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Richard E. Petty

John T. Cacioppo

Communication and Persuasion

*Central and Peripheral Routes
to Attitude Change*



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Richard E. Petty
Department of Psychology
University of Missouri
Columbia, Missouri 65211
U.S.A.

John T. Cacioppo
Department of Psychology
University of Iowa
Iowa City, Iowa 52242
U.S.A.

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To Lynn and Barbara

Preface

It has been over 10 years since we initiated work on our first series of collaborative experiments. As graduate students, we had great fun planning, conducting, and writing this research (Petty & Cacioppo, 1977). We enjoyed arguing with each other at our initial meeting in 1973 and have subsequently become best friends, but neither of us suspected at the time that we would or could actively maintain a research collaboration over the next decade, or that we would now find ourselves in a position to write this monograph.

As we note in Chapter 1, we began our studies of persuasion at a time when social psychology was in “crisis,” and interest in research on attitude change in particular was declining. As we write this, we are aware of six new volumes on persuasion that are in press or in preparation and that should appear over the next few years. In retrospect, it is not so surprising that research on attitudes and persuasion would reemerge as a central concern of social psychology. We believe that human feelings, beliefs, and behaviors, whether in the domain of interpersonal relations (e.g., marriage, aggression), politics (e.g., voting, revolution), health (e.g., following a medical regimen), or economics (e.g., consumer purchases) are greatly influenced by the evaluations people have of other people, objects, and issues. Furthermore, evaluations (attitudes) are influenced by affect, cognition, and behavior. Because of this reciprocal interdependence and the general importance of the attitude construct for many disciplines, attitude theory, perhaps more than any other field of inquiry in social psychology, has the potential to provide one of the general theories for the social sciences.

In this monograph we present a general framework for understanding the attitude changes that result from exposure to persuasive communications. This theory, which we have called the Elaboration Likelihood Model (ELM), outlines two “routes to persuasion.” One route is based on a careful and thoughtful assessment of the central merits of the position advocated (central route). The other is based on some cognitive, affective, or behavioral

cue in the persuasion context which becomes attached to the advocacy or allows a relatively simple inference as to the merits of the position advocated (peripheral route). Similar amounts of attitude change can be produced via either route. However, the changes induced via the central route require more cogitation and are postulated to be more persistent, resistant to counterpersuasion, and predictive of behavior. We believe that these two routes to persuasion are applicable to the full range of situations in which people are influenced by persuasive communications. For example, we believe the model holds promise for explaining a variety of effects of interest to social scientists ranging from (a) the conditions under which people will vote for candidates based on relatively simple cues such as political party or physical attractiveness rather than their issue positions, to (b) the situations in which attitude changes induced by advertisements will and will not lead to changes in purchase intentions, to (c) the extent to which belief changes induced by a therapist will prove resistant to countervailing forces. Despite our optimistic view regarding the potential applicability of the model, our focus here is on the initial basic research designed to test and validate the framework. We hope that the body of this book will be of some general interest to all scholars and students of the psychology of persuasion. As such, the material should be appropriate for segments of courses on attitude change and may provide useful supplementary material for graduate courses on topics for which the psychology of influence is a central focus (such as influence processes in counseling, psychology of advertising and consumer behavior, etc.).

Although the major purpose of this monograph is to present the ELM and our own program of research on persuasion which examines various features of the model, we also present the work of others when it provides evidence that is directly relevant to our conceptualization of persuasion. It is important to note that there are many studies that can be viewed as consistent (or inconsistent) with the ELM that we have chosen *not* to cover here. One difficulty in analyzing previous work is that most persuasion studies have not paid much attention to the content of the persuasive messages employed in the research or to background variables (such as prior knowledge) that might determine the extent and/or direction of message elaboration. This poses a great difficulty for reinterpretation because, as we explain in the text, the ELM may make *opposite* predictions for the effect of some variable on persuasion depending upon whether the message employed in the experiment was generally strong and likely to elicit favorable cognitions, or generally weak and likely to elicit unfavorable thoughts. Furthermore, the ELM may make different predictions for one variable depending upon the level of another factor that was not manipulated in the study (e.g., is the message topic one of high, low, or uncertain personal relevance). Because of these complexities, we have focused our attention on those studies conducted by others that have the necessary features (e.g., a manipulation of argument quality, a manipulation of personal relevance) that permit relatively unambiguous interpretation. One

desirable feature of the ELM, we think, is that it may encourage future persuasion researchers to consider message quality and important background variables (such as personal relevance) in order to more definitively pin down the processes mediating the impact of the variables under study.

Acknowledgments

It is difficult to write a book like this without the support and assistance of many people. First and foremost, we owe a continuing debt to our wives, Lynn and Barbara, who have put up with us and our work habits for many years. We love them dearly and would be lost without them. Our families are also a source of persistent encouragement, and we are very grateful for this.

We have been fortunate over the years to have worked with many talented social psychologists including Tim Brock, Robert Cialdini, Tony Greenwald, John Harvey, Steve Harkins, Bibb Latané, Tom Ostrom, Kip Williams, and Gary Wells. Our contact with them has enhanced the quality of this volume (though they should not be blamed for any flaws found!). It is important to note that many of the studies reported in this book would not have been conducted were it not for the efforts of a group of dedicated and ambitious graduate students and postdoctoral and Fulbright fellows. These people—Cheri Christensen, Rachel Goldman, Curt Haugtvedt, Martin Heesacker, Chuan Feng Kao, Jeff Kasmer, Hai Sook Kim, Mary Losch, Beverly Marshall-Goodell, Kathy Morris, Rik Pieters, Jim Puckett, Leo Quintanar, Greg Rennier, David Schumann, Joe Sidera, Cal Stoltenberg, and Lou Tassinary—were and are a pleasure to work with and make academic life fulfilling. We are also indebted to the thousands of undergraduates who provided the data for the studies that we report here and the many students with whom we have worked as experimenters and research assistants. Their talents were very valuable, and we are pleased that many have gone on to distinguished careers ranging from law (Charlotte Lowell) to acting (Kate Capshaw). Some have even decided to become social psychologists (Tom Geen, Alan Strathman)!

Finally, we owe a debt of gratitude to those colleagues who commented on various portions of the manuscript (Icek Ajzen, Bob Cialdini, Marty Heesacker, Chet Insko, Wolfgang Stroebe, and Abe Tesser), to the National Science Foundation for providing support for our research program over the past decade, and to the professionals at Springer-Verlag who were a joy to work with over the long course of preparing this volume.

Columbia, Missouri
Iowa City, Iowa

Richard E. Petty
John T. Cacioppo

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Chapter 1

The Elaboration Likelihood Model of Persuasion

Introduction

On New Year's Day, 1986, U.S. President Ronald Reagan and U.S.S.R. Premier Mikhail Gorbachev appeared on television in each other's countries. It was the first time that American and Russian leaders had exchanged messages that were simultaneously televised. Reagan's message, broadcast without warning during the popular Soviet evening news, spoke of world peace and called for the development of new defensive weapons. Gorbachev's message, which appeared while many Americans were watching coverage of the traditional Tournament of Roses parade, also spoke of peace but decried seeking security with new weaponry. How effective were these messages likely to be? What would be the major determinant of effectiveness—the substance of the messages, or the appearance and demeanor of the speakers? If the messages produced attitude changes, would these changes last and would they lead to changes in behavior?

Social psychologists have been concerned with questions such as these ever since the discipline began (Allport, 1935; Ross, 1908; see McGuire, 1985). The study of influence has also long been at the heart of many applied psychological fields such as consumer behavior (Bettman, 1986; Kassarian, 1982; Poffenberger, 1925; Strong, 1925) and clinical and counseling psychology (cf., Frank, 1963; Heppner & Dixon, 1981; Strong, 1968). Nevertheless, after a considerable flourishing of research and theory from the 1920s through the 1960s, interest in the psychology of persuasion began to wane. Two factors were largely responsible for this. First, the utility of the attitude construct itself was questioned as researchers wondered whether attitudes were capable of predicting behavior. Some reasoned that if attitudes did not influence behavior, then it might be time to abandon the attitude concept (Abelson, 1972; Wicker, 1971). Second, so much conflicting research and theory had developed that it had become clear that "after several decades of research, there (were) few simple and direct empirical

generalizations that (could) be made concerning how to change attitudes” (Himmelfarb & Eagly, 1974, p. 594).

Reviewers of the attitudes literature during the early 1970s lamented this sorry state of affairs. For example, in their 1972 *Annual Review of Psychology* chapter on attitudes, Fishbein and Ajzen wrote: “the attitude area is characterized by a great deal of conceptual ambiguities and methodological deficiencies . . . It is painfully obvious that what is required at this point in time . . . is . . . a rather serious reconsideration of basic assumptions and thoughtful theoretical reanalyses of problems confronting the field” (p. 531–532). Kiesler and Munson concluded their 1975 *Annual Review* chapter by noting that “attitude change is not the thriving field it once was and will be again” (p. 443).

By the late 1970s, considerable progress had been made in addressing important methodological and theoretical issues regarding the first substantive problem plaguing the field—the consistency between attitudes and behaviors. Conditions under which attitudes would and would not predict behavior were specified (e.g., Ajzen & Fishbein, 1977, 1980; Fazio & Zanna, 1981), and researchers began to explore the processes underlying attitude-behavior correspondence (Sherman & Fazio, 1983; Fazio, 1985). The attitude change problem was slower to be addressed, however. In 1977, Muzifer Sherif posed the question: “What is the yield in the way of established principles in regard to attitude change?” His answer was that there was a “reigning confusion in the area” and a “scanty yield in spite of (a) tremendously thriving output” (p. 370). In a 1978 review that generally heralded the arrival of a new optimism in the attitudes field, Eagly and Himmelfarb noted that “ambiguities and unknowns still abound” (p. 544; for even more optimistic reviews see Cialdini, Petty, & Cacioppo, 1981; Cooper & Croyle, 1984; Eagly, in press).

As we noted above, the major problem facing persuasion researchers was that after accumulating a vast quantity of data and an impressive number of theories, perhaps more data and theory than on any other single topic in the social sciences (see McGuire, 1985), there was surprisingly little agreement concerning if, when, and how the traditional source, message, recipient, and channel variables (cf., Hovland, Janis, & Kelley, 1953; McGuire, 1969; Smith, Lasswell, & Casey, 1946) affected attitude change. Existing literature supported the view that nearly every independent variable studied increased persuasion in some situations, had no effect in others, and decreased persuasion in still other contexts. This diversity of results was even apparent for variables that on the surface, at least, appeared to be quite simple. For example, although it might seem reasonable to propose that by associating a message with an expert source, agreement could be increased (e.g., see Aristotle’s *Rhetoric*), the accumulated contemporary research literature suggested that expertise effects were considerably more complicated than this (Eagly & Himmelfarb, 1974; Hass, 1981). Sometimes expert sources had the expected effects (e.g., Kelman & Hovland, 1953), sometimes no effects

were obtained (e.g., Rhine & Severance, 1970), and sometimes reverse effects were noted (e.g., Sternthal, Dholakia, & Leavitt, 1978). Unfortunately, the conditions under which each of these effects could be obtained and the processes involved in producing these effects were not at all apparent.

Our primary goal in this monograph is to outline and provide evidence for a general theory of attitude change, called the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1981a), which we believe provides a fairly comprehensive framework for organizing, categorizing, and understanding the basic processes underlying the effectiveness of persuasive communications. Importantly, the ELM attempts to integrate the many seemingly conflicting research findings and theoretical orientations under one conceptual umbrella. The ELM began in our attempts to account for the differential persistence of communication-induced attitude change. After reviewing the literature on attitude persistence, we concluded that the many different empirical findings and theories in the field might profitably be viewed as emphasizing one of just two relatively distinct “routes to persuasion” (Petty, 1977; Petty & Cacioppo, 1978). The first type of persuasion was that which likely occurred as a result of a person’s careful and thoughtful consideration of the true merits of the information presented in support of an advocacy (central route). The other type of persuasion, however, was that which more likely occurred as a result of some simple cue in the persuasion context (e.g., an attractive source) that induced change without necessitating scrutiny of the central merits of the issue-relevant information presented (peripheral route). In the accumulated literature, the first kind of persuasion appeared to be more enduring than the latter (see Petty, 1977, and Cook & Flay, 1978, for reviews; see Chapter 7 for a comparison of the ELM with previous models of attitude persistence).

Following our initial speculation about the two routes to persuasion and the implications for attitudinal persistence, we have developed, researched, and refined a more general theory of persuasion, the ELM, which is based on these two routes. The two routes to persuasion and the ELM were first presented schematically as depicted in Figure 1-1 (Petty, 1977; Petty & Cacioppo, 1978, 1981a), but we have subsequently formalized the ELM in seven postulates that make the major principles of the model more explicit (Petty & Cacioppo, 1986; see Table 1-1). We will present these postulates shortly. In addition, we have addressed the various applications of the model to such fields as psychotherapy and counseling (Cacioppo, Petty, & Stoltenberg, 1985; Petty, Cacioppo, & Heesacker, 1984) and mass media advertising and selling (Cacioppo & Petty, 1985; Petty & Cacioppo, 1983a, 1984b; Petty, Cacioppo, & Schumann, 1984).

The ELM deals explicitly with exposure to persuasive communications, but as we note elsewhere in this volume, the basic principles of the ELM may be applied to other attitude change situations. In the remainder of this chapter we will outline the seven postulates of the ELM. In the next chapter we will provide a methodology for testing the underlying processes outlined

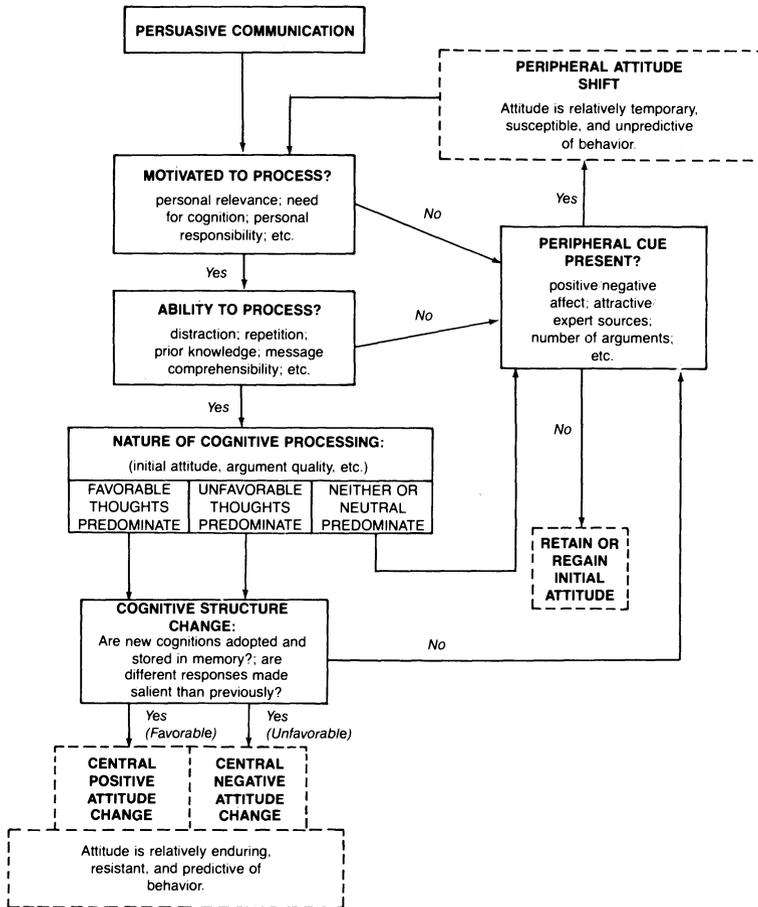


Figure 1-1. Schematic depiction of the two routes to persuasion. This diagram depicts the possible endpoints after exposure to a persuasive communication according to the Elaboration Likelihood Model (i.e., central attitude change, peripheral shift, no change) (adapted from Petty, 1977; Petty & Cacioppo, 1981a, 1986).

by the ELM, and in the remaining chapters in this book we will review our program of research and other relevant studies that address the validity of the major principles of the ELM.

Before presenting the ELM postulates, however, it is important to define our use of the term *attitude* and the terms *influence* and *persuasion*. Consistent with the positions of other attitude theorists (e.g., Thurstone, 1928), we regard attitudes as general evaluations people hold in regard to themselves, other people, objects, and issues. We will use *influence* as a very general term that refers to any change in these evaluations. We will use

Table 1-1. Postulates of the Elaboration Likelihood Model of Persuasion

-
1. People are motivated to hold correct attitudes.
 2. Although people want to hold correct attitudes, the amount and nature of issue-relevant elaboration in which they are willing or able to engage to evaluate a message vary with individual and situational factors.
 3. Variables can affect the amount and direction of attitude change by (a) serving as persuasive arguments, (b) serving as peripheral cues, and/or (c) affecting the extent or direction of issue and argument elaboration.
 4. Variables affecting motivation and/or ability to process a message in a relatively objective manner can do so by either enhancing or reducing argument scrutiny.
 5. Variables affecting message processing in a relatively biased manner can produce either a positive (favorable) or negative (unfavorable) motivational and/or ability bias to the issue-relevant thoughts attempted.
 6. As motivation and/or ability to process arguments is decreased, peripheral cues become relatively more important determinants of persuasion. Conversely, as argument scrutiny is increased, peripheral cues become relatively less important determinants of persuasion.
 7. Attitude changes that result mostly from processing issue-relevant arguments (central route) will show greater temporal persistence, greater prediction of behavior, and greater resistance to counterpersuasion than attitude changes that result mostly from peripheral cues.
-

persuasion more specifically to refer to any change in attitudes that results from exposure to a communication. A person's general evaluations or attitudes can be based on a variety of behavioral, affective, and cognitive experiences and are capable of guiding behavioral, affective, and cognitive processes. Thus, a person may come to like a new political candidate because she just donated \$100 dollars to the campaign (behavior-initiated change), because the theme music in a recently heard commercial induced a general pleasantness (affect-initiated change), or because the person was impressed with the candidate's issue positions (cognitive-initiated change). Similarly, if a person already likes a political candidate he may agree to donate money to the campaign (behavioral influence), may feel happiness upon meeting the candidate (affective influence), and may selectively encode the candidate's issue positions (cognitive influence).

Postulates of the ELM

Postulate on Underlying Motivation

Our first postulate and an important guiding principle in the ELM agrees with Festinger's (1950) statement that:

People are motivated to hold correct attitudes.

Incorrect or improper attitudes are generally maladaptive and can have deleterious behavioral, affective, and cognitive consequences. As Festinger (1954) noted, “the behavioral implication of . . . such a drive is that we would expect to observe behavior on the part of persons which enables them to ascertain whether or not their opinions are correct” (p. 118). Of course, as Festinger noted, attitudes or evaluations cannot be correct in any *absolute* sense. Instead, perceptions of which attitudes are right and which are wrong are necessarily subjective. Attitudes must be judged against some standard. In his influential theory of social comparison processes, Festinger focused on how people evaluated the “correctness” of their opinions by comparing them to the opinions of others. When other people are perceived to hold similar attitudes, one’s confidence in the validity of one’s own attitude is increased (Holtz & Miller, 1985). As Hovland, Janis, and Kelley (1953) noted, a sense of “rightness” accompanies holding opinions similar to others (p. 137).

In Chapters 4 and 8 we address how the ELM accounts for attitude changes induced by exposure to the opinions of varying numbers of other people. For now, it is important to note that the ELM does not exclusively link a person’s subjective assessment of the correctness of an attitude to the number of others who hold this opinion (although as we note later, this may be used in some situations). Instead, there are a variety of standards people might use to determine which attitudes are correct for them. Furthermore, the standards used to judge what is right and what is wrong may differ among people (cf., Kohlberg, 1963), and different standards may be applied in different situations. Ultimately, we suspect that attitudes are seen as correct or proper to the extent that they are viewed as beneficial for the physical or psychological well-being of the person. Before discussing some of the different standards that might be applied, however, we need to outline our next postulate.

Postulate on Variations in Elaboration

Our second postulate states:

Although people want to hold correct attitudes, the amount and nature of issue-relevant elaboration in which they are willing or able to engage to evaluate a message vary with individual and situational factors.

Postulate 2 recognizes that even though people want to hold correct attitudes, the amount of effort they are willing or able to engage in to hold these attitudes varies widely. Consider a person who is exposed to a message from the Secretary of the Treasury advocating a tax increase/reform package. At one extreme, a person may go to the library to do research, consult tax attorneys, rework his taxes under the new system, and list and consider all of the personal and national pros and cons in an attempt to

determine the desirability of the tax proposal. At the other extreme, a person may favor the proposal based largely on the credibility of the proposer or may reject the proposal based simply on its position (i.e., any tax increase is deemed unacceptable). It may even be possible for a person's attitude to be changed without his awareness if motivation and ability to process are very low and a strong positive or negative affective event becomes associated with the advocacy. The first person in our example has expended considerable cognitive (and physical) effort to evaluate the message, whereas the latter people have expended little effort.

Miller and his colleagues (1975) noted that: "It may be irrational to scrutinize the plethora of counterattitudinal messages received daily. To the extent that one possesses only a limited amount of information processing time and capacity, such scrutiny would disengage the thought processes from the exigencies of daily life" (p. 623). People must therefore choose which messages to scrutinize and which to process as "lazy organisms" (McGuire, 1969) or "cognitive misers" (Taylor, 1981). We assume that the more important it is to hold a correct attitude, the more effort people will be willing to expend in order to evaluate an advocacy. Importantly, even if a person is highly motivated to scrutinize a message, if ability is lacking the person may be forced to rely on simple cues such as source credibility in order to evaluate the message.

The Elaboration Continuum

Implicit in Postulate 2 is the notion that one of the best ways for people to form veridical attitudes is to carefully *elaborate* the information that is perceived relevant to the central merits of the advocacy. By elaboration, we mean the extent to which a person carefully thinks about issue-relevant information. In a persuasion context, elaboration refers to the extent to which a person scrutinizes the issue-relevant arguments contained in the persuasive communication. When conditions foster people's motivation and ability to engage in issue-relevant thinking, the "elaboration likelihood" is said to be high. This means that people are likely to attend to the appeal; attempt to access relevant information from both external and internal sources; scrutinize and make inferences about the message arguments in light of any other pertinent information available; draw conclusions about the merits of the arguments for the recommendation based upon their analyses; and consequently derive an overall evaluation of, or attitude toward, the recommendation. This conceptualization suggests that when the elaboration likelihood is high, there should be evidence for the allocation of considerable cognitive resources to the advocacy. Issue-relevant elaboration will typically result in the new arguments, or one's personal translations of them, being integrated into the underlying belief structure (schema) for the attitude object (Cacioppo & Petty, 1984a). As we will note shortly, sometimes this issue-relevant elaboration proceeds in a relatively objective manner and is governed mostly by the issue-relevant arguments presented, but at other

times this elaboration is more biased and may be guided more by the person's initial attitude.

We view the extent of elaboration received by a message as a continuum going from no thought about the issue-relevant information presented, to complete elaboration of every argument, and complete integration of these elaborations into the person's attitude schema. The likelihood of elaboration will be determined by a person's motivation and ability to evaluate the communication presented (see Figure 1-1). In the ELM, motivational variables are those that affect a person's rather conscious intentions and goals in processing a message. Features of the persuasive message itself (e.g., is the topic of high or low personal relevance?), the persuasion context (e.g., is a forewarning of persuasive intent provided?), and the message recipient (e.g., is the person high or low in "need for cognition?") can all affect the intensity with which a person chooses to process a message and the direction of that processing (see further discussion of motivational variables in Chapters 4 and 5). Ability variables in the ELM are those that affect the extent or direction of message scrutiny without the necessary intervention of conscious intent. Features of the message itself (e.g., is it understandable?), the persuasion context (e.g., is external distraction present?), and the message recipient (e.g., how much topic-relevant knowledge does the person have?) can all determine whether or not the person is capable of elaborating upon the message (see further discussion of ability variables in Chapter 3). Our conceptualization of motivation and ability therefore has parallels to Heider's (1958) concept of "trying" (motivation) and "can" (ability; see Chapter 9 for further discussion).

In an earlier review of the attitude change literature (Petty & Cacioppo, 1981a), we suggested that the many theories of attitude change could be roughly placed along an elaboration likelihood continuum (cf., Palmerino, Langer, & McGillis, 1984). At the high end of this continuum are theoretical orientations such as inoculation theory (McGuire, 1964), cognitive response theory (Greenwald, 1968; Petty, Ostrom & Brock, 1981a), information integration theory (Anderson, 1981), and the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein, 1980), which make the assumption that people typically attempt to evaluate carefully (though not always successfully) the information presented in a message and integrate this information into a coherent position. Researchers within this tradition have emphasized the need to examine what kinds of arguments are persuasive and how variables affect the comprehension, elaboration, learning, integration, and retention of issue-relevant information (McGuire, 1985).

Other persuasion theories do not place much credence on the arguments in a message or issue-relevant thinking. Instead, they focus on how simple affective processes influence attitudes without much conscious thought or on how people can employ various rules, inferences, or heuristics to judge their own attitudes or the acceptability of an attitudinal position. Although in most laboratory studies of attitude change, subjects will have some