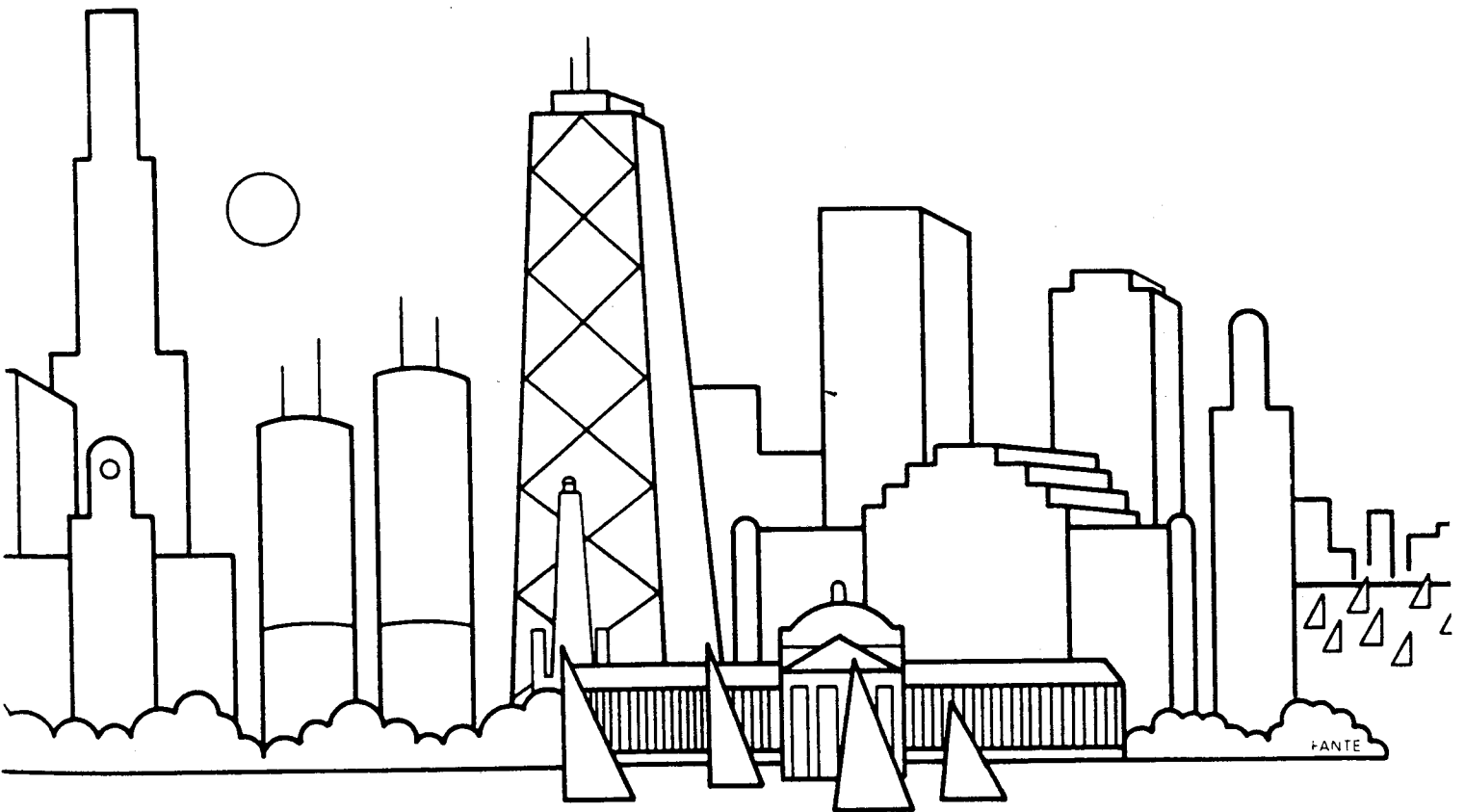


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## SOURCE FACTORS AND THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

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### Abstract

The Elaboration Likelihood Model of persuasion (ELM) is discussed as it relates to source factors in persuasion. The ELM proposes that under low elaboration likelihood, source factors serve as simple acceptance or rejection cues; under moderate elaboration likelihood source factors guide the extent of thinking; and under high elaboration likelihood source factors are unimportant as cues or general motivators of thought but (if relevant) serve as persuasive arguments or help in interpreting arguments. Several experiments are described which provide empirical support for these propositions.

Traditional analyses of persuasion have sought to identify how source, message, recipient, channel, and contextual factors affect a person's susceptibility to persuasion (e.g., Hovland, Janis, & Kelley, 1953). Over the past 30 years, a large number of theories have developed to account for the many different effects that have been observed when these variables have been manipulated in research (see Insko, 1967; Kiesler, Collins, & Miller, 1969; Petty & Cacioppo, 1981). Although persuasion researchers have accumulated a vast quantity of data and an impressive number of theories, perhaps more data and theory than on any other single topic in the social sciences (see McGuire, in press), there is surprisingly little agreement concerning how and why the traditional variables affect attitude change. This lack of agreement even extends to variables that on the surface, at least, would appear to be quite simple in terms of their operation. For example, although it seems reasonable to propose that by associating a message with an expert or an attractive source, agreement can be increased, the accumulated research literature suggests that source effects are considerably more complicated than this. Sometimes sources have the expected effects (e.g., Kelman & Hovland, 1953), sometimes no effects are obtained (e.g., Rhine & Severance, 1970), and sometimes reverse effects are noted (e.g., Sternthal, Dholakia, & Leavitt, 1978).

Elsewhere we have outlined a general framework for understanding persuasion called the Elaboration Likelihood Model (ELM). The model proposes that people are neither universally thoughtful in evaluating persuasive messages nor universally mindless. Instead, a variety of individual and situational factors will determine how much cognitive effort a person devotes to processing a message. The ELM postulates a continuum of message elaboration anchored at the high end by what we have called the central route to persuasion, and at the low end by what we have called the peripheral route to persuasion. Under the central route, attitude changes result from a person's careful attempt to evaluate the true merits of the advocated position. Under the peripheral route, however, attitude changes occur because the person associates the attitude issue or object with positive or negative cues or makes a simple inference about the merits of the advocated position based on various simple cues in the persuasion context. We have proposed that most previous analyses of persuasion can be understood as emphasizing one of these routes to persuasion (see Cacioppo & Petty, this volume; Petty & Cacioppo, 1981; 1983; for further details on the ELM).

Our primary goal in the present paper is to discuss how the Elaboration Likelihood Model accounts for the effects of source factors on persuasion. Of the many variables that might be manipulated in designing a product or public service campaign, one of the most important variables that

is under the control of the campaign designer is the source of the message. When does it make sense to spend a great deal of money hiring a celebrity spokesperson? When is the endorser irrelevant? When will a positive source be helpful? When, if ever, will a positive source actually be harmful? The answers to these questions depend on the elaboration likelihood of the persuasion situation.

### Source Factors Under High and Low Motivation to Process

In our initial work on the Elaboration Likelihood Model, we have focused on the relatively pure case of either very high or very low elaboration likelihood. For purposes of testing our theoretical framework it was important initially to create two very different persuasion contexts: one in which the elaboration likelihood was very high (that is, a person was both highly motivated and able to engage in issue-relevant thought) and one in which the elaboration likelihood was very low (that is, either motivation or ability to think was absent or reduced substantially). In the experiments we describe next, a person's ability to think was held constant at a high level across the experimental conditions (i.e., the messages and issues employed were easy to understand, no extraneous distractions were present, etc.). Motivation to think was manipulated in each study by varying the personal relevance and consequences of the persuasive appeal (cf. Apsler & Sears, 1968). Given that all subjects have the ability to think about the persuasive message, subjects in the high relevance conditions should follow the central route to persuasion, and subjects in the low-relevance conditions should follow the peripheral route. More specifically, under low relevance conditions source factors should operate as simple acceptance or rejection cues, but under high relevance conditions, source factors should not operate as simple cues.

In an early test of the two routes to persuasion (Petty, Cacioppo, & Goldman, 1981) we told some undergraduate students that their university chancellor was considering the implementation of a new graduation requirement for next year. Specifically, all students would be required to pass a comprehensive exam in their major area as a prerequisite to graduation. Other students were told that the comprehensive exam requirement was being considered for 10 years in the future. For the first group of students, the elaboration likelihood for a message on senior comprehensive exams would be quite high. It would be very important for them to understand and think about the consequences of the proposed exams because they would be affected personally by them. If they didn't pass the exams, the couldn't graduate! When the exams were proposed for 10 years in the future, however, they have absolutely no personal implications for the students, and therefore it is not particularly important nor adaptive for the students to think about the issue. In addition to manipulating elaboration likelihood by manipulating personal relevance in this study, we also varied the expertise of the source of the message and the quality of the issue-relevant arguments presented. For some subjects the source was described as a professor of education at Princeton University who chaired the Carnegie Commission on Higher Education (high expertise), whereas for other subjects the message was described as originating from a local high school journalism class. Finally, some subjects received a message containing cogent and compelling arguments, and other subjects received a message con-

taining weak and specious arguments. The results of this study indicated that when the elaboration likelihood was low (low personal relevance), the expert source was beneficial in enhancing persuasion regardless of argument quality. When the elaboration likelihood was high, however, the expertise of the source had no effect as a simple cue, but the nature of the issue-relevant arguments had a large impact on agreement (see also Chaiken, 1980).

In a recent study, we attempted to extend our analysis of source effects to advertising communications. In this study (Petty, Cacioppo, & Schumann, 1983), we varied elaboration likelihood by leading some subjects to believe that a new product (a disposable razor) was going to be test marketed soon in their local area and that at the end of the experiment they would be given an opportunity to select a disposable razor from several brands available. Other subjects were led to believe that the new disposable razor would be test marketed in a distant city and that they would be selecting brands of toothpaste at the end of the experiment. Our goal was to have one group of subjects highly involved with the disposable razor product and have another group of subjects have low involvement with the product. In addition to this manipulation of involvement we also varied source and message characteristics. Specifically, some subjects were exposed to ads featuring well known and liked athletes (one male and one female), whereas other subjects were exposed to ads featuring middle-aged average citizens. Some subjects were exposed to ads featuring cogent arguments, others were exposed to ads featuring weak arguments. Similar to the study just described, in this experiment we found that when the elaboration likelihood was low, using famous athletes in the advertisement led to more favorable product attitudes regardless of the strength of the product attributes presented. When elaboration likelihood was low, however, only the argument strength manipulation affected attitudes.

#### Source Factors Under High and Low Ability to Process

In the studies described briefly in the previous section, when the elaboration likelihood was low, experts were more persuasive than non-experts, and celebrities were more persuasive than average citizens. When elaboration likelihood was high, however, these source factors did not serve as simple acceptance or rejection cues. Although the two studies employed very different specific manipulations of elaboration likelihood (personal relevance, anticipation of product choice), both manipulations were concerned with affecting a person's motivation to think about a persuasive message. However, as noted earlier, elaboration likelihood is also determined by a person's ability to process a persuasive message (Cacioppo & Petty, 1979, 1980; Wood, 1982). According to the Elaboration Likelihood Model, manipulations of ability should produce a pattern of effects that is similar to the pattern produced for motivational manipulations.

Perhaps the most studied ability variable in the persuasion literature is distraction. When distraction is high, the potential for elaboration is quite low. Thus, people should be less affected by the quality of the arguments in a message when distraction is high rather than when distraction is low or absent. The available literature is consistent with this expectation (see Petty & Brock, 1981, for a review). On the other hand, the ELM predicts that simple source cues should be more effective when distraction is high rather than low. In a study reported in 1968, Miesler & Mathog manipulated distraction along with the credibility of the message source. A major result of their study was that the source credibility effect was significant only under conditions of high distraction. Under low distraction, where subjects were better able to process the message, the credibility effect was not significant. Other variables that enhance a person's ability to process a persuasive message should also reduce the operation of source

factors as simple cues. For example, source factors appear to be less important as cues when messages are presented via a self paced medium (e.g., print) rather than an externally paced medium (e.g., television; Chaiken & Eagly, 1993; Worchel, Arnold, & Baker, 1975).

In sum, the available research evidence indicates that positive sources appear to be effective as simple cues when motivation and/or ability to think about a message are low. When motivation and ability are high, source factors appear to be relatively unimportant in their role as simple acceptance or rejection cues. It is interesting to note that although the formal statement of these ideas about source cues is of relatively recent vintage (e.g., Petty & Cacioppo, 1979, 1981; Chaiken, 1980), evidence consistent with this view has been available for over 30 years. For example, this is true of one of the earliest studies on source expertise conducted by Carl Hovland and Walter Weiss (1951). In their classic study, subjects read a message and then learned the source of the communication. The source was either of high credibility (e.g., The New England Journal of Medicine) or of low credibility (e.g., Pravda). Four different communication topics were used in the experiment. Although Hovland & Weiss in collapsing their data across the four topics concluded that the high credibility sources produced more change than the sources of low credibility, an analysis of the credibility effect for the individual topics indicates that the credibility effect was reasonably strong for two topics ("Can a practicable atomic-powered submarine be built in the present time (1950)?" and "Is the steel industry to blame for the current shortage of steel?") but rather weak and insignificant for two other topics ("Should antihistamine drugs continue to be sold without a doctor's prescription?" and "As a result of TV, will there be a decrease in the number of movie theaters in operation by 1955?").

The two topics for which source credibility made a difference appear to differ from the two topics for which credibility effects were weak in two theoretically meaningful ways. First, the two topics for which credibility had weak effects have greater personal relevance than the topics for which credibility had strong effects. In addition, the subjects undoubtedly had less knowledge about the first two than the second two topics making it difficult for them to evaluate the message even if they desired to do so. Thus, for the first two topics, the elaboration likelihood would be quite low, but for the second two topics the elaboration likelihood would be considerably higher. Consistent with the ELM analysis of persuasion, source credibility acted as a simple acceptance cue only when the topics were relatively uninvolved and subjects had little ability to evaluate the arguments.

#### Source Factors Under Moderate Motivation to Process

It appears that the cases of high and low elaboration likelihood are quite clear. Source factors tend to affect agreement with a message by serving as simple acceptance or rejection cues when the elaboration likelihood is low, but do not serve as simple cues when elaboration likelihood is high. However, these conclusions are only a small part of the story of how source factors impact on persuasion. Importantly, we view elaboration likelihood as a continuum anchored at one end by what we call the "peripheral route" to persuasion and at the other end by what we call the "central route" to persuasion. In all of our research described in the previous sections we have attempted to create relatively pure cases of central and peripheral routes to persuasion. Thus, for example, in our research on motivation to process, subjects were either highly involved with the topic or were very uninvolved. In the high involvement conditions subjects were confronted with an issue that had immediate personal implications for their own graduation (Petty et al., 1981) or they faced an impending choice about a particular brand of product (Petty

et al., 1983). In the world outside the psychological laboratory, however, people are rarely as involved as our laboratory subjects (although such circumstances do exist, we believe). The laboratory research has also created very low involvement conditions. For example, subjects were confronted with a message about a change in university policy that they were certain would not affect them, or they were faced with an ad for a product that they were certain would not be available in their local area for a long time. These very low involvement instances too may be somewhat unusual, though perhaps not as rare as the cases of very high involvement that have been created. The extreme high and low involvement conditions are important to create in the laboratory for theory testing purposes, however, and have been quite useful in explicating the central and peripheral routes to persuasion.

Nevertheless, what happens when elaboration likelihood is moderate rather than very high or very low? For example, people are sometimes uncertain as to whether or not a proposal has any personal consequences. In some of our most recent research we have been exploring the effects of source factors when elaboration likelihood is at some moderate level. We have proposed that when the likelihood is moderate rather than very high or very low, people use source factors to determine how much thinking to do about the message (Petty & Cacioppo, 1981, in press). When a message clearly is on a topic of high personal relevance or is high in personal consequences, people know that they want to evaluate the merits of the arguments presented, and source factors are unimportant in their role as simple cues. When a message clearly is on a topic of very low personal consequences, however, people know that they don't want to think about it and they seek a simpler way to evaluate the message if an evaluation is required. Source cues provide one such simple means of evaluation. However, when the personal implications and consequences of the message are moderate or unclear, people are not certain whether or not the message is worth thinking about. Under these circumstances, characteristics of the message source can help a person decide whether or not the message is worth considering.

We have now conducted several studies in which we have investigated source factors at moderate motivation (involvement) levels rather than at levels that are clearly high or low. Below we describe briefly two studies in which we used the same topics and messages as in our previous work on involvement since this facilitates comparison across studies. Recall that in one of our earlier studies on involvement (Petty et al., 1981), we told high involvement subjects that a change in university policy was being considered for next year (in which case all students would definitely be affected) and low involvement subjects were told that the policy was being considered for 10 years in the future (in which case current students would certainly not be affected). In our research on moderate or ambiguous involvement conditions, all subjects are led to believe that a change in university policy is being considered, but we carefully avoid telling subjects when this policy might be implemented. Thus, subjects cannot be certain whether or not the change in policy will affect them. What is the effect of source factors in these ambiguous involvement cases?

In one study (Puckett, Petty, Cacioppo, & Fisher, 1983) we told subjects that students in an evening undergraduate continuing education course had written essays on the issue of whether comprehensive examinations should be given in a student's major area of study as a prerequisite for obtaining a bachelor's degree. Each subject was given a folder which contained a typed essay along with a card containing a picture and brief description of the author of the essay. Two major variables were manipulated in the study: (1) the social attractiveness of the author (the socially attractive authors were more physically attractive

and had a better family background and more prestigious hobbies than the socially unattractive authors and (2) the quality of the essay (either strong or weak arguments). A third variable, age of the essay author was also manipulated but this factor had no effect on persuasion. After looking through the folder, subjects were asked to rate their own opinion about the senior comprehensive exam issue. The major result of this study was a social attractiveness by argument quality interaction. The interaction indicated that the arguments were more carefully processed when they were presented by the socially attractive than the socially unattractive source. More specifically, the interaction was due to the joint tendencies for attractiveness to enhance agreement with the proposal when the arguments presented were strong, but for attractiveness to reduce agreement with the proposal when the arguments presented were weak. The latter effect (an attractive source reducing agreement) of course is opposite to what one would normally expect the effect of attractive sources to be.

In a study that was similar conceptually to the Puckett et al. study on source attractiveness, we again left the degree of personal relevance ambiguous and manipulated the quality of the arguments presented for senior comprehensive exams. This time, however, subjects heard rather than read the message and we varied source expertise rather than social attractiveness (Heesacker, Petty, & Cacioppo, 1984). Some subjects were led to believe that the source of the message was a professor of education at Princeton University and others were led to believe that the source was a local high school student. The subjects in this study were divided into those who were relatively field dependent or independent. The data for field dependent subjects showed an expertise by argument quality interaction. Similar to the effect observed for social attractiveness, the arguments were more carefully processed when they were presented by the expert than by the inexpert source. Again, the interaction was due to the joint tendencies for strong arguments to be more persuasive when presented by an expert, but for weak arguments to be less persuasive when presented by an expert. Again the latter effect is opposite to what one would normally expect the effect of expertise to be. Field-independent subjects showed only a main effect for argument quality probably because these subjects are generally more motivated and/or able to extract meaning from stimuli (see review by Witkin, Goodenough, & Oltman, 1979). If field independent subjects generally have a higher elaboration likelihood than field dependent subjects, then they would be more likely to process the message arguments regardless of the source.

In the two studies just described, when the personal relevance of the message was neither clearly high nor low, subjects chose to put more effort into processing what socially attractive and expert sources had to say than socially unattractive and inexpert sources. The net result of this was that social attractiveness and expertise enhanced persuasion only when the arguments presented were compelling. When the arguments in the message were weak and specious, presentation by attractive and expert sources tended to reduce agreement.

#### The Elaboration Likelihood Model of Source Effects

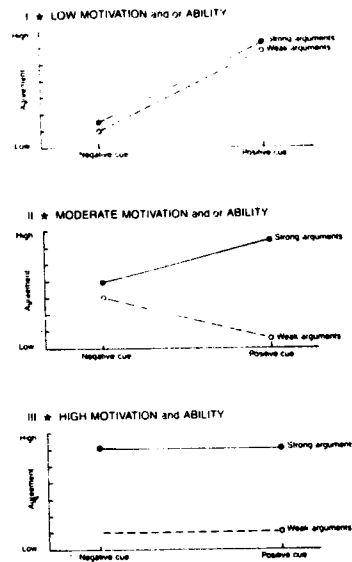
Figure 1 summarizes our discussion of source factors and elaboration likelihood thus far. When people are unmotivated and unable to process a message, they tend to rely on simple cues in the persuasion context such as the expertise or attractiveness of the message source (although other cues may be used if they are more salient). Importantly, since subjects are either relatively unmotivated or unable to evaluate the message arguments, a positive source tends to enhance persuasion regardless of message quality (see top panel of Figure 1).

On the other hand, when people are highly motivated and able to process the message arguments, strong arguments are more effective than weak arguments despite the presence of peripheral cues such as source expertise and attractiveness (see bottom panel of Figure 1). When motivation and ability to process are high, people are concerned with evaluating the true merits of the persuasive argumentation. In order to do this they will scrutinize all available information in the immediate persuasion context and attempt to relate it to information stored previously in memory. Interestingly, a consideration of source factors may be part of a person's attempt to evaluate the issue-relevant information when elaboration likelihood is high. For example, under some circumstances a source may serve as a persuasive argument (e.g., a physically attractive source may provide persuasive visual testimony as to the effectiveness of a beauty product; Petty & Cacioppo, 1980). Additionally, a consideration of source information might help a person in evaluating the true merits of an argument. For example, consider an expert source (Professor of education at Princeton) who argues that tuition be increased at his university. When elaboration likelihood is low, the expert source might serve as a simple positive cue. When elaboration likelihood is high, however, a subject considering the source and message together might realize that the expert source is biased in the presentation of some arguments (e.g., an argument to raise tuition to raise faculty salaries). The important point is that when elaboration likelihood is high, source information does not serve as a simple acceptance or rejection cue, but may be considered along with all other available information in the subject's attempt to evaluate the true merits of the arguments and position advocated.

Finally, when motivation and ability to process the message are moderate, subjects appear to use various cues in the persuasion situation, including source factors, to determine how much thinking they should do about the message. Under these circumstances, a source factor that enhances thinking will increase persuasion if the arguments are strong, but will decrease persuasion if the arguments are weak (see middle panel of Figure 1). In the studies that we have conducted on moderate involvement, the expert and the attractive sources were associated with more thinking, but this need not be the case. The messages that we presented to subjects advocated strongly counterattitudinal positions. Since a counterattitudinal position is a greater threat when posed by an expert or an attractive source (since subjects may perceive that the advocacy is more likely to have merit and thus be carried out than when recommended by an inept or unattractive source), it makes more sense to carefully evaluate the position presented. On the other hand, if a message presented a strongly proattitudinal position, it might pose a greater threat if it was presented by an inept or an unattractive source. The important point is that when elaboration likelihood is neither particularly high nor low, source factors will guide the extent of thinking.

Although source factors appear to be quite simple on the surface, in fact their operation is quite complex. When elaboration likelihood is very low, source factors tend to operate as relatively simple acceptance or rejection cues. As the elaboration likelihood becomes greater, source factors help to guide the extent of information processing activity. When elaboration likelihood is very high, source factors (if employed at all) aid in assessing the arguments presented and in determining the true merits of the position advocated. In separate experiments we have observed all of the effects depicted in Figure 1. Since all of these effects can be obtained under different conditions, it is not surprising that a great diversity of results have been observed in the literature and a great number of theories have developed in order to account for these effects. One advantage of the Elaboration Likelihood Model over previous accounts of source factors is that the ELM contends that all of these effects are possible, and it

FIGURE 1  
The Elaboration Likelihood Model of Source Factors



specifies in a general manner, at least, the conditions under which each of the effects is likely to be obtained.

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