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MASS MEDIA ATTITUDE CHANGE

Implications of the Elaboration Likelihood Model of Persuasion

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Undoubtedly, few social scientists today think that the mass media have the power to sway huge audiences to the extent once believed likely. Nevertheless, the technological advances of the last century—from the first primitive radio broadcasts to today's high speed mobile Internet devices—have made it possible for individual communicators to have access to unprecedented numbers of potential message recipients, and recipients to a constant barrage of messages. Millions of dollars are spent worldwide each year in attempts to change peoples' attitudes about political candidates, consumer products, health and safety practices, and charitable causes. In most of these instances, the ultimate goal is to influence people's behavior so that they will vote for certain politicians or referenda, purchase specific goods, engage in safer driving, eating, and sexual activities, and donate money to various religious, environmental, and educational organizations and institutions. To what extent are media persuasion attempts effective?

The success of media campaigns depends in part on: (a) whether the transmitted communications are effective in changing the attitudes of the recipients in the desired direction, and (b) whether these modified attitudes in turn influence people's behaviors. Our goal in this chapter is to present a brief overview of current psychological approaches to mass media influence, and to outline in more detail a general framework that can be used to understand the processes responsible for mass media attitude change. This framework is called the elaboration likelihood model of persuasion (ELM; see Petty & Cacioppo, 1981, 1986b; Petty & Wegener, 1999). Before addressing contemporary approaches, we provide a very brief historical overview of perspectives on mass media influence.

EARLY EXPLORATIONS OF MASS MEDIA PERSUASION

Direct Effects Model

The initial assumption about the effects of the mass media by social scientists in the 1920s and 1930s was that mass communication techniques were quite potent. For example, in an analysis of mass communication during World War I, Lasswell (1927) concluded that "propaganda is one of the most powerful instrumentalities in the modern world" (p. 220). During this period, there were several salient examples of seemingly effective mass communication effects. These included the panic following the 1929 stock market crash; the well-publicized mass hysteria following the radio broadcast of Orson Wells' *War of the Worlds* in 1938; and the rise in popularity of individuals such as Adolf Hitler in Germany, the right wing Catholic Priest, Father Coughlin, and Louisiana Senator Huey Long in the United States. The assumption of Lasswell and others was that transmission of information by mass communication produced direct effects on attitudes and behavior (e.g., Doob, 1935; Lippmann, 1922). In detailing the views about mass communication during this period, Sears and colleagues noted that it was assumed that "the audience was captive, attentive, and gullible . . . the citizenry sat glued to the radio, helpless victims" (Sears & Kosterman, 1994) and that "propaganda could be made almost irresistible" (Sears & Whitney, 1973, p. 2).

Many analysts of the period based their startling assessments of the power of the media on informal and anecdotal evidence rather than careful empirical research. For example, few attempts were made to measure the attitudes of message recipients prior to and following propaganda efforts. Thus, although it could be that the great propagandists of the time were changing the attitudes of their audience, it was also possible that the communicators were mostly attracting an audience that already agreed with them (called "selective exposure;" see Frey, 1986), or some combination of the two. Of course, not all analysts of the period were so optimistic about the prospects for the mass media to produce dramatic changes in opinion, but it was the dominant view (Wartella & Middlestadt, 1991).[1]

Although the Direct Effects Model has been replaced by more sophisticated theoretical perspectives, there do remain echoes of this model within both popular and academic writings. The news media, for example, have been represented in the popular literature as directly influencing and shaping political attitudes (e.g., Adams, 1993), the development of racism (e.g., Suber, 1997), and consumer preferences (e.g., Lohr, 1991). Traces of the Direct Effects Model can also be discerned in current theoretical perspectives. Zaller (1991), for instance, argues that information presentation is the key to public opinion formation and shift. Specifically, he provides some evidence that one can predict opinion change from the mere amount of information provided in the media for a particular stance. As we will see shortly, most current analyses of attitude change hold that it is not the amount or direction of the information per se that produces persuasion, but rather, people's idiosyncratic reactions to this information.

Indirect Effects Model

The Direct Effects Model was tempered considerably in the next two decades largely as a result of the subsequent empirical research conducted. For example, in analyzing survey information gathered by the National Opinion Research Center, Hyman and Sheatsley (1947) concluded that the effectiveness of mass communication campaigns

could not be increased simply by increasing the number of messages. Rather, the specific psychological barriers to effective information dissemination must be considered and overcome (see also Cartwright, 1949). For example, they noted that people often distort incoming information to be consistent with prior attitudes, making change less likely. A similar conclusion was reached by Lazarsfeld, Berelson, and Gaudet (1948) in their influential study of the impact of the media in the 1940 Presidential campaign. A major result from this study was that the media appeared to reinforce people's already existing attitudes rather than producing new ones (see also Klapper, 1960; Lord, Ross, & Lepper, 1979). Some researchers argued that when public attitude change was produced, it was only indirectly attributable to the media. That is, the media were more effective in influencing various opinion leaders than the average person, and these opinion leaders were responsible for changes in the mass public (i.e., a "two-step" flow of communication; Katz & Lazarsfeld, 1955).

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

CONTEMPORARY APPROACHES TO MASS MEDIA PERSUASION

The Attitude Construct

Contemporary social psychologists concerned with the study of media influence, like their predecessors (e.g., Peterson & Thurstone, 1933), have focused on the concept of "attitudes," or people's general predispositions to evaluate other people, objects, and issues favorably or unfavorably. People are aware of and can report most of their attitudes (explicit attitudes), but sometimes people come to have favorable or unfavorable automatic predispositions of which they might not be aware or deny (implicit attitudes). For example, people can harbor implicit prejudices (Devine, 1989) or other evaluative tendencies (Petty, Tormala, Briñol, & Jarvis, 2006) that they do not endorse (see also Greenwald & Banaji, 1995; Wilson, Lindsey, & Schooler, 2000).[2] The attitude construct achieved its preeminent position in research on social influence because of the assumption that a person's attitude—whether implicit or explicit—is an important mediating variable between exposure to new information, on the one hand, and behavioral change, on the other. For example, a television commercial might be based on the idea that giving people information about a candidate's issue-positions will lead to favorable attitudes toward the candidate and ultimately to contributing money to and voting for the candidate. Or, mere repeated exposure to a product name in a radio message might lead the listener to like the product name and therefore select it for purchase without much thought on the next shopping trip (Fazio, 1990).

Over the past 50 years, numerous theories of attitude change and models of knowledge-attitude-behavior relationships have been developed (see reviews by Eagly & Chaiken,

1993; Petty & Wegener, 1998a). Contemporary analyses of mass media persuasion have focused on the variables that determine when the media will be effective versus ineffective and what the underlying processes are by which the media induce change. Perhaps the most well known psychological framework for categorizing and understanding mass media persuasion effects was popularized by Hovland and his colleagues (e.g., Hovland, 1954; Hovland, Janis, & Kelley, 1953) and elaborated considerably by William McGuire (McGuire, 1985, 1989; see McGuire, 1996, for a review of the Hovland approach). After describing this early influential model, we turn to more contemporary approaches.

The Communication/Persuasion Matrix Model of Media Effects

One of the most basic assumptions of initial theories of attitude change (e.g., Strong, 1925), that is also evident in contemporary approaches (e.g., McGuire, 1985) was that effective influence required a sequence of steps (Petty & Cacioppo, 1984b). For example, Figure 7.1 presents McGuire's (1985, 1989) communication/persuasion matrix model of persuasion. This model outlines the inputs (or independent variables) to the persuasion process that media persuaders can control along with the outputs (or dependent variables) that can be measured to see if any influence attempt is successful.

Matrix Inputs

The inputs to the persuasion process in Figure 7.1 are based in part on Lasswell's (1964) classic question: Who says what to whom, when, and how? First, a communication typically has some *source*. The source can be expert or not, attractive or not, male or female, an individual or group, and so on. This source provides some information, the *message*, and this message can be emotional or logical, long or short, organized or not,

Communication Inputs:

Outputs	SOURCE	MESSAGE	RECIPIENT	CHANNEL	CONTEXT
EXPOSURE					
ATTENTION					
INTEREST					
COMPREHENSION					
ACQUISITION					
YIELDING					
MEMORY					
RETRIEVAL					
DECISION					
ACTION					
REINFORCEMENT					
CONSOLIDATION					

Figure 7.1 The Communication/Persuasion Process as an Input/Output Matrix. The Figure Depicts the Primary Independent and Dependent Variables in Mass Media Persuasion Research (Adapted from McGuire, 1989).

directed at a specific or a general belief, and so forth. The message is presented to a particular *recipient* who can be high or low in intelligence, knowledge, experience, in a good or bad mood, and so on. The message is presented via some *channel* of communication. Different media allow different types of input such as audio only (e.g., radio), audio plus moving visual (television, Internet), print only, or print plus static visual (e.g., magazines, newspapers). Some media allow presentation of the message at the recipient's own pace (e.g., reading a magazine or browsing the Internet), whereas other media control the pace externally (e.g., radio and television). Finally, the message is presented to the recipient in some *context*. That is, the persuasion context can be one of group or individual exposure, noisy or quiet environment, and so forth.

Matrix Outputs

Each of the inputs to the persuasion process can have an impact on one or more of the outputs depicted in Figure 7.1. The communication/persuasion matrix model contends that in order for effective influence to occur, a person first needs to be *exposed* to some new information. Media are often selected by potential persuaders after an estimation of the number and type of people the message is likely to reach. Also, by deciding what to present, those who control the mass media help define the range of issues to which the public is exposed (e.g., Iyengar, Kinder, Peters, & Krosnick, 1984).

Secondly, the person must *attend* to the information presented. Just because a person is sitting in front of the television doesn't mean that he or she knows what is going on. For example, in order to gain and attract attention, TV commercials often present babies, puppies, or attractive men or women in proximity to the attitude object. Even if the person does notice the information, this doesn't mean that the person's *interest* will be engaged. The next two stages involve *comprehension* and *acquisition*, or the question of what part of the information presented the person actually understands and learns. It is only at step 6 that attitude change or *yielding* occurs. Once the person accepts the information in the message, the next step in the sequence involves *memory* or storage of the new information and the attitude that it supports. The next three steps detail the processes involved in translating the new attitude into a behavioral response. That is, at some subsequent behavioral opportunity, the person must *retrieve* the new attitude from memory, *decide* to act on it, and perform the appropriate *action*. Finally, the model notes that if the attitude-consistent behavior is not *reinforced*, the new attitude might be undermined. For example, if you act on your attitude and become embarrassed, that attitude will not persist. If the behavior is rewarding, however, the attitude-consistent behavior might lead to attitudinal *consolidation*, making the new attitude more likely to endure over time and guide future behavior.

Variants of this general information processing model were sometimes interpreted in theory and in practice as suggesting that a change early in the sequence (e.g., attention) would inevitably lead to a change later in the sequence (e.g., yielding). McGuire (1989) noted, however, that the likelihood that a message will evoke each of the steps in the sequence should be viewed as a conditional probability. Thus, even if the likelihood of achieving each of the first six steps in a mass media campaign was 60%, the maximum probability of achieving all six steps (exposure, attention, interest, comprehension, learning, and yielding) would be $.6^6$, or only 5%.

In addition, it is important to consider the fact that any one input variable can have different effects on the different output steps. For example, Hyman and Sheatsley (1947) noted that in the political domain, the knowledge and interest of a message recipient

was positively related to exposure to political messages, but negatively related to attitude change. That is, high interest and knowledge tends to lead people to attend political rallies (exposure), but because people attend rallies of candidates they like, and because information is assimilated to existing opinions, attitude change (yielding) is low. In a cogent analysis of this point, McGuire (1968) noted that several variables might have opposite effects on the steps involving *reception* of information (e.g., exposure, attention, comprehension, acquisition, memory) versus yielding to it. For example, the intelligence of the message recipient is related positively to reception processes, but negatively related to yielding. The joint action of reception and yielding processes implies that people of moderate intelligence should be easier to persuade than people of low or high intelligence since this maximizes both reception and yielding (see also, Rholes & Wood, 1992).

Additional Issues for the Communication/Persuasion Matrix Model

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

This analysis helps to explain why previous research on mass media effects has sometimes found that message learning and changes in knowledge occur in the absence of attitude change and vice versa (Petty, Baker, & Gleicher, 1991). For example, after an extensive review of the mass media programs commonly used by government agencies to educate and to reduce social problems involving drugs and alcohol, Kinder, Pape, and Walfish (1980) concluded that although these programs were typically successful in increasing participants' knowledge about drugs, there was very little evidence that they were successful in changing attitudes and behavior.

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

aspects of the source, message, channel, recipient, and context) affect each of the steps in the communication sequence (e.g., how does the credibility of the source affect attention to the message?). The most research by far, however, focuses on the question of how variables affect the processes responsible for yielding to or resisting the communication.

Cognitive Response Approach

Cognitive response theory (Greenwald, 1968; Petty, Ostrom, & Brock, 1981) was developed explicitly to address two key issues unaddressed by the communication/persuasion matrix. That is, the cognitive response approach attempted to account for the low correlation between message learning and persuasion observed in many studies, and for the processes responsible for yielding. In contrast to the traditional view that acceptance of a message depended upon learning the message content, the cognitive response approach contends that the impact of variables on persuasion depends on the extent to which individuals articulate and rehearse their own individual thoughts to the information presented. The cognitive response perspective maintains that individuals are active participants in the persuasion process who attempt to relate message elements to their existing repertoires of information. The influence of cognitive responses —or one's own thoughts—on subsequent attitudes has been demonstrated in a variety of ways.

For example, in early research on "role playing," it was shown that asking people to self-generate arguments on an issue can lead to relatively enduring attitude change (e.g., Janis & King, 1954). When engaged in role playing (e.g., "generate a message to convince your friend to stop smoking"), people engage in a "biased scanning" of evidence on the issue and end up persuading themselves because the arguments they generate are seen as compelling (Greenwald & Albert, 1968). In related research, Tesser and his colleagues conducted a series of investigations of the effects of merely thinking about an attitude object. These studies have shown clearly that with mere thought, people's reactions and impressions to other people, objects, and issues can become more extreme, in either a positive or negative direction, depending on the valence of the initial thoughts generated (see Tesser, Martin, & Mendolia, 1995, for a review).

The cognitive response approach holds that even when external information is presented, people's own thoughts or cognitive responses to this information, rather than learning the information per se, determine the extent of influence. Most studies of cognitive responses to messages focus on the valence and the extent of thinking. Valence refers to the favorableness or unfavorableness of the thoughts with respect to the message, and extent of thinking refers to the number of thoughts generated. In general, the more favorable thoughts people have to the message, the more persuasion that occurs; and the more unfavorable thoughts people have to a message, the less influence (or even change in a direction opposite to the advocacy) that occurs (Greenwald, 1968; Petty, Ostrom, & Brock, 1981; Wright, 1973).

In addition to coding thoughts for valence and number, other categorization schemes have been used (e.g., coding for the origin of the thought, target, self-relevance, and so forth; see Cacioppo & Petty, 1981; Shavitt & Brock, 1986). One feature of thoughts that has proven to be useful is the confidence with which people hold their thoughts. That is, two people can have the same favorable thought about the message (e.g., "the proposed tax increase should help our schools"), but one person can have considerably more confidence in the validity of that thought than another person. According to *self-validation theory* (Petty, Briñol, & Tormala, 2002), the relationship between thoughts

and attitudes should be greater when people have confidence rather than doubt in their thoughts. The self-validation approach says that many of the traditionally studied source, message, recipient, and channel variables can influence persuasion by influencing the extent to which people have confidence in the thoughts they have in response to a persuasive message (see Briñol & Petty, 2004, for a review). In a series of initial studies conducted to test the basic self-validation hypothesis, Petty et al. (2002) found that when the thoughts in response to a message were primarily favorable, increasing confidence in their validity increased persuasion, but increasing doubt about their validity decreased persuasion. When the thoughts to a message were mostly unfavorable, then increasing confidence reduced persuasion, but undermining confidence increased persuasion. These relationships held whether confidence in thoughts was measured or manipulated. Thus, research on cognitive responses suggest that generating favorable or unfavorable thoughts to a persuasive message is an important factor in producing attitude change, but it is not the only factor. Individuals also need to have confidence in the thoughts that they generate if these thoughts are to have an impact.

THE ELABORATION LIKELIHOOD MODEL OF PERSUASION

Although the cognitive response approach provided important insights into the persuasion process, it only focuses on those situations in which people are active processors of the information provided to them. The theory did not account very well for persuasion in situations where people were not actively thinking about the message content. To correct this deficit, the elaboration likelihood model of persuasion (ELM) was proposed. The ELM holds that persuasion can occur when thinking is high or low, but the processes and consequences of persuasion are different in each situation (Petty & Cacioppo, 1981, 1986a; Petty & Wegener, 1999). More specifically, the ELM holds that the processes that occur during the "yielding" stage of influence can be thought of as emphasizing one of two relatively distinct "routes to persuasion" (see Figure 7.2). The ELM focuses on yielding since this is the critical stage at which people accept or reject the message advocacy.

Central and Peripheral Routes to Persuasion

Central Route

The first, or *central route* to persuasion, involves effortful cognitive activity whereby the person draws upon prior experience and knowledge in order to carefully scrutinize all of the information relevant to determining the central merits of the position advocated (Petty, 1994; Petty & Cacioppo, 1986a). Consistent with the cognitive response approach to persuasion, the message recipient under the central route is actively generating favorable and/or unfavorable thoughts in response to the persuasive communication. The goal of this cognitive effort is to determine if the position advocated has any merit. Not every message received from the media is sufficiently interesting or important to think about, and not every situation provides the time and opportunity for careful reflection. When people are motivated and able to take the central route, they carefully appraise the extent to which the communication provides information that is fundamental or central to the perceived merits of the position advocated.

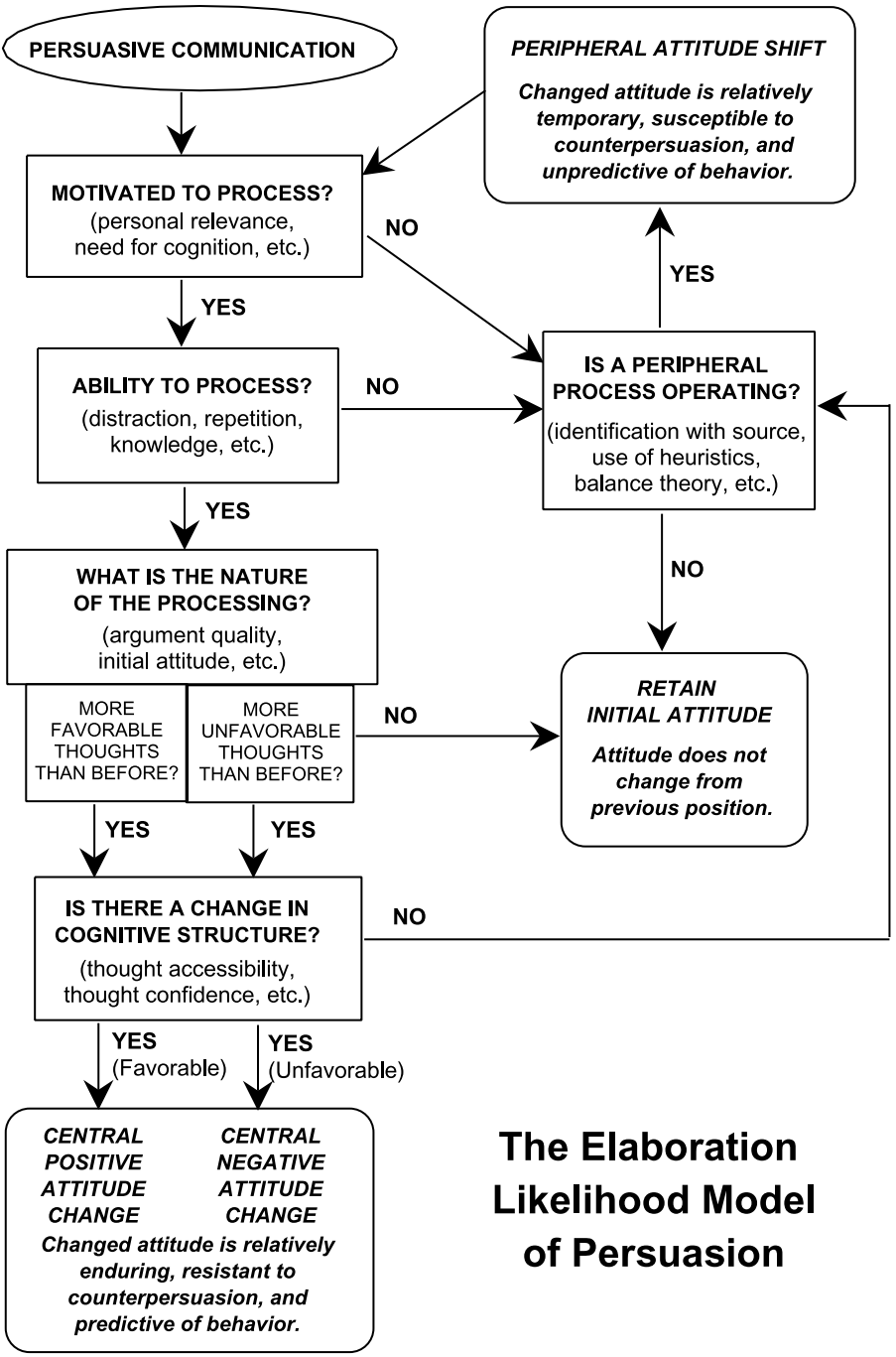

Figure 7.2 Schematic Depiction of the Elaboration Likelihood Model of Persuasion. The Figure Shows the Possible Endpoints after Exposure to a Persuasive Communication for People Following Central and Peripheral Routes to Attitude Change, and the Boxes Indicate the Roles that Variables can Play in the Persuasion Process (Adapted from Petty & Cacioppo, 1986a).

Of course, the particular kind of information that is perceived central to the merits of any particular issue can vary from person to person and from situation to situation. For example, when some people think about social issues (e.g., capital punishment), religious considerations and arguments are particularly persuasive, but for others, legalistic arguments carry the most weight (Cacioppo, Petty, & Sidera, 1982). Likewise, research has shown that when some people evaluate ads for consumer products, they are primarily concerned about how usage of the product will affect the image that they project; but for other people, this dimension is unimportant (DeBono & Packer, 1991; Snyder & DeBono, 1989). Dimensions that are most important will often receive the most scrutiny (Petty & Wegener, 1998b; Petty, Wheeler, & Bizer, 2000).

Research suggests that a key function of the media in the political domain is to make certain political and social issues more salient than others (see Iyengar & Kinder, 1987; McCombs & Reynolds, this volume). For example, a study of magazine stories showed that from the 1960s to the 1990s, stories about drug abuse and nutrition increased dramatically, stories about communism and desegregation declined, and stories on pollution remained about the same (Paisley, 1989). If people come to believe that certain issues are more important due to extensive media coverage, it is reasonable that these dimensions of judgment will become more central in evaluating the merits of political candidates. By giving a problem great coverage (e.g., whether it is global warming or a presidential sex scandal), newscasters render that problem highly accessible in the minds of recipients, making them more likely to think about that particular problem when they judge the "bottom line" on an attitude object (e.g., a presidential candidate; see Sherman, Mackie, & Driscoll, 1990). So, by setting the agenda of what is important to evaluate, the media can have important "indirect" effects on attitude change.[3]

In the central route, once people have thoughts about the message, the final step involves integrating the new thoughts into one's overall cognitive structure. Such integration is more likely to occur if one's thoughts are rehearsed and held with high confidence. It is important to note, however, that just because the attitude change process in the central route involves considerable cognitive work, does not mean that the attitude formed will be a rational or "accurate" one. The extensive information processing activity might be highly biased by factors such as one's prior attitude and knowledge, or one's current emotional state. The important point is that sometimes attitudes are changed by a rather thoughtful process in which people attend carefully to the issue-relevant information presented, examine this information in light of their relevant experiences and knowledge, and evaluate the information along the dimensions they perceive central to the merits of the issue. People engaged in this effortful cognitive activity have been characterized as engaging in "systematic" (Chaiken, Liberman, & Eagly, 1989), "mindful" (Palmerino, Langer, & McGillis, 1984), and "piecemeal" (Fiske & Pavelchak, 1986) processing (see Chaiken & Trope, 1999, for a discussion of various "dual route" models of social judgment).

Attitudes changed by the central route have been shown to have a number of distinguishing characteristics. Because these attitudes are well articulated and integrated into a person's cognitive structure, these attitudes have been found to be relatively easy to access from memory, held with high confidence, persistent over time, predictive of behavior, and resistant to change until they are challenged by cogent contrary information (Petty, Haugtvedt, & Smith, 1995; see Petty & Krosnick, 1995, for an extensive discussion of the determinants of attitude strength).

Peripheral Route

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

We do not mean to suggest that peripheral approaches are necessarily ineffective. In fact, they can be quite powerful in the short term. The problem is that over time, emotions dissipate, people's feelings about sources can change, and cues can become dissociated from the message. These factors would then undermine the basis of the attitude. Laboratory research has shown that attitude changes based on peripheral cues tend to be less accessible, enduring, and resistant to subsequent attacking messages than attitudes based on careful processing of message arguments (see Petty et al., 1995). In sum, attitudes changed via the central route tend to be based on active thought processes resulting in a well-integrated cognitive structure, but attitudes changed via the peripheral route are based on more passive acceptance or rejection of simple cues and have a less well-articulated foundation.[4]

The tendency for simple cue processes to dissipate over time along with the tendency for thought-based persuasion to persist can lead to interesting effects. For example, one such phenomenon is the often cited but infrequently found (Gillig & Greenwald, 1974) "sleeper effect" (Gruder, Cook, Hennigan, Flay, Alessis, & Halamaj, 1978; Hovland, Lumsdaine, & Sheffield, 1949; Peterson & Thurstone, 1970/1933). The sleeper effect can occur when a persuasive message is followed by a discounting cue (e.g., you learn that some information was reported in the untrustworthy *National Enquirer* after exposure to it). The effect is that although the discounting cue suppresses attitude change initially, over time the message can increase in effectiveness—opposite to the typical decay pattern found. The ELM predicts that such an effect should be most likely to occur under conditions in which the initial message is very strong, processed carefully, and then discounted. If the message was processed carefully and a simple cue follows message processing then what should happen is the following: Over time the impact of the peripheral discounting cue should fade, and people's attitudes should be governed

by their initial (and more memorable) favorable thoughts to the strong arguments (see Kumkale & Albarracin, 2004; Priester, Wegener, Petty, & Fabrigar, 1999).

Persuasion Processes in the Elaboration Likelihood Model

Variables Affecting the Amount of Thinking

Our discussion of the central and peripheral routes to persuasion has highlighted two basic processes of attitude change, but the depiction of the ELM in Figure 7.2 outlines more specific roles that variables can play in persuasion situations. First, some variables affect a person's general *motivation* to think about a message. Mendelsohn (1973) noted that placing potential media recipients "along a continuum ranging from those whose initial interest in a given subject area may be high to those who literally have no interest in what may be communicated becomes an essential step in developing effective public information campaigns" (p. 51). Several variables enhance interest in media messages. Perhaps the most important determinant of interest and motivation to process the message is the perceived personal relevance of the communication. In one study (Petty & Cacioppo, 1979b), for example, undergraduates were told that their own university (high personal relevance) or a distant university (low personal relevance) was considering implementing a policy requiring all seniors to pass an exam in their major as a prerequisite to graduation. The students then listened to a radio editorial that presented either strong or weak arguments in favor of the exam policy. As predicted by the ELM, when the speaker advocated that the exams should be instituted at the students' own campus, the quality of the arguments in the message had a greater impact on attitudes than when the speaker advocated that the exams should be instituted at a distant institution. That is, as the personal relevance of the message increased, strong arguments were more persuasive, but weak arguments were less persuasive than in the low relevance conditions (see top panel of Figure 7.3). In addition, an analysis of the thoughts that the students listed after the message suggested that the more extreme attitudes were accompanied by more extreme thoughts. When the arguments were strong, students exposed to the high relevance message produced more than twice as many favorable thoughts as low relevance students, and when the arguments were weak, high relevance students generated almost twice as many unfavorable thoughts as students exposed to the low relevance version.

In an interesting extension of this work, Burnkrant and Unnava (1989) have found that simply changing the pronouns in a message from the third person (e.g., "one" or "he and she") to the second person (i.e., "you") was sufficient to increase personal involvement and processing of the message arguments (see bottom panel of Figure 7.3). That is, when the messages contained the self-relevant pronouns, strong arguments were more persuasive and weak arguments were less persuasive than when third person pronouns were used. Yet another way to increase self-relevance is to frame a message to comport either with people's values or self-conceptions. For example, if a person is attuned to the image value of a product, framing the message as dealing with image can increase message processing (Petty & Wegener, 1998b; see Petty, Wheeler, & Bizer, 2000, for a review). Or, somewhat ironically, if people think of themselves as not liking to think, then by framing the message as being for people who don't like to think, thinking can be increased (Wheeler, Petty, & Bizer, 2005).

Although increasing the perceived personal relevance of a message is an important way to increase thinking (see Petty, Cacioppo, & Haugtvedt, 1992, for a review), it is hardly

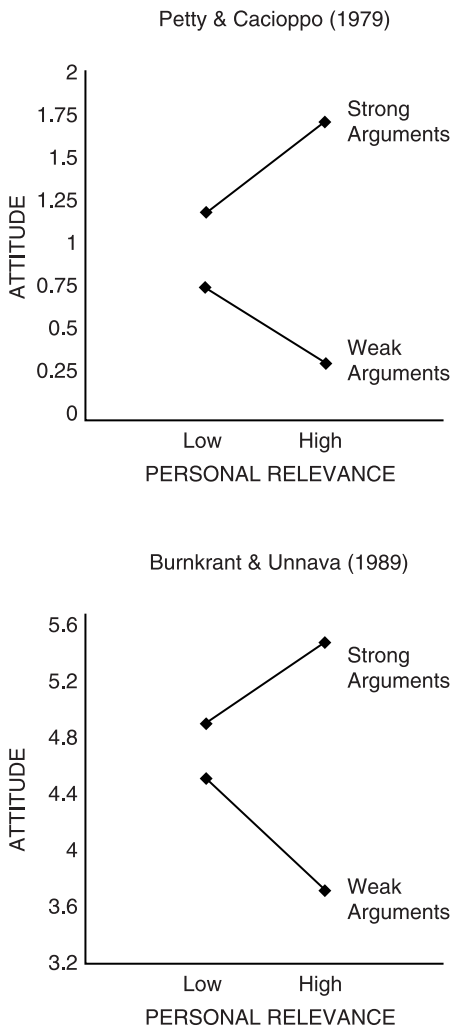

Figure 7.3 Self-Relevance Increases Message Processing. In Each Panel, as Self-Relevance (involvement) Increases, Argument Quality Becomes a More Important Determinant of the Attitudes Expressed after Exposure to a Persuasive Message. Data in the Top Panel are from an Experiment by Petty and Cacioppo (1979b). Data in the Bottom Panel are from an Experiment by Burnkrant and Unnava (1989). In Each Panel, Higher Numbers Indicate More Favorable Attitudes Toward the Position Taken in the Persuasive Message.

the only one. For example, the degree to which a source is perceived to be of questionable or low trustworthiness has also been found to increase the extent of elaboration (Priester & Petty, 1995). In this research, the extent to which a source could be trusted to convey accurate information was manipulated while keeping source expertise high. In one study, source trustworthiness was manipulated by either providing message recipients with background information that suggested that the speaker was honest and could be trusted or was dishonest and could not always be trusted to provide accurate information. In another study, trustworthiness was manipulated by having the source either advocate a self-serving position (relatively untrustworthy) or a position that violated the

source's own self-interests (relatively trustworthy). Regardless of how source trustworthiness was manipulated, sources of questionable trustworthiness engendered greater elaboration than sources perceived to be trustworthy (see also Priester & Petty, 2003).

The increase in elaboration for untrustworthy sources occurs primarily for individuals who are not intrinsically motivated to think (i.e., low in need for cognition; Cacioppo & Petty, 1982), prompting them to elaborate when they would normally forgo such effortful processing. In contrast, individuals who intrinsically enjoy thinking (i.e., high need for cognition individuals) elaborated the messages equally regardless of source trustworthiness. Kaufman, Stasson, and Hart (1999) uncovered a similar pattern of results. Low need for cognition participants were more likely to elaborate the information presented by an untrustworthy (i.e., *National Enquirer*) than trustworthy (i.e., *Washington Post*) source.

Why does source trustworthiness influence thinking? The ELM postulates that individuals are motivated to hold correct attitudes. When a message source is perceived to be both expert and trustworthy (and hence likely to provide accurate information), individuals can be reasonably confident of the accuracy of their attitudes by merely accepting the position advocated. When the source is perceived to be an expert but of low trustworthiness, however, a message recipient cannot be assured of accuracy, and instead must scrutinize the information in order to be assured of an accurate attitude. As such, assuming the source has expertise (and is able to be accurate), perceived trustworthiness can influence the extent to which individuals engage in thinking. If a source has little knowledge (i.e., is low in expertise), there is little reason to process the message regardless of trustworthiness (Heesacker, Petty, & Cacioppo, 1983).

Another source characteristic that has been found to increase message elaboration is the degree to which a source is stigmatized or not. Specifically, research has provided evidence that when the source of a message is a member of a stigmatized group (e.g., gay or African American), message recipients are more likely to elaborate than when the source is a member of a non-stigmatized group (White & Harkins, 1994). Interestingly, this influence of source stigma is apparent only for people who reject prejudicial beliefs (e.g., are low in modern racism or homophobia; Petty, Fleming, & White, 1999). Individuals low in prejudice might be chronically concerned that stigmatized individuals are treated unfairly by others, or they might be concerned about their own implicit prejudices. As such, they pay particular attention to (i.e., elaborate) information presented by stigmatized sources in order to assure that the sources are treated fairly. The same appears to be the case when messages are about rather than by stigmatized individuals (Fleming, Petty, & White, 2005).

Other variables that have been found to increase elaboration include whether the key arguments are presented as questions or assertions, the number of message sources, and the expectedness of a position. For example, several studies have shown that when a person is not normally motivated to think about the message arguments, more thinking can be provoked by summarizing the major arguments as *questions* rather than as *assertions* (Howard, 1990; Petty, Cacioppo, & Heesacker, 1981; Swasy & Munch, 1985). Thus, if an argument in a radio commercial was followed by a question (Isn't this candidate the best one?) rather than by an assertion (This candidate is the best one), greater processing of the argument presented would result. Greater thinking about a message can also be induced by having the individual arguments presented by multiple sources rather than just one (Harkins & Petty, 1981; Moore & Reardon, 1987). The multiple source effect is attenuated if people suspect that the multiple sources are not providing independent analyses of the issue (Harkins & Petty, 1987; Wilder, 1990).

When some feature of the message is unexpected, processing can be increased. For example, if a newspaper headline implied that many people favored something that the message recipient disliked or that few people favored something the recipient liked, message scrutiny can be increased over cases in which the headline implied that few favored what the recipient disliked or many favored what the recipient liked (Baker & Petty, 1994). Of course, the enhanced thinking evoked by rhetorical questions, multiple sources, or surprising headlines will aid persuasion only if the arguments in the communication appear to be cogent when scrutinized. The enhanced thinking will be detrimental to persuasion if the arguments are found to be specious.

As outlined in Figure 7.2, having the necessary motivation to process a message is not sufficient for the central route to persuasion to occur. People must also have the ability to process a message. For example, a complex or long message might require more than one exposure for maximal processing, even if the recipient was highly motivated to think about it. The increased processing with multiple exposures should lead to more favorable thoughts and attitudes if the arguments are strong, but to more counterarguments and less favorable attitudes if the arguments are weak (Cacioppo & Petty, 1989). Of course, repetition is just one variable that has an impact on a person's ability to think about a message. For example, if a message is accompanied by distraction (Petty, Wells, & Brock, 1976) or if the speaker talks too fast (Smith & Shaffer, 1991), thinking about the message will be disrupted. When strong arguments are presented, disrupting thinking should diminish persuasion, but when weak arguments are presented, disrupting thinking should enhance persuasion by reducing counterarguing (see Petty & Brock, 1981). Different media channels have an impact on people's ability to think about the message. Specifically, people are generally better able to process messages in media that allow self-pacing (magazines, Internet) than those that are controlled externally (e.g., radio and television; Chaiken & Eagly, 1976; Wright, 1981).

A consideration of motivation and ability variables together suggests some interesting effects. For example, research shows clearly that moderate repetition of a message can be beneficial if arguments and cues are positive, but repeating the same message over and over eventually leads to boredom and reduced effectiveness. This "wearout" effect occurs regardless of whether the message is on a topic of high or low interest (Sawyer, 1981). Because of this, a number of investigators have suggested that introducing some variation into the repeated ads should forestall the inevitable tedium effect (see Pechman & Stewart, 1989). The ELM suggests that different kinds of message variation should be attempted in a media campaign depending on the recipient's overall motivation to think about the issue of the campaign. In a test of this hypothesis, Schumann, Petty, and Clemons (1990) found that for highly motivated message recipients (those expecting to make an imminent decision about the issue discussed in the communications), repeated presentations on the same topic could be made more effective if the messages varied the substantive arguments that they presented. Variation in peripheral cues made no difference. On the other hand, for recipients low in motivation, variation in simple cues across repeated exposures enhanced the effectiveness of the campaign, but variation in arguments did not.

Objective Versus Biased Thinking

In addition to influencing a person's general motivation or ability to think about a message, Figure 7.2 indicates that variables can also have an impact on persuasion by influencing the nature of the thoughts that come to mind. That is, some features of the

persuasion situation increase the likelihood of favorable thoughts being elicited, but others increase the likelihood of unfavorable thoughts coming to mind. Although the subjective cogency of the arguments used in a message is a prime determinant of whether favorable or unfavorable thoughts are elicited when message thinking is high, other variables can also be influential in determining whether favorable or unfavorable thoughts predominate (Petty & Cacioppo, 1990). For example, instilling "reactance" in message recipients by telling them that they have no choice but to be persuaded on an important issue motivates counterarguing even when the arguments used are strong (Brehm, 1966; Petty & Cacioppo, 1979a). Thus, biased thinking often reduces the impact of message quality on persuasion (Petty & Cacioppo, 1986). Similarly, people who possess accessible attitudes bolstered by considerable attitude-congruent knowledge are better *able* to defend their attitudes than those who have inaccessible attitudes or attitudes with a minimal underlying foundation (Fazio & Williams, 1986; Wood, 1982).

Sometimes variables bias people's thinking and influence their responses to a persuasive message without any awareness of the effect. At other times, however, people can become aware of some potentially unwanted biasing influence on their thoughts and judgments. To the extent that people become aware of a possible bias and want to correct for it, they can take steps to debias their judgments. According to the flexible correction model (FCM) of debiasing (Petty & Wegener, 1993; Wegener & Petty, 1997), to the extent that people become aware of a potential contaminating factor and are motivated and able to correct for it, they consult their intuitive theory of the direction and magnitude of the bias, and adjust their judgment accordingly (see also, Wilson & Brekke, 1994). Because people are not always aware of a biasing factor, as we noted above, high elaboration attitude change is not necessarily bias free. Even attempts to correct for bias do not necessarily produce bias-free judgments because people can be unaware of the actual magnitude or direction of bias and therefore make an inaccurate correction.

If people overestimate a bias and attempt to correct for it, this can lead to an opposite bias. For example, in one study (Petty, Wegener, & White, 1998), students' attention was drawn to the possibly biasing impact of the attractiveness of the source or not. Under high thinking conditions, source attractiveness had no impact when attention was not drawn to it as a possibly biasing factor. However, when participants were told not to be biased by the attractiveness of the source, they actually showed more persuasion to the unattractive than the attractive source—a reverse bias brought on by their attempt to be unbiased.

Persuasive Impact of Arguments Versus Peripheral Cues

As we noted above, when people have the motivation and ability to think about an issue, they scrutinize the issue-relevant information presented, such as the arguments provided in the communication. An argument is any piece of information that says something about the merits of the position taken. Although we ordinarily think of arguments as features of the message content itself, source, recipient, and other factors can also serve as arguments or evidence. For example, if a spokesperson for a beauty product says that "if you use this product, you will look like me," the source's own physical appearance serves as relevant information for evaluating the effectiveness of the product (Petty & Cacioppo, 1984c). Or, a person might look to their own emotional state to provide evidence about the merits of something (e.g., "if I don't feel happy in your presence, I must not love you").

Just as source, recipient, and other factors can serve as persuasive arguments in the appropriate context, features of the persuasive message can serve as peripheral cues. A peripheral cue is a feature of the persuasion context that allows favorable or unfavorable attitude formation even in the absence of an effortful consideration of the true merits of the object or issue. Thus, just as source factors such as how expert or attractive the source is (Chaiken, 1980; Petty, Cacioppo, & Goldman, 1981; Petty, Cacioppo, & Schumann, 1983) can serve as a peripheral cue when motivation or ability to think are low, so too can the mere number of arguments in the message (Aaker & Maheswaran, 1997; Alba & Marmorstein, 1987; Petty & Cacioppo, 1984a) and the length of the arguments used (Wood, Kallgren, & Priesler, 1985; see Petty, Wheeler, & Bizer, 1999), since people can use the heuristic, "more is better."

Summary

The ELM holds that as the likelihood of elaboration is increased (as determined by factors such as the personal relevance of the message and the number of times it is repeated), the perceived quality of the issue-relevant information presented becomes a more important determinant of persuasion. Effortful evaluation of evidence can proceed in a relatively objective or a relatively biased fashion, however. As the elaboration likelihood is decreased, peripheral cues become more important in determining any attitude change that occurs. That is, when the elaboration likelihood is high, the central route to persuasion dominates, but when the elaboration likelihood is low, the peripheral route takes precedence (see Petty, 1994; Petty & Wegener, 1999, for additional discussion of the operation of central and peripheral processes along the elaboration likelihood continuum). Furthermore, as we articulate below, at different points along the elaboration likelihood continuum, any one variable (e.g., source attractiveness) can serve in different roles (e.g., being used as a peripheral cue when thinking is low, but being analyzed as evidence when thinking is high).

Multiple Roles for Variables in the Elaboration Likelihood Model

We have seen that one of the powerful features of the ELM is that it specifies a finite number of processes by which variables can affect persuasion. Now that we have explained all of these processes, it is important to note that another powerful feature of the ELM is that it holds that any one variable can have an impact on persuasion by affecting each of these processes in different situations. That is, the same feature of a persuasive message can, depending on the context, serve as an issue-relevant argument, or a peripheral cue, or affect the motivation or ability to think about the message, or bias the nature of the thoughts that come to mind, or affect structural properties of the thoughts such as how accessible they are, or how much confidence people have in them.

If any one variable can influence persuasion by several means, it becomes critical to identify the general conditions under which the variable acts in each of the different roles or the ELM becomes descriptive rather than predictive (cf. Stiff, 1986). The ELM holds that when the elaboration likelihood is high (such as when perceived personal relevance and knowledge are high, the message is easy to understand, no distractions are present, and so on), people typically know that they want to and are able to evaluate the merits of the arguments presented, and they do so. Variables in the persuasion setting

are likely to have little direct impact on evaluations by serving as simple peripheral cues in these situations. Instead, when the elaboration likelihood is high, a variable (a) can serve as an argument if it is relevant to the merits of the issue, (b) can determine the nature of the ongoing information processing activity (e.g., it might bias the ongoing thinking), or (c) can influence structural properties of the thoughts that are generated (e.g., the confidence with which they are held).

On the other hand, when the elaboration likelihood is low (e.g., low personal relevance or knowledge, complex message, many distractions, and so on), people know that they do not want to or are not able to evaluate the merits of the arguments presented, or they do not even consider exerting effort to process the message. If any evaluation is formed under these conditions, it is likely to be the result of relatively simple associations or inferences based on salient cues in the situation. Under low thinking conditions, the cue effect of a variable is typically determined directly by its valence.

Finally, when the elaboration likelihood is moderate or unconstrained to be high or low (e.g., uncertain personal relevance, moderate knowledge, moderate complexity, and so on), people can be uncertain as to whether or not the message warrants or needs scrutiny and whether or not they are capable of providing this analysis. In these situations they will examine the persuasion context for indications (e.g., is the source trustworthy? is the message relevant?) of whether or not they are interested in or should process the message. A few examples should help to clarify the multiple roles that a variable can have in different situations. We organize our review by grouping variables into aspects of the persuasion source, message, and recipient.

Multiple Roles for Source Factors

Consider first the multiple processes by which source factors, such as expertise or attractiveness, can have an impact on persuasion (see Petty & Cacioppo, 1984c). In various studies, source factors have been found to influence persuasion by serving as peripheral cues when the likelihood of thinking was low. For example, when the personal relevance of a message was low, highly expert sources produced more persuasion than sources of low expertise regardless of the quality of the arguments they presented (Petty, Cacioppo, & Goldman, 1981; see also Chaiken, 1980). On the other hand, in several studies in which the personal relevance of the message was not specified and nothing else was done to make the likelihood of thinking especially high or low (i.e., moderate elaboration likelihood), the source factors of expertise and attractiveness affected how much thinking people did about the message (Heesacker et al., 1983; Moore, Hausknecht, & Thamodaran, 1986; Puckett, Petty, Cacioppo, & Fisher, 1983). That is, likable and expert sources led to more message processing such that persuasion was greater with the likable and expert than dislikable and not expert sources when the arguments were strong, but persuasion was reduced when the arguments were weak. The self-monitoring scale (see Snyder, 1987) has been used to distinguish people who tend to think more about what experts have to say (i.e., low self-monitors) from those who are more interested in what attractive sources have to say (i.e., high self-monitors; DeBono & Harnish, 1988).

When the likelihood of thinking is very high, source factors take on other roles. For example, if a source factor is relevant to the merits of a message, it can be used as a persuasive argument. Thus, as noted earlier, an attractive endorser might provide persuasive visual evidence for the effectiveness of a beauty product (Petty & Cacioppo, 1984c). In addition, Chaiken and Maheswaran (1994) demonstrated a biasing effect on

information processing of source expertise. When recipients under high elaboration conditions received an ambiguous message (i.e., not clearly strong or weak), expertise biased the thoughts generated to the message. That is, people were more likely to interpret ambiguous information in a favorable way if it came from an expert than a non-expert. When the likelihood of thinking was low (i.e., the message was on an unimportant topic), expertise did not bias thinking but instead acted as a simple peripheral cue (see also Shavitt, Swan, Lowrey, & Wanke, 1994).

All of the effects for sources we have discussed already occurred when the source information was available prior to message receipt. One final role for sources has been obtained when the source information is revealed *after* message processing has already occurred. Specifically, in one study, when participants learned that the source was an expert after processing the message, confidence in the thoughts generated to the message was increased compared to learning that the source was of low credibility (Briñol, Petty, & Tormala, 2004). If a highly credible source can increase thought confidence compared to a low credibility source, this means that credibility can be associated with either more or less persuasion depending on the valence of the thoughts generated to the message. In a demonstration of this, Tormala, Briñol, and Petty (2006) presented recipients with either a strong or a weak persuasive message promoting *Confrin*, a new pain relief product, and then revealed information about the source (i.e., either from a federal agency that conducts research on medical products or from a class report written by a 14-year-old student). When the message was strong, the highly credible source led to more favorable attitudes than the source of low credibility because it instilled greater reliance on the positive thoughts generated. However, when the message was weak and participants generated mostly unfavorable thoughts, the effect of credibility was reversed. That is, the high credibility source produced less favorable attitudes than the low credibility source because participants exposed to the highly credible source had more confidence in their unfavorable thoughts to the weak message.

In sum, we have seen that source factors can take on multiple roles in persuasion settings. The role taken depends on how much thinking people are doing about the message and when the source information is revealed. When thinking is low, source factors serve as cues. This should be the case regardless of when the source information is uncovered. When thinking is unconstrained by other variables, source factors can affect the extent of thinking, but only if the source is revealed prior to thinking. When thinking is high, source factors can bias thinking if people are aware of the sources prior to their thinking, but can affect confidence in the thoughts already generated if revealed after thinking (Tormala, Briñol, & Petty, 2007). Finally, when thinking is high, source factors can be analyzed as arguments, if relevant to the advocacy, wherever they happen to appear in the persuasion context.

Multiple Roles for Message Factors

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

Maheswaran, 1997; Alba & Marmorstein, 1987; Friedrich, Fetherstonhaugh, Casey, & Gallagher, 1996; Petty & Cacioppo, 1984a).

One study examined multiple roles for message factors at three distinct levels of recipient elaboration. In this research, a regular advertisement for an unknown product was contrasted with an "upward comparison" ad that compared the new product to a well-established one (Pechmann & Estaban, 1993). Unlike a regular message that simply provides support for its position (e.g., You should vote for Candidate X because . . .), an upward comparison message suggests that the critical issue, product, or person is similar to one that is already seen as desirable (e.g., You should vote for Candidate X, who, like Person Y, favors tax cuts). In order to examine the multiple roles for this message variable, regular and upward comparison ads containing either strong or weak arguments were presented following instructions and procedures designed to elicit either a relatively low, moderate, or high motivation to think about the critical ad.

Effectiveness of the ads was assessed by asking recipients to rate their intentions to purchase the product advertised. When the low motivation instructions were used, the upward comparison ad produced more favorable intentions than the regular ad regardless of argument quality, but strong arguments did not produce more favorable intentions than weak ones. That is, under the low elaboration likelihood conditions, the comparison with the well known and liked product served as a simple peripheral cue, and argument processing was minimal. When the high motivation conditions were examined, the opposite resulted. That is, under the high elaboration instructions, the strong arguments produced more favorable intentions than the weak ones, but the upward comparison was completely ineffective as a cue for producing more favorable intentions. Finally, when the moderate motivation conditions were analyzed, the use of an upward comparison ad was found to motivate people to process the message arguments. Thus, when the upward comparison ad used strong arguments, it led to more persuasion than the direct ad, but when the upward comparison ad used weak arguments, it produced less persuasion than the regular ad.

There are many other message factors that can likewise serve in multiple roles in different situations (see Petty & Wegener, 1998a, for a review). To take one more example, consider the effects of matching, tailoring, or targeting the message to some characteristic of the message recipient (e.g., their personality, their gender or race, their group identity, etc.). Most theorists have predicted that matching should increase persuasion. However, as with any other variable, matching messages to individuals should influence persuasion by different processes depending on the likelihood of thinking. According to the ELM, depending on the process by which matching works, persuasion will not necessarily be increased (see Briñol & Petty, 2006; Petty, Barden, & Wheeler, 2002; Petty, Wheeler, & Bizer, 2000, for reviews).

Perhaps the individual variable that has been studied most with respect to matching a message type to a person characteristic is the personality trait of self-monitoring (Snyder, 1974). This individual difference makes a distinction between high self-monitors, who are oriented toward social approval, and low self-monitors, who are more motivated to be consistent with their internal beliefs and values. Much research on self-monitoring has shown that messages can be made more effective by matching the message to a person's self-monitoring status. For example, in one study Snyder and DeBono (1985) exposed high and low self-monitors to advertisements for a variety of products that contained arguments appealing either to the social adjustment function (i.e., describing the social image that consumers could gain from the use of the product) or to the

value-expressive function (i.e., presenting content regarding the intrinsic quality or merit of the product). They found that high self-monitors were more influenced by ads with image content than ads with quality content. In contrast, the attitudes of low-self monitors were more vulnerable to messages that made appeals to values or quality (see also DeBono, 1987; Lavine & Snyder, 1996; Snyder & DeBono, 1989).

As noted, the ELM holds that there are several possible mechanisms by which matching can influence attitudes. For example, when thinking is set at a high level, then matching could bias the direction of thinking. Indeed, some research suggests that high self-monitors are more motivated to generate favorable thoughts to messages that make an appeal to image rather than an appeal to values (e.g., Lavine & Snyder, 1996). In contrast, when the circumstances constrain the likelihood of elaboration to be very low, a match of message to person is more likely to influence attitudes by serving as a simple cue (e.g., DeBono, 1987). That is, even when the content of the message is not processed, if a source simply asserted that the arguments are consistent with a person's values, a low self-monitor might be more inclined to agree than a high self-monitor by reasoning, "if it links to my values, it must be good." For high self-monitors, a link to image would enhance persuasion.

Furthermore, when thinking is not already constrained by other variables to be high or low, matching a message to a person could increase thinking about the message. This interpretation would be consistent with results obtained by Kreuter and colleagues (1999) in which participants generated more thoughts in response to messages designed to match the recipients (see also Brug et al., 1998; Skinner et al., 1994). Research that has manipulated the quality of the message arguments along with a matching manipulation has also provided evidence for the view that matching can affect the extent of thinking. For example, in one study, Petty and Wegener (1998b) matched or mismatched messages that were strong or weak to individuals who differed in their self-monitoring. In this research, high and low self-monitors read image (e.g., how good a product makes you look) or quality (e.g., how efficient a product is) appeals that contained either strong (e.g., beauty or efficacy that lasts) or weak arguments (e.g., momentary beauty or efficacy). The cogency of the arguments had a larger effect on attitudes when the message matched rather than mismatched the person's self-monitoring status indicating that matching increased attention to message quality (see also DeBono & Harnish, 1988; Updegraff, Sherman, Luyster, & Mann, 2007; Wheeler et al., 2005).

In sum, the accumulated research suggests that matching a message to some characteristic of the recipient can influence attitudes by serving as a peripheral cue when elaboration is low, by biasing thoughts when elaboration is high, and by enhancing the amount of information processing when elaboration is moderate. Matching message contents and/or frames with characteristics of people might influence attitude change by other mechanisms under other circumstances. For example, another possibility is that when a message is matched to the person, people might come to accept the message position simply because the message "feels right" (Cesario, Grant, & Higgins, 2004) or is easier to process (e.g., Lee & Aaker, 2004). These simple fluency experiences might impact attitudes directly under relatively low thinking conditions. Or, when thinking is high, processing fluency (Tormala et al., 2002) or having the message "feel right" (Cesario et al., 2004) could affect persuasion by influencing thought confidence. This enhanced confidence would increase persuasion if the thoughts generated are favorable, but reduce persuasion if the thoughts generated are unfavorable.

Multiple Roles for Recipient Factors

According to the ELM, recipient factors can serve in the same multiple roles as source and message factors. Consider the impact that a person's emotional state has on persuasion. The mass medium of television has special power to present messages (commercials) in contexts in which people's emotions vary (e.g., due to the television program they are watching). According to the ELM, when the likelihood of elaboration is relatively low, a person's internal feelings should impact attitudes by a peripheral process. Consistent with this view, a number of studies have shown that the nonthoughtful "classical conditioning" of affect to an attitude object occurs more easily when the likelihood of thinking is low (e.g., Cacioppo et al., 1992; Gorn, 1982; Priester, Cacioppo, & Petty, 1996). Also under low elaboration conditions, affective states have been postulated to influence attitudes by a simple inference process in which misattribution of the cause of the emotional state to the persuasive message or to the attitude object occurs (e.g., I must be happy because I like or agree with the message advocacy; see Petty & Cacioppo, 1983; Schwarz, 1990).

As the likelihood of elaboration increases, emotion takes on different roles (see also, Forgas, 1995). Specifically, when the elaboration likelihood is more moderate, emotions have been shown to have an impact on the extent of argument elaboration. According to the hedonic contingency theory (Wegener & Petty, 1994, 1996), happy people tend to pay attention to the hedonic rewards of situations and thus they are more likely than sad people to process a message that is thought to be hedonically rewarding if processed (see Wegener, Petty, & Smith, 1995). On the other hand, if the message will not be rewarding to think about (e.g., because it is on a counterattitudinal or a depressing topic), then sad individuals will engage in greater message processing than will happy people because sadness tends to put people in a problem solving mind set (Schwarz, Bless, & Bohner, 1991). Furthermore, since happiness is associated with more confidence than is sadness, when people feel happy (and confident) prior to receipt of a message, they might reason that they don't need to process the message because they are already confident in their views (Tiedens & Linton, 2001).

When the elaboration likelihood is high, the ELM holds that emotions can influence attitudes by influencing the nature of the thoughts that come to mind. Memory research has demonstrated that material of a positive valence is more accessible in memory when people are in a happy rather than a sad state, whereas negatively valenced material is more accessible when they are sad rather than happy (e.g., see Blaney, 1986; Bower, 1981; Isen, 1987). The increased accessibility of affect-congruent material in memory can lead to affect-congruent associations that further influence the evaluation of the target. In other words, when the elaboration likelihood is high, emotion can introduce a bias to the thoughts generated in response to the persuasive message. Thus, emotions can sometimes have a similar effect on attitudes under high and low elaboration conditions, but the process is different.

In one examination of the multiple roles for emotion under high and low thinking conditions, students watched a television commercial in the context of a program that induced either a happy or a neutral state (Petty, Schumann, Richman, & Strathman, 1993). The likelihood of thinking about the critical ad was varied by telling some of the students that they would be allowed to select a free gift at the end of the experiment from a variety of brands of the target product (high involvement), or that they would be allowed to select a free gift from another product category (low involvement). Following exposure to the television program containing the ads, the students reported on their

emotions, rated their attitudes toward the target product, and listed the thoughts they had during the message. The results of this study revealed that the "happy" program led to more positive feelings and more positive evaluations of the product under both high and low elaboration conditions. Importantly, and consistent with the notion that the happiness from the TV program produces positive attitudes by different processes under high and low elaboration conditions, happiness was associated with more positive thoughts about the product when the elaboration likelihood was high, but not when it was low. Figure 7.4 presents the results from causal path analyses that simultaneously estimated the three paths between (a) manipulated emotion and attitude toward the product, (b) manipulated emotion and proportion of positive thoughts generated, and (c) proportion of positive thoughts and attitude toward the product. Under low involvement (low elaboration) conditions, emotion had a direct effect on attitudes, but did not influence thoughts (see top panel). In contrast, under high involvement (high elaboration) conditions, emotion had no direct effect on attitudes. Instead, increased happiness increased the production of positive thoughts, which in turn had an impact on attitudes (see bottom panel).

One way in which emotion biases thoughts is by affecting how likely people think the consequences mentioned in the message are to occur. Specifically, when in a happy state and thinking carefully, people believe that positive consequences mentioned in the communication are more likely, but negative consequences are less likely. The opposite occurs for sadness (e.g., Johnson & Tversky, 1983). Thus, positively framed arguments (e.g., if you stop smoking, you will live longer) are more effective when thoughtful people are in a happy rather than a sad state because people overestimate the likelihood of the positive consequence, but negatively framed arguments (if you don't stop smoking, you'll die sooner) are more effective in a sad than a happy state because thoughtful people overestimate the likelihood of the negative consequence (Wegener, Petty, & Klein, 1994). Research suggests that the effects of moods on perceived likelihoods are quite specific such that sad moods are especially effective in increasing the perceived likelihood of sad consequences and angering states are especially effective in increasing the perceived likelihood of angering consequences (DeSteno, Petty, Wegener, & Rucker,

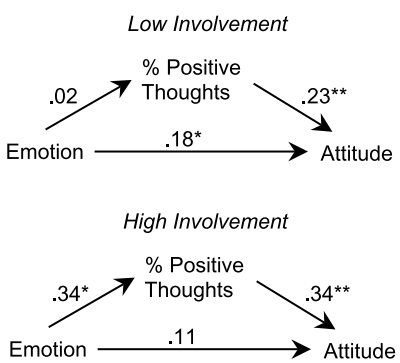

Figure 7.4 Direct and Indirect Effects of Positive Mood on Attitudes Under High and Low Involvement Conditions. Data in the Top Panel Show that when Involvement is Low and People are not Motivated to Process the Message, Mood has a Direct Effect on Attitudes. Data in the Bottom Panel Show that when Involvement is High and People are Motivated to Process the Message, the Effect of Mood on Attitudes is Mediated by the Generation of Positive Thoughts (Figure adapted from Petty, Schumann, Richman, & Strathman, 1993).

2000). Because of this, more specific types of matching of messages to emotional states have proven effective in situations in which people are being thoughtful. That is, presenting messages with sad consequences that might follow from some action are more effective than focusing on angering consequences when people are sad, but the opposite is true when people are angry (DeSteno, Petty, Rucker, Wegener, & Braverman, 2004).

In addition to biasing thoughts, recent research on the self-validation hypothesis has shown that under high elaboration conditions, emotions can also affect persuasion by influencing thought confidence when the emotions follow processing the message. This possibility follows directly from the finding mentioned earlier that emotional states can relate to confidence with happy people being more certain and confident than sad individuals (Tiedens & Linton, 2001). If emotion influences thought confidence, then people in a happy mood should be more reliant on their thoughts than people in a sad mood. In fact, Briñol, Petty, and Barden (2007) found that when placed in a happy versus a sad state following message processing, people were more reliant on their thoughts. This means that happy people were more persuaded than sad individuals when the thoughts generated to the message were primarily favorable, but happy people were less persuaded than sad people when thoughts generated were primarily unfavorable. Briñol et al. (2007) provided further support for the idea that self-validation effects are restricted to high elaboration conditions (i.e., need for cognition) and when confidence follows rather than precedes one's thinking.

Finally, it is important to note that the effects we have outlined for emotion under different elaboration conditions assume that the true source of the incidental emotions induced (e.g., from a TV show) are not obvious, and the emotions are not so salient that they are perceived as biasing. When people perceive a possible biasing impact from their emotions, they will often attempt to correct their judgments for the perceived contaminating impact of the emotional state (Schwarz & Clore, 1983). This can cause judgments to move in a direction opposite to people's intuitive theories of bias (Wegener & Petty, 1997, 2001). Thus, if people think that their happiness has produced a favorable impact on their judgments, and they overestimate this bias, the corrected judgment in a happy state can be more negative than the corrected judgment in a sad state (e.g., Berkowitz et al., 2000; Ottati & Isbell, 1996).

Consequences of Multiple Roles

Although we have only provided illustrative examples of particular source, message, and recipient variables, the accumulated research literature supports the ELM notion that variables can serve in different roles in different situations (see Petty & Wegener, 1998). That is, various source, message, and recipient variables have been shown to influence attitudes as: (a) a peripheral cue under low elaboration likelihood conditions, (b) a determinant of the extent of thinking about the message under moderate elaboration conditions, (c) a message argument when the variable was relevant to the attitude object and elaboration was high, and finally, depending on whether the variable was introduced before or after the message to (d) bias message processing, or (e) to influence confidence in one's message-relevant thoughts.

Because any one variable can produce persuasion in multiple ways, it is important to understand the process by which the variable has influenced a person's attitude. For example, our discussion of the two routes to persuasion suggests that if being happy has produced persuasion by serving as a simple cue under low elaboration conditions, the attitude induced will be less accessible, less persistent, less resistant, and less predictive

of behavior than if being happy produced the same amount of persuasion but worked by increasing positive thoughts to the message arguments under high elaboration conditions. In empirical research on media campaigns in a variety of domains (see Rice & Atkin, 1989), many source, message, recipient, and contextual variables have been examined. Relatively little attention has been paid, however, to the processes by which these variables work. The ELM holds that the variables that determine persuasion can work by different processes in different situations, and that the process by which the variable induces change is critical for understanding the consequences of any attitude change that occurs (see Figure 7.2).

Directions for Future Research

Thus far we have reviewed evidence that has supported the primary ELM postulates about the processes responsible for attitude change. Before addressing the links between attitude change and behavior change, it is useful to consider where some future basic research on persuasion processes might be directed. Successful persuasion was said to occur when the recipients' attitudes were modified in the desired direction. After a long tradition of assessing the impact of persuasion treatments on attitudes with deliberative self reports (e.g., semantic differential scales such as rating one's attitude on a good-bad or favorable-unfavorable dimension), more recent work has begun to assess attitude change with measures that tap the more automatic evaluations associated with objects, issues and people. Thus, in the last decade, there has been a growing number of new measures of automatic attitudes available (e.g., evaluative priming; Fazio et al., 1995; implicit association test or IAT; Greenwald et al., 1998). These *implicit* measures aim to assess automatic evaluations without a person's knowledge of what is being assessed (see Petty, Fazio, & Briñol, 2008; and Wittenbrink & Schwarz, 2007, for reviews).

The very first assumptions about the nature of automatic evaluations suggested that such attitudes would be very difficult to change, in part because the underlying object-evaluation associations were assumed to be learned over a long period of time. For example, automatic evaluations reflecting prejudice have been viewed as resulting from passive, long-term exposure to negative portrayals in the media (Devine, 1989) and long-standing status differences between groups. However, recent research has demonstrated that automatic evaluations, like deliberative ones, can be affected by a variety of high and low thinking processes, including traditional elaborative forms of rhetorical persuasion (see Briñol, Petty, & McCaslin, 2008, for a review). For example, automatic evaluations have been shown to be affected by mere exposure and classical conditioning processes (e.g., Fazio & Olson, 2003), as well as by exposing people to advertisements, media campaigns, and other treatments involving verbal information (e.g., Briñol et al., 2008; Czyzewska & Ginsburg, 2007; Maio, Haddock, Watt, & Hewstone, 2008; Park, Felix, & Lee, 2007; see Gawronski & Bodenhausen, 2006, for a review).

Assessment of automatic evaluative reactions are potentially important to assess in addition to deliberative reactions for two reasons. First, the two kinds of measures do not always tap the same evaluation. Second, implicit measures are more likely to predict behavior in spontaneous situations (when people act without thinking), whereas deliberative measures are more likely to predict behavior in deliberative situations (e.g., Dovidio et al., 1997). Much attention has been paid recently to the discrepancies that can emerge between attitudes assessed with deliberative versus automatic measures (Gawronski & Bodenhausen, 2006; Petty & Briñol, 2008). The divergence between

explicit and implicit measures opens a number of interesting possibilities for understanding attitude structure (Petty, Briñol, & DeMarree, 2007), and can also provide some potential insights for the study of mass media effects on persuasion. For example, recent research has demonstrated that when implicit and explicit evaluations are discrepant, people are more prone to process information regarding the attitude object than when the two evaluations are congruent (Briñol, Petty, & Wheeler, 2006; Petty et al., 2006).

Implicit measures can also reveal possibly hidden or previously unrecognized effects of media messages. For example, when people appear to have resisted persuasion on traditional deliberative measures, there might be some potentially important, yet previously hidden, persuasive effects on implicit measures. This is analogous to prior research showing that sometimes when a persuasive message seems to have failed, there have actually been changes in the underlying confidence with which the attitude is held—sometimes being increased, and sometimes decreased (e.g., Rucker & Petty, 2004; Rucker, Petty, & Briñol, 2008; Tormala & Petty, 2002; see Petty, Tormala, & Rucker, 2004, for a review). Thus, measures of the meta-cognitive properties associated with attitudes have proven informative in the absence of changes in the valence of the attitudes themselves (see Petty, Briñol, Tormala, & Wegener, 2007, for a review). It is plausible to imagine that under some circumstances, although participants were not influenced by persuasive messages on deliberative self-report measures (e.g., as a result of demand characteristics, evaluation apprehension, impression management, social desirability, and self-awareness limitations), there might still be some potentially hidden, persuasive effects on the automatic evaluative associations that exist with respect to the attitude object. If true, then researchers might sometimes be able to use automatic measures in the same way that researchers have used attitude confidence as a way of indicating that a message has had some (hidden) effect.

ATTITUDE-BEHAVIOR LINKS

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

Two general approaches to the process by which attitudes guide behavior have achieved widespread acceptance. One approach is exemplified by the theories of "reasoned action" (Fishbein & Ajzen, 1975) and "planned behavior" (Ajzen, 1991), which assume that "people consider the implications of their actions before they decide to engage or not engage in a given behavior" (Fishbein & Ajzen, 1975, p. 5). In this approach, people are hypothesized to form intentions to perform or not perform behaviors, and these intentions are based on the person's attitude toward the behavior as well as perceptions of the opinions of significant others (norms). This approach focuses on the relatively thoughtful processing involved in considering the personal costs and benefits of engaging in a behavior, and in one's perception of the ability to control the behavior. This approach has accumulated considerable empirical support (Sheppard, Hartwick, & Warshaw, 1988).

In contrast to the thoughtful processing highlighted by the theories of reasoned action and planned behavior, Fazio (1990, 1995) has proposed that much behavior is rather spontaneous and that attitudes can guide behavior by a relatively automatic process. That is, if the relevant attitude comes to mind, consistent behavior is likely to follow. Fazio argued that attitudes can guide behavior without any deliberate reflection or reasoning if (a) the attitude is activated spontaneously by the mere presence of the attitude object and (b) the attitude colors perception of the object so that, if the attitude is favorable (or unfavorable), the qualities of the object appear favorable (or unfavorable).

Importantly, Fazio (1990) further notes that motivational and ability factors are important in determining whether the reasoned action or the automatic activation process occurs. That is, just as the ELM holds that attitudes can be formed or changed by high or low thinking processes in different situations, Fazio's approach to attitude-behavior consistency (the MODE model) holds that attitudes can guide behavior by high or low thinking processes. For behavioral decisions that are high in perceived personal consequences, attitudes are likely to guide behavior by a deliberate reflection process, but when perceived consequences are low, spontaneous attitude activation should be more important as a determinant of behavior. Similarly, as the time allowed for a decision is reduced, the importance of spontaneous attitude activation processes should increase over more deliberative processes. When there is sufficient motivation and ability to think about one's behavior, a person can reflect upon the costs and benefits of the anticipated action.

Interestingly, depending upon what costs and benefits are salient at the moment, the deliberation process can lead to a behavior that is consistent or inconsistent with the underlying attitude. For example, the underlying attitude might be based on a combination of both emotional and cognitive (e.g., belief-based) factors (see Crites, Fabrigar, & Petty, 1994), but if reflection time is high, people might overweight cognitive over emotional considerations leading to later dissatisfaction with the decision (see Wilson, Dunn, Kraft, & Lisle, 1989). When motivation and ability to reflect are low, however, people's actions are determined by whichever attitudes are the most accessible.[5]

In some domains an accessible attitude is easily translated into behavior (e.g., I like candidate X, and so I will vote for this candidate). In other domains, however, translating new attitudes into new behaviors is rather complex even if the person has the desire to act on the attitude (e.g., I want to consume a low fat diet, but how do I do this?). Thus, for some media campaigns, attitude change, though an important first step, might still be insufficient to produce the desired behavioral responses even if appropriate attitudes were formed by the central route. People might also need to rehearse the attitude sufficiently so that it overcomes and replaces past attitudes (Petty, Gleicher, & Jarvis, 1993; Wilson et al., 2000), or people might need to become more confident in their new attitudes so that they will act on them (Rucker & Petty, 2006) or to acquire new skills and self-perceptions of efficacy that allow newly acquired attitudes and intentions to be translated into action. Bandura's (1977, 1986) social-cognitive theory provides a framework to understand the latter processes (see Bandura, this volume).

SUMMARY AND CONCLUSIONS

Although considerable research on mass media effects has shown that it is possible for media messages to change the knowledge or facts that people have about some object, issue, or person, we have argued that knowledge reception does not invariably result in

attitude and behavior change. Our brief review of the ELM and the research supporting it has emphasized that information will be most successful in producing enduring changes in attitudes and behavior if people are motivated and able to process the information, and if this processing results in favorable thoughts and ideas that are integrated into the person's relatively enduring cognitive structure. Furthermore, once attitudes have changed, implementing changes in some behaviors might require overcoming past attitudes, developing confidence in new ones, and learning new skills and perceptions of self-efficacy.

Thus, current work on attitude and behavior change can help to account for some unsuccessful media campaigns in which knowledge acquisition failed to have attitudinal and/or behavioral consequences. First, the knowledge acquired could have been seen as irrelevant by the recipients, or might have led to unfavorable rather than favorable reactions. Second, even if favorable reactions were produced, people could have lacked confidence in those favorable thoughts, attenuating their reliance on them and reducing the likelihood of change. Third, even if appropriate attitude changes were induced, the changes might have been based on simple peripheral cues rather than on elaborative processing of the message. Thus, whatever changes were produced would be unlikely to persist over time and guide behavior. Fourth, even if attitude changes were produced by the central route, the people influenced could have lacked the necessary skills or self-confidence to translate their new attitudes into action, or the impact of attitudes on behavior might have been undermined by competing norms. Fifth, even when people appear to have resisted the influence of mass media on traditional measures of persuasion, there might have been some potentially important yet previously hidden persuasive effects on alternative measures. For example, a media campaign might have failed to get people to develop more negative attitudes toward smoking on traditional deliberative measures, but automatic measures of evaluation might reveal that people have become more negative, or meta-cognitive measures might reveal that people have lost some confidence in their prior positive evaluation paving the way for future attitude and behavior change.

Perhaps the three most important issues raised in our review are: (1) although some attitudes are based on an effortful reasoning process in which externally provided information is related to oneself and integrated into a coherent belief structure (central route), other attitudes are formed as a result of relatively simple cues in the persuasion environment (peripheral route); (2) any one variable (e.g., source expertise, mood) can be capable of inducing persuasion by either the central or the peripheral route in different situations by serving in one or more roles (i.e., affecting motivation or ability to think, biasing thinking, affecting thought confidence, serving as an argument, or a peripheral cue); and (3) although both central and peripheral route processes can lead to attitudes similar in their valence (how favorable or unfavorable they are), there are important consequences of the manner of attitude change such that more thoughtful attitude changes tend to be more consequential than less thoughtful ones.

If the goal of a mass media influence attempt is to produce long-lasting changes in attitudes with behavioral consequences, the central route to persuasion appears to be the preferred persuasion strategy. If the goal is immediate formation of a new attitude, even if it is relatively ephemeral (e.g., attitudes toward the charity sponsoring a telethon), the peripheral route could prove acceptable. Influence via the central route requires that the recipient of the new information have the motivation and ability to process it. As noted previously, one of the most important determinants of motivation to think about a message is the perceived personal relevance of that message. Most of

the media messages people receive are probably not perceived as directly relevant and they have few immediate personal consequences. Thus, many of these messages will be ignored or processed primarily for peripheral cues. An important goal of any persuasion strategy aimed at enduring change will be to increase people's motivation to think about the messages by increasing the perceived personal relevance of the communications or employing other techniques to enhance processing (e.g., ending arguments with questions rather than statements; using multiple sources).

In conclusion, we note that research on mass media persuasion has come a long way from the early optimistic (and scary) notion that the mere presentation of information was sufficient to produce persuasion, and the subsequent pessimistic view that media influence attempts were typically ineffective. We now know that media influence, like other forms of influence, is a complex, though explicable process. We know that the extent and nature of a person's cognitive responses to external information can be more important than the information itself. We know that attitudes can be changed in different ways, such as central versus peripheral routes, and that some attitude changes are more accessible, stable, resistant, and predictive of behavior than others. We also know that even apparently simple variables such as how likable a source is or what emotion a person is experiencing can produce persuasion by very different processes in different situations.

Notes

1 In one of the relatively rare empirical efforts of the period, Peterson and Thurstone (1933) examined the power of movies such as D.W. Griffith's *Birth of a Nation*, controversial because of its depiction of Blacks, to modify the racial attitudes of adolescents. The conclusions of this research foreshadowed the modern period in that various moderators of effective influence were uncovered (e.g., greater influence for those with low knowledge rather than high issue-consistent knowledge; Wood, Rhodes, & Biek, 1995; see Wartella & Reeves, 1985).

2 The implicit/explicit distinction in attitudes is not new. For example, in their classic treatise, Hovland, Janis, and Kelley (1953) defined attitudes as "implicit responses" that were "sometimes unconscious" (p. 7). Attitudes were contrasted with "opinions" which were "verbal answers that one covertly expresses to (oneself)" (p. 8). Although in the 1950s, all that could be measured were explicit attitudes (opinions), more recently several implicit measures have been proposed to tap into one's automatic evaluative tendencies (e.g., Fazio et al., 1995; Greenwald et al., 1998).

3 Of course, much of the correlation between media coverage and ratings of issue-importance is due to the fact that the media cover issues people already think are important. Nevertheless, some research shows that the media coverage can precede public perceptions (e.g., MacKuen, 1981), and the mere accessibility of certain issues can cause people to give greater weight to them (Sherman et al., 1990).

4 For expository purposes we have emphasized the distinction between the central and the peripheral routes to persuasion. That is, we have focused on the prototypical processes at the end points of the elaboration likelihood continuum. In most persuasion situations (which fall somewhere along this continuum), some combination of central and peripheral processes are likely to have an impact on attitudes.

5 Because attitudes formed by the central route tend to be more accessible than attitudes formed by the peripheral route, peripheral cues in the behavioral environment are likely to have an impact on immediate actions only when the likelihood of reflection in the current situation is low and there are no accessible attitudes to guide behavior.

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