CHAPTER 6

Attitude Change

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CHAPTER OUTLINE

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There is no expedient to which a man will not resort to avoid the real labor of thinking.
—Sir Joshua Reynolds

The man who doesn’t make up his mind to cultivate the habit of thinking misses the greatest pleasures in life.
—Thomas A. Edison

INTRODUCTION TO ATTITUDES

Consider the conflicting opinions above. Which best captures your own position? Is thinking difficult and laborious, “the hardest work there is,” as Henry
Ford once noted, or is thinking fun and pleasant, something to seek out? You probably know some people who are quite reflective and other people who are not. Likewise, you can probably think of factors that encourage thinking on the part of just about everybody and those that discourage thinking. For example, even if you generally hate to think, you probably devoted some thought to selecting a college or graduate school. The theme of this chapter is that in order to understand the underlying processes and consequences of attitude change, it is important to consider the extent to which various situations elicit different amounts and kinds of thinking, and the extent to which people vary in the way they think about persuasive messages.

**Attitudes** refer to very general evaluations that people hold of themselves, other people, objects, and issues. For example, do you think that you are a good or a bad person? Do you like or dislike ice cream? Do you favor or oppose capital punishment? People’s attitudes can be based on (a) affect or feelings (such as deciding that you don’t like an exotic food because it makes you feel nauseous), (b) cognitions or beliefs and knowledge (such as evaluating a food based on its saturated fat content), (c) behaviors or actions (such as deciding that you must like Wendy’s since you eat lunch there every day), or (d) some combination of these elements (Petty & Cacioppo, 1986; Zanna & Rempel, 1988). Just as attitudes can be based on each of these factors, so too can attitudes have an impact on them. Thus, a favorable attitude might cause you to (a) feel happy in the presence of someone you like (affective influence), (b) think of mostly positive characteristics when asked to list the person’s traits (cognitive influence), and (c) agree to loan the person lunch money when he forgets his wallet (behavioral influence).

There are, of course, a number of ways to change a person’s attitude. Perhaps the most common is by presenting the other person with a message containing information about the attitude object. Attitude change by this strategy is called *persuasion*. Although we will focus on this type of influence because it is the most common means of attempting to bring about attitude change and is the topic of the most research, we will consider other attitude change strategies as well.  

People have undoubtedly attempted to influence each other ever since the human race began. Early attempts at influence by both individuals and governments relied largely on force and threatened punishments in order to induce at least behavioral compliance. Today, influence attempts are more often aimed at general attitudes than directly at behavior (e.g., “drugs are bad, don’t use them,” “Detergent X works better than the others, so buy it”), and much more sophisticated and subtle techniques are employed. The advantage of attitude change over behavioral compliance is that when people’s internalized attitudes are changed, they will presumably choose to engage in consistent behavior even if the person who brought about the attitude change is not present (Kelman, 1958). Attitude change attempts are probably more pervasive today than ever before in history (McGuire, 1985). In fact, it is likely that in the typical week, the average American is confronted with hundreds of persuasion attempts from family, friends, colleagues, billboards, newspapers, magazines, television, radio, door-to-door salespeople, telephone solicitors, and other sources.

Given the importance of attitude change in the twentieth century, it is perhaps not surprising that social psychologists and other behavioral scientists have devoted considerable effort to understanding the factors responsible for attitudinal influence. Over the last 50 to 60 years, it is likely that more research has been conducted and more has been written on the topic of attitude formation and change than on any other single topic in the social sciences. Investigators have studied how various aspects of the message (e.g., how many arguments are presented), the communicator (e.g., how expert the source is), and the setting (e.g., how much distraction is present) determine the extent of influence. Likewise, many different theories of the processes by which attitudes are changed have been proposed (see Eagly & Chaiken, 1993; Petty, Priester, & Wegener, 1994; for recent reviews).

The abundance of variables, studies, and theories has been a mixed blessing, however. The problem is that the accumulated research doesn’t always agree on the effect that a particular variable has on persuasion. For example, even for a presumably obvious variable like the credibility of the message source, some studies have found that increasing the perceived credibility of the source increases persuasion, whereas others have found that source credibility has no effect. Still other studies have found that increasing credibility can actually reduce influence. Similarly, different theories have accumulated that attempt to explain these different outcomes by invoking seemingly conflicting psychological processes. Given this state of affairs, it is not surprising that by the 1970s, prominent social psychologists were complaining that it had become very difficult to understand the fundamentals of attitude change processes (see Fishbein & Ajzen, 1972; Himmelfarb & Eagly, 1974; Sherif, 1977). A major cause of this confusion was the implicit assumption that a given variable should only have one effect on attitudes (e.g., credibility should always increase persuasion), and that there was one true process that would bring this about.

In this chapter we take a contemporary look at the phenomena of attitude change in an attempt to understand how even relatively simple variables—such as source credibility—can influence attitudes in rather complex ways. Our review is divided into several parts. First, we examine the underlying bases and structure of attitudes. Second, we examine the specific processes of attitude change. We will see how some of the strategies of attitude change require very little cognitive activity on the part of the target of influence whereas others require considerable cognitive effort. Next, we describe how any one variable, such as source credibility, can lead to attitude change by different processes in different situations. Finally, we examine the consequences of attitudes changed by different processes.

**The Bases of Attitudes**

To the extent that we understand what the underlying bases of attitudes are and their structure, we can presumably understand how to change attitudes.
Beliefs, Emotions, and Behaviors as Bases of Attitudes

As noted above, beliefs, emotions, and behaviors can all contribute separately to people's attitudes. Early views of attitudes assumed a "tripartite model in which attitudes were thought to be composed of all three categories of responses (e.g., Rosenberg & Hovland, 1960). More recent research, however, has emphasized the notion that attributes can be based on just one or two of the components (e.g., Millar & Tesser, 1986b). For example, some attributes might be based mostly on how the object makes us feel, whereas other attributes might be based mostly on what the object makes us think. Similarly, although early research tended to emphasize the notion that our thoughts, feelings, and behavior would tend to be consistent with one another (e.g., Rosenberg, 1960), recent research has begun to emphasize the implications of inconsistency and ambivalence among these bases of attributes (e.g., see Chaiken, Pomerantz, & Giner-Sorolla, 1995; Millar & Tesser, 1992; Thompson, Zanna, & Griffin, 1995; Wilson, Dunn, Kraft, & Lisle, 1989). That is, we can feel wonderful when we eat ice cream, but also realize that the high fat content of ice cream can produce heart disease. In order to predict whether this ambivalent person will be a high consumer of ice cream, we would need to know whether the affective or the cognitive basis of the attitude was more important.

Functional Bases of Attitudes

Although the tripartite model of attitudes identifies three categories of attributes that can form the basis of an attitude, it is not clear what specific kinds of beliefs, emotions, or behaviors will be the most important. The functional theorists (e.g., Katz, 1960; Smith, Bruner, & White, 1956) have addressed this issue in terms of the psychological needs or functions that an attitude can serve for a person. Perhaps the most fundamental purpose of an attitude is to serve a knowledge function. That is, virtually all attributes help a person to understand and make sense of the world. Quickly retrieving an evaluation that tells you whether an object or person you encounter is good (safe) or bad (threatening) makes everyday life easier by minimizing your need to assess and construct an evaluation each and every time the attitude object is encountered (Cacioppo, Petty, & Berntson, 1991; Smith, Bruner, & White, 1956). In fact, if we had to construct an evaluation every time we encountered an object, we would have little time to do much of anything else! Fortunately, a previously formed attitude is usually available (Bargh, Chaiken, Covender, & Pratto, 1992), and this reduces the stress of decision making and daily living (Fazio, 1995; Fazio, Blascovich, & Driscoll, 1992).

In addition to this basic knowledge function, some attributes are thought to serve specific motives. For example, some attributes can protect people from threatening truths about themselves or serve to enhance their self-images (i.e., ego-defensive function). Negative attitudes toward some minority groups (e.g., homosexuals) are thought to serve this function for some people. That is, by derogating the minority group, people can feel superior. Still other attributes are thought to be based on the extent to which they lead to explicit rewards and/or punishments (utilitarian function) or give expression to important values (value-expressive function).

There are two popular approaches to study the functional bases of attitudes. One approach relies on individual differences and suggests that attitudes serve different functions for different kinds of people. For example, Snyder and DeBono (1985) hypothesized that the attitudes of low "self-monitors" (see Snyder, 1979) serve primarily a value-expressive function, whereas the attitudes of high self-monitors serve primarily a social adjuctive function. That is, people who score high on the self-monitoring scale are concerned about engaging in actions that provide rewards from other people. Thus, they are influenced more by what other people think is appropriate than by their own internal standards. People who score low on this scale are the opposite. A second approach proposes that many issues and objects serve a common function for a wide variety of people (e.g., Abelson & Prentice, 1989; Shavitt, 1989). For example, attitudes toward air conditioners probably serve a utilitarian function for most people. That is, we like air conditioners for the practical comfort they provide rather than the boost they give to our egos. Of course, exceptions are possible such as a person who dislikes air conditioners because of the negative effect on the earth's ozone layer (i.e., the attitude serves a value-expressive function).

Changing Attitudes with Different Bases

Understanding the bases of attitudes is thought to be important because of the implications for how to change these attitudes. That is, in order to change an attitude, should the person be provided with new arguments and experiences that "match" but counter the basis of the attitude, or would a "mismatching" strategy be more successful? For example, if a person dislikes a new beverage because of how it smells, should you get them to experience how good it tastes (countering negative affect with positive affect), or should you provide them with all sorts of information about the nutritional benefits of the smelly beverage (countering negative affect with favorable cognitions)? Interestingly, in studies examining this question, some investigators have found evidence favoring a matching strategy—especially for attitudes based on affect (Edwards, 1990), whereas others have obtained evidence favoring mismatching (Millar & Millar, 1990). One commonsense resolution of this conflicting evidence would say that you should match if you can effectively undermine the basis of the attitude, but use a mismatching strategy if you cannot (Petty, Gleicher, & Baker, 1991). That is, if your affective strategy is effective in turning initially negative feelings into positive ones, then matching would be successful. However, if you are unable to do this, then your best bet to counter negative affect would be to provide favorable cognitions and convince the person that they should rely less on their feelings and more on their beliefs (i.e., who cares how it smells if it will make you live 20 years longer?).

In contrast to the mixed evidence on the affective and cognitive bases of attitudes, with respect to the functional foundations of attitudes, research has consistently supported the matching principle. In several studies, for example,
high and low self-monitors were found to be more susceptible to arguments that matched the presumed functional basis of their attitudes. That is, high self-monitors were more susceptible to arguments based on the image of a consumer product than were low self-monitors (Snyder & DeBono, 1987, 1989; see also DeBono, 1987). Matching arguments to the functions inherent in attitude objects has also been successful (Shavitt, 1990). That is, if people like air conditioners for the comfort they provide (utilitarian function), then in selling a new air conditioner you should emphasize comfort rather than the ego-enhancing benefits of staying cool.

**Attitude and Belief Structure**

*Attitude structure* refers to the manner in which attitudes and the associated information are organized in memory. The information we have about an object and our relevant experiences can be very well organized or poorly organized, and if well organized, a number of organizational schemes are possible. For example, consistent with the tripartite model, it is possible that attitudes are organized into affective, cognitive, and behavioral subsystems (e.g., Breckler, 1984). Another possibility is that attitude structures are bipolar with attitude-consistent information clustered together and linked to a separate cluster of attitude-inconsistent information (e.g., Judd & Kutlak, 1986; Pratkanis, 1989). Alternatively, the information in memory could be organized in some other fashion such as into the categories of acceptable, objectionable, and noncommittal (Sherif & Hovland, 1961).

A currently popular view of attitude structure relies on an associative network model of memory (e.g., Anderson, 1983) in which an attitude object is linked to an evaluative node as well as to other relevant information and experiences (e.g., Fiske, 1982; Pratkanis & Greenwald, 1983; see Figure 6.1). Although most social psychologists have focused on the structure of individual attitudes (called *intra-attitudinal structure,* e.g., Judd & Krosnick, 1989), any one attitude structure can also be linked to other attitude structures that have some basis of similarity such as attitudes that derive from the same basic values (called *inter-attitudinal structure,* see Eagly & Chaiken, 1995). Because of spreading activation, the activation of one concept spreads to linked nodes in the system. This means that if you ask people about one attitude, they will be able to give you their attitude about a related issue faster than an unrelated issue (Tourangeau, Rasinski, & D'Andrade, 1991). Perhaps the most important implication of viewing attitudes as integrated structures is that if you modify some particular aspect of the attitude structure (e.g., convince someone that Bill is not very friendly; see Figure 6.1), this will likely lead to some change in the overall evaluation of the object (i.e., the attitude) itself, though it might take some time and thought for the change to occur (McGuire, 1981).

In addition to the very general idea that attitudes are contained in organized structures or *schemas,* some theorists have addressed more particular structural notions. For example, attitudes have been conceptualized as the end result of a syllogistic network of beliefs (e.g., Bem, 1970; McGuire, 1960; Wyer, 1970). That is, at a minimum an attitude can be based on two premises that lead to a conclusion as in the syllogism below.

**Premise 1:** Bill is intelligent.

**Premise 2:** I like intelligent people.

**Conclusion:** I like Bill.

Of course, any conclusion such as the one above can be based on a number of different syllogisms, and each of the premises in the syllogism can itself be based on other syllogisms. Thus, the syllogistic structure for any attitude can become quite complex.

One important issue about attitude structure concerns how a person's specific beliefs about an attitude object combine to form one global evaluation of the object. The most popular approach to this question comes from expectancy-value theories. Expectancy-value theorists analyze attitudes by focusing on the extent to which people expect the attitude object to be related to important values or produce positive versus negative consequences (e.g., Peak, 1955). In an influential formulation, Fishbein and Ajzen (1975) contend that the attributes (or consequences) associated with an attitude object are evaluated along both likelihood and desirability dimensions. Specifically, a person's overall evaluation of some attitude object (e.g., "Bill") is said to be based on the desirability of each attribute (e.g., "Bill" is said to be on the desirability of each attribute [e.g., such as how good it is to be intelligent] associated with the object

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**Figure 6.1.** Attitude structure. In the figure, a person is shown having a favorable attitude toward Bill. This attitude can be retrieved directly from memory or can be constructed based on some subset of the various attributes the person associates with Bill.
weighted by the likelihood that the object possesses the attribute \( b_i \)—such as how likely it is that Bill is intelligent, and the quantity is then summed over all attributes. Stated mathematically, the attitude toward the object \( A_o \) is expressed in the equation below:

**Expectancy-Value Formula:** \( A_o = \sum (b_i e_i) \)

This formula says that attitudes become more favorable as the number of consequences (or attributes) of the object that are likely and desirable increases. Considerable research supports this view (see Ajzen & Fishbein, 1980; Fishbein, 1980; Fishbein & Ajzen, 1975, for reviews).

The major implication of expectancy-value theories for attitude change is that a persuasive message will be effective to the extent that it produces a change in either the likelihood or the desirability component of an attribute that is linked to the attitude object. For example, if a person believes that the probability is moderate \( (b_i = .6) \) that their friend Bill is intelligent \( (e_i = +3) \) so that \( \Sigma b_i e_i = .6 \times 3 = 1.8 \), attitudes toward Bill can be made more favorable either by presenting a message that causes the person to view it as more likely that Bill is intelligent (e.g., moving \( b_i \) from .6 to .8) so that \( \Sigma b_i e_i \) now = .8 \times 3 = 2.4 or by convincing the person that intelligence is a better quality in a friend than previously thought (e.g., moving \( e_i \) from +3 to +4 so that \( \Sigma b_i e_i \) now = .6 \times 4 = 2.4) or by changing both perceptions (i.e., so that \( \Sigma b_i e_i \) now = .8 \times 4 = 3.2). Although Fishbein and Ajzen's approach has been widely applied to understanding the cognitive bases of attitudes, relatively little work on attitude change has been guided explicitly by this framework. Nevertheless, existing research supports the view that messages can influence attitudes by changing either the evaluation or the likelihood component of beliefs (e.g., Lutz, 1975; MacKenzie, 1986).

**PROCESSES OF ATTITUDE CHANGE**

Now that we have examined the general bases of attitudes and their underlying structure, we can turn to the general theories and strategies that have been proposed for changing attitudes—the focus of this chapter. Research on attitude change has been guided by a general information-processing approach that has been popular in one form or another for a considerable period of time. For example, in a 1922 book on the psychology of selling, Kitson argued that the "mental stream" of influence could be divided into the stages of attention, interest, desire, confidence, decision, and action. The contemporary information-processing approach, however, stems most directly from the Yale Communication Program (Hovland, Janis, & Kelley, 1953). The Yale group proposed that attitude change was most likely when there was attention, comprehension, learning, acceptance, and retention of the message and its conclusion. People were thought to engage in these steps to the extent that the persuasive message or the persuasion context provided incentives for doing so.

**Learning and Reception Processes**

Over the years, McGuire (1968, 1989) has presented a more formal information-processing model that incorporates and extends the original Yale framework. Although the exact number of steps in McGuire's information-processing model has varied over the years, a consistent theme has been that persuasion was dependent upon various factors related to the reception of message arguments (i.e., receiving, understanding, and learning the arguments) and various factors related to yielding to them (i.e., accepting the arguments). Thus, some variables such as 'message comprehensibility' might influence the likelihood of persuasion mostly by determining the extent of message reception. For example, in one study Eagly (1974) compared the persuasiveness of messages that varied in comprehensibility. In the high comprehensibility condition, subjects read a message containing reasonable arguments. In the medium comprehensibility condition, the comprehensible message was reorganized so that the sentences were cut in half and put back together in random order. In this condition, the sentences had the appropriate sentence structure, but made little sense. In the low comprehensibility condition, the words in the message were put together in a random fashion. Not surprisingly, as the messages became less comprehensible, they also became more difficult to understand and learn, and also less persuasive. According to the McGuire model, however, in addition to variables influencing the reception of the message, other variables influence persuasion mostly by determining the extent of message acceptance. For example, holding reception constant, people who are carefully thinking about a message are more likely to yield to it when it presents strong and compelling arguments than weak and specious reasons (Chaiken, 1980; Petty & Cacioppo, 1979b).

Perhaps the most interesting aspect of McGuire's framework is the notion that some variables can have opposite effects on message reception and yielding. For example, the intelligence of the audience increases, reception might increase (e.g., because greater intelligence should produce greater comprehension and memory) but yielding might decrease (e.g., because an intelligent audience has greater confidence in its initial opinions or can better resist the arguments presented; Eagly & Warren, 1976). For variables having an opposite impact on reception and yielding processes, persuasion should be greatest at a moderate level of the variable (e.g., moderate intelligence; see Figure 6.2).

Although some studies have examined the curvilinear hypothesis from McGuire's model directly (see Rhodes & Wood, 1992), most of the attention devoted to the reception/yielding model has been on attempting to provide evidence for the notion that reception of the message arguments was a necessary step for persuasion. Although it seems obvious that a recipient needs at least to comprehend the position taken in a message if change toward that position is to take place, the accumulated research evidence suggests that accurate comprehension or learning of the message arguments is not necessary. As we will see later in the chapter, it is possible for people to be persuaded by a message conclusion even if they didn't receive, understand, or learn the message arguments as long as there is a simple cue in the persuasion context (e.g., an expert source).
that allows a reasonable opinion to be formed in the absence of message scrutiny. Thus, persuasion can occur in the absence of message understanding and learning. That is, message reception is not necessary for attitude change.

Message reception is not sufficient for attitude change either. That is, people can fail to be persuaded even if they completely understand and learn the message. As explained more fully below, when people are actively thinking about the message arguments and evaluating them, their own evaluative thoughts are a more important determinant of attitude change than is their ability to learn and remember the exact information presented (Greenwald, 1968; Petty, Ostrom, & Brock, 1981). When is message learning and retention an important contributor to attitude change? Current research suggests that the recall of the specific information presented in a persuasive message can be an important predictor of attitudes if people are not forming an overall evaluation of the communication at the time it is presented (e.g., Haugtvedt & Petty, 1992; Mackie & Asuncion, 1990; cf., Hastie & Park, 1986). That is, if a person is not thinking about the message at the time it is presented, but is subsequently asked for an opinion, he or she can attempt to retrieve the information in the message and evaluate it at that time. If the arguments are evaluated favorably, then the more arguments recalled, the more persuasion that occurs.5

Yielding Processes

As the preceding discussion implies, tracking the mere reception, understanding, and learning of the information in a message is typically inadequate to predict the persuasiveness of the communication. Rather, the processes by which a person reacts to the incoming message must be understood. Our discussion of the processes by which people "yield" to persuasive communications is divided into three parts. First, we discuss the general "cognitive response" idea that it is important to understand an individual’s personal reactions to incoming information or an individual’s self-generation of information instead of (or in addition to) their reception and learning of the information presented (e.g., Greenwald, 1968; Petty, Ostrom & Brock, 1981). Next we discuss the notion from the elaboration likelihood model (ELM) of persuasion (Petty & Cacioppo, 1981, 1986) that a person’s reactions to a message can be based on considerable cognitive effort or on more simplistic analyses (see also the heuristic/systematic model; Chaiken, Liberman, & Eagly, 1989). Then, we discuss various yielding processes that do not rely on careful and effortful scrutiny of the information contained in a persuasive appeal. Finally, we will see how any one variable, such as the credibility of the source, can produce attitude change by invoking different processes in different situations.

Cognitive Response Approach

Cognitive Responses to Messages. Greenwald (1968) proposed that it was not the specific arguments in a message that were associated with the message conclusion (or attitude object) in memory as the Yale approach implied, but rather, a person’s unique cognitive responses or reactions to the message arguments were paired with the conclusion, and these cognitive responses determined persuasion or resistance (see also, Brock, 1967). For example, when a political candidate says that she plans to reduce taxes by 15 percent, one person can respond by thinking, “That’s terrible, the national debt will increase,” but another can think, “That’s great, maybe now I can afford a new car!” Even though both people have received and understand the message, only the second person is likely to approve of the candidate. Of course, reception is not irrelevant because individuals can only cognitively respond to something that they have received from the message. Nevertheless, the cognitive response approach recognizes that a person’s thoughts can concern incorrectly perceived arguments as well as correctly perceived information. In fact, as noted above, a person can generate thoughts about the message conclusion in the absence of receipt of any of the message arguments.

The cognitive response approach is sufficiently general that it includes cognitive responses about the message content (e.g., “That’s an ingenious taxation plan”), the message source (e.g., “She seems to know what she is talking about”), or other factors such as the context in which the communication is presented (e.g., “All of these distractions are annoying”). In any case, according to this model, to the extent that a person’s cognitive responses are favorable, persuasion is the expected result, but to the extent that the person’s thoughts are unfavorable (e.g., counterarguments, source derogations), resistance or even boomerang (change in a direction opposite to that advocated) are more likely (Petty, Ostrom, & Brock, 1981). Greenwald (1968) further proposed that persistence of persuasion depends upon the extent to which people can remember their cognitive reactions to the communication rather than their ability to re-
member the message arguments per se (see Love & Greenwald, 1978). The cognitive response approach has generated a considerable body of evidence consistent with the view that in certain situations people spontaneously produce evaluative thoughts during a message presentation, and that the favorability of these thoughts is a good predictor of postmessage attitudes and beliefs (see reviews by Eagly & Chaiken, 1984; Perloff & Brock, 1980; Petty & Cacioppo, 1986). Although coding cognitive responses into favorable, unfavorable, and neutral categories is the most popular system (see Cacioppo, Harkins, & Petty, 1981), other categorization schemes have proved useful. For example, research demonstrates that thoughts which link the message to the self are better predictors of attitudes than non-self-relevant thoughts (Shavitt & Brock, 1986).

Cognitive Responses in the Absence of a Message. Just as a person’s thoughts in response to a persuasive message can determine the extent and direction of attitude change, so too can a person’s thoughts in the absence of any external message. The powerful effects of getting people to generate their own persuasive messages were shown in early research on “role playing” (e.g., Janis & King, 1954; Watts, 1967). In this research, people were typically asked to act out certain roles (e.g., convince a friend to stop smoking) or generate a message on a certain topic, and the subsequent attitudes of these people were compared to those of control subjects who had either simply witnessed the role playing, passively listened to a communication, or received no message. A consistent result of this research was that active participation in the generation of a message was a successful strategy for producing attitude change, and that these changes tended to persist longer than changes based on passive exposure to the message (e.g., Elms, 1966). Role playing appears to be effective because in order to play the role, people think of arguments that are consistent with their assigned role—ignoring inconsistent arguments. In addition, people find their own arguments to be more original than those that are generated by others, and self-generated arguments are also more memorable (Greenwald & Albert, 1968; Slamecka & Graf, 1978). Presentation of arguments in public rather than in private increases the attitude change obtained from role playing. This might occur, for example, if people tried harder to generate good arguments in public (Tice, 1992).6

A person does not have to be asked explicitly to generate a message for self-persuasion to occur. For example, in an extensive series of studies, Tesser (1978) and his colleagues have studied the effects of merely asking someone to think about an issue, object, or person (see Tesser, Martin, & Mendolia, 1995, for a review). For example, in one early study, Sadler and Tesser (1973) introduced subjects to a likable or dislikable partner (via a tape recording). Some of the subjects were instructed to think about the partner, whereas others were distracted from doing so. The thinking manipulation made judgments of the partner more extreme. Specifically, enhanced thinking was associated with more favorable evaluations of the likable partner, but less favorable ratings of the dislikable partner.

Current research indicates that both more extreme (polarization) and less extreme (moderation) attitudes can result from mere thought. The polarization effect requires that subjects have a well-integrated and consistent knowledge structure to guide their thinking, and people must also be motivated to utilize their issue-relevant knowledge (Chaiken & Yates, 1985; Liberman & Chaiken, 1991; Tesser & Leona, 1977). When motivation to think is low or when the issue-relevant information in memory is inconsistent, mere thought is more likely to produce moderation than polarization in attitudes (e.g., Linville, 1982; Millar & Tesser, 1986a).

Two Routes to Persuasion

The cognitive response approach and research on self-generated attitude and belief change have demonstrated quite conclusively that active thought processes are often responsible for attitude change, and that self-generated change can be quite long lasting. Although the cognitive response approach in its broadest framework appears to provide a reasonable account of initial attitude change and its persistence, its focus on the very active and effortful cognitive evaluation of the message (or self-generation of arguments) implies that little attitude change is likely when active thinking about the message is low. Yet, a number of attitude change studies indicate that it might actually be easier to change people’s attitudes when they have relatively little interest in or knowledge about the topic of the persuasive message. That is, change is relatively easy when the topic of the message is rather unimportant. If people do not engage in much thinking about messages on unimportant topics, active thinking would not be a requirement for attitude change (see Hovland, 1959; Johnson & Eagly, 1989; Petty & Cacioppo, 1986). How can change occur when thinking is low?

Central and Peripheral Routes to Persuasion. The elaboration likelihood model (ELM; Petty & Cacioppo, 1981, 1986) is a theory of persuasion that argues that both effortful and non-effortful processes can produce changes in attitudes (see also subsequent discussion of the heuristic/systematic model; Chaiken, Liberman, & Eagly, 1989). When people carefully and effortfully evaluate all of the information relevant to the merits of the advocated position, they are said to be following the central route to persuasion. Consistent with the cognitive response approach, the message recipient under the central route is actively generating favorable and/or unfavorable thoughts in response to the communication. The goal of this cognitive effort is to determine if the position advocated by the source has any merit. Because different people care about different things, and different situations provoke different concerns, what determines whether the arguments have any merit can vary with individual and situational factors. For example, as we noted in discussing the functional theories earlier in this chapter, people whose attitudes serve a social adjustment function are more persuaded by arguments that focus on the social benefits of the advocated position than are people whose attitudes do not serve this function (Snyder &
falling along a continuum of attitude change strategies that differ in the amount of effortful message evaluation they require. At one end of the continuum, the person puts virtually no effort into evaluating the message. If any change is produced, it is likely to be the result of very primitive evaluative processes such as those described in the forthcoming section on simple affective mechanisms of attitude change. At the other end of the continuum, people are carefully evaluating all of the information present in the communication context in an attempt to assess the true merits of the position offered. When aspects of the communication, the recipient, and the communication context make the likelihood of effortful evaluation processes high, attitude change is said to occur by the central route. As the likelihood of careful issue-relevant thinking decreases, peripheral route processes become more important determinants of attitudes.

Assessing the Extent of Message Processing. Persuasion researchers have identified a number of ways to assess the extent to which effortful message processing is determining attitude change and thereby determine whether a person is likely to be following the central or the peripheral route to persuasion. One popular procedure has been to vary the quality of the arguments contained in a message and to determine the extent of message processing by the “effect size” of the argument quality manipulation (Petty, Wells, & Brock, 1976; see Johnson & Turco, 1994, for a review). That is, if a variable increases the extent of argument processing, then people’s attitudes should be more influenced by the quality of the arguments in the message than if argument processing is low. On the other hand, if a variable decreases the extent of message processing, people’s attitudes should be less influenced by the quality of the arguments than if message processing is high. So, if a variable such as distraction decreases thinking about a message, increasing distraction should be good for persuasion (i.e., it will increase attitude change) when the arguments are weak because people, by being distracted from thinking about the arguments, should be less likely to realize the flaws in the message. That is, distraction will disrupt the normal counterarguing of the message thereby increasing its effectiveness. On the other hand, increasing distraction should be bad for persuasion if the arguments are strong because by disrupting thinking about strong arguments, people should be less likely to discover how cogent the arguments are. That is, the normal process of generating favorable thoughts to the message will be disrupted. When researchers first began to test their variables (e.g., external distraction; Petty, Wells, & Brock, 1976) along with a manipulation of argument quality, they began to discover that some variables could either increase or decrease persuasion by influencing the extent of message processing.

In addition to the argument quality procedure, a number of other methods for assessing effortful message processing have been used. For example, investigators have examined the number and profile of thoughts (cognitive responses) generated in response to a message (Petty, Ostrom, & Brock, 1981). As argument processing is increased, people sometimes generate a greater number of message-relevant thoughts (e.g., Burnkrant & Howard, 1984) or thoughts that better reflect the quality of the arguments presented (e.g., Harkins & Petty, 1987). Similarly, if people view themselves as religious, they are more persuaded by arguments framed in religious than in nonreligious (e.g., legalistic) terms (Cacioppo, Petty, & Sidera, 1982).

Rather than relying on individual differences in the extent to which certain dimensions of judgment are important, some research has demonstrated that different bases of judgment can be primed. Specifically, to examine whether the dimensions along which people evaluate the merits of attitude objects could be manipulated experimentally, college students were asked to evaluate political candidates who had positive attributes on one dimension (e.g., foreign policy) and negative attributes on another (e.g., the economy; see Sherman, Mackie, & Driscoll, 1990). Prior to judging the candidates, the subjects were required to memorize a list of words that were relevant to the foreign policy dimension (e.g., “overseas”) or the economic dimension (e.g., “treasury”). This priming manipulation was designed to make one dimension of judgment more salient than the other. The results of this study showed that individuals for whom a particular dimension had been primed were more likely to base their evaluations of the candidates on information relevant to the primed dimension than on the other equally relevant but less accessible dimension. That is, when foreign policy was primed, subjects liked the candidate who had better credentials in foreign policy than economics, but when economics was primed, the reverse occurred.

It has been suggested that the news media can prime various dimensions of judgment by their coverage of news stories. If so, then if the news media play up crime stories during an election, how the candidates stand on the issue of crime will be a more important determinant of candidate evaluations than if the media had emphasized stories on poverty (see Iyengar, Kinder, Peters, & Krosnick, 1984). In any case, the end result of the information processing involved in the central route is typically an attitude that is well thought out and bolstered by supporting information on dimensions seen as central to the merits of the position advocated.

In contrast to the careful and effortful evaluation of information that takes place under the central route, attitudes can also be changed by a peripheral route without much thinking about information central to the merits of the attitude issue. The peripheral route recognizes that it is neither adaptive nor possible for people to invest a lot of mental effort thinking about all of the messages and attitude objects to which they are exposed. Much of the information we receive just isn’t worth spending our time thinking about. Rather, in order to function in life, we must sometimes act as “lazy organisms” (McGuire, 1969) or “cognitive misers” (Taylor, 1981) and employ much simpler means of evaluation. The peripheral route characterizes attitude change as resulting from the operation of simple cues such as the mere presence of an expert source or the induction of a positive mood. Later in this chapter, some of the specific processes by which simple peripheral cues have their impact will be described, but for now it is sufficient to realize that attitude change via the peripheral route requires relatively little in the way of demanding cognitive effort.

It is best to view the central and the peripheral routes to persuasion as
Motivation versus Ability. According to the ELM, there are many variables (e.g., distraction) capable of affecting the likelihood of thinking about the central merits of an issue (i.e., the elaboration likelihood) and thereby determine the route to persuasion. Some variables affect a person's motivation to think about issue-relevant information, whereas others affect their ability to do so. Some variables are part of the persuasion situation, whereas others are part of the person. Some variables affect mostly the extent of information-processing activity (i.e., the overall amount of thinking a person does), whereas others tend to influence the direction of whatever thinking is taking place (i.e., whether the thoughts elicited are relatively favorable or unfavorable). Table 6.1 illustrates variables falling into each cell of this 2 × 2 (motivation vs. ability) × 2 (situation vs. person) matrix. We review some of the most important variables falling into each of these categories next.

Motivation to Think. Perhaps the most important variable influencing a person's motivation to think about a message is the perceived personal relevance or importance of the communication (Petty & Cacioppo, 1979b). Personal or self-relevance can stem from a variety of sources such as the attitude object being linked to values, outcomes, groups, possessions, or the people that are important to the message recipient (Boninger, Krosnick, & Berent, in press; Johnson & Eagly, 1988; Petty, Cacioppo, & Hagtvedt, 1992). When the personal importance of an issue is high, people are motivated to scrutinize the information in a message, and attitude change is based largely on the quality of the arguments presented in support of the issue (Leippe & Elkin, 1987; Petty & Cacioppo, 1979b, 1990). That is, increasing self-relevance leads to more persuasion when the message arguments are strong, but less persuasion when the message arguments are weak. Merely changing the pronouns in a message to enhance self-relevance (e.g., saying "you will benefit" versus "people will benefit") can produce the same results (Burnkrant & Unnava, 1989) as enhancing self-awareness by placing message recipients in front of a mirror (Hutton & Baumeister, 1992).

When personal relevance is low, argument scrutiny is reduced and attitudes are affected more by variables serving as peripheral cues such as the status, likability, or attractiveness of the message endorsers. That is, when relevance is low, people might decide to forgo an effortful analysis of the reasons behind the advocacy and agree with someone simply because the source is attractive or expert. For example, in one study undergraduates were told that their university was considering implementing a comprehensive exam that would have to be passed in order for them to graduate (Petty, Cacioppo, & Goldman, 1981). Half of the students were told that the exam was being considered for implementation next year, in which case it would be highly relevant to them. The other half were told that the proposal was for 10 years in the future and therefore would be of no personal importance whatsoever. In addition, half of the students heard strong arguments and half heard weak arguments in favor of the proposal. Finally, half of the students learned that the proposal was endorsed by a high credibility source (a professor of education at Princeton University), whereas half learned that the proposal was endorsed by a low credibility source (a student in a local high school class).

As the results depicted in Figure 6.3 show, when the issue was of high relevance, attitudes were influenced mostly by the quality of the arguments in the message (see top panel of Figure 6.3). When the issue was of low relevance, however, the students devoted relatively little effort to thinking about the message arguments. Instead, their attitudes were based mostly on the expertise of the message source (see bottom panel of Figure 6.3). In sum, when the exam policy would have an impact on the students evaluating the proposal, their attitudes toward it were quite reasonable. That is, the students went along with the exam policy even if it was endorsed only by a high school student, as long as the arguments were compelling. They rejected the policy if the arguments were weak even if it was endorsed by an expert. When the policy was irrelevant to them and would only affect future students, the results were completely different. In this case, the current students thought that the exam policy was a good idea even if the arguments were rather lame, as long as the policy was endorsed by a highly credible source. They rejected the policy if it was endorsed by a high school student even if the arguments were quite good. Such are the dangers of having uninvolved people make decisions via the peripheral route.

Of course, variables other than personal relevance can modify a person's motivation to think carefully about a message. For example, people are more motivated to scrutinize information when they believe that they are individually responsible for evaluating the message (Petty, Harkins, & Williams, 1980) and when they are uniquely accountable (Tetlock, 1983) rather than when they share responsibility with other people. Increasing the number of message sources can enhance information-processing activity (e.g., Harkins & Petty, 1981), especially when the sources are viewed as providing their own indepen-

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<th>TABLE 6.1. Individual and Situational Variables That Motivate or Enable Relatively Objective or Relatively Biased Thinking about a Message</th>
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reliant on simple peripheral cues in the persuasion context such as whether the source is credible or attractive (Axson, Yates, & Chaiken, 1987; Haugtvedt, Petty, & Cacioppo, 1992).

Another individual difference that is relevant is the “need for closure” (Kruglanski, 1989). People who are high in the need for closure want very quick answers and dislike being without an answer for any length of time. Thus, if these individuals do not have an opinion on an issue, they are likely to accept the first reasonable position offered. On the other hand, if they already have an opinion, they are likely to freeze on this response and change little even in response to cogent persuasive arguments (Kruglanski, Webster, & Klem, 1993).

**Ability to Think.** Just as motivational variables can influence the amount of thinking about a message, so too can variables associated with a person’s ability. Among the important variables influencing a person’s ability to process issue-relevant arguments is message repetition. Repeating a message a few times gives a person a greater opportunity to think about the arguments (e.g., Cacioppo & Petty, 1989). This will prove beneficial for persuasion as long as the arguments are strong and the arguments are not repeated so often that people get tired of them (e.g., Batra & Ray, 1986; Cacioppo & Petty, 1979). If external distractions are present (e.g., Petty, Wells, & Brock, 1976) or the speaker speaks quite rapidly (Moore, Hausknecht, & Thamodaran, 1986; Smith & Shaffer, 1991), argument elaboration is reduced. As explained previously, reducing thinking about a message is beneficial for persuasion when the message would have been easily counterargued, but is harmful if the message would normally have elicited favorable thoughts. People are also generally better able to process messages that appear in print than messages on radio or TV because people can typically control the pace of written messages (Chaiken & Eagly, 1976; Wright, 1980). On the other hand, placing time pressures on processing (e.g., Kruglanski & Freund, 1983), enhancing physiological arousal via exercise (e.g., Sanbonmatsu & Kardes, 1988), or rendering the message difficult to understand (e.g., Ratneshwar & Chaiken, 1991) reduces ability to process and increases reliance on simple cues.

Just as there are individual differences in motivation to think about messages, there are also individual differences in the ability of people to think about a persuasive communication. For example, as general knowledge about a topic increases, people become more able and perhaps more motivated to think about issue-relevant arguments (Wood, Rhodes, & Biek, 1995). Knowledge is only effective in helping people to process to the extent that it is accessible, however (e.g., Brucks, Armstrong, & Goldberg, 1988). When knowledge is low or inaccessible, people are more reliant on simple cues (e.g., Alba & Hutchinson, 1987; Wood & Kallgren, 1988). For example, in one study (Wood, Kallgren, & Preiser, 1985), people who were knowledgeable about environmental preservation were influenced by the quality of the arguments in an environmental message, but people who had little knowledge about the environment were influenced by the mere length of the arguments (i.e., how wordy they were) without respect to their quality. As we explain further below, the low knowledge individ-

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**FIGURE 6.3.** The effects of involvement, argument quality, and source expertise on attitudes. The top panel shows that high involvement led to greater scrutiny of the arguments than low involvement. The bottom panel shows that low involvement led to greater reliance on source expertise than high involvement. 

*Figure reprinted by permission from Petty, Cacioppo, & Goldman, 1981.*
uals, being relatively unable (or unmotivated) to evaluate the quality of the arguments, might have relied instead on a reasonable persuasion rule or heuristic: the longer the arguments, the better they must be (Chaiken, 1987).

Combining Variables. It is important to note that in most communication settings, a combination of factors determines the nature of information-processing activity that takes place rather than just one variable acting in isolation. For example, using a rhetorical question to end an argument (e.g., “Therefore, wouldn’t a tax increase help the national debt?”) rather than a statement (e.g., “Therefore, a tax increase would help the national debt.”) increases thinking about the arguments in the message when people normally would not be motivated to engage in such thinking. That is, asking a question motivates thought that would not normally take place. On the other hand, if people are already motivated to think about the message, then the use of rhetorical questions actually disrupts the normal processing of the message (e.g., see Petty, Cacioppo, & Heesacker, 1981).

Biases in Information Processing. The variables discussed above, such as distraction or need for cognition, tend to influence information-processing activity in a relatively objective manner. That is, all else being equal, distraction tends to disrupt whatever thoughts a person is thinking. If a person is thinking mostly negative thoughts to the message, negative thoughts will be disrupted and persuasion will be increased. If positive thoughts dominate, then positive thoughts are disrupted and persuasion is decreased (Petty, Wells, & Brock, 1976). The distraction does not specifically target one type of thought to disrupt. Similarly, individuals who are high in need for cognition are more motivated to think in general than people low in need for cognition. They are not more motivated to think certain kinds of thoughts (Cacioppo, Petty, & Morris, 1983).

Ability versus Motivation to Be Biased. Consider what happens when a person is asked to evaluate two opposing communications (e.g., one favoring capital punishment and one opposing it). Following analysis of both sides of the issue, people tend to see the message favoring their own position as the more compelling message (Lord, Ross, & Lepper, 1979), and this biased outcome is especially likely when the person’s own attitude on the topic is quite strong (Houston & Fazio, 1989). If the messages people receive to process are actually perfectly balanced, why would a biased outcome result?

First, consider the fact that the information in people’s heads is not likely to be perfectly balanced. Rather, people tend to have more information in memory that supports their attitudes than information that contradicts it. Because of this, the outcome of message processing might be biased simply because the person’s existing knowledge structure enables the person to more easily retrieve information opposing (counterarguing) the message inconsistent with his or her attitude and retrieve information supportive of the attitude-congruent communication. In this case, the biased judgmental outcome results from the relatively unbiased retrieval of information in memory that is biased (Petty & Cacioppo, 1986).

Biased outcomes can also occur primarily for motivational reasons, however. For example, people might be threatened by a message opposing their viewpoint, and thus might be motivated to marshal all of the evidence and arguments they can retrieve from memory to defend their attitudes. Even if the arguments and facts in their own memories were as balanced as the arguments and facts in the two conflicting messages, people could selectively retrieve information to counterargue the opposing message and bolster the supporting one. Following such motivated biased processing, the supporting message would seem stronger than the opposing one.

A number of general motivations have been linked to biased information processing. Many of these biasing motives stem from some threat to the self such as to self-esteem, to social status, or to the person’s freedom to hold certain beliefs and attitudes (i.e., “reactance”; Brehm, 1966). For example, when people are forewarned of a speaker’s explicit intent to change their attitudes on a self-relevant topic, they become motivated to counterargue the message rather than process it objectively (Petty & Cacioppo, 1979a; see also Liberman & Chaiken, 1992). Perhaps the most studied motive that is postulated to bias information processing is the motive to maintain consistency among one’s attitudes, beliefs, emotions, and behaviors, and it is to this motive that we turn next.

Cognitive Dissonance Theory. Of the various theories proposing a motive to maintain cognitive consistency (e.g., Heider, 1958; Kiesler, 1971; Osgood & Tannenbaum, 1955; Rosenberg, 1960), the most prominent is the theory of cognitive dissonance (Festinger, 1957, 1964). In Festinger’s original formulation of the theory, two elements in a cognitive system (e.g., a belief and an attitude; an attitude and a behavior) were said to be consonant if one followed from the other such as “I’m attractive” and “I have many dates.” The elements were dissonant if one belief implies the opposite of the other such as “I’m attractive” and “I date infrequently.” Of course, two elements could also be irrelevant to each other such as “I’m attractive” and “The rain in Spain stays mainly on the plain.” Festinger proposed that the psychological state of dissonance was aversive and that people would be motivated to reduce it.

Dissonance theorists have proposed a number of ways to reduce dissonance. For example, the person who thinks he is attractive but has few dates could restore consistency by changing one of the dissonant elements. One possibility is for the person to come to believe that he is not really attractive. Although this would certainly reduce the inconsistency, it is unlikely that this would make the person feel any better! Alternatively, the person could redouble his efforts to date. If successful, this would reduce the dissonance. Strategies other than changing the dissonant elements are also possible. For example, the person could try to minimize the importance of one of the cognitions. If dating (or one’s attractiveness) comes to be seen as very unimportant, for instance,
then the inconsistency would be less bothersome. Alternatively, the person could try to generate cognitions that make the dissonant elements consistent with each other. For example, if the person reasoned, "I'm choosy," this would be consistent with being attractive (since attractive people are expected to be more choosy than unattractive people), and would also be consistent with having few dates.

Researchers have studied a variety of situations in which people's behavior is brought into conflict with an attitude or belief thereby inducing dissonance (see Brehm & Cohen, 1962). For example, one common way of producing dissonance in the laboratory is by inducing a person to write an essay that is inconsistent with the person's attitude under high choice conditions and with little incentive (e.g., Zanna & Cooper, 1974). Because behavior is usually difficult to undo, dissonance can be reduced by changing beliefs and attitudes to bring them in line with the behavior (i.e., "I wouldn't have written this essay unless I believed what I was saying").

In perhaps the most famous dissonance experiment, students at Stanford University were induced to engage in the quite boring task of turning pegs on a board (Festinger & Carlsmith, 1959). Following this, some of the students were told that the experimenter's assistant was absent today, and they were asked to take his place and try to convince a waiting subject that the peg-turning task was actually quite interesting and exciting. Some of these students were informed that they would be paid $1 for assuming this role, and others were told that the pay was $20. After agreeing to serve as the accomplice and talking to the waiting student, all subjects reported to a psychology department secretary who gave them a presumably standard department survey that asked how interesting they found the experimental task to be. As expected by dissonance theory, the subjects who received only $1 rated the task as more interesting than the subjects who received $20. This result was expected because the $1 subjects had insufficient justification for their behavior, whereas the $20 subjects had sufficient justification, and thus no dissonance.

A large number of studies have examined dissonance theory predictions in a wide variety of both laboratory and real-world situations. The results of these studies were quite intriguing because the findings typically were opposite to what people would normally expect. For example, dissonance theorists have discovered that people will come to like a boring group more the more unpleasant the initiation required to get into the group (i.e., "I wouldn't have endured that horrible embarrassing initiation if the group wasn't worthwhile"); Aronson & Mills, 1959). People were found to report liking an exotic food more the more dislikeable the person was who induced them to try the food (i.e., "I couldn't have eaten the grasshopper to please this obnoxious person; it must be that I like the taste of grasshoppers"); Zimbardo, Weisenberg, Firestone, & Levy, 1965). Also, it was found that people's evaluations of two objects were greater after a choice between them than before the choice took place. For example, after inducing people to make a decision between two attractive consumer products, people came to like the product they selected more than they did before the choice and came to dislike the product they rejected more than before.

the choice (i.e., "I wouldn't have selected the toaster over the blender unless it really was better"); Brehm, 1966).

Although it is now clear that many of the situations described by Festinger as inducing dissonance produce the physiological changes and perceptions of "unpleasant tension" expected by the theory (Elkin & Leippe, 1986; Losch & Cecioppo, 1990; see Fazio & Cooper, 1983), it is also clear that the mere performance of an inconsistent action does not always produce dissonance. Thus, the focus of current research has been on understanding the precise cause of the tension that sometimes accompanies inconsistent behavior.

Some theorists have questioned Festinger's view that inconsistency per se produces tension in people, but rather have suggested that it is necessary for people to believe that they have freely chosen to bring about some foreseeable negative consequence for themselves or other people (e.g., Cooper & Fazio, 1984). Thus, if telling a waiting subject that a boring task is interesting (Festinger & Carlsmith, 1959) results in no harmful consequence (e.g., because the waiting subject doesn't believe you), there is no dissonance. But if the harmful consequences are high (e.g., the waiting subject decides to stay and participate in the experiment rather than study for his chemistry final), dissonance occurs and attitude change toward the task results (see Calder, Ross, & Insko, 1973). Other theorists argue that inconsistency is involved, but the inconsistency must concern a critical aspect of oneself or a threat to one's positive self-concept (e.g., Aronson, 1968; Greenwald & Ronis, 1978; Thibodeau & Aronson, 1992).

Interestingly, theorists from both camps have argued that proattitudinal advocacy (making a speech that is consistent with one's attitudes) can also produce dissonance under certain conditions. Advocates of the negative consequences view argue that proattitudinal advocacy can induce dissonance if the proattitudinal advocacy ends up having negative consequences (Scher & Cooper, 1989). Advocates of the self-inconsistency view also argue that proattitudinal advocacy can produce dissonance if as a result of the advocacy people feel hypocritical (which threatens self-esteem). For example, consider a college student who is induced to videotape a speech advocating safe sex. Since the student actually believes in safe sex, there is no inconsistency. However, what if the person is subsequently reminded that he or she often fails to engage in safe sex? In one study (Stone, Aronson, Crain, Winslow, & Fried, 1994), 83 percent of students induced to feel hypocritical about their own safe sex practices in this way purchased condoms when given the opportunity to do so. Only 42 percent of the students in the nonhypocrisy groups (i.e., those who didn't give the speech, were not reminded of past unsafe practices, or both) purchased condoms.

Although research has supported both the negative consequences and the self-inconsistency predictions, disentangling these viewpoints has proved difficult. The reason for this is that each framework generally can accommodate the results generated by the other. The conceptual problem stems from the fact that freely choosing to bring about negative consequences is clearly inconsistent with most people's views of themselves as rational, caring individuals. That is, choosing to bring about negative consequences is inconsistent with
one’s positive self-view. However, it is also true that when people do something inconsistent with their positive self-views, the resulting feeling of guilt, shame, stupidity, or hypocrisy is an aversive consequence. That is, by choosing to violate one’s self-view, one has freely chosen to bring about an aversive outcome.

A third viewpoint on the causes of dissonance is provided by self-affirmation theory (Steele, 1988; see also Baumeister, Chapter 3). According to this framework, dissonance is not produced by inconsistency per se, being responsible for negative consequences, or the distress of self-inconsistency, but rather stems from a violation of self-integrity (see also Tesser & Cornell, 1991). According to this viewpoint, actions produce dissonance only when the behavior threatens one’s “moral and adaptive adequacy” (Steele & Spencer, 1991). The self-consistency and self-affirmation points of view have much in common. For example, they agree that if people are given an opportunity to restore or bolster their self-esteem in some manner following a dissonant behavior, dissonance reducing attitude change is less likely. The self-esteem and self-affirmation points of view differ, however, in their predictions of whether high or low self-esteem people would be more susceptible to dissonance effects. In brief, the self-consistency point of view argues that high self-esteem individuals would experience the most dissonance by engaging in behavior threatening to their self-esteem, whereas low self-esteem individuals should show stronger dissonance effects because high self-esteem individuals can more easily restore self-integrity by thinking about the many positive traits they have. Unfortunately, the research evidence on this question is mixed, with some studies showing greater dissonance effects for low self-esteem individuals (Steele, Spencer, & Lynch, 1993), and other studies showing greater dissonance effects for high self-esteem persons (Gerard, Blevans, & Malcolm, 1964).

In sum, whether dissonance results from the production of aversive consequences, inconsistent self-actions, threats to self-integrity, or some other mechanism, dissonance can result in a reanalysis of the reasons why a person engaged in a certain behavior or made a certain choice, and cause a person to rethink the merits of an attitude object. The end result of this effortful but biased cognitive activity can be a change in attitude toward the object.

Peripheral Route to Attitude Change

In the central route to persuasion, the presumption is that attitude change results from actively considering the merits of the position being advocated. That is, people receive and elaborate arguments, or generate reasons to explain or justify some outcome or behavior. Sometimes this effortful thinking proceeds in a relatively objective manner, but at other times it is clearly biased. In either case, however, the person is engaged in an active processing of all of the issue-relevant information presented.

On the other hand, as we have already noted, attitudes can also be changed as a result of various peripheral cues in the persuasion setting if the motivation or ability to engage in effortful cognitive activity is low. We have not yet explained the mechanisms or processes by which peripheral cues influence attitudes, however. The theories that we discuss next postulate a number of specific peripheral processes. Although many of these peripheral route theories initially proposed that the process involved was quite general, subsequent research has revealed that these peripheral processes tend to operate most strongly when the likelihood of issue-relevant thinking is low. We begin with theories that emphasize relatively simple inference and heuristic processes, and conclude with theories that emphasize relatively simple affective (emotional) processes.


Attribution Approach. As described by Gilbert (Chapter 4), the 1970s brought tremendous interest in examining how people come to understand the causes of their own and other people’s behaviors. In his self-perception theory, Bem (1972) reasoned that just as people assume that the behavior of other people and the context in which it occurs provides information about the presumed attitudes of these people, so too would a person’s own behavior provide information about the person’s own attitude. For example, what if you saw Fred come into a room where an experimenter offered him $1000 to smash his tennis racket? Fred smashes away. Then you see Alice come into the same room, and the experimenter offers her 50¢ to smash her racquet. She complies. Now you are asked to guess which person liked their tennis racquet more. The most reasonable guess that you could make is that Alice liked her racquet less than Fred. After all, Alice destroyed her racquet for a mere 50¢, whereas it took $1000 to get Fred to destroy his racquet. Of course, we can’t know what Fred would have done if he had been offered 50¢, but our most reasonable inference based on the evidence at hand is that Alice likes her racquet less than Fred. Now recall the dissonance experiment described previously in which people were induced to say a boring task was interesting for either $1 or $20 (Festinger & Carlsmith, 1959). What if you were an observer to this study? Who would you think really thought the task was more interesting? Just as in the tennis racquet example, it is reasonable to infer that the person paid less agrees with what he or she said more because this person didn’t need as much incentive to engage in the behavior. Bem suggested that if you were engaged in the task, you would make the same inference about your own attitude as would a reasonable outside observer.

During much of the 1970s, self-perception theory was thought to provide an alternative account of dissonance effects (Bem, 1972). Subsequent research indicated, however, that both dissonance and self-perception processes operate, but in different domains. In particular, the underlying tension mechanism of dissonance theory operates when a person engages in discrepant actions that are disagreeable or aversive (e.g., advocating a discrepant position in one’s latitude of rejection; Fazio, Zanna, & Cooper, 1977; performing self-deprecating behavior; Jones, Rhodewalt, Berglas, & Skelton, 1981), whereas self-perception processes are more likely when a person engages in discrepant actions that are more agreeable (e.g., advocating a discrepant position in one’s latitude of ac-
The Heuristic/Systematic Model. Like the attributional framework developed by Eagly and her colleagues, Chaiken's heuristic/systematic model of persuasion (HSM) represents an explicit attempt to explain why certain peripheral cues such as source expertise or message length have the impact that they do (Chaiken, 1987; Chaiken, Liberman, & Eagly, 1989). In particular, the HSM focuses on heuristics or general persuasion rules that provide a relatively simple way of determining message validity. That is, Chaiken proposes that in contrast to the effortful “systematic” (or central route) processes, many source, message, and other cues are evaluated by means of simple schemas or cognitive heuristics that people have learned on the basis of past experience and observation. To the extent that various persuasion rules of thumb, such as “experts are correct,” are available in memory and retrieved, they can help people to evaluate persuasive communications.

According to the HSM, the likelihood of systematic processing increases whenever confidence in one's attitude drops below the level of confidence that is desired (the “sufficiency threshold”). Whenever actual confidence equals or exceeds desired confidence, however, heuristic processing is more likely since there is little motivation to obtain additional information. For example, when motivation or ability to think is low, people could base their acceptance of a message on the mere number of arguments contained in it by invoking the heuristic “the more arguments in favor of something, the more valid it is” (a length implies strength heuristic; Alba & Marmorstein, 1987; Petty & Cacioppo, 1984).

Although some research has varied the accessibility (Roskos-Weidson & Fazio, 1992) or vividness (Pallak, 1983) of the heuristic (peripheral) cues in a message, relatively little research has attempted to explicitly test the HSM by determining if peripheral cues work (at least sometimes) by invoking heuristics from memory. Chaiken (1987) reports the most pertinent investigations. In four studies she and her colleagues attempted to make certain decision rules more accessible, and then track their influence on attitudes following message exposure. The general pattern of these studies supported the utility of the heuristic idea. For example, in one study subjects in the experimental condition memorized eight phrases relevant to the length implies strength heuristic (e.g., “the more the merrier”), whereas control subjects memorized eight irrelevant phrases. Subsequently, subjects received a message from a speaker who claimed to have either ten or two reasons in support of mandatory comprehensive exams for seniors. Subjects in the study were also divided into those with high and low need for cognition (Cacioppo & Petty, 1982). The only group to be influenced significantly by the peripheral number cue (i.e., claim of ten versus two reasons) was the low need for cognition subjects who had been primed with the relevant phrases. Thus, it is plausible that some peripheral cues have an impact on attitudes by invoking an appropriate persuasion heuristic.

Simple Affective Mechanisms: Conditioning, Priming, and Mere Exposure. The attribution and heuristic approaches focus on simple cognitive
inferences that can modify attitudes. Next, we discuss some approaches that emphasize the role of relatively simple affective processes in attitude change.

**Classical Conditioning and Affective Priming.** One of the most direct ways of associating "affect" with objects, issues, or people is through classical conditioning. In brief, as in Pavlov's (1927) pioneering research, conditioning occurs when a target stimulus (the conditioned stimulus such as a bell; CS) is associated with another stimulus (the unconditioned stimulus such as food; UCS) that is connected directly or through prior learning to some response (the unconditioned response such as salivation; UCR). By pairing the UCS (food) with the CS (bell), the CS becomes able to elicit a conditioned response (salivation) that is similar to the UCR (see McSweeney & Bierly, 1984).

A large number of studies have shown that people's attitudes can be influenced by pairing some target object with some stimulus about which the person already feels positively or negatively or placing the target object in some context that induces positive or negative feelings. For example, people's evaluations of words, other people, political slogans, consumer products, and persuasive communications have been modified by pairing them with such affect-producing stimuli as unpleasant odors, electric shock, harsh sounds, pleasant pictures, and happy and sad films (e.g., Staats & Staats, 1958; Zanna, Kiesler, & Pilkonis, 1970).

Even relatively simple muscle movements made in the presence of some target stimulus can influence one's attitude toward the stimulus if those movements are associated with agreement/disagreement (cognitive evaluation), pleasantness/unpleasantness (affective evaluation), or approach/avoidance (behavioral evaluation). For example, research shows that people tend to be naturally inclined to nod their heads up and down when they agree with something and from side to side when they dislike something (Darwin, 1872; Elbl-Eibesfeldt, 1972). People smile when they are feeling happiness, but frown when they experience displeasure (Ekman, 1971). People move pleasant stimuli toward them more quickly than unpleasant stimuli, and move unpleasant stimuli away from them more quickly than pleasant stimuli (Solorz, 1960). These findings suggest that these muscle movements might serve as effective conditioning stimuli. Consistent with this notion, research has found that if you get people to make the muscular movements associated with nodding their heads up and down (Wells & Petty, 1980), smiling (Strack, Martin, & Stepper, 1988), or moving objects toward them (Cacioppo, Prierer, & Bernson, 1993) during exposure to some target stimulus, they subsequently report agreeing with or liking the stimulus more so than if they had been shaking their heads from side to side, frowning, or flexing the muscles associated with moving the object away from them during exposure to the stimulus.

According to the ELM, people should be especially susceptible to the simple transfer of affect when the likelihood of thinking about the merits of the object is rather low. Consistent with the notion that little or no thinking is needed for affective association to occur, classical conditioning effects have been reduced as the target stimulus becomes easier to think about. For example, in one pertinent experiment, subjects were exposed to initially neutral words (e.g., chair) and nonsense words (e.g., raich) while receiving electric shock either immediately after the words, immediately after the nonsense words, or randomly (Cacioppo, Marshall-Goodell, Tanninary, & Petty, 1992). Conditioning was more effective for the items (i.e., nonsense) for which subjects had no preexisting knowledge or associations. That is, conditioning became more effective as the elaboration likelihood was decreased.

In a procedure that bears some similarity to classical conditioning, subjects are presented with some emotion-inducing material just prior to (rather than after or during) receipt of the target stimulus so that positive or negative affect is primed and might therefore influence reactions to any subsequent stimuli. This "backward conditioning" or "affective priming" procedure has also proved successful in modifying attitudes. In one study, for example, subjects were shown a series of nine photos of a target person going about normal daily activities (e.g., getting into a car; Krosnick, Betz, Jussim, & Lynn, 1992). Just prior to each picture of the target person, subjects were exposed to a subliminal photo that was pretested to elicit positive (e.g., a group of smiling friends) or negative (e.g., a bucket of snakes) affect. Subjects exposed to the positive subliminal slides rated the target person more favorably than subjects exposed to the negative slides. It may surprise you to learn that this affective priming procedure works better when the emotional primes are presented outside of conscious awareness (see Murphy & Zajonc, 1993). This is consistent, however, with the notion that simple affective processes work better when the likelihood of thinking about the primes, the targets, and their relationship is low.

**Mere Exposure.** Another way to modify attitudes through simple affective means is merely to expose a person to a stimulus several times. In a series of studies, Zajonc (1968) demonstrated that presenting the same object to people on multiple occasions (mere exposure) increased liking for the object (Zajonc & Markus, 1982). The most recent work on the mere exposure phenomenon indicates that simple repetition of objects can lead to positive evaluations even when people do not recognize that they have seen the objects before. In one study, for example, Kunst-Wilson and Zajonc (1980) presented pictures of various shapes to subjects multiple times under conditions where subjects could not consciously recognize the shapes. During a later session, the subjects were shown pairs of shapes under ideal viewing conditions. In each pair, one shape had been seen in the earlier session, but the other was new. Subjects were asked which shape they liked better and which one they had seen before. Even though subjects were unable to recognize beyond chance which of the shapes was new and which was old, they showed a significant preference for the "old" over the new shapes. That is, mere exposure to the shapes increased liking for them.

Mere exposure effects have been shown for other stimuli such as tones, nonsense syllables, Chinese ideograms, photographs of faces, and foreign words (see Bornstein, 1989, for a review). It is interesting to note that all of these stimuli tend to be unfamiliar and thus are relatively unlikely to elicit much thinking. In fact, the simple affective process induced by mere exposure ap-
pears to be more successful in influencing attitudes when processing of the repeated stimuli is minimal (Obermiller, 1985) or impossible because the stimuli are presented subliminally (Bornstein & D'Agostino, 1992). When more meaningful stimuli have been repeated such as words or sentences, mere exposure effects have been less common. Instead, when effortful cognitive processing occurs with repetition, the increased exposures enhance the dominant cognitive response to the stimulus. Thus, attitudes toward negative words (e.g., hate) and weak message arguments become more unfavorable, but attitudes toward positive words (e.g., love) and strong arguments become more favorable, at least until the point of tedium (e.g., Cacioppo & Petty, 1989; Grush, 1976). That is, when the stimulus is meaningful, repetition increases the likelihood of thinking about the merits of the stimulus.

In sum, like studies of classical conditioning, research on mere exposure shows that this simple affective process is most likely to influence attitudes for low knowledge, low relevance, and/or initially meaningless attitude objects or issues. This does not mean, of course, that affect influences attitudes only when the elaboration likelihood is low. As we will see shortly, affect can modify attitudes when the elaboration likelihood is higher. However, the underlying processes of change are different.

Multiple Roles for Variables in the ELM

Our discussion of central and peripheral processes makes it clear that variables can influence persuasion in a number of ways. That is, we have focused on how some features of a persuasion setting influence either the motivation or the ability to think about the merits of an advocated position. Other features of the persuasion setting impart a motivational or an ability bias to the information-processing activity. Still other features serve as simple cues that encourage attitude change by some peripheral process in the absence of much thinking about any substantive arguments presented. One of the powerful but complex aspects of the elaboration likelihood model is its recognition that any one variable (e.g., the attractiveness of the message source) can serve in multiple roles (Petty & Cacioppo, 1986). That is, a variable can influence attitudes by different processes in different situations. The fact that any one variable can have the same impact on judgments by different processes helps us understand why even simple variables such as source credibility can produce complex outcomes. It also makes it essential that we identify the conditions under which a variable influences attitudes by one process rather than another. Research on this problem is in its early stage, but the existing literature already suggests the general conditions under which variables serve in different roles.

In brief, under conditions of relatively low elaboration likelihood, when people are unmotivated or unable to devote the cognitive effort necessary to scrutinize all of the issue-relevant information presented (such as when personal relevance is low, distraction is high), persuasion-relevant variables such as source attractiveness, to the extent that they have any impact at all, influence attitudes mostly via peripheral route processes. When the elaboration likelihood is low, 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). Thus, if any evaluation is formed at all, it is likely to be the result of a relatively simple association or inference process that can occur without much cognitive effort (e.g., invoking the heuristic “I agree with people I like”; Chaiken, 1987).

When the elaboration likelihood is high, however, people know that they want to evaluate the merits of the arguments presented and that they are able to do so. In these high elaboration situations, persuasion-relevant variables (such as source attractiveness) have relatively little impact by serving as simple cues. Instead the variable can be scrutinized just as are the message arguments and produce attitude change if it provides information relevant to the merits of the attitude object. For example, imagine that an advertisement for a beauty product features an attractive spokesperson. In this instance, scrutiny of the endorser might lead to the thought that “if I use the product, I’ll look like that famous model.” This “argument” for using the product will be considered along with all other relevant information in assessing the merits of the product. Alternatively, even if the variable is not of central relevance to the merits of the advocacy, it could still influence attitudes under high processing conditions by biasing the ongoing information-processing activity. For example, people might be motivated to generate mostly favorable thoughts about the message if the source is attractive.

Finally, another role for variables, and the one emphasized earlier in this chapter, is that variables can influence the amount of thinking that takes place. When the elaboration likelihood is moderate such as when the message is of uncertain personal relevance, people have moderate knowledge on the issue, and so forth, people might be unsure as to whether or not they should devote effort to processing the message. In these situations, they might examine the persuasion context for guidance as to whether the message is worth thinking about. For example, some people might be more interested in the communication if it comes from an attractive than from an unattractive source (DeBono, 1987). When an attractive source increases thinking about a message, more persuasion is produced in the presence of the attractive source when the arguments are weak (Puckett, Petty, Cacioppo, & Fisher, 1983).

In order to understand the complex ways in which any one variable can influence attitudes, it is useful to examine the multiple roles for a few variables in some detail. In the next sections we explain the multiple ways in which one internal variable (a person's mood) and one external variable (the credibility of the message source) can influence attitudes.

Multiple Roles for Affect. Although in our previous discussion of affective influence we focused on how affect could influence attitudes by the peripheral route, it is now clear that affective states, such as a person's mood, can influence attitudes in different ways under different elaboration likelihood conditions (see Petty, Gleich, & Baker, 1991; Schwarz, Bless, & Bohner, 1991). For example, consider how being in a more positive mood than normal might in-
fluence attitude change. As explained earlier, according to the ELM, a person's mood should serve as a peripheral cue mostly when the likelihood of issue-relevant thinking is low. That is, when thinking is low, positive mood should produce more favorable attitudes than being in a neutral mood. This could occur either because of a relatively simple affect transfer process such as postulated by classical conditioning theory, or because people generate a simple inference based on their mood (e.g., "I feel good, so I must agree with the message").

As the likelihood of thinking increases, however, mood should take on different roles. Specifically, when the elaboration likelihood is more moderate, mood has been shown to have an impact on the amount of thinking a person does about the persuasive message. In general, people in a positive mood have engaged in less thinking about the merits of the advocated position than people in a negative or neutral mood (e.g., Batra & Stayman, 1990; Blesl, Bohner, Schwarz, & Strack, 1990; Mackie & Worth, 1989), especially when the message advocates or is expected to advocate something unpleasant (e.g., raising tuition at the students' university). When the message advocates or is expected to advocate something pleasant, positive mood has produced increased message processing over negative mood (Wegener & Petty, in press). This suggests that positive mood influences message processing at least in part due to mood management concerns (Isen & Simmonds, 1978). That is, people in a positive mood tend to avoid message processing when they think it might disrupt their mood (e.g., an unpleasant or counterattitudinal message), but engage in message processing when it will maintain their mood (e.g., a pleasant or proattitudinal message). People in negative moods tend to process regardless of the message. Schwartz and associates (1991) suggest that people in negative moods adopt a problem-solving orientation, and this motivates message processing.

When the elaboration likelihood is high and people are processing the message arguments already, the ELM holds that mood states can influence attitudes by biasing the nature of the thoughts that come to mind. That is, positive mood facilitates the retrieval of positive and/or inhibits the retrieval of negative material from memory (see Blaney, 1986). Under high elaboration conditions, then, mood should influence thoughts which in turn influence attitudes.

Recent research supports the view that mood can influence attitudes in different ways in different situations. In one study, for instance, (Petty, Schumann, Richman, & Strathman, 1993), college students were exposed to a commercial for a new pen in the context of a popular television comedy show (an episode from the Bill Cosby Show), or they saw the same commercial in the context of a more neutral informational program. The results of this study revealed that positive mood had an impact on the thoughts and attitudes of subjects who were highly likely to be thinking about the ad (i.e., because the participants were told that they would be asked to select one brand of pen as a take-home gift), but mood influenced attitudes and not thoughts when the elaboration likelihood was low (i.e., when people thought their take-home gift was an alternative product). Furthermore, under high elaboration conditions, statistical analyses were consistent with the idea that mood influenced attitudes because of its biasing influence on thoughts, but in low elaboration conditions, mood had an impact on attitudes despite having no effect on thoughts (see Figure 6.4). That is, under low elaboration conditions, positive mood influenced attitudes by the peripheral route, but under high elaboration conditions, positive mood influenced attitudes by the central route.

Although much recent research has focused on the impact of positive mood states on attitudes, considerable past persuasion research has focused on the effect of associating a persuasive message with negative emotions such as fear. Is it good or bad for persuasion to induce fear in message recipients (e.g., if you don't wear condoms, use seatbelts, stop smoking, you'll DIE)? According to the ELM, fear, like other affects, should be capable of serving in multiple roles. For example, under high processing conditions, fear might bias the interpretation of the information in a message. If a message recipient experiences fear during a message on cigarette smoking, for instance, this could influence the person's perception of the severity of the threat (Schwarz, Servay, & Kumpf, 1985) or the likelihood that the frightening event will actually occur (Wegener, Petty, & Klein, 1994). If motivation or ability to think about the message is low, however, fear would take on a different role. That is, fear might serve as a negative emo-

![Diagram](image-url)

**FIGURE 6.4.** Direct and indirect effects of positive mood on attitudes. The top panel shows that when involvement is high, positive mood has an indirect impact on attitudes by influencing thoughts. The bottom panel shows that when involvement is low, positive mood has a direct impact on attitudes without influencing thoughts. Figure reprinted by permission from Petty, Schumann, Richman, & Strathman, 1993.
tional cue and produce negative feelings toward the message and little persuasion. Also, if fear is too high, it could reduce the overall likelihood of message thinking because people choose to defensively avoid the fearful stimulus (Janis & Feshbach, 1953; Jepson & Chaiken, 1990). Considerable research suggests that fear appeals are most likely to be effective when the message is personally relevant (so that thinking is increased), the fear is moderate (so that defensive avoidance is minimized), and the message presents strong and credible reassurances about the effectiveness of the proposed solution to the threat (see Rogers, 1983, for a review).

Multiple Roles for Source Credibility. As a second example of a variable serving in multiple roles, consider the impact of the seemingly simple variable of source credibility. The most obvious role for source credibility is to serve as a simple cue when people are relatively unmotivated or unable to think about the substantive message arguments provided. In fact, in a study described earlier (Petty, Cacioppo, & Goldman, 1981; see Figure 6.3), source credibility served as a simple cue when the elaboration likelihood was low, but had little effect when the elaboration likelihood was high. Rather, when people were motivated to think about the message, only argument quality influenced attitudes.

According to the ELM, however, source credibility (like other variables) should be capable of serving in other roles as the elaboration likelihood is increased. In one pertinent study, the effect of source credibility was examined at three different levels of elaboration likelihood (Moore, Hausknecht, & Thamodaran, 1986; Experiment 3). In this research, the likelihood of thinking about a message was varied by manipulating how fast the speaker in an advertisement talked. As the speech rate increased, of course, it would become more difficult to process the message. The results of this study showed that source credibility served as a simple cue when the message was presented quite rapidly (i.e., low elaboration likelihood). When the message was presented at the normal pace and was quite easy to process, argument quality had the greatest impact on attitudes and the effect of source credibility was reduced. So far, this study basically replicates prior work on the effects of source credibility under high and low elaboration conditions (e.g., Petty, Cacioppo, & Goldman, 1981; see Figure 6.3). Of greatest interest is what happened when the presentation rate of the message was moderately fast and processing was possible but challenging. In this case, the credibility of the endorser determined how much thinking occurred: The credible source induced more thinking than the nonexpert. Thus, this study clearly identified two roles for source credibility. When the likelihood of thinking was low, source credibility served as a simple cue (the same role served by affect under low elaboration conditions). When the elaboration likelihood was moderate, source credibility determined how much message processing occurred (the same role served by affect under moderate elaboration conditions). Thus, source credibility appears capable of serving as a simple cue and influencing the extent of message scrutiny.

Finally, Chaiken and Maheswaran (1994) have documented that source credibility, like affect, can also serve in a third role—biasing the nature of message processing when the elaboration likelihood is high. In their study, students read a report about a new consumer product. Subjects were told that the report was excerpted from Consumer Reports (a high credibility source) or from a Kmart pamphlet (a low credibility source). The report contained either strong arguments about the product, weak arguments, or a mixture of strong and weak arguments (i.e., an ambiguous message). Some students were highly motivated to think about the ad because they were told that the company would use the students' opinions to decide whether to market the product in the students' local area. Other students were not very motivated to think about the ad because they were told that the company was thinking about marketing the product in a distant location and their opinions were relatively unimportant.

The results for the unambiguous messages revealed a pattern that should by now be familiar. That is, under the low importance conditions, attitudes were influenced by source credibility but not argument strength. Under high importance conditions, however, attitudes were influenced by argument strength but not source credibility. This part of the research replicated prior findings (e.g., compare with Figure 6.3). Interestingly, when the evidence in the message was ambiguous (i.e., containing a mixture of strong and weak arguments) rather than being clearly strong or weak, source credibility had an impact on attitudes in both the high and low importance conditions. Consistent with the multiple roles notion, however, ancillary analyses indicated that under high importance conditions, source credibility influenced attitudes in part by biasing the processing of the message. That is, when the source was credible, subjects generated more favorable thoughts about the message content than when the source lacked credibility. Under low importance conditions, source credibility influenced attitudes without having any impact on message-relevant thoughts. That is, when the message was mixed, source credibility served as a simple cue under low processing conditions but biased thinking under high processing conditions. By including both ambiguous (mixed) and unambiguous messages in the same study, Chaiken and Maheswaran (1994) were able to show that source credibility was most likely to serve in the role of biasing message processing when people were motivated to think about the message and the message was ambiguous. When people were not motivated to think or the messages were clearly strong or weak, no biased processing was observed.12

Summary of Multiple Roles for Variables. The research reviewed in this section demonstrates that variables that initially seemed quite simple to understand such as a person's mood or the credibility of the message source can actually influence attitudes in rather complicated ways. We have seen that when people are unmotivated or unable to think about a message, their mood and the credibility of the source serve as simple cues. That is, if a person is in a positive mood or the message is endorsed by a credible source, persuasion is increased regardless of the quality of the message arguments. When the likelihood of thinking is high, however, both positive mood and source credibility no longer serve as simple cues but can still influence attitudes by biasing the thoughts that
come to mind as the message is processed. This biased processing is most likely if the message arguments are somewhat mixed or ambiguous. Finally, when the elaboration likelihood conditions are moderate, both mood and source credibility determine how much thinking occurs.

**CONSEQUENCES OF THE ROUTE TO PERSUASION**

We have now reviewed the major processes that have been proposed to determine attitude change. The guiding theme of our review was that sometimes attitudes change because people carefully and effortfully evaluate all of the information in a persuasive communication in order to determine the central merits of the advocacy, but at other times attitudes change because cues in the persuasion environment produce change by much simpler processes. Furthermore, we have seen that any one variable can produce attitude change by either the central or the peripheral route. Does it really matter how one produces attitude change? That is, are not two units of change produced by the central route ultimately the same as two units of change produced by the peripheral route? It turns out that the answer to this question is no. In fact, a critical postulate of the ELM is that central route processes tend to produce stronger attitudes than do peripheral route processes (Petty & Cacioppo, 1981, 1986).

*Attitude strength* refers to the extent to which attitudes possess various qualities. Among the most important characteristics of strong attitudes are that they persist over time, are resistant to countervailing pressures to change, and are predictive of behavior (see Petty & Krosnick, 1995, for a review). Why would attitudes changed by the central route be stronger than attitudes changed by the peripheral route? One reason is that when we do a lot of thinking before changing our attitudes, we are likely to be accessing the attitude and the corresponding knowledge structure quite frequently. This cognitive activity should tend to increase the number of linkages and strengthen the associations among the cognitive elements in the underlying attitude structure. This would tend to make the attitude structure more internally consistent, accessible, and enduring (Crocker, Fiske, & Taylor, 1984; Fazio, Sanbonmatsu, Powell, & Kardes, 1986; McGuire, 1981). In comparison, attitude change that results from a simple inference or heuristic process typically involves accessing the attitude structure only once in order to incorporate the affect or inference associated with a salient persuasion cue (Petty & Cacioppo, 1986; Petty, Haugtvedt, & Smith, 1995). In general, then, these peripheral route attitudes should be weaker. In the sections to follow, we review the primary consequences of changing attitudes by the central versus the peripheral route.

**Persistence of Attitude Change**

*Persistence* of persuasion refers to the extent to which an attitude change endures over time. As it turns out, most laboratory studies of attitude change produce quite temporary changes in attitudes (see Cook & Flay, 1978). Thus, it becomes important to understand when attitude changes persist and when they do not. As we noted above, current research is compatible with the view that when attitude changes are based on extensive issue-relevant thinking, they tend to endure (e.g., Mackie, 1987). Many of the early laboratory studies on attitude change used topics that people didn’t care very much about such as “admitting Greenland to the world bank!” Because of this, attitude changes were probably based on simple inferences and associations and not careful thinking about the substance of the message. Thus, the changes produced did not last very long. When laboratory persuasion studies began to explicitly include conditions that increased people’s motivation and ability to engage in issue-relevant cognitive activity, more enduring attitude changes resulted. For example, research has shown that encouraging self-generation of arguments (e.g., Elms, 1966; Watts, 1967), using interesting or involving communication topics (Ronis, Baumgardner, Leippe, Cacioppo, & Greenwald, 1977), and leading recipients to believe that they might have to explain or justify their attitudes to other people (e.g., Boninger, Brock, Cook, Gruder, & Romer, 1990; Chalken, 1980) are all associated with increased attitude change persistence. Also, people who characteristically enjoy thinking (high need for cognition) show greater persistence of attitude change than people who do not (Haugtvedt & Petty, 1992; Verplanken, 1991).

Can peripheral route attitude changes ever show high persistence? Interestingly, simple cues can become associated with persistent attitudes if the cues remain salient over time. This can be accomplished by repeatedly pairing the cue and the attitude object so that the cue remains relatively accessible (e.g., Weber, 1972). Alternatively, the attitude object can be associated with multiple cues (e.g., Haugtvedt, Schumann, Schneier, & Warren, 1994), or the cue(s) can be reintroduced at the time of attitude assessment (e.g., Kelman & Hovland, 1953). When a grocery store puts a big picture of a celebrity endorser next to the product, they might be attempting to remind you of a cue that produced only a temporary attitude change when you initially saw the product commercial weeks ago.

The Yale learning group explicitly acknowledged the important role that peripheral cues have in attitude change persistence in their work on the sleeper effect (e.g., Kelman & Hovland, 1953). A *sleeper effect* is said to occur when a message that is accompanied initially by a negative cue (e.g., a low credible source) increases in effectiveness over time (see Cook, Gruder, Hennigan, & Flay, 1979). For example, you might read in a tabloid newspaper that the President had an affair with his secretary. You read the message with interest, but then dismiss it because of the unreliability of the source. Two months later, however, you are having a conversation with a friend and you relay the information about the President’s affair quite convincingly. Unfortunately, at this point you have forgotten the source of the information and assume that it is valid.

To account for sleeper effects like this, Kelman and Hovland (1953) proposed that in addition to message arguments, various cues could have an impact on attitude change. These cues were thought to add to (or subtract from)
the effects of the persuasive message. Importantly, the cues and message were viewed as independent and were postulated to be forgotten at different rates. Thus, a sleeper effect would be produced if a person was exposed to a message with a discounting cue (e.g., an unreliable source) and the following conditions were met: (a) the message alone is strong enough to have an initial positive impact, (b) the discounting is sufficiently negative to suppress the initial positive impact of the message, and (c) the message conclusion becomes dissociated from the discounting cue more quickly than it becomes dissociated from the message content (Cook, Gruber, Hennigan, & Day, 1979). Thus, at a later point in time, it is possible for the positive residue of the message to outlast the negative effect of the cue, leading to increased agreement with the message conclusion over time.

This formulation suggests that one key to producing a sleeper effect is to construct a situation in which both a strong negative cue and strong arguments have some initial impact. One way to do this is to present the discounting cue after a strong message is presented (see Pratkanis, Greenwald, Lipp, & Baumgardner, 1988). As we saw earlier, if a discounting cue (low expertise source) is presented before the message, people might ignore the message. At a minimum, if a negative source is presented first, the message recipient should be asked to focus on the message content so that strong arguments are viewed favorably even if the source is not.

In sum, research on attitude change persistence has shown that the more people process the arguments in a persuasive message carefully, the more any change induced by that message is likely to persist (or emerge) over time.

Resistance to Counterpersuasion

Resistance refers to the extent to which an attitude change is capable of surviving an attack from a source with an opposite viewpoint. Although attitude persistence and resistance tend to co-occur, their potential to be independent is shown very clearly in McGuire's (1964) work on cultural truisms. A belief in a truism such as “you should brush your teeth after every meal” tends to last forever if it is not challenged, but it is surprisingly susceptible to influence if it is attacked. As McGuire notes, people have very little practice in defending these beliefs because they have hardly ever been challenged before. These beliefs were likely formed with little issue-relevant thinking at a time during childhood when careful and extensive thinking was relatively unlikely. Instead, the truisms were probably presented repeatedly by powerful, likable, and expert sources. As noted above, the continual pairing of a belief with positive cues can produce a relatively persistent attitude, but these attitudes might not prove resistant when attacked because the person has so little information with which to defend his or her attitude. What can you say when you get a message stating that brushing your teeth will give you gum disease? Retorting with “my mommy said it’s good to brush” just won’t do the trick!

The resistance of attitudes can be improved by bolstering them with relevant information (e.g., Lewin & Stotland, 1961). In his work on inoculation theory, McGuire (1964) demonstrated that two kinds of bolstering can be effective in producing resistance. One form of treatment relies on providing people with a supportive defense of their attitudes or having them self-generate supportive information. For example, in one study, attitudes were made more resistant by getting people to recall times when they engaged in attitude-supportive actions (Ross, McFarland, Conway, & Zanna, 1983). A second type of defense relies on a biological analogy. That is, McGuire suggested that just as people can be made more resistant to a disease by giving them a mild form of the germ (the inoculation) prior to the threatening communication (the disease) and showing them how to refute this information (the antibodies). For example, if you were trying to inoculate voters against upcoming attacks on your favored presidential candidate, you might say that “some people will charge that our candidate wants to raise taxes, but these people don’t consider the fact that if taxes are not raised now, we’ll all pay much more later to take care of the national debt” (see McGuire & Papageorgis, 1961; Pfau & Burgoon, 1988). Inoculation techniques such as these are part of the popular DARE (Drug Abuse Resistance Education) program administered in schools throughout the country (DeJong, 1987).

Although there is relatively little work on the specific qualities that make attitude changes resistant to attack, the existing data support the view that attitude changes are more resistant to attack when the attitudes result from considerable issue-relevant thinking than when they do not. For example, in one study, individuals who were high or low in need for cognition were presented with an initial message about the safety of an artificial sugar substitute (Haugtved & Petty, 1992). The initial message contained strong arguments from an expert source stating that the sweetener was unsafe. This message was followed by an opposite message from another expert source. Although both high and low need for cognition (NC) subjects changed equally to the first message, the newly changed attitudes of the high NC subjects were more resistant to the attacking message. In addition, high NC individuals engaged in greater counterarguing of the attacking message. That is, individuals who formed the stronger initial attitudes showed greater resistance to the subsequent attacking message (see also Wu & Shaffer, 1987).

This finding—that people who process a first message extensively will be more resistant to a second message that takes an opposite point of view than people who change initially because of peripheral cues—has implications for understanding primacy and recency effects in persuasion. In various persuasion settings, people do not receive just one message, but messages on both sides of an issue (e.g., in a jury trial). If you had to choose whether to present your side first or second, which would you select? The ELM and the work on resistance reviewed above suggest that if you expect people to do a lot of thinking about your message, and you have strong arguments to present, you would want to go first. The reason, of course, is that the more successful you are in producing strong, thoughtful attitudes on your side of the issue, the more recipients will be motivated and able to resist the second counteracting message. That is, they will show a primacy effect—being influenced more by the first than the second communication.

To test this hypothesis, Haugtvedt and Wegener (1994) varied the personal relevance of messages on the topic of instituting comprehensive exams for col-
colleage seniors. In the high relevance condition, the student subjects were told that their university was considering implementing comprehensive exams next year. In the low relevance conditions, the subjects were informed that a distant university was considering the exams. All subjects received two messages on the exams with one favoring the exams and one opposing the exams. Each message contained five strong arguments in support of its position. The order in which subjects received the messages was varied. That is, half of the subjects received the pro-exam message and then the anti-exam message, and the remaining subjects received the messages in the reverse order.

Figure 6.5 presents the results from the study. When the issue was of high relevance and subjects would therefore be scrutinizing the messages carefully, a primacy effect was observed. That is, subjects were more favorable toward the exam policy when they received the pro-exam message first rather than the anti-exam message first. In addition, supplemental analyses revealed that high relevance subjects engaged in more counterarguing of the second message than low relevance subjects. That is, as expected, high relevance subjects showed greater resistance to the attacking message. Interestingly, the results for the low relevance subjects were exactly the opposite. These individuals showed a recency effect: They went along with whatever position they heard most recently. In addition, the attitudes of low relevance subjects appeared to be determined by the amount of information from the second message that they could recall.

In sum, research on resistance suggests that the more people change as a result of processing the arguments in an initial persuasive message carefully, the more they will resist changing again to a subsequent message taking a contrary point of view.

**Attitude-Behavior Consistency**

Perhaps the most studied quality of attitudes because of its tremendous practical value is the ability of attitudes to predict and direct people's actions (see Ajzen, 1988, for a review). After all, if you can make a person dislike smoking, or love a certain product, but the person still smokes, and never purchases the product, what good is the attitude change? After a brief period of despair in which social scientists questioned whether attitudes predicted behavior (e.g., Wicker, 1971), it is now clear that attitudes are quite capable of accounting for behavior, at least if you know what you are doing. First, it is important to note that a number of methodological considerations have proved to be important if attitudes are to predict behaviors. In particular, the attitude and behavioral measures should be assessed at the same level of specificity. That is, specific behaviors such as "recycling glass" are predicted better by specific attitudes (i.e., attitude toward recycling glass) rather than the more general attitudes (e.g., attitude toward preserving the environment; see Ajzen & Fishbein, 1977). On the other hand, general attitudes (e.g., toward environmental preservation) are better than specific ones at predicting general behavioral criteria (e.g., an index based on several behavioral opportunities such as circulating environmental petitions, recycling household waste, cleaning up the highways, etc.; see Weigel & Newman, 1976). It is also important to note that behavioral prediction in general can be improved by considering attitudes toward alternative courses of action (e.g., Jaccard, Helbig, Wan, Gutman, & Kritz-Silverstein, 1990; Jaccard, Dittus, Radecki, & Wilson, 1995). That is, I can predict whether or not you will smoke better if I measure both your attitude toward smoking and your attitude toward not smoking.

Second, a number of conceptual factors are relevant to understanding when attitudes will predict and guide behaviors. Most importantly, strong attitudes predict behavior better than weak ones. That is, even if two people express the same attitude on a scale, +6 for example, one person's attitude might be more predictive of behavior than the other person's attitude. The key is to understand if the attitude is a strong one or not. If the attitude was formed as a result of considerable issue-relevant thinking (central route), we would expect it to predict behavior better than if it was formed as a result of a peripheral cue process. Consistent with this notion, when attitudes are formed under high personal relevance conditions, they predict behavior and behavioral intentions better than when they are formed under low relevance conditions (Leippe & Elkin, 1987; Petty, Cacioppo, & Schumann, 1983; Stice & Crano, 1982). Also, when attitudes are formed as a result of direct personal experience with an attitude object, they predict behavior better than when they are formed as a result of exposure to secondhand information (see Fazio & Zanna, 1981). Increasing personal relevance and experience presumably increase the likelihood that the attitude change is based on issue-relevant thinking rather than peripheral cues.

If we do not know how an attitude was formed, how can we tell if it will predict behavior? First, you could attempt to assess if the person was the type
of individual who likely possessed strong attitudes. For example, people who receive a low score on the self-monitoring scale show greater consistency of their attitudes with their behaviors (Snyder, 1979). As described in the earlier section on attitude functions, high self-monitors are motivated by situational cues relevant to their image in a group, whereas low self-monitors are motivated by their internal values. Thus, low self-monitors tend to have more stable attitudes that can guide their actions. In addition, people who receive a high score on the need for cognition scale would be expected to have stronger attitudes because of their tendency to enjoy thinking about a variety of issues. Consistent with this reasoning, in a study of the 1984 presidential election it was found that the attitudes of high need for cognition individuals toward the candidates allowed greater prediction of voting behavior than did the attitudes of low need for cognition individuals (Cacioppo, Petty, Kao, & Rodgriguez, 1986).

Instead of assessing stable individual differences, you could also attempt to measure the strength of the attitude itself (see Petty & Krosnick, 1995, for a review). For example, you could assess the amount of knowledge a person has about the attitude object (see Wood, Rhodes, & Biek, 1995). The greater the knowledge, the greater the attitude-behavior consistency (e.g., Davidson, Yantis, Norwood, & Montana, 1985; Kallgren & Wood, 1986). You could assess the extent to which the attitude was consistent with underlying beliefs and values (see Chaiken, Pomerantz, & Giner-Sorolla, 1995). The greater the attitude-belief consistency, the greater the attitude-behavior consistency (e.g., Norman, 1975). You could assess the importance or relevance of the attitude object to the person (Boninger, Krosnick, Berent, & Fabrigar, 1995) or how certain the person was about his or her opinion (Gross, Holz, & Miller, 1995). Important attitudes predict behavior better than unimportant ones (e.g., Jaccard & Becker, 1985) as do attitudes about which people express certainty (Davidson, Yantis, Norwood, & Montana, 1985).

One of the most important qualities of an attitude that can be measured in order to determine its strength is how quickly the attitude comes to mind. In a compelling series of studies, Fazio and his colleagues have shown that attitudes that come to mind quickly (i.e., accessible attitudes) are better predictors of behavior than are attitudes that come to mind more slowly (see Fazio, 1995, for a review). For example, in another study of the 1984 presidential election, the accessibility of people’s attitudes toward the candidates was determined by how quickly they responded to a survey question. The attitudes of people with accessible attitudes predicted voting behavior better than the attitudes of people with relatively inaccessible attitudes (Fazio & Williams, 1986). One reason that accessible attitudes predict behavior better than inaccessible attitudes is that if an attitude comes to mind quickly, it can bias your perception of the target of evaluation. The more you perceive the object as consistent with your attitude, the more you are likely to behave in an attitude-consistent fashion toward it. The notion that accessibility is a moderator of attitude-behavior relations is an important one and has the potential for integrating a considerable number of research findings. For example, many of the variables found to moderate attitude-behavior consistency might be explained by the accessibility notion. Thus, low self-monitors have more accessible attitudes than high self-monitors (Kardes, Sanbonmatsu, Voss, & Fazio, 1986), and attitudes formed by the central route and via direct experience are more accessible than attitudes formed by the peripheral route (Renner, 1988), or those that are based only on indirect experience (Fazio & Zanna, 1981). Accessible attitudes are also more persistent over time (Zanna, Fazio, & Ross, in press) and more resistant to change (Bassili & Fletcher, 1991).

Before concluding this section, it is important to note that although attitudes can be important determinants of behavior, attitudes are not the only determinants of people’s actions. Fishbein and Ajzen’s theory of reasoned action (Fishbein & Ajzen, 1975) notes that it is sometimes important to consider what other people’s attitudes toward some behavior are in addition to one’s own. That is, people are sometimes motivated to comply with what important other people want them to do. These normative influences can overpower one’s own attitude on occasion. Ajzen’s (1991) theory of planned behavior suggests that it is also important to consider the extent to which people perceive that they can control their behavior. If people do not have the required skills to carry out their desired actions, attitudes will not predict behavior (see also, Bandura, 1986).

In sum, despite the fact that behavior is determined by multiple forces, the accumulated research suggests quite clearly that attitudes can be powerful determinants of people’s behavior when those attitudes are strong (i.e., based on considerable issue-relevant thinking and knowledge).

**SUMMARY AND CONCLUSIONS**

This chapter opened with the notion that some people enjoy thinking and others do not. We have also seen that in some situations, almost everyone is willing to engage in thought, but in other situations, most people are unlikely to be thinking about the persuasive communication because they are either unmotivated or unable to do so. The goal of this chapter has been to outline the major processes of attitude change, and we have argued that it is useful to separate the theoretical processes responsible for modifying attitudes into those that emphasize effortful thinking about the central merit of the attitude object and those that do not. This framework allows understanding and prediction of what variables affect attitudes and in what general situations. It also permits understanding and prediction of the consequences of attitude change. We have emphasized that all attitudes (whether toward ourselves, other people, objects, or issues) can be based on cognitive, affective, and/or behavioral information, and that any one variable can have an impact on persuasion by invoking different processes under specifiable conditions of elaboration likelihood. Also, we noted that attitudes that appear identical when measured can be quite different in their underlying basis or structure and thus can be quite different in their temporal persistence, resistance, or ability to predict behavior.
Notes

1 Of course, it is possible to have influence on a person without changing the person’s attitude. For example, you might agree to donate money to a charity without coming to believe that the charity is more worthwhile than you did prior to the donation request. Various such “compliance” strategies are discussed by Cialdini (Chapter 7).

2 The tripartite framework appears to imply that attitudes are based on information and experiences associated with the attitude object during the course of our lives. It is important to note that in addition to these learned associations, attitudes can also have a genetic basis. That is, some people can be predisposed to evaluate certain attributes of objects (e.g., the excitement of roller coasters) favorably for reasons related to genetics (e.g., genetic differences in sensory structures). Such attitudes should be especially difficult to change because it is difficult to change the underlying genetic predisposition contributing to the attitude (see Tesser, 1993).

3 An alternative formula for integrating the thoughts and beliefs that a person has about an attitude object is provided by Anderson’s information integration theory (1971). In contrast to Fishbein and Ajzen’s additive rule, Anderson suggests that the bits of information about an attitude object are typically combined by an averaging process (see Anderson, 1961). Another difference is that Anderson’s formula focuses on the evaluation of each attribute [as] along with the weight [w] of each attribute where the weight is determined by the subjective importance or credibility of the attribute. In most situations, similar outcomes are expected from both additive and averaging formulas (see Anderson, 1981).

4 In addition to the focus on how the evaluative and likelihood aspects of beliefs combine to form attitudes, some researchers are examining the unique origins of likelihood and evaluation judgments (e.g., see McGuire & McGuire, 1991).

5 As we will see later, attitudes could also be related to the number of arguments recalled if people make the simple inference “The more arguments in a message, the more valid it must be” (Petty & Cacioppo, 1986). That is, a correlation between the number of arguments recalled and attitude change does not require that attitudes are based on a postmessage evaluation of the arguments (Hauptvetd & Petty, 1992).

6 In a related stream of experiments, the effects of asking people to generate explanations for some assertion (e.g., Anderson, Lepper, & Ross, 1980) or to imagine the occurrence of some event (e.g., Sherman, Cialdini, Schwartzman, & Reynolds, 1985) have been examined. Consistent with the work on role playing, the work on generating explanations and imagining events has shown consistently that self-generation is a powerful way to change beliefs, and these beliefs are remarkably resistant to change.

7 Strong arguments are those that elicit mainly favorable thoughts when people are instructed to think about them, and weak arguments are those that elicit mostly unfavorable thoughts when people are instructed to think about them (see Petty & Cacioppo, 1986, for a complete discussion).

8 Increasing knowledge might allow people to better understand the information in a message but could also increase their interest in it. Other variables could also influence both motivation and ability to think. For example, placing time pressure on a person might reduce message processing because the person is less able to think in the reduced time allocated, but the time pressure manipulation might also induce a feeling that processing is not worthwhile in this situation—even if enough time really were present.

9 Biased outcomes can also occur when the information in memory is perfectly balanced if some feature of the persuasion situation is more likely to activate one type of information rather than another. For example, a positive mood can bias retrieval in favor of positive over negative thoughts (Bower, 1981).

10 Another way in which these inferences might come about is suggested by inferential value theory (Freedman, Cunningham, & Kästner, 1992). In this view, people reason that the amount of money associated with a task indicates its value (cf., Leavitt, 1954). That is, people give more money to obtain valuable than valueless objects, but are paid more money to engage in stressful, uninteresting tasks than pleasant ones. Thus, subjects could reason that the experimenter really thinks that the task is more boring in the $20 than in the $1 condition, and that is why he is offering people more money to do it so that it is interesting.

11 Although the HSM and ELM mostly make the same predictions, there are a number of notable exceptions. For example, the HSM contends that as long as the systematic and heuristic processing modes do not yield conflicting evaluations, a person’s motivation and ability to scrutinize a message increase, heuristic processing aids to the impact of systematic processing. The ELM argues that as the elaboration likelihood increases, peripheral processes (such as the invocation of heuristics) are less likely to have a direct impact on attitudes (though they are not necessarily less likely to occur). Rather, as explained in the upcoming section on “multiple roles,” a variable that worked by invoking a heuristic under low processing conditions can have an impact under high processing conditions but by a different process. For example, if the variable serving as a cue is now processed as the arguments, this processing could reveal that the variable is informative as to the central merits of the advocacy. Alternatively, the variable could influence attitudes by biasing the ongoing information-processing activity. That is, just because a variable has a similar impact on attitudes under high and low elaboration conditions, this does not mean that the process by which this impact occurs is the same (see Petty, 1994, for further discussion).

12 In this study, path analyses using the source credibility manipulation check indicated that perceptions of source credibility also produced a direct effect on attitudes under high importance conditions. This could be because of the co-occurrence of central (systematic) and peripheral (heuristic) processes (see Eagly & Chaiken, 1993), or because source credibility was evaluated along with all other issue-relevant information and judged relevant to the merits of the position advocated (see Petty, 1994), or because the thought-listing measure fails to capture all the variance in elaboration (Baker & Petty, 1994).

13 Interestingly, if people are asked to think about the basis of their attitudes just prior to attitude measurement, attitude-behavior consistency could be reduced if thinking produces an expressed attitude that is not representative of the true one (Wilson, Dunn, Kraft, & Lisle, 1989). For example, if the central merits of an attitude object are based mostly on affective considerations, but a thinking task makes cognitive rather than affective information salient prior to attitude expression, the attitude expressed after thought will be less predictive of behavior than an attitude expressed without thought—especially if the behavior is effectively based as well (Millar & Tesser, 1986; see also Millar & Tesser, 1992, for a review).

References


Further Readings

**Texts/Monographs**


An extraordinarily comprehensive and up-to-date graduate textbook on attitudes. The text provides coverage of all major conceptual positions and empirical findings.
The definitive reference for the most popular expectancy-value formulation—the theory of reasoned action.


An authoritative review of research. This review is particularly valuable because of its treatment of the historical foundations of attitude research and the organization of its review around the major source, message, recipient, and context variables.


A text for undergraduates that provides coverage of the major theoretical positions and empirical findings. The book contains many illustrations and real-world examples.


This research monograph provides extensive discussion of the elaboration likelihood model of persuasion addressing both conceptual issues and empirical support for the theory.


This engaging book provides a large number of very short chapters linking a basic persuasion principle to numerous “real world” phenomena such as cult indoctrination.


An undergraduate text on attitude change with special attention paid to applications of basic research findings to health and legal issues.

Edited Volumes

Abelson, R. P., Aronson, E., McGuire, W. J., Newcomb, T. M., Rosenberg, M. J., & Tannenbaum, P. H. (Eds.) (1968). Theories of cognitive consistency: A sourcebook. Produced when consistency theories were at their peak, this large volume contains 84 essays on the importance of consistency notions in a variety of domains.


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