5

Mass Media Attitude Change: Implications of the Elaboration Likelihood Model of Persuasion

RICHARD E. PETTY AND JOSEPH R. PRIESTER
The Ohio State University

It is conceivable that one persuade person could, through the use of mass media, bend the world’s population to his will.

—Cartwright (1949, p. 253, in summarizing earlier views on the power of the media)

Undoubtedly, few social scientists today think that the mass media have the power to sway huge audiences to the extent once believed likely. Nevertheless, the technological advances of the 1900s have made it possible for individual communicators to have access to unprecedented numbers of potential message recipients. At present, millions of dollars are spent each year in attempts to change peoples’ attitudes about political candidates, consumer products, health and safety practices, and charitable causes. In most of these instances, the ultimate goal is to influence peoples’ behavior so that they will vote for certain politicians or referenda, purchase specific goods, engage in safer driving, eating, and sexual activities, and donate money to various religious, environmental, and educational organizations and institutions. To what extent are media persuasion attempts effective?

The success of media campaigns depends in part on (a) whether the transmitted communications are effective in changing the attitudes of
the recipients in the desired direction, and (b) whether these modified attitudes in turn influence peoples’ behaviors. Our goal in this chapter is to present a brief overview of current psychological approaches to mass media influence, and to outline in more detail a general framework that can be used to understand the processes responsible for mass media attitude change. This framework is called the Elaboration Likelihood Model of persuasion (ELM; Petty & Cacioppo, 1981, 1986b). Before addressing the contemporary approaches, we provide a very brief historical overview of perspectives on mass media influence.

EARLY EXPLORATIONS
OF MASS MEDIA PERSUASION

Direct Effects Model

The initial assumption about the effects of the mass media by social scientists in the 1920s and 1930s was that mass communication techniques were quite potent. For example, in an analysis of mass communication during World War I, Lasswell (1927) concluded that “propaganda is one of the most powerful instrumentalties in the modern world” (p. 220). During this period, there were several salient examples of seemingly effective mass communication effects. These included the panic following the 1929 stock market crash; the well-publicized mass hysteria following the radio broadcast of Orson Wells’ War of the Worlds in 1938; and the rise in popularity of individuals such as Adolf Hitler in Germany, and the right wing Catholic Priest, Father Coughlin, and Louisiana Senator Huey Long in the United States. The assumption of Lasswell and others was that transmission of information via mass communication produced direct effects on attitudes and behavior (e.g., Doob, 1935; Lippmann, 1922). In detailing the views about mass communication during this period, Sears and colleagues noted that it was assumed that “the audience was captive, attentive, and gullible . . . the citizenry sat glued to the radio, helpless victims” (Sears & Kosterman, in press), and that “propaganda could be made almost irresistible” (Sears & Whitney, 1973, p. 2).

Many analysts of the period based their startling assessments of the power of the media on informal and anecdotal evidence rather than careful empirical research. For example, few attempts were made to actually measure the attitudes of message recipients prior to and following propaganda efforts. Thus, although it could be that the great propagandists of the time were changing the attitudes of their audience, it was also possible that the communicators were mostly attracting an audience that already agreed with them, or some combination of the two. Of course, not all analysts of the period were so optimistic about the prospects for the mass media to produce dramatic changes in opinion, but it was the dominant view (Wartella & Middlestadt, 1991).^1

Indirect Effects Model

The direct effects model was tempered considerably in the next two decades largely as a result of the subsequent empirical research conducted. For example, in analyzing survey information gathered by the National Opinion Research Center, Hyman and Sheatsley (1947) concluded that the effectiveness of mass communication campaigns could not be increased simply by increasing the flow of messages. Rather, the specific psychological barriers to effective information dissemination must be considered and overcome (see also, Cartwright, 1949). For example, they noted that people often distort incoming information to be consistent with prior attitudes, making change less likely. A similar conclusion was reached by Lazarsfeld, Berelson, and Gaudet (1948) in their influential study of the impact of the media in the 1940 presidential campaign. A major result from this study was that the media appeared to reinforce people’s already existing attitudes rather than producing new ones (see also Klapper, 1960). Some researchers argued that when public attitude change was produced, it was only indirectly attributable to the media. That is, the media were more effective in influencing various opinion leaders than the average person, and these opinion leaders were responsible for changes in the mass public (i.e., a “two-step” flow of communication; Katz & Lazarsfeld, 1955).

Studies conducted during World War II reinforced the “limited effects” view of the media. Most notably, the wartime studies by Carl Hovland and his colleagues showed that although various military training films had an impact on the knowledge of the soldier recipients, the films were relatively ineffective in producing mass changes in attitudes and behavior. Instead, the persuasive power of the films depended on a large number of moderating variables (Hovland, Lumsdaine, & Sheffield, 1949; see also, Shils & Janowitz, 1948). When World War II ended, Hovland returned to Yale University and the systematic examination of these moderating variables was begun in earnest.

^1 In one of the relatively rare empirical efforts of the period, Peterson and Thurstone (1933) examined the power of movies such as D. W. Griffith’s Birth of a Nation, controversial because of its depiction of Blacks, to modify the racial attitudes of adolescents. The conclusions of this research foreshadowed the modern period in that various moderators of effective influence were uncovered (e.g., greater influence for those with low knowledge, message repetition, etc.; see Wartella & Reeves, 1985).
CONTEMPORARY APPROACHES TO MASS MEDIA PERSUASION

The Attitude Construct

Contemporary social psychologists concerned with the study of media influence, like their predecessors (e.g., Peterson & Thurstone, 1933), have focused on the concept of "attitudes," or peoples' general predispositions to evaluate other people, objects, and issues favorably or unfavorably. The attitude construct has achieved its preeminent position in research on social influence because of the assumption that a person's attitude is an important mediating variable between the acquisition of new information, on the one hand, and behavioral change, on the other. For example, a television commercial might be based on the idea that giving people information about a candidate's issue positions will lead to favorable attitudes toward the candidate and ultimately to contributing money to and voting for the candidate.

Over the past 50 years, numerous theories of attitude change and models of knowledge-attitude-behavior relationships have been developed (see reviews by Eagly & Chaiken, 1993; McGuire, 1985; Petty, Priester, & Wegener, in press; Petty, Unnava, & Strathman, 1991). Contemporary analyses of mass media persuasion have focused on the variables that determine when the media will be effective versus ineffective and what the underlying processes are by which the media induce change. Perhaps the most well known psychological framework for categorizing and understanding mass media persuasion effects was popularized by Holbrook and his colleagues (e.g., Holbrook, 1954, 1959; Holbrook, Janis, & Kelley, 1953) and elaborated considerably by William McGuire (1985, 1989).

The Communication/Persuasion Matrix Model of Media Effects

One of the earliest assumptions of theories of attitude change (e.g., Kitson, 1922) that is also evident in contemporary approaches (e.g., McGuire, 1985) was that effective influence required a sequence of steps (Petty & Cacioppo, 1984b). For example, Fig. 5.1 presents McGuire's (1985, 1989) communication/persuasion matrix model of influence. This model outlines the inputs (or independent variables) to the persuasion process that media persuaders can control along with the outputs (or dependent variables) that can be measured to see if any influence attempt is successful.

<table>
<thead>
<tr>
<th>Outputs:</th>
<th>SOURCE</th>
<th>MESSAGE</th>
<th>RECIPIENT</th>
<th>CHANNEL</th>
<th>CONTEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPOSURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATTENTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTEREST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COMPREHENSION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACQUISITION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TELING</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEMORY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXPECTATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXPECTATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIG. 5.1. The communication/persuasion process as an input/output matrix. The figure depicts the primary independent and dependent variables in mass media persuasion research (adapted from McGuire, 1989).

Matrix Inputs. The inputs to the persuasion process in Fig. 5.1 are based in part on Lasswell's (1964) classic question: Who says what to whom, when, and how? First, a communication typically has some source. The source can be expert or not, attractive or not, male or female, an individual or group, and so on. This source provides some information, the message, and this message can be emotional or logical, long or short, organized or not, directed at a specific or a general belief, and so forth. The message is presented to a particular recipient, who may be high or low in intelligence, knowledge, experience, and so on. The message is presented via some channel of communication. Different media allow different types of input such as audio only (e.g., radio), audio plus visual (television), print only, or print plus visual (e.g., magazines). Some media allow presentation of the message at the recipient's own pace, whereas other media control the pace externally. Finally, the message is presented to the recipient in some context. The persuasion context may be pleasant or unpleasant, noisy or quiet, and so forth.

Matrix Outputs. Each of the inputs to the persuasion process can have an impact on one of the outputs depicted in Fig. 5.1. The communication/persuasion matrix model contends that in order for effective influence to occur, a person first needs to be exposed to some new information. Media are often selected by potential persuaders after estimating the number and type of people the message is likely to reach. Secondly, the person must attend to the information presented. Just because a person is sitting in front of the television doesn't mean that he or she knows what is going on. Even if the person does notice the
information, this doesn’t mean that the person’s interest will be engaged. The next two stages involve comprehension and acquisition, or the question of what part of the information presented the person actually understands and learns. It is only at step 6 that attitude change or yielding occurs. Once the person accepts the information in the message, the next step in the sequence involves memory or storage of the new information and the attitude that it supports. The next three steps detail the processes involved in translating the new attitude into a behavioral response. That is, at some subsequent behavioral opportunity, the person must retrieve the new attitude from memory, decide to act on it, and perform the appropriate action. Finally, the model notes that if the attitude-congruent behavior is not reinforced, the new attitude might be undermined. If the behavior is rewarding, however, the attitude-consistent behavior might lead to attitudinal consolidation, making the new attitude more likely to persist over time.

Variants of this general information processing model were often interpreted in theory and in practice as suggesting that a change early in the sequence (e.g., attention) would inevitably lead to a change later in the sequence (e.g., yielding). McGuire (1989) noted, however, that the likelihood that a message will evoke each of the steps in the sequence should be viewed as a conditional probability. Thus, even if the likelihood of achieving each of the first six steps in a mass media campaign was 60%, the maximum probability of achieving all six steps (exposure, attention, interest, comprehension, learning, and yielding), would be 0.6 to 0.5.

In addition, it is important to consider the fact that any one input variable can have different effects on the different output steps. For example, Hyman and Sheatsley (1947) noted that in the political domain, the knowledge and interest of a message recipient was positively related to exposure to political messages (i.e., the “chronic know-nothings” are more difficult to reach in a political campaign), but negatively related to attitude change (i.e., high interest and knowledge tends to produce assimilation of messages to one’s original point of view). In a cogent analysis of this point, McGuire (1968) noted that several variables might have opposite effects on the steps involving reception of information (e.g., exposure, attention, comprehension, acquisition, memory) versus acceptance of yielding to the information. For example, recipient intelligence is related positively to reception processes, but negatively related to yielding. The joint action of reception and yielding processes implies that people of moderate intelligence should be easier to persuade than people of low or high intelligence (see also Rholes & Wood, 1992).

Additional Issues for the Communication/Persuasion Matrix Model. Although McGuire’s input/output matrix model serves as a very useful way to think about the steps involved in producing attitude and behavior change via the mass media or other means, it is important to appreciate a number of things that the model does not address. First, it is now clear that some of the steps in the postulated information processing sequence may be completely independent of each other, rather than sequential. For example, although a person’s ability to learn and recall new information (e.g., facts about a political candidate) was often thought to be an important causal determinant of and prerequisite to attitude and behavior change (e.g., favoring and voting for the candidate), little empirical evidence has accumulated to support the view that message learning is a necessary step (Greenwald, 1968; McGuire, 1985; Petty & Cacioppo, 1981). Rather, the existing evidence shows that message comprehension and learning can occur in the absence of attitude change, and that a person’s attitudes can change without learning the specific information in the communication. That is, a person might be able to comprehend all of the intended information perfectly, but not be persuaded either because the information is counterargued or seen as personally irrelevant. On the other hand, a person might get the information all wrong (scoring zero on a knowledge test) but think about it in a manner that produces the intended change. This analysis helps to explain why previous research on mass media effects has sometimes found that message learning and changes in knowledge occur in the absence of attitude change and vice-versa (Petty, Baker, & Gleicher, 1991).

Second, the model tells us little about the factors that produce yielding. Even though the initial steps in the information processing sequence are viewed as prerequisites to acceptance, McGuire did not mean to imply that people would invariably yield to all information they comprehended and learned. That is, the earlier steps were thought to be necessary but not sufficient for yielding. Rather, just as source and other variables determine the extent of attention, they also determine the extent of acceptance. As implied by the communication/persuasion matrix, current psychological research on influence focuses on how and why various features of a persuasion situation (i.e., aspects of the source, message, channel, recipient and context) affect each of the steps in the communication sequence (e.g., how does the credibility of the source affect attention to the message?). The most research by far, however, focuses on how variables affect the processes responsible for yielding to or resisting the communication.

Cognitive response theory (Greenwald, 1968; Petty, Ostrom, &
Brock, 1981) was developed explicitly to address the two issues unaddressed by the communication/persuasion matrix. That is, cognitive processes responsible for yielding to the cognitive response approach attempted to account for the low correlation between response analysis and increased attention (Wegener, Fabrigar, Priester, & Cacioppo, in press). The model holds that the processes that occur during the yielding stage can be thought of as emphasizing one of two relatively distinct “routes to persuasion.” These routes are depicted in Fig. 5.2.

Central and Peripheral Routes to Persuasion

Central Route. The first, or “central route,” to persuasion involves effortful cognitive activity whereby the person draws upon prior experience and knowledge in order to carefully scrutinize all of the information relevant to determining the central merits of the position advocated. This route is characterized by a high level of message processing, where the individual actively considers the arguments presented and makes a reasoned decision about the position advocated. The central route is typically associated with high levels of message processing and is more likely to lead to enduring changes in attitude and behavior.

Peripheral Route. In contrast, the peripheral route to persuasion involves less effortful cognitive activity. Instead, the person may be influenced by factors such as the source of the message, the attractiveness of the message, or the perceived credibility of the source. The peripheral route is characterized by low levels of message processing, where the individual is more likely to be swayed by external factors rather than the content of the message itself.

5Although the ELM has implications for the other stages in the information processing sequence, it does not attempt to provide a general theory of information exposure, memory, and so on. For example, even though the ELM would expect people to seek out and attend to messages of high personal relevance more so than messages of low personal relevance, the ELM provides an incomplete account of exposure because variables unrelated to yielding processes could also determine message exposure. (e.g., see Zillmann & Bryant, chapter 15, this volume).

FIG. 5.2. Schematic depiction of The Elaboration Likelihood Model of Persuasion. The figure shows the possible endpoints after exposure to a persuasive communication for people following central and peripheral routes to attitude change (from Petty & Cacioppo, 1986a). ( Petty, in press; Petty & Cacioppo, 1986a). Consistent with the cognitive response approach to persuasion, the message recipient under the central route is actively generating favorable and/or unfavorable thoughts in response to the persuasive communication. The goal of this cognitive effort is to determine if the position advocated by the source has any merit. Not every message received from the media is sufficiently interesting or important to think about, and not every situation provides the time and opportunity for careful reflection. When people are motivated and able to take the central route, they carefully appraise the extent to which the communication provides information that is fundamental or central to the perceived merits of the position advocated.

Of course, the particular kind of information that is perceived central
to the merits of any particular issue can vary from person to person and from situation to situation. For example, recent research has shown that when some people think about social issues (e.g., capital punishment), religious considerations and arguments are particularly persuasive, but for others, legalistic arguments carry the most weight (Cacioppo, Petty, & Sidera, 1982). Likewise, research has shown that when some people evaluate ads for consumer products, they are primarily concerned about how usage of the product will affect the image that they project; for other people, this dimension is unimportant (DeBono & Packer, 1991; Snyder & DeBono, 1989). Research suggests that an important function of the media in the political domain is to make certain political and social issues more salient than others (see Iyengar & Kinder, 1987; McCombs, chapter 1, this volume). For example, a recent study of magazine stories showed that over the past 30 years, stories about drug abuse and nutrition increased dramatically, stories about communism and desegregation declined, and stories on pollution remained about the same (Paisley, 1989). If people come to believe that certain issues are more important due to extensive media coverage, it is reasonable that these dimensions of judgment will become more central in evaluating the merits of political candidates.3

The end result of the effortful information processing involved in the central route is an attitude that is well articulated and integrated into the person's belief structure. Just because the attitude change process involves considerable cognitive work does not mean that the attitude formed will be a rational or "accurate" one, however. The important point is that sometimes attitudes are changed by a rather thoughtful process in which people attend carefully to the issue-relevant information presented, examine this information in light of their relevant experiences and knowledge, and evaluate the information along the dimensions they perceive central to the merits of the issue. People engaged in this effortful cognitive activity have been characterized as engaging in "systematic" (Chaiken, Liberman, & Eagly, 1989), "mindful" (Palmerino, Langer, & McGillis, 1984), and "piecemeal" (Fiske & Pavelchak, 1986) processing. Attitudes changed by the central route have been shown to have a number of distinguishing characteristics. In particular, these attitudes have been found to be relatively accessible, persistent over time, predictive of behavior, and resistant to change until they are challenged by cogent contrary information (e.g., Haugtvedt & Petty, 1992; see Petty & Kroson, in press, for an extensive discussion of the determinants of attitude strength).

Peripheral Route. In stark contrast to the central route to persuasion, the ELM holds that attitude change does not always require effortful evaluation of the persuasive communication. Instead, when a person's motivation or ability to process the issue-relevant information is low, persuasion can occur by a "peripheral route" in which simple cues in the persuasion context influence attitudes. The peripheral route to persuasion recognizes that it is neither adaptive nor possible for some people to exert considerable mental effort in thinking about all of the media communications to which they are exposed. In order to function in contemporary society, people must sometimes act as "lazy organisms" (McGuire, 1969) or "cognitive misers" (Taylor, 1981) and employ simpler means of evaluation (see also, Bem, 1972). For example, various features of a communications (e.g., pleasant scenery in a TV commercial) can elicit an affective state (e.g., a good mood) that becomes associated with the advocated position (as in classical conditioning, Staats & Staats, 1958). Or, the source of a message can trigger a relatively simple inference or heuristic such as "experts are correct" (Chaiken 1987) that a person can use to judge the message. Similarly, the responses of other people who are exposed to the message can serve as a validity cue (e.g., "if so many agree, it must be true"; Axsom, Yates, & Chaiken, 1987). The Institute for Propaganda Analysis, in an early report on propaganda techniques, listed a number of "tricks" that speakers of the time used to persuade their audiences that relied on peripheral cues (e.g., the "bandwagon" effect was giving the sense that most other people already supported the speaker; see Lee & Lee, 1939).

We do not mean to suggest that peripheral approaches are necessarily ineffective. In fact, they can be quite effective in the short term. The problem is that over time, moods dissipate, peoples' feelings about sources can change, and the cues can become dissociated from the message. These factors would then undermine the basis of the attitude. Laboratory research has shown that attitude changes based on peripheral cues tend to be less accessible, less enduring, and less resistant to subsequent attacking messages than attitudes based on careful processing of message arguments (Petty & Cacioppo 1986a). In sum, attitudes changed via the central route tend to be based on active attitudes changed via the peripheral route are based on more passive

3. Of course, much of the correlation between media coverage and ratings of issue importance is due to the fact that the media cover issues people already think are important. Nevertheless, some research shows that the media coverage can precede public perceptions (e.g., MacKuen, 1981).
acceptance or rejection of simple cues and have a less well-articulated foundation.4

Persuasion Processes in the Elaboration Likelihood Model

**Variables Affecting the Amount of Thinking.** Our discussion of the central and peripheral routes to persuasion has highlighted two basic processes of attitude change, but the depiction of the ELM in Fig. 5.2 outlines more specific roles that variables can play in persuasion situations. That is, some variables affect a person's general motivation to think about a message. Mendelsohn (1973) noted that placing potential media recipients “along a continuum ranging from those whose initial interest in a given subject area may be high to those who literally have no interest in what may be communicated becomes an essential step in developing effective public information campaigns” (p. 51). Several variables enhance interest in media messages. Perhaps the most important determinant of interest and motivation to process the message is the perceived personal relevance of the communication. In one study (Petty & Cacioppo 1979b), for example, undergraduates were told that their own university (high personal involvement) or a distant university (low personal involvement) was considering implementing a policy requiring all seniors to pass an exam in their major as a prerequisite to graduation. The students then listened to a radio editorial that presented either strong or weak arguments in favor of the exam policy. As predicted by the ELM, when the speaker advocated that the exams should be instituted at the students' own campus, the quality of the arguments in the message had a greater impact on attitudes than when the speaker advocated that the exams should be instituted at a distant institution. That is, as the personal relevance of the message increased, strong arguments were more persuasive, but weak arguments were less persuasive than in the low relevance conditions (see left panel of Fig. 5.3). In addition, an analysis of the thoughts that the students listed after the message suggested that the more extreme attitudes were accompanied by more extreme thoughts. When the arguments were strong, students exposed to the high relevance message produced more than twice as many favorable thoughts as students exposed to the low relevance version. In an interesting extension of this work, Burnkrant and Unnava (1989) found that simply changing the pronouns in a message from the third person (e.g., “one” or “he and she”) to the second person (i.e., “you”) was sufficient to increase personal involvement and processing of the message arguments (see right panel of Fig. 5.3). That is, when the messages contained the self-relevant pronouns, strong arguments were more persuasive and weak arguments were less persuasive than when third person pronouns were used.

Although increasing the perceived personal relevance of a message is an important way to increase thinking (e.g., Brinkner, Harkins, & Ostrom, 1986; Leippe & Elkin 1987; see Petty, Cacioppo, & Hagtvedt, 1992, for a review), it is not the only one. For example, several studies have shown that when a person is not normally motivated to think about the message arguments, more thinking can be provoked by summarizing the major arguments as questions rather than as assertions (Howard 1990; Petty, Cacioppo, & Heesacker, 1981; Swasy & Munch 1985). Thus, if an argument in a radio commercial was followed by a question (Isn’t this candidate the best one?) rather than by an assertion (This candidate is the best one), greater processing of the arguments would result. Greater thinking about a message can also be induced by having the individual arguments presented by multiple sources rather than just one (Harkins & Petty, 1981; Moore & Reardon, 1987). The

4For expository purposes we have emphasized the distinction between the central and the peripheral routes to persuasion. That is, we have focused on the prototypical processes (which fall somewhere along this continuum), some combination of central and peripheral processes is likely.
the inevitable tedium effect (see Pechman & Stewart, 1989). The ELM suggests that different kinds of message variation should be attempted in a media campaign depending on the recipient's overall motivation to think about the issue of the campaign. In a test of this hypothesis, Schumann, Petty, and Clemons (1990) found that for highly motivated message recipients (those expecting to make an imminent decision about the issue discussed in the communications), repeated presentations on the same topic could be made more effective if the messages varied the substantive arguments that they presented. Variation in peripheral cues made no difference. On the other hand, for recipients low in motivation, variation in simple cues across repeated exposures enhanced the effectiveness of the campaign, but variation in arguments did not.

Objective Versus Biased Thinking. In addition to influencing a person's general motivation or ability to think about a message, Fig. 5.2 indicates that variables can also have an impact on persuasion by influencing the nature of the thoughts that come to mind. That is, some features of the persuasion situation increase the likelihood of favorable thoughts being elicited, but others increase the likelihood of unfavorable thoughts coming to mind. Although the subjective cogency of the arguments employed in a message is a prime determinant of whether favorable or unfavorable thoughts are elicited when message thinking is high, other variables can also be influential in determining whether favorable or unfavorable thoughts predominate (Petty & Cacioppo, 1990). For example, instilling "reactance" in message recipients by telling them that they have no choice but to be persuaded on an important issue motivates counterarguing even when the arguments used are strong (Brehm, 1966; Petty & Cacioppo, 1979a). Similarly, people who possess accessible attitudes bolstered by considerable attitude-congruent knowledge are better able to defend their attitudes than those who have inaccessible attitudes or attitudes with a minimal underlying foundation (Fazio & Williams, 1986; Wood 1982).

Arguments Versus Peripheral Cues. As we noted above, when people have the motivation and ability to think about an issue, they scrutinize the issue-relevant information presented, such as the arguments provided in the communication. An argument is a piece of information that says something about the true merits of the position taken. Although we ordinarily think of arguments as features of the message content itself, source, recipient, and other factors can also serve as arguments. For example, if a spokesperson for a beauty product says that "if you use this product, you will look like me," the source's
physical attractiveness serves as relevant information for evaluating the effectiveness of the product. Just as source factors can serve as persuasive arguments in the appropriate context, features of the persuasive arguments that are associated with the message even in the absence of an effortful consideration of the true merits of the issue or object. Among the variables that have been shown to be capable of serving as simple cues when motivation or ability to process the arguments is low are the credibility of the message source (Petty, Cacioppo, & Goldman, 1981), how likable or attractive the source is (Chaiken, 1980; Petty, Cacioppo, & Schumann, 1983), the mere number of arguments in the message (Alba & Marmorstein, 1987; Petty & Cacioppo, 1984a), the length of the arguments used (Wood, Kallgren, & Prieser, 1985), the number of other people thought to endorse the position (Axsom et al., 1987), and others.5

Summary. The ELM holds that as the likelihood of elaboration is increased (as determined by factors such as the personal relevance of the message and the number of times it is repeated), the perceived quality of the issue-relevant arguments presented becomes a more important determinant of persuasion. Effortful evaluation of the message arguments can occur in a relatively objective or a relatively biased fashion, however. As the elaboration likelihood is decreased, peripheral cues become more important. That is, when the elaboration likelihood is high, the central route to persuasion dominates, but when the elaboration likelihood is low, the peripheral route takes precedence (see Petty, in press, for additional discussion of the operation of central and peripheral processes along the elaboration likelihood continuum).

As we have noted above, the accumulated research on persuasion has pointed to many variables that can be used to either increase or decrease the amount of thinking about a persuasive message and render that thinking relatively favorable or unfavorable. Although we have focused on motivational and ability variables that can be modified by external means (e.g., including rhetorical questions in a message enhances motivation to think about the arguments), other determinants of motivation and ability to process a message are dispositional (e.g., people

5As depicted in Fig. 5.2 features of the persuasion situation can also influence the extent to which the thoughts elicited by a message are consolidated and stored in long-term memory. For example, arguments that match a person's attitude schema are more easily incorporated into the existing cognitive structure than arguments that do not match (Cacioppo, Petty, & Sidera, 1982). Little research has examined this feature of the ELM, however.

5. THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

high in "need for cognition," tend to chronically engage in and enjoy thinking (Cacioppo & Petty, 1982).

Multiple Roles for Variables in the Elaboration Likelihood Model

One of the most important features of the ELM is that it holds that any one variable can have an impact on persuasion by serving in different roles in different situations. That is, the same feature of a persuasive message can serve as an issue-relevant argument in some contexts, a peripheral cue in others, affect the motivation or ability to think about the message in other situations, and influence the nature of the thoughts that come to mind in still other domains. For example, in separate studies, the attractiveness of a message source has (a) served as a simple peripheral cue when it was irrelevant to evaluating the merits of an attitude object and participants were not motivated to process the issue-relevant arguments, (b) served as a message argument when it was relevant to evaluating the merits of the attitude object and the elaboration likelihood was high, and (c) affected the extent of thinking about the message arguments presented when the elaboration likelihood was moderate (see Petty, Kasmer, Haugtvedt, & Cacioppo, 1987, for discussion).

If any one variable can influence persuasion by several means, it becomes critical to identify the general conditions under which the variable acts in each of the different roles or the ELM becomes descriptive rather than predictive (cf. Stiff, 1986). The ELM holds that when the elaboration likelihood is high (such as when perceived personal relevance and knowledge are high, the message is easy to understand, no distractions are present, and so on), people typically know that they want to and are able to evaluate the merits of the arguments presented, and they do so. Variables in the persuasion setting are likely to have little direct impact on evaluations by serving as simple peripheral cues in these situations. Instead, when the elaboration likelihood is high, a variable can serve as an argument if it is relevant to the merits of the issue, or the variable can determine the nature of the ongoing information processing activity (e.g., it might bias the ongoing thinking). On the other hand, when the elaboration likelihood is low (e.g., low personal relevance or knowledge, complex message, many distractions, and so on), people know that they do not want to or are not able to evaluate the merits of the arguments presented, or they do not even consider exerting effort to process the message. If any evaluation is formed under these conditions, it is likely to be the result of relatively simple associations or inferences based on salient cues. Finally, when the
elaboration likelihood is moderate (e.g., uncertain personal relevance, moderate knowledge, moderate complexity, and so on), people may be uncertain as to whether or not the message warrants or needs scrutiny and whether or not they are capable of providing this analysis. In these situations they may examine the persuasion context for indications (e.g., is the source credible?) of whether or not they are interested in or should process the message. A few examples should help to clarify the multiple roles that a variable can have in different situations.

**Multiple Roles for Source Factors.** First, consider the multiple processes by which source factors (e.g., expertise, attractiveness) can have an impact on persuasion (see Petty & Cacioppo, 1984c). Some research has found that when the elaboration likelihood was low, source factors such as expertise and attractiveness served as simple positive cues, enhancing attitudes regardless of argument quality. However, when the elaboration likelihood was quite high, source factors did not serve as simple cues. Instead, attitudes were determined primarily by the nature of the arguments presented (Chaiken, 1980; Petty, Cacioppo, & Goldman, 1981). Finally, in two separate experiments in which the elaboration likelihood was not manipulated but was held constant at a moderate level, the source factors of expertise and attractiveness determined how much thinking participants did about the arguments presented (Heesacker, Petty, & Cacioppo, 1983; Puckett, Petty, Cacioppo, & Fisher, 1983). That is, attractive and expert sources led to more persuasion when the arguments were strong, but to less persuasion when the arguments were weak. Interestingly, the self-monitoring scale (see Snyder, 1987) has been used recently to distinguish people who tend to think more about what experts have to say (i.e., low self-monitors) from those who are more interested in what attractive sources have to say (i.e., high self-monitors; DeBono & Harnish, 1988). In any case, the accumulated research has shown clearly that source factors are capable of serving in different roles.

Only one study to date has examined the effects of a source factor across three distinct levels of elaboration likelihood, however. This study (Moore, Hausknecht, & Themodaran, 1986, Experiment 3) provided support for the ELM notion that variables can serve in different roles in different situations. Specifically, Moore et al. manipulated the likelihood of message elaboration by varying the speed of a radio advertisement for a product. In addition to the speed of the announcement, the credibility of the product endorsers and the quality of the arguments for the product were also varied. This research revealed that when the advertisement was presented at a very rapid pace so that it was difficult to process (i.e., low elaboration likelihood), people were greatly influenced by the credibility of the product endorser, but the quality of the arguments for the product had little effect. When the message was presented at a normal pace and was very easy to process (i.e., high elaboration likelihood), the quality of the arguments in the ad made a difference, but the credibility of the endorser was reduced in importance compared to the fast message conditions. Finally, when the message was presented at a moderately fast pace and processing was possible but challenging, the expertise of the endorser determined how much message processing occurred: the expert source induced more thinking than the nonexpert (see Petty Kasmer, Haugtvedt, & Cacioppo, 1987, for further discussion).

In a more recent study relevant to multiple roles, Mackie, Worth, and Asuncion (1990) examined the persuasive impact of message sources who were ingroup versus outgroup members. In this research, an ingroup source served as a simple positive cue when the persuasive message was rather low in relevance to the group. When issue relevance was increased, however, ingroup sources provoked more message-relevant thinking than outgroup sources.

**Multiple Roles for Message Factors.** As we noted above, the mere number of items in a message can serve as a peripheral cue when people are either unmotivated or unable to think about the information. When motivation and ability are high, however, the informational items in a message are not simply counted as cues, but instead the information is processed for its cogency. When the number of items in a message serves as a cue (low elaboration conditions), adding weak reasons in support of a position enhances persuasion, but when the items in a message serve as arguments, adding weak reasons reduces persuasion (Alba & Marmorstein, 1987; Petty & Cacioppo, 1984a).

One recent study examined the multiple roles for message factors at three levels of recipient elaboration likelihood. In this research, a regular advertisement for an unknown product was contrasted with an "upward comparison" ad that compared the new product to a well-established one (Pechman & Estaban, 1990). Unlike a regular message that simply provides support for its position (e.g., You should vote for Candidate X because . . . ), an upward comparison message suggests that the critical issue, product, or person is similar to one that is already seen as desirable (e.g., You should vote for Candidate X, who like Person Y, favors . . . ). In order to examine the multiple roles for this message variable, regular and upward comparison ads containing either strong or weak arguments were presented following instructions and procedures designed to elicit either a relatively low, moderate, or high motivation to think about the critical ad.
Effectiveness of the ads was assessed by asking participants to rate their intentions to purchase the product advertised. When the low-motivation instructions were used, the upward comparison ad produced more favorable intentions than the regular ad, but strong arguments did not produce more favorable intentions than weak ones. That is, under the low elaboration likelihood conditions, the comparison with the well-known product served as a simple peripheral cue, and argument processing was minimal. When the high motivation conditions were examined, the opposite result was found. That is, under the high elaboration instructions, the strong arguments produced more favorable intentions than the weak ones, but the upward comparison was completely ineffective as a cue for producing more favorable intentions. Finally, when the moderate motivation conditions were analyzed, the use of an upward comparison ad was found to enhance processing of the message arguments. Specifically, when the upward comparison ad employed strong arguments, it led to more persuasion than the direct ad, but when the upward comparison ad used weak arguments, it produced less persuasion than the regular ad.

The results of the Fehm and Estabrook (1990) study are quite comparable to the effects observed by Moore et al. (1986), who employed very different experimental operations. When motivation or ability to process the message arguments was low, source credibility and upward comparison claims served as simple cues. When motivation and ability to think about the arguments were high, credibility and upward comparison were unimportant as simple cues. Instead, whether the arguments were strong or weak was the primary determinant of persuasion. Finally, when motivation and ability to process were moderate, people evaluated the arguments only when it seemed worthwhile to do so—when the source was credible or when the unknown product was linked to a desirable one.

**Multiple Roles for Recipient Factors.** Finally, consider how an individual's mood, a recipient factor, might serve in multiple roles in different situations. If the elaboration likelihood is very low, a pleasant mood should be capable of serving as a simple cue, rendering people more positive toward whatever view is presented. What should happen if the elaboration likelihood is very high and people are clearly motivated and able to think about the arguments presented? Because pleasant moods have been shown to increase the accessibility of positive thoughts and ideas (see Bower, 1981; Clark & Iser, 1982), a pleasant mood under high elaboration conditions might introduce a positive bias to the thoughts generated. Finally, if the elaboration likelihood conditions are moderate, such as when a message is of uncertain relevance and people must decide whether or not to devote effort to thinking about the message, their current mood state might determine whether or not they engage in effortful cognitive activity (e.g., "I won't think if it will destroy my good mood"); cf. Mackie & Worth, 1989; Bless, Bohr, Schwarz, & Strack, 1990; see Petty, Gleicher, & Baker, 1991, for further discussion).

In a partial examination of the multiple ways in which a person's mood can influence attitudes, Petty, Schumann, Richman, and Strathman (1993) exposed participants to an advertisement for a product in the context of a relatively pleasant television program (an episode of a popular situation comedy) or a more neutral program (a segment from a documentary). The likelihood of thinking about the critical ad was varied by telling some participants that they would be allowed to select a free gift at the end of the experiment from a variety of brands of the target product (high involvement), or that they would be allowed to select a free gift from another product category (low involvement). Following exposure to the television program containing the ads, participants reported on their moods, rated their attitudes toward the target product, and listed the thoughts they had during the message. The results of this study revealed that the pleasant program led to a more positive mood and more positive evaluations of the product under both high- and low-elaboration conditions. Importantly, and consistent with the notion that a pleasant mood produces positive attitudes by different processes under high- and low-elaboration conditions, was the finding that a pleasant mood was associated with more positive thoughts about the product when the elaboration likelihood was high, but not when it was low.

Figure 5.4 presents the results from causal path analyses that simultaneously estimated the three paths between (a) manipulated mood and attitude toward the product, (b) manipulated mood and proportion of positive thoughts generated, and (c) proportion of positive thoughts and attitude toward the product. Under low-involvement (low-elaboration) conditions, mood had a direct effect on attitudes, but did not influence thoughts (see left panel). In contrast, under high-involvement (high-elaboration) conditions, mood had no direct effect on attitudes. Instead, mood influenced the production of positive thoughts, which in turn had an impact on attitudes (see right panel).

**Consequences of Multiple Roles.** Because any one variable can produce persuasion in multiple ways, it is important to understand the process by which the variable has influenced a person's attitude. For process by which the variable has influenced a person's attitude. For example, our discussion of the two routes to persuasion suggests that if a good mood has produced persuasion by serving as a simple cue under...
FIG. 5.4. Direct and indirect effects of positive mood on attitudes under high- and low-involvement conditions. Data in the left panel show that when involvement is low and people are not motivated to process the message, mood has a direct effect on attitudes. Data in the right panel show that when involvement is high and people are motivated to process the message, the effect of mood on attitudes is mediated by the generation of positive thoughts (figure adapted from Petty, Schumann, Richman, & Strathman, 1993).

Low Elaboration Conditions, the attitude induced will be less accessible, less persistent, less resistant, and less predictive of behavior than if a good mood produced the same amount of persuasion, but worked by increasing positive thoughts to the message arguments under high-elaboration conditions. In empirical research on media campaigns in a variety of domains (see Rice & Atkin, 1989), many source, message, recipient and contextual variables have been examined. Relatively little attention has been paid, however, to the processes by which these variables work. The ELM holds that source, message, recipient, and contextual factors can work by different processes in different situations, and that the process, central or peripheral, by which the variable induces change is critical for understanding the consequences of any attitude change that occurs (see Fig. 5.2).

Directions for Future ELM Research

Thus far we have reviewed evidence that has supported the primary ELM postulates about the processes responsible for attitude change. Before addressing the links between attitude change and behavior change, it is useful to consider where some future basic research on persuasion processes might be directed. We explained that an important factor in the ELM is how much thinking a person is motivated or able to engage in regarding an attitude issue. Because of this, most of the research on the ELM to date has focused on variables that initiate message processing. Little attention has been paid to variables that determine when that processing will stop. Because most of the messages employed in laboratory research are relatively short (e.g., 1-3 minutes; 1-2 pages of text), it is likely that once individuals embark on the central route, they will continue to think about the message until it stops. On the other hand, the longer the message becomes, the less likely it seems that people will continue to diligently process every argument that is presented. At some point, the individual becomes tired, loses interest, or has considered enough information to come to a reasonable conclusion. Once this point is reached, the person becomes less attentive to the remaining message. As attention begins to wander, the person may become more aware of peripheral features of the persuasion context, or may turn attention completely to noncommunication factors.

On the other hand, consider a person who embarks down the peripheral route because the message initially seems irrelevant and the source is an expert who presumably can be trusted. Thus, minimal attention is paid to the message. What if, however, the first argument when processed in even a cursory manner appears to be silly? This incongruent occurrence might shift the individual from the peripheral to the central route (Maheswaran & Chaiken, 1991). Similarly, an expert source on a low relevance topic ordinarily would be resisted via the peripheral route (Petty, Cacioppo, & Goldman, 1981). What if, however, the speaker began to use rhetorical questions rather than statements to frame the arguments? Research suggests that this message factor shifts the individual from the peripheral to the central route (Petty, Cacioppo, & Heesacker, 1981). If a source or other peripheral cue is very salient, greater message processing will be necessary to overcome the cue than if it is not salient. In sum, future research might be directed profitably not only at additional variables and psychological conditions that initiate message processing (“start rules”), but also on those that determine when message processing will cease (“stop rules”), or shift processing from one mode to another (“shift rules”).

ATTITUDE-BEHAVIOR LINKS

As we noted above, the ELM provides a framework for understanding persuasion or yielding processes. Once a person’s attitude has changed, however, behavior change requires that the person’s new attitude rather than the old attitude or previous habits guide action. Considerable research has addressed the links between attitudes and behavior, and a
number of situational and dispositional factors have been shown to enhance attitude–behavior consistency (see Ajzen 1988, for a comprehensive review).

Two general models of the process by which attitudes guide behavior have achieved widespread acceptance. One type is exemplified by Fishbein and Ajzen’s (1975) “theory of reasoned action,” which assumes that “people consider the implications of their actions before they decide to engage or not engage in a given behavior” (p. 5). In this model, people are hypothesized to form intentions to perform or not perform behaviors, and these intentions are based on the person’s attitude toward the behavior as well as perceptions of the opinions of significant others (norms). The model focuses on the relatively thoughtful processing involved in considering the personal costs and benefits of engaging in a behavior. In particular, the model focuses on the perceived likelihood that certain benefits will be obtained or costs avoided, and on the desirability or aversiveness of those benefits or costs. The model has accumulated considerable empirical support (Sheppard, Hartwick, & Warshaw, 1988). Recently, Ajzen (1991) expanded the model into a “theory of planned behavior,” and has shown that in addition to attitudes and norms, it is important to consider a person’s perceptions of control over the behavior.

In contrast to the thoughtful processing highlighted by the theories of reasoned action and planned behavior, Fazio (1990) proposed that much behavior is rather spontaneous and that attitudes guide behavior by a relatively automatic process. That is, if the relevant attitude comes to mind, consistent behavior is likely to follow. Fazio argued that attitudes can guide behavior without any deliberate reflection or reasoning if (a) the attitude is accessed spontaneously by the mere presence of the attitude object, and (b) the attitude colors perception of the object so that if the attitude is favorable (or unfavorable), the qualities of the object appear favorable (or unfavorable). Fazio further noted that motivational and ability factors are important in determining whether the reasoned action or the automatic activation process occurs. That is, for behavioral decisions that are high in perceived personal consequences, attitudes are likely to guide behavior by a deliberate reflection process, but when perceived consequences are low, spontaneous attitude activation should be more important as a determinant of behavior. Similarly, as the time allowed for a decision is reduced, the importance of spontaneous attitude activation processes should increase over more deliberative processes. When there is sufficient motivation and ability to think about one’s behavior, a person may reflect upon the costs and benefits of the anticipated action. Interestingly, depending on what costs and benefits are salient at the moment, this process could lead to a behavior that is consistent or inconsistent with the underlying attitude (see Wilson, Dunn, Kraft, & Lisle, 1989). When motivation and ability to reflect are low, however, people’s actions are determined by which attitudes are the most accessible.6

In some domains an accessible attitude is easily translated into behavior (e.g., I like candidate X, I will vote for this candidate). In other domains, however, translating new attitudes into new behaviors is rather complex even if the person has the desire to act on the attitude (e.g., I want to consume a low fat diet, but how do I do this?). Thus, for some media campaigns, attitude change, though an important first step, may still be insufficient to produce the desired behavioral responses even if appropriate attitudes were formed by the central route. People may also need to acquire new skills and self-perceptions of confidence that allow newly acquired attitudes and intentions to be translated into action. Bandura’s (1977, 1986) social-cognitive theory provides a framework to understand these processes (see Bandura, chapter 4, this volume).

**SUMMARY AND CONCLUSIONS**

Although considerable research on mass media effects has shown that it is possible for media messages to change the knowledge or facts that people have about some object, issue, or person, we have argued that knowledge reception does not invariably result in attitude and behavior change. Our brief review of the ELM and the research supporting it has emphasized that information will only be successful in producing enduring changes in attitudes and behavior if people are motivated and able to process the information, and if this processing results in favorable thoughts and ideas. Furthermore, once attitudes have changed, implementing changes in some behaviors may require learning new skills and perceptions of self-efficacy. Thus, current work on attitude and behavior change may help to account for some unsuccessful media campaigns in which knowledge acquisition failed to have attitudinal and/or behavioral consequences. First, the knowledge acquired may have been seen as irrelevant by the recipients, or may have led to unfavorable rather than favorable reactions. Second, even if appropriate attitude changes were induced, the changes may have been formed by the peripheral route, peripheral cues in the behavioral environment are likely to have an impact on immediate actions only when the likelihood of reflection in the current situation is low and there are no accessible attitudes to guide behavior.

6Because attitudes formed by the central route tend to be more accessible than attitudes formed by the peripheral route, peripheral cues in the behavioral environment are likely to have an impact on immediate actions only when the likelihood of reflection in the current situation is low and there are no accessible attitudes to guide behavior.
based on simple peripheral cues rather than on elaborative processing of
the message. Third, even if attitude changes were produced by the
central route, the people influenced may have lacked the necessary skills
of the central route, other attitudes are
formalized into a coherent belief structure (central route), other attitudes are
formed as a result of relatively simple cues in the persuasion environ-
ment (peripheral route), (b) any one variable (e.g., source credibility)
can be capable of inducing persuasion by either the central or the
peripheral route in different situations, and (c) although both central
and peripheral route processes can lead to attitudes similar in their
valence (how favorable or unfavorable they are), there are important
consequences of the manner of attitude change.

If the goal of a mass media influence attempt is to produce long
lasting changes in attitudes with behavioral consequences, the central
route to persuasion appears to be the preferred persuasion strategy. If
the goal is immediate formation of a new attitude, even if it is relatively
ephemeral (e.g., attitudes toward the charity sponsoring a telethon), the
peripheral route may prove acceptable. Influence via the central route
requires that the recipient of the new information have the motivation
and ability to process it. As noted previously, one of the most important
determinants of motivation to think about a message is the perceived
personal relevance of that message. Most of the media messages people
receive are probably not perceived as directly relevant and they have
few personal consequences. Thus, many of these messages will be
ignored or processed primarily for peripheral cues. An important goal of
any persuasion strategy aimed at enduring change will be to increase
people's motivation to think about the messages by increasing the
perceived personal relevance of the communications or employing other
techniques to enhance processing (e.g., ending arguments with ques-
tions rather than statements; using multiple sources).

In conclusion, we note that research on mass media persuasion has
come a long way from the early notions that the mere presentation
of information was sufficient to produce persuasion, and the subsequent
pessimistic view that media influence attempts were generally ineffect-
ive. We now know that media influence is a complex, though explicable
process. We know that the extent and nature of a person's cognitive
responses to external information may be more important than the
information itself. We know that attitudes can be changed in different
ways, such as central versus peripheral routes, and that some attitude
changes are more accessible, stable, resistant, and predictive of behavior
how likable a source is or what mood a person is in can produce
persuasion by very different processes in different situations.

REFERENCES

Decision Processes, 50, 179-211.
Hall.
Brickman, M. A., Harkins, S. G., & Ostrom, T. M. (1986). Effects of personal involvement:
Thought provoking implications for social loathing. Journal of Personality and Social
Psychology, 51, 763-769.
processing, recall, and persuasion. Basic and Applied Social Psychology, 10, 3-12.
evaluation of pro-attitudinal editorials: Top down versus bottom-up message processing.
Journal of Experimental Social Psychology, 18, 324-338.
Chaiken, S. (1980). Heuristic versus systematic information processing and the use of
source versus message cues in persuasion. Journal of Personality and Social Psychology,
39, 752-756.
Herman (Eds.), Social influence: The Ontario symposium (Vol. 5, pp. 3-39). Hillsdale, NJ:
Lawrence Erlbaum Associates.
Chaiken, S., & Eagly, A. H. (1976). Communication modality as a determinant of message
persuasiveness and message comprehensibility. Journal of Personality and Social
Psychology, 34, 605-614.
5. The elaboration likelihood model of persuasion


