise (e.g., Petty, Cacioppo, & Goldman, 1981; Wood & Kallgren, 1988), and message length (e.g., Petty & Cacioppo, 1984; Wood, Kallgren, & Preisler, 1985). The HSM focusses on heuristics as a mediator in cue-based persuasion (e.g., "attractive people are trustworthy") and, hence, refers to this type of processing as "heuristic." The ELM includes *all* processes that do not depend on argument scrutiny: heuristics, classical and operant conditioning, etc. This broad class of mechanisms is referred to as "peripheral route" processing. Thus,

although the ELM and the HSM differ in the scope of processes included in cue-based persuasion, they both postulate that persuasion can be the result of (1) cognitive elaborations of the arguments in the message or (2) less cognitively effortful strategies involving extraneous cues to message validity (for more detailed comparisons of the two models, see Eagly & Chaiken, 1993; Petty, 1994). For simplicity, the terms central route and peripheral route processing will be used throughout this paper to denote the two processing modes. Cues to message validity that are extraneous to argument content will be referred to as "peripheral cues" (Petty & Cacioppo, 1986).

The likelihood that arguments will be scrutinized and elaborated on, and therefore the likelihood that persuasion will involve central route processing, is a function of an individual's *motivation* to scrutinize the arguments contained in the message, and an individual's *ability* to scrutinize these arguments. If motivation and ability are high, it is likely that the arguments will be subject to scrutiny and elaboration; i.e., central route processing will occur. Under such circumstances, persuasion will be a function of the quality or strength of the arguments, as argument quality will presumably determine whether pro or anti message thoughts predominate. If motivation and/or ability are low, an individual is less likely to scrutinize and elaborate on the arguments and, therefore, persuasion is more likely to proceed via peripheral route processing. Under such conditions, persuasion will be a function of the presence/absence or the strength of peripheral cues to message validity. Results from several experiments support the above propositions (for reviews, see Eagly & Chaiken, 1993; Olson & Zanna, 1993; Petty & Cacioppo, 1986).

For the present study, we viewed the complexity of the language in a counterattitudinal message as a determinant of recipients' *ability* to scrutinize and elaborate on message arguments. If a counterattitudinal appeal is simply worded and, therefore, easy to comprehend, individuals should elaborate on message arguments and their attitudes should be a function of argument quality (mediated by the valence of their cognitive elaborations). The use of jargon, infrequent words, and complex grammatical structures, on the other hand, should decrease individuals' ability to scrutinize the arguments in the message, thus increasing their tendency to rely on peripheral cues to message validity rather than on argument quality.

To our knowledge, no previous study has directly addressed this entire line of reasoning. However, there is some evidence that a difficult-to-comprehend message increases the tendency for recipients to rely on peripheral cues to message validity. Ratneshwar and Chaiken (1991) manipulated message comprehensibility and source expertise (a peripheral cue) in two studies in which participants read a message advocating

a new product. Comprehensibility was manipulated via message exposure time in Study 1 and via extent of prior knowledge about the product in Study 2. In both studies, message exposure was followed by a measure of participants' attitudes toward the product and a measure of the thoughts the participants generated while reading the message, as well as manipulation checks and some ancillary measures. In both studies, when the message was difficult to comprehend, participants' attitudes toward the product were more favorable when the source was an expert than when he was a novice: When the message was easy to comprehend, source expertise had no impact on attitudes.

These results support part of our reasoning outlined above; namely, that a difficult-to-comprehend message increases individuals' tendency to rely on peripheral cues in assessing the validity of that message. However, the Ratneshwar and Chaiken studies give little evidence for the rest of our rationale. First, the researchers did not manipulate or measure perceived argument quality and, thus, did not address whether or not participants' attitudes were a function of argument quality in the easy comprehension conditions, as suggested above. Second, the role that cognitive elaboration of message arguments played in persuasion was unclear. The valence of message-related thoughts (i.e., positive thoughts toward the product minus negative thoughts toward the product) predicted attitudes for all comprehension conditions (i.e., easy and difficult comprehension for Study 1; easy, moderate, and difficult comprehension for Study 2). Thus, central route processing may have been involved even when comprehension was reduced. More sophisticated mediational analyses (e.g., path analyses) would elucidate the role of argument elaboration in persuasion under varying comprehension conditions.

In summary, the Ratneshwar and Chaiken (1991) studies support our notion that language complexity and, therefore, message comprehensibility, influences the extent to which individuals rely on peripheral cues in assessing the validity of a message. However, these studies do not address how message comprehensibility moderates the influence of *argument quality* on persuasion. Also, the role that cognitive elaborations played in mediating persuasion in the Ratneshwar and Chaiken studies was unclear. These issues are addressed in the present research.

We tested our dual process analysis of language complexity and persuasion within the context of a legal issue. We chose a legal issue for two reasons. First, our primary concern in this research was to investigate the effects of complex language in counterattitudinal appeals to laypeople. Problems with communicating expert knowledge to laypeople is especially relevant to the legal profession, which has come under increasing attack for its use of complicated terminology and grammatical

structure (see Forsterlee et al., 1993). Second, dual process models have been applied to counseling (e.g., Cacioppo, Claiborn, Petty, & Heesacker, 1991; Neimeyer, Guy, & Metzler, 1989) and to advertising (e.g., Haugtvedt, Schumann, Schneier, & Warren, 1994; Ratneshwar & Chaiken, 1991) but never to persuasion attempts within the legal system. Thus, choosing a legal issue for this study allowed us to apply dual process models to a novel domain.

The legal issue used for the messages in the present study was plea bargaining. A plea bargain can be defined as "any agreement by the accused to plead guilty in return for the prosecutor's agreeing to take or refrain from taking a particular course of action" (Law Reform Commission of Canada, 1989, p. 40). In the U.S. and Canada, this may include, among other agreements, a guilty plea to some charges in exchange for dropping other charges, a guilty plea to a reduced charge in exchange for dropping a more serious charge, or a guilty plea with a promise that a particular stance will be taken on the sentence (Verdun-Jones & Hatch, 1988; Wrightsman, 1991). Practitioners and the courts in the U.S., Canada, England, New Zealand, and Australia have generally accepted plea bargaining as part of the criminal justice system (American Bar Association, 1993; Ontario Ministry of the Attorney General, 1993); however, public opinion surveys have found that laypeople have negative attitudes toward plea bargaining (see Cohen & Doob, 1989; Rich & Sampson, 1990). Therefore, we expected that, in the current study, a pro plea bargaining speech would be counterattitudinal to many of our participants. Plea bargaining was also expected to be a particularly current issue in the study. Participants were students at Brock University in St. Catharines, Ontario, and, at the time this study was conducted, a highly publicized plea bargain had just been negotiated in St. Catharines—that of Karla Holmolka (see Mittelstaedt, 1993). As a result of her plea bargaining, Ms. Holmolka was convicted of manslaughter in the sexual abuse and murders of two teenage girls in exchange for testimony against her ex-husband and co-conspirator, Paul Bernardo. Awareness of this event was very high among community members and university students in St. Catharines as Holmolka, Bernardo, and the victims were from the area. Thus, a pro plea bargaining speech would presumably constitute an *invo'ving* counterattitudinal message.

Participants listened to a pro plea bargaining speech that varied in the quality of the arguments and the complexity of the language. Participants were given information about the speaker indicative of high versus low status, a peripheral cue. (Source status and the related concepts of source expertise and credibility have been successfully manipulated as peripheral cues in many persuasion studies [e.g., Neimeyer et al., 1989; Petty et al., 1981; Petty et al., 1983; Verplanken, 1991]). After the speech,

participants completed a measure of attitudes, a thought listing task, and an argument recall task. The thought listing task was designed to measure the number of thoughts generated during the speech that were pro or anti plea bargaining.

## HYPOTHESES

1. When language complexity was low, and therefore arguments were easy to comprehend, we expected participants to have more favorable attitudes toward plea bargaining in the strong-argument condition than in the weak-argument condition. Source status was expected to have little influence on attitudes under low complexity.
2. When language complexity was high, and therefore arguments were difficult to comprehend, participants were expected to have more favorable attitudes toward plea bargaining in the high status source condition than in the low status source condition. We hypothesized that argument quality would have little influence on attitudes under high complexity.
3. When language complexity was low (easy comprehension), we thought that participants presented with strong arguments would generate more favorable cognitive responses toward plea bargaining than participants presented with weak arguments. When language complexity was high (difficult comprehension), the valence of cognitive responses toward plea bargaining was not expected to depend on argument strength.

## METHOD

### PRETEST

Sixty undergraduates enrolled in an introductory psychology course at Brock University participated in the pretesting for this study. All students received course credit for their help.

An initial group of 20 participants were surveyed for their attitudes toward plea bargaining and for their perceptions of 19 arguments in favor of plea bargaining that are commonly cited in the literature (e.g., Alschuler, 1968; Ferguson & Roberts, 1974; Law Reform Commission of Canada, 1989). Two versions of each argument were created: one used layperson's terminology and avoided infrequent words and complex grammatical structures (easy comprehension), while the other involved some legal jargon and/or used infrequent words and/or complex grammatical structures (difficult comprehension).

Because the term plea bargaining may include vastly different types of negotiations and there is some controversy over what the procedure

TABLE 1. Examples of Pro Plea Bargaining Arguments Varying in Strength and Comprehensibility

Argument Type	
Strong, Easy	There is often an overly long time period before a case comes to trial. Plea bargaining can help to cut down on this waiting period.
Strong, Difficult	Plea bargaining can facilitate the avoidance of trial delays of unacceptable magnitude.
Weak, Easy	Deals in a properly set up plea bargaining system will be similar to the results of a trial.
Weak, Difficult	Negotiated dispositions in a properly constructed system of plea bargaining will approximate the probable results of a trial.

involves (Ontario Ministry of the Attorney General, 1993), we chose to limit the definition we gave participants to two common practices within plea bargaining, sometimes referred to as "charge bargaining" (Verdun-Jones & Hatch, 1988). Those were the practice of accepting a reduced sentence for a guilty plea and pleading guilty to a lesser offence if a greater offence is dropped. Participants rated the extent to which they were in favor of or opposed to these forms of plea bargaining on a scale ranging from 1 (completely opposed) to 7 (completely in favor). Following the rating task, participants were randomly assigned to one of two sets of arguments receiving either only the easy or the difficult version of each of the 19 arguments. Each argument was rated on a perceived quality scale ranging from 1 (very weak argument) to 7 (very strong argument) and an ease of comprehension scale ranging from 1 (very easy to understand) to 7 (very difficult to understand).

The mean attitude toward plea bargaining was 3.45, indicating a slightly negative stance. Of the 19 arguments in favor of plea bargaining, easy and difficult versions of five "strong" and five "weak" arguments were selected for the main study according to the following criteria: strong arguments obtained a mean quality rating of greater than 4.20 (i.e., the overall mean quality rating for all arguments), and weak arguments obtained a mean quality rating equal to or less than 4.20; the comprehension ratings for the easy versus difficult versions of each of the 10 arguments differed in the expected direction; and, there were no significant differences in the quality ratings between easy and difficult versions of the same arguments. These arguments were arranged into four sets: strong/easy to comprehend, strong/difficult to comprehend, weak/easy to comprehend, and weak/difficult to comprehend. Examples of these arguments are listed in Table 1.

Forty more participants were then each randomly assigned to one of these four sets of arguments. They rated each argument on the same quality and comprehension scales described earlier. The quality and comprehension ratings were averaged for each participant, and these average scores were subjected to Argument Strength (strong vs. weak)  $\times$  Argument Comprehensibility (easy vs. difficult) between-subjects analyses of variance (ANOVAs). The easy comprehension arguments were rated as easier to understand ( $M = 1.89$ ) than the difficult comprehension arguments ( $M = 2.95$ ),  $F(1, 36) = 18.41, p < .001$ . Also, the strong arguments were rated as stronger ( $M = 5.17$ ) than the weak arguments ( $M = 3.80$ ),  $F(1, 36) = 32.62, p < .001$ . No other main effects or interactions were significant. Thus, we had successfully selected arguments that varied independently in terms of strength and comprehensibility.

## PARTICIPANTS

One hundred four undergraduates (48 men, 55 women, and one person who did not specify a gender) in the introductory psychology course at Brock University participated in the main study for course credit. Participants were randomly assigned to one of eight experimental conditions with the limitation that equal numbers of participants with complete data on the dependent variables would be in each group. The eight conditions resulted from a  $2 \times 2 \times 2$  complete factorial design in which we manipulated message comprehensibility (easy vs. difficult), the strength of the arguments (strong vs. weak), and source status (high vs. low).

## PROCEDURE

Participants were tested in small groups. All participants within a particular group were assigned to the same condition. Several sessions were conducted for each condition.

After reading and signing a consent form, participants were told that they would be listening to a taped speech on plea bargaining that had been presented at a legal symposium. In the high status condition, participants were told that the speaker was His Honor Judge William Grovestead, a *summa cum laude* graduate of Harvard Law School who had been sitting on the bench for 15 years. They were also told that Judge Grovestead was an expert on plea bargaining who had written numerous learned papers on the topic. In the low status condition, the speaker was introduced as William Grovestead, a second-year law student at Rockway University (a fictitious school) who had recently become interested in plea bargaining. The information on the source was given by the

experimenter before the taped speech began as well as by a master of ceremonies at the beginning of the tape. Participants then listened to the taped speech. The speaker was portrayed by the same individual in all experimental conditions, as was the master of ceremonies. When the speech was over, participants completed an attitude measure, a thought listing task, and a recall exercise.

## DEPENDENT MEASURES

*Attitude.* After listening to the speech, participants completed the same attitude measure as that used for pretesting. The definition of plea bargaining given to participants was also identical to that used for the pretest.

*Thought Listing.* The attitude measure was followed by a thought listing task. Participants were given 2.5 minutes to list any thoughts on plea bargaining that they had generated while the arguments were being presented. At the end of the allotted time, participants rated each of these thoughts as in favor of plea bargaining, opposed to plea bargaining, or as neither in favor of nor opposed to plea bargaining. Research has shown that participants' ratings of thought favorability are highly correlated with judges' ratings (Cacioppo & Petty, 1981); thus, we retained participants' ratings for analyses. A measure of the valence of cognitive elaborations was created by subtracting the number of unfavorable thoughts (i.e., those opposed to plea bargaining) from the number of favorable thoughts (i.e., those in favor of plea bargaining). We also summed the number of favorable and unfavorable thoughts to arrive at a measure of total cognitive elaborations (for a discussion of these procedures, see Cacioppo & Petty, 1981).

*Recall.* Participants then listed as many arguments as they could remember from the speech. The number of arguments each participant recalled accurately constituted the measure of argument recall. Two judges blind to the hypotheses of the study assessed each listed argument for accuracy. An argument was considered accurate if it quoted or paraphrased one of the arguments presented in the speech. The judges agreed on the accuracy of 92% of the arguments. Disagreements were resolved by the first author.

## RESULTS

### ATTITUDES TOWARD PLEA BARGAINING

To test the hypotheses regarding attitudes toward plea bargaining, we conducted a three-way (Argument Comprehensibility  $\times$  Argument

TABLE 2. Attitudes Toward Plea Bargaining as a Function of Argument Comprehensibility, Argument Strength, and Source Status

Source Condition	Argument Strength		M
	Strong	Weak	
Easy Comprehension			
High Status	4.31	3.69	4.00
Low Status	5.08	3.62	4.35
M	4.69	3.65	
Difficult Comprehension			
High Status	4.69	5.23	4.96
Low Status	3.00	3.54	3.27
M	3.85	4.38	

Note. Attitudes were measured on a 7-point scale (1 = completely opposed, 7 = completely in favor).  $n = 13$ .

Strength  $\times$  Source Status) between-subjects ANOVA with scores on the seven-point attitude scale as the dependent variable. A main effect for source status showed that participants who listened to the high-status speaker had more favorable attitudes toward plea bargaining ( $M = 4.48$ ), than did participants who listened to the low-status speaker ( $M = 3.81$ ),  $F(1, 96) = 7.75, p < .01$ . More importantly, the analysis yielded an interaction between argument comprehensibility and source status,  $F(1, 96) = 17.78, p < .001$ , and between argument comprehensibility and argument strength,  $F(1, 96) = 10.64, p < .01$ . Table 2 shows the cell means for this analysis.<sup>1</sup>

Predictions were made for within the comprehensibility conditions; therefore, we further explored the means presented in Table 2 by conducting an Argument Strength  $\times$  Source Status between-subjects ANOVA for the easy and difficult comprehension conditions. The results of these analyses conformed to our hypotheses. As predicted, when comprehension was easy, attitudes toward plea bargaining were more favorable in the strong argument condition ( $M = 4.69$ ) than in the weak

1. We also conducted three 3-way between-subjects ANOVAs with gender and two of the manipulations as independent variables (results from these analyses should be interpreted with caution as some cells had *ns* as low as 8). The only significant effects involving gender were gender main effects, e.g.,  $F(1, 95) = 8.64, p < .01$ , and interactions between gender and argument comprehensibility, e.g.,  $F(1, 95) = 7.42, p < .01$ . Overall, men were more in favor of plea bargaining ( $M = 4.50$ ) than were women ( $M = 3.80$ ). However, this difference occurred only in the easy comprehension condition (men,  $M = 4.89$ ; women,  $M = 3.40$ ). No significant 3-way interactions occurred in these analyses. Thus, the Argument Comprehensibility  $\times$  Argument Strength and Argument Comprehensibility  $\times$  Source Status interactions reported above were not moderated by gender.

TABLE 3. Cognitive Elaboration Valence as a Function of Argument Comprehensibility, Argument Strength, and Source Status

Source Condition	Argument Strength		M
	Strong	Weak	
Easy Comprehension			
High Status	1.38	.15	.77
Low Status	1.38	-.31	.54
M	1.38	-.08	
Difficult Comprehension			
High Status	1.62	.69	1.15
Low Status	-1.38	-1.38	-1.38
M	.12	-.35	

Note. Cognitive elaboration valence = the number of favorable cognitive responses toward plea bargaining minus the number of unfavorable cognitive responses toward plea bargaining.  $n = 13$ .

argument condition ( $M = 3.65$ ),  $F(1, 48) = 8.25, p < .01$ ; however, attitudes were not affected by source status (high status source,  $M = 4.00$ ; low status source,  $M = 4.35$ ). When comprehension was difficult, attitudes toward plea bargaining were more favorable in the high status source condition ( $M = 4.96$ ) than in the low status source condition ( $M = 3.27$ ),  $F(1, 48) = 27.79, p < .001$ ; however, attitudes were not affected by argument strength (strong arguments,  $M = 3.85$ ; weak arguments,  $M = 4.38$ ). The interaction between argument strength and source status was nonsignificant in both 2-way ANOVAs.

#### THOUGHT LISTING

To test the hypotheses for the thought listing data, we conducted an Argument Comprehensibility  $\times$  Argument Strength  $\times$  Source Status between-subjects ANOVA for the measure of cognitive elaboration valence. The analysis resulted in two main effects and an interaction. A main effect for argument strength showed that cognitive elaborations were more favorable toward plea bargaining in the strong argument condition ( $M = .75$ ) than in the weak argument condition ( $M = -.21$ ),  $F(1, 96) = 4.69, p < .05$ . This finding conforms to Petty and Cacioppo's (1986) definition of strong and weak arguments. A main effect for source status showed that cognitive responses toward plea bargaining were more favorable in the high status source ( $M = .96$ ) than in the low status source condition ( $M = -.42$ ),  $F(1, 96) = 9.71, p < .01$ . There was also a significant interaction between argument comprehensibility and source status,  $F(1, 96) = 6.75, p < .05$ . Table 3 shows the cell means for this analysis.

To further explore the Argument Comprehensibility  $\times$  Source Status

interaction, and to test the cognitive elaboration predictions within the comprehensibility conditions, we conducted Argument Strength  $\times$  Source Status between-subjects ANOVAs on the cognitive elaboration valence measure for easy and for difficult comprehension. Results from these analyses supported our hypotheses. For the easy comprehension condition, a main effect for argument strength revealed that cognitive elaborations were more favorable in the strong argument condition ( $M = 1.38$ ) than in the weak argument condition ( $M = -.08$ ),  $F(1, 48) = 4.72$ ,  $p < .05$ . No other effects were reliable. For the difficult comprehension condition, there was a main effect for source status,  $F(1, 48) = 19.15$ ,  $p < .001$ . Cognitive elaborations were more favorable toward plea bargaining when the speaker had high status ( $M = 1.15$ ) than when he had low status ( $M = -1.38$ ). There were no other significant effects. Thus, according to our hypotheses, the valence of cognitive elaborations was a function of argument strength only in the easy comprehension condition, where, as predicted, they were more favorable for strong than for weak arguments.

An Argument Comprehensibility  $\times$  Argument Strength  $\times$  Source Status between-subjects ANOVA was conducted for the measure of total cognitive elaborations. No significant effects emerged from this analysis.

## RECALL

The number of arguments accurately recalled was also subjected to an Argument Comprehensibility  $\times$  Argument Strength  $\times$  Source Status between-subjects ANOVA. One significant effect emerged. This was a main effect for argument comprehensibility,  $F(1, 96) = 7.83$ ,  $p < .01$ , showing that more arguments were accurately recalled in the easy comprehension condition ( $M = 2.00$ ) than in the difficult comprehension condition ( $M = 1.44$ ). This finding is further evidence that the manipulation of argument comprehensibility was effective.

## MEDIATIONAL ANALYSES

To explore the extent to which cognitive elaboration valence mediated persuasion under easy versus difficult comprehension, we conducted a path analysis for each of the comprehensibility conditions. The independent variables for these analyses were the manipulations of argument strength and source status. As shown in Figures 1 and 2, path coefficients were calculated for the direct paths from these manipulations to attitudes toward plea bargaining, as well as for the direct path from cognitive elaboration valence to attitudes, and for the indirect paths

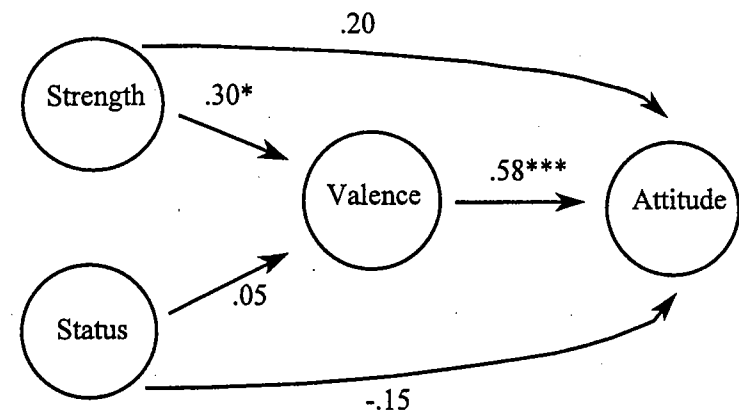


FIGURE 1. Path analysis for easy comprehension condition. Strength = Attitude strength manipulation (0 indicated weak arguments; 1 indicated strong arguments). Status = Source status manipulation (0 indicated low status; 1 indicated high status). Valence = Cognitive elaboration valence measure (higher scores indicate more favorable cognitive elaborations). Attitude = attitude toward plea bargaining (higher scores indicate a more favorable attitude).

\* $p < .05$ . \*\*\* $p < .001$ .

from argument strength and source status to attitudes (through cognitive elaboration valence). A reliable path from the manipulations to cognitive elaboration valence to attitudes would indicate that persuasion is mediated by cognitive elaborations and, therefore, central route processing. A significant path from source status directly to attitudes would be consistent with peripheral route processing.

The path analysis within the easy comprehension condition revealed a significant path from argument strength to cognitive elaboration valence to attitudes. None of the other paths were reliable (see Figure 1). These results support our expectation that, when arguments are easy to comprehend, the strength of these arguments will determine persuasion through their effect on cognitive elaborations.

The path analysis within the difficult comprehension condition resulted in a significant path from source status to cognitive elaboration valence to attitudes. There was also a significant direct effect of source status on attitudes (see Figure 2). These findings suggest that both central route and peripheral route processing may have mediated persuasion in this condition. Finally, there was a direct effect of argument strength on attitudes. This effect appeared to be uninterpretable and, therefore, will not be discussed further.



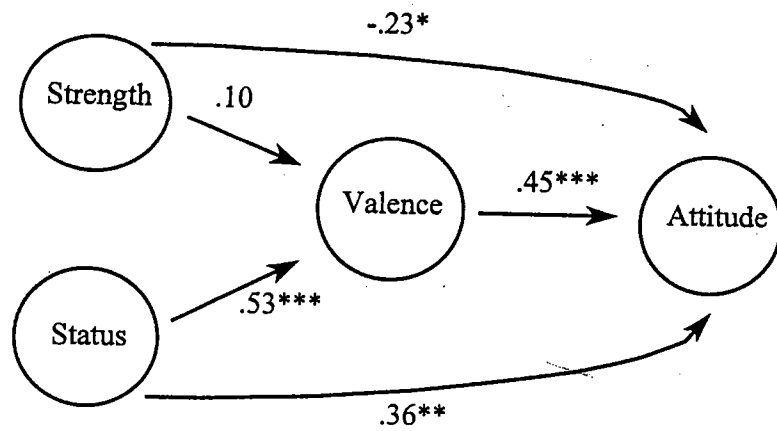


FIGURE 2. Path analysis for difficult comprehension condition.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## DISCUSSION

This study was conducted to explore the effects of complex language in a counterattitudinal appeal to laypeople. Hypotheses were derived from dual process models of persuasion, specifically the ELM (Petty & Cacioppo, 1986) and the HSM (Chaiken, 1980, 1987). We reasoned that messages using simple language that are easy to comprehend would lead to central route or systematic processing. Simple language enables people to scrutinize and elaborate on message arguments and, therefore, assuming that people are motivated to engage in argument scrutiny, strong arguments will lead to greater persuasion than will weak arguments. Cues to message validity other than argument quality should have relatively little effect on persuasion. In contrast, we reasoned that messages using complex language that are difficult to comprehend would lead to heuristic or, more broadly, peripheral route processing. With little ability to think about the quality of the arguments (regardless of motivation), persuasion should be based on cues other than argument quality, such as characteristics of the source.

To test this logic, laypeople listened to speeches in favor of plea bargaining (counterattitudinal messages). Results generally supported the hypotheses and, therefore, support a dual process explanation of the effects of complex language on laypeople's attitudes. When the speech was easy to comprehend, attitudes toward plea bargaining were more positive when the arguments were strong than when they were weak;

however, attitudes were unaffected by the status of the speaker (a peripheral cue). Our ANOVAs on the thought listing data and the mediational analyses suggest that strong arguments elicited more favorable cognitive responses toward plea bargaining than did weak arguments, thus resulting in attitude change in the direction advocated by the message. These results are consistent with the concept of central route or systematic processing.

When the pro-plea bargaining speech included jargon, infrequent words, and/or complex grammatical structures (i.e., when it was difficult to comprehend), ANOVAs showed that the quality of the arguments was irrelevant; rather, the status of the speaker influenced persuasion. Attitudes were more positive toward plea bargaining when the speaker was of high status than when he was of low status. These findings are consistent with the concepts of peripheral route and heuristic processing.

Persuasion that is based on pure peripheral route processing is not mediated by cognitive elaboration of message arguments, but by some less cognitively effortful process (e.g., application of a heuristic). In the present study, results from ANOVAs on the thought listing data and the mediational analyses suggest that persuasion under conditions of difficult comprehension was mediated by both central and peripheral processes. The status of the speaker had an indirect influence on attitudes, through its effect on cognitive elaborations. Participants who listened to the high-status speaker reported more favorable cognitive elaborations than did participants who listened to the low-status speaker; and more favorable cognitive elaborations were associated with more positive attitudes toward plea bargaining. Thus, participants appeared to be using the source status cue as a guide to the valence of their cognitive elaborations which, in turn, predicted attitudes. This biasing effect of a peripheral cue on cognitive elaborations is described by both the ELM and the HSM, and empirical examples can be found in recent persuasion research (e.g., Chaiken & Maheswaran, 1994; Chaiken, Liberman, & Eagly, 1989; Petty, Priester, & Wegener, 1994; Petty, Schumann, Richman, & Strathman, 1993).

The status of the speaker also had a direct effect on attitudes (i.e., independent of cognitive elaboration valence). Thus, although cognitive elaborations may have acted as one mediator between source cues and persuasion when comprehension was difficult, true peripheral processing may also have mediated the source cue effect. Perhaps, for example, the source status information activated the heuristic "high-status people are more knowledgeable than low-status people," which, in turn, influenced attitudes. These findings replicate recent research verifying the claims that (1) central route/systematic and peripheral route/heuristic



processes can co-occur, and (2) persuasion variables, such as source characteristics, can serve multiple roles (see Chaiken & Eagly, 1993; Petty, 1994).

These results also offer a possible explanation for participants' responses in Ratneswhar and Chaiken's (1991) difficult comprehension conditions. As mentioned earlier, Ratneswhar and Chaiken found that, when the message was difficult to comprehend, source expertise influenced recipients' attitudes; also, cognitive elaboration of message arguments were significantly correlated with attitudes. It is plausible that, as in the present study, participants receiving difficult-to-understand messages used source expertise as a heuristic cue (suggested by correlations between both source-related thoughts and perceived expertise, as well as attitudes) and as a guide to their cognitive elaborations, which, in turn, influenced attitudes. Thus, a combination of peripheral and central route processing may have characterized participants in the difficult comprehension conditions.

A more novel aspect of the results for the present study is that one variable *concurrently* served multiple roles in persuasion: source status appeared to act as a peripheral cue and as a biasing agent of cognitive elaborations under conditions of difficult comprehension. Examples of the multiple roles of persuasion variables usually involve the variable serving different roles under different conditions. For example, a source characteristic, such as attractiveness, can cue heuristic processing under conditions of low elaboration likelihood (e.g., cues the heuristic "attractive people are knowledgeable"). Yet, under high elaboration likelihood a source characteristic can act as an issue-relevant argument (e.g., an attractive person endorsing a beauty product could serve as an argument for using that product) or can bias cognitive elaborations (see Petty, 1994). However, there are few examples of a persuasion variable simultaneously serving two different roles (for the only example we know, see Chaiken & Maheswaran, 1994).

#### ALTERNATIVE EXPLANATIONS FOR THE ATTITUDE FINDINGS

We have assumed that participants' motivation to scrutinize and elaborate on the arguments in the message was relatively high and the manipulation of language complexity/comprehensibility primarily affected their ability to engage in argument scrutiny. However, it is possible that comprehensibility affected participants' motivation as well as their ability. Perhaps the desire to be a good research participant, which motivated participants to listen carefully to the speech, was reduced when confronted with complexly worded arguments, leading to a ten-

dency to rely on source characteristics rather than argument quality as a cue to message validity.

While this is a plausible explanation, we have anecdotal evidence that participants' level of motivation was unusually high during this experiment. As already mentioned, the issue of plea bargaining was expected to be particularly involving for participants in the present study due to the controversial plea bargain of Karla Holmolka who, at the time of the study, had recently been convicted of manslaughter for her role in the sexual abuse and slaying of two local teenage girls. Consistent with this expectation, many participants spontaneously mentioned the Holmolka case in their thought listing task or during debriefing. It is likely, therefore, that participants' motivation in the experiment was higher and less malleable than might otherwise have been the case.

The manipulation of argument comprehensibility could also have influenced affect (cf., Eagly, 1974; Ratneswhar & Chaiken, 1991, Study 1, Study 2). Individuals in the difficult comprehension condition may have become frustrated, irritated, or anxious while listening to the speech. This negative emotional state could have adversely affected their concentration on the arguments, while not necessarily affecting motivation, and therefore participants may have focused on the easier indication of message validity—source status.

#### IMPLICATIONS OF THE STUDY AND FUTURE RESEARCH DIRECTIONS

The results of this study have implications for research on dual process models of persuasion, as well as more practical implications for professionals who are directing counterattitudinal messages to laypeople. With regards to research on dual process models of persuasion, this study makes at least three contributions.

First, the results for the present study suggest that a single variable can simultaneously serve multiple roles in persuasion. As mentioned previously, there are few examples of a persuasion variable simultaneously serving two different roles and there are no studies that we know of that specifically investigate this possibility. Further investigation of this issue could address which persuasion variables are more likely to serve different concurrent functions. Future research could also investigate the conditions under which a persuasion variable is more likely to fulfill simultaneous multiple roles.

A second and more general contribution of the present findings to the dual process model literature is to highlight language complexity and persuasion as an area for future research. This study is the first that we know of to use language complexity as a manipulation of ability to

process message arguments, at least within a paradigm that tests hypotheses relevant to both central and peripheral processing. Further research is needed to clarify the exact mechanisms underlying the effects of complexly versus simply-worded appeals. Researchers could also investigate the possibility that different mediators of language complexity and persuasion, such as ability, motivation, and affect, are more likely in different contexts, or that more than one of these mediators is in effect in a given situation. Finally, dual process theorists may want to examine other aspects of the ELM and HSM within the context of language complexity. For example, Petty and Cacioppo (1986) postulate that attitude change resulting from cognitive elaboration of message arguments is more enduring, more resistant to later attacks, and more predictive of behavior than cue-based attitude change (e.g., Cacioppo, Petty, Kao, & Rodriguez, 1986, Experiment 2; Haugtvedt & Petty, 1992; Haugtvedt & Wegener, 1994; Haugtvedt et al., 1994, Study 2; Wu & Shaffer, 1987). Is a complexly worded counterattitudinal appeal, then, likely to lead to relatively short-term attitude change that decays in the face of dissenting opinion and bears little relation to the message recipient's behavior?

A third implication of the present study is that dual process models such as the ELM and HSM may be valuable for gaining insight into persuasion within a legal context. For example, recent research on psychology and the law has examined the role of expert testimony in the persuasion of mock jurors toward or against a defendant's case (e.g., Forsterlee et al., 1993; Maass, Brigham, & West, 1985). Dual process models of persuasion could be used to generate predictions about the effect of such testimony on jurors' attitudes toward a defendant under conditions of, for example, high versus low language complexity, strong versus weak evidence, and the presence/absence of peripheral cues such as a confident presentation style.

The present findings also have implications for the use of complex language by professionals. Many professionals present persuasive appeals to laypeople on a regular basis, either in the form of advice as to a particular course of action or as an attempt to change attitudes broadly. The results and subsequent discussion arising from this research suggest that complexly-worded and more simply-worded appeals from professionals can change attitudes to a similar degree, depending on various other aspects of the persuasion situation. For example, the use of jargon, infrequent words, or complex grammar may lead to the desired attitude change if the professional is perceived as high status or particularly knowledgeable; whereas an appeal that is phrased in simple language can lead to attitude change if the message arguments are strong. However, professionals wishing to instill enduring, less malleable attitudes

in their audience and/or wishing to maximize the likelihood that the new attitude will lead to a recommended behavior might do well to encourage conditions favoring central route over peripheral route processes. These professionals should invest some effort toward ensuring that their messages consist of strong arguments that are expressed in language the layperson can easily comprehend.

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