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G. di Pellegrino

Attitude Change: Psychological

Attitudes refer to people's global and relatively enduring (i.e., stored in long-term memory) evaluations of objects, issues, or persons (e.g., I dislike chocolate; I'm opposed to the governor's tax policy). Numerous procedures have been developed to modify these evaluations with some change techniques involving considerable thinking about the attitude object and some requiring little. Attitudes are one of the most studied and important constructs in psychology because of the critical role of attitudes in guiding behavior (see *Attitudes and Behavior*).

1. Overview of Attitudes and Attitude Change

Attitudes are based on some combination of cognitive, behavioral, and affective influences, and are typically measured by self-report scales such as the 'semantic differential,' where a person rates the target on bipolar evaluative dimensions such as how good/bad or favorable/unfavorable it is. Increasingly, researchers have appreciated that it is also useful to assess attitudes on dimensions other than their valence, such as their accessibility (how quickly the attitude comes to mind) and ambivalence (how consistent the basis of the attitude is). These indicators of attitude 'strength' are useful in determining which attitudes are consequential and which are not. Strong attitudes are those that persist over time, are resistant to change, and predict other judgments and actions (Petty and Krosnick 1995). At any given moment, one's expressed evaluation can be influenced by a variety of contextual factors, but the common assumption is that one's core 'attitude' is the underlying evaluation that is capable of guiding behavior (one's actions), cognition (one's thoughts and memories), and affect (emotional reactions).

Attitude change occurs when one's core evaluation shifts from one meaningful value to another, and is typically inferred from a change in a person's scale rating, although behavioral and other indirect or implicit procedures for assessing change are sometimes used. Most studies of attitude change involve exposing individuals to a persuasive communication of some sort but, as noted below, some attitude change techniques do not involve exposure to any message.

The earliest work on attitude change attempted to examine which variables and procedures increased and which decreased the likelihood of change (e.g., did more change occur when the message source was described as an expert than when the source lacked expertise even though the message was the same?).

2. Two Routes to Attitude Change

After numerous studies, the accumulated evidence suggests that even the simplest variables (e.g., being in a positive mood) sometimes increase, sometimes decrease, and sometimes have no impact on the likelihood that a person's attitude will change. Numerous theories and psychological processes have been proposed to account for these divergent results. Even though the many different theories of attitude change have different names, postulates, and particular effects and variables that they specialize in explaining, the many different theories of attitude change can be thought of as emphasizing just two relatively distinct 'routes to persuasion' (Petty and Cacioppo 1981). The first change technique, persuasion via the central route, focuses on the information that a person has about the central merits of the object under consideration. Some of the central route approaches postulate that comprehending and learning the information presented is critical for attitude change, whereas others focus more on the evaluation, elaboration, and integration of this information. In contrast, the peripheral route approaches emphasize attitude changes that are brought about without much thinking about information central to the merits of the attitude issue. Thus, the peripheral approaches deal with changes resulting from rewards, punishments, and affective experiences that are associated directly with the attitude object, or simple inferences that people draw about the appropriate attitude to adopt based on their own behavior or other simple cues in the persuasion environment. For example, a person might be more persuaded by a message containing nine rather than three arguments because each of the arguments is evaluated and determined to be compelling (central route), or because the person simply counts the arguments and reasons, 'the more the better' (peripheral route). Before integrating these approaches, it is useful to describe the major central and peripheral processes responsible for persuasion.

3. Central Route Approaches to Attitude Change

3.1 Message Learning Approach

One of the most influential programs of research on attitude change was that undertaken by Carl Hovland

and his colleagues at Yale University in the years following World War II (e.g., Hovland et al. 1953). The Yale group studied how source, message, recipient, and channel factors affected the comprehension, acceptance, and retention of the arguments in a persuasive communication. Although no formal theory tied together the many experiments conducted by this group, they often attempted to explain the results obtained in terms of general learning principles such as the more message content you learned, the more your attitudes should change (see McGuire 1985). Contemporary research shows that people can be persuaded without learning or remembering any of the message content. That is, people are sometimes persuaded solely by the 'cues' associated with the message (e.g., the source is expert; Petty and Cacioppo 1986). Or, the message might elicit a favorable thought that persists in the absence of memory for the information that provoked it (Greenwald 1968). Message learning appears to be most important when people are not engaged in an on-line evaluation of the information presented to them, such as when they do not think they have to form an opinion at the time of information exposure. In such cases, subsequent attitudes may be dependent on the valence of information they have learned and can recall (Hastie and Park 1986).

3.2 Self-persuasion Approach

Self-persuasion theories hold that people's attitudes can change in the absence of any new external information. This is because people can self-generate reasons to favor or disfavor any position. The powerful and persisting effects of completely self-generated messages were shown in early research on 'role-playing' where people were asked to generate messages on certain topics (e.g., the dangers of smoking). The subsequent attitudes of these people were compared to those who had either passively listened to the communication or who had received no message. A consistent result was that active generation of a message was a successful strategy for producing attitude change, and these changes persisted longer than changes based on passive exposure to a communication. Finally, merely asking someone to think about an issue, object, or person can lead to attitude change as a result of the evaluative thoughts generated. Cognitive response theorists hold that just as one's thoughts can produce change in the absence of a message, so too are one's own thoughts responsible for attitude change even when a persuasive message is presented. That is, to the extent that a person's thoughts in response to the message are favorable, persuasion should result, but to the extent that they are unfavorable (e.g., counterarguments), resistance or even boomerang are more likely. These theorists hold that persistence of persuasion depends upon the

decay function for cognitive responses rather than message arguments *per se* (see Petty et al. 1981, for review).

3.3 Expectancy-value Approach

The message learning and self-persuasion approaches focus on the information (either externally or internally generated) that is responsible for persuasion. Neither approach has much to say about the particular features of the information that are critical for influencing attitudes. In contrast, expectancy-value theorists analyze attitudes by focusing on the extent to which people expect the attitude issue to be related to important values or produce positive and negative consequences. In one influential expectancy-value model, Fishbein and Ajzen's theory of reasoned action (1975) holds that the attributes (or consequences) associated with an attitude object are evaluated along two dimensions—the likelihood that an attribute or consequence is associated with the object, and the desirability of that attribute or consequence. If a persuasive message says that raising taxes will lead to reduced crime, the effectiveness of this argument should depend on how likely people think it is that crime will be reduced if taxes are increased (likelihood), and how favorably they view the outcome of reducing crime (desirability). Although some questions have been raised about the necessity of one or the other of these components, a large body of research supports the idea that attitudes are more favorable the more that likely-desirable consequences (or attributes) and unlikely-undesirable consequences are associated with them. The major implication of this theory for persuasion is that a message will produce attitude change to the extent that it introduces new attributes of an object, or produces a change in the likelihood and/or the desirability components of an already accepted attribute. Another proposition of this theory is that the items of information constituting an attitude are combined in an additive fashion. Other theorists, however, have contended that an averaging mechanism is more appropriate (see Anderson 1971).

3.4 Functional Approach

In their expectancy-value theory, Fishbein and Ajzen speculate that five to seven attributes or consequences are critical in determining a person's overall attitude. It is not clear, however, which particular attributes will be the most important (i.e., how the attributes are weighted). Functional theories of persuasion focus on the specific needs or functions that attitudes serve for a person and are therefore relevant for understanding the underlying dimensions of the attitude that are

most important to influence (e.g., Smith et al. 1956). For example, some attitudes are postulated to protect people from threatening truths about themselves or to enhance their own self-image ('ego-defensive function'), others give expression to important values ('value-expressive function'), or help people to understand the world around them ('knowledge function') or facilitate achieving rewards and avoiding punishments ('utilitarian function'). According to these theories, change depends on challenging the underlying functional basis of the attitude. Thus, if a person dislikes lowering taxes because of concern about social inequality (value expressive function), an argument about the amount of money the taxpayer will save (utilitarian function) will be ineffective.

3.5 Consistency Approach

Just as functional theories hold that attitudes serve important needs for individuals, dissonance and related theories hold that attitudes are often in the service of maintaining a need for consistency among the elements in a cognitive system (Festinger 1957). In Festinger's original formulation of dissonance theory, two elements in a cognitive system (e.g., a belief and an attitude; an attitude and a behavior) were said to be consonant if one followed from the other, and dissonant if one implied the opposite of the other. Two elements could also be irrelevant to each other. One of the more interesting dissonance situations occurs when a person's behavior is in conflict with his or her attitudes or beliefs because behavior is usually difficult to undo. According to the theory, dissonance, experienced as an aversive tension, may be reduced by changing beliefs and attitudes to bring them into line with the behavior. Thus, if you were opposed to the election of Candidate Smith, it would be inconsistent to sign a petition in favor of this candidate. According to dissonance theory, signing such a petition would produce discomfort that could result in a more favorable evaluation of the candidate in an effort to restore consistency.

Although early dissonance research was generally supportive of the theory, several competing formulations were proposed. Although it is now clear that many of the behaviors described by Festinger induce in people an 'unpleasant tension,' just as the theory predicts, current research has begun to focus more on understanding the precise cause of that tension. For example, some have questioned Festinger's view that inconsistency *per se* produces tension in many people. Rather, some argue that people must believe that by their behavior they have freely chosen to bring about some foreseeable negative consequence, or that the inconsistency involves a critical aspect of oneself or a threat to one's positive self-concept (see Harmon-Jones and Mills 1999).

4. Peripheral Route Approaches

Each of the central route approaches described above assumes that attitude change results from people actively considering the merits of some position either in a fairly objective manner, or in a biased way (such as when seeking to restore consistency). The next group of theories does not share this assumption. Instead, these theories suggest that people often prefer to conserve their cognitive resources and form or change attitudes with relatively little cognitive effort.

4.1 Inference Approaches

Rather than effortfully examining all of the issue-relevant information available, people can make an evaluative inference based on some meaningful subset of information. One popular inference approach is based on 'attribution theory' and holds that people come to infer underlying characteristics about themselves and others from the behaviors that they observe and the situational constraints imposed on these behaviors (e.g., Kelley 1967). Bem (1965) suggested that people sometimes have no special knowledge of their own internal states and simply infer their attitudes in a manner similar to that by which they infer the attitudes of others. In his self-perception theory, Bem reasoned that just as people assume that the behavior of others and the context in which it occurs provides information about the presumed attitudes of these people, so too would a person's own behavior provide information about the person's own attitude. Thus, a person might reason, 'since I signed Candidate Smith's petition, I must be in favor of her election.'

The attribution approach has also been useful in understanding the persuasion consequences of making inferences about relatively simple cues. For example, when external incentives (e.g., money) provide a salient explanation for a speaker's advocacy ('he was paid to say it'), the message is less effective than when a discounting external attribution is not possible. Research indicates that these simple attribution processes are most likely to influence attitudes when people are relatively unmotivated or unable to think carefully about the issue, such as when they have relatively little knowledge on the topic and the issue has few anticipated personal consequences.

Like the attributional framework, the heuristic-systematic model of persuasion postulates that when people are not motivated or able to process all of the relevant information available, attitude change can result from the use of certain heuristics or rules of thumb that people have learned on the basis of past experience and observation (see Eagly and Chaiken 1993). To the extent that various persuasion heuristics are available in memory, they may be invoked to evaluate persuasive communications. For example,

either because of prior personal experience or explicit training, people may evaluate a message with many arguments by invoking the heuristic 'the more arguments, the more valid it is.' If so, no effortful learning or evaluation of the actual arguments presented is necessary for influence to occur.

4.2 Approaches Emphasizing Affect

The attribution and heuristic models focus on simple cognitive inferences that can modify attitudes. Other peripheral route theories emphasize the role of affective processes in attitude change. One of the most direct means of associating 'affect' with objects, issues, or people is through classical conditioning (e.g., see Staats and Staats 1958). In brief, conditioning occurs when an initially neutral stimulus (the conditioned stimulus; CS) is associated with another stimulus (the unconditioned stimulus; UCS) that is connected directly or through prior conditioning to some response (the unconditioned response; UCR). By pairing the UCS with the CS, the CS becomes able to elicit a conditioned response (CR) that is similar to the UCR (Pavlov 1927). So, when food is paired over and over again with a bell, eventually the bell elicits salivation in the absence of food.

Considerable research has shown that attitudes can be influenced by pairing initially neutral objects with stimuli about which people already feel positively or negatively. For example, peoples' evaluations of words, other people, political slogans, consumer products, and persuasive communications have been modified by pairing them with such affect-producing stimuli as unpleasant odors and temperatures, the onset and offset of electric shock, harsh sounds, and elating and depressing films. People are especially susceptible to the simple transfer of affect from one stimulus to another when the likelihood of object-relevant thinking is rather low.

Another procedure for modifying attitudes through simple affective means was identified by Zajonc (1968) in his work on mere exposure. In this research, Zajonc and his colleagues showed consistently that when objects are presented to an individual on repeated occasions, the mere exposure is capable of making the individuals' attitudes toward these objects more positive. Recent work on this phenomenon indicates that simple repetition of objects can lead to more positive evaluations even when people do not recognize that the objects are familiar. Mere exposure effects have been shown in a number of studies using a variety of stimuli such as polygons, tones, nonsense syllables, Chinese ideograms, photographs of faces, and foreign words. Interestingly, what these stimuli have in common is that they tend to be meaningless and are relatively unlikely to elicit spontaneous thought. In fact, the simple affective process induced by mere

exposure appears to be more successful in influencing attitudes when processing of the repeated stimuli is minimal. When more meaningful stimuli have been repeated such as words or sentences, mere exposure effects have been less common. Instead, when processing occurs with repetition, the increased exposures enhance the dominant cognitive response to the stimulus. Thus, repeating strong arguments tends to lead to more persuasion (at least to the point of tedium), and repeating weak arguments tends to lead to less persuasion (Petty and Cacioppo 1986).

5. A Dual Process Approach to Understanding Attitude Change

Although the theories just described continue to be useful in accounting for a variety of persuasion phenomena, much of the contemporary literature on attitude change is guided by one of the available 'dual process' models of judgment. For example, one of the earliest approaches of this type, the elaboration likelihood model (ELM) represents an attempt to integrate the many seemingly conflicting findings in the persuasion literature under one conceptual umbrella by specifying a finite number of ways in which source, message, recipient, and contextual variables have an impact on attitude change (see Petty and Cacioppo 1986, Petty and Wegener 1998; for reviews of the ELM, the related heuristic-systematic model, and other dual process approaches, see Chaiken and Trope 1999). The ELM is based on the notion that people want to form correct attitudes (i.e., those that will prove useful in functioning in the environment) as a result of exposure to a persuasive communication, but there are a variety of ways in which a reasonable position can be adopted.

The most effortful procedure for evaluating an advocacy involves drawing upon prior experience and knowledge to scrutinize carefully and think about all of the issue-relevant information available in the current environment, along the dimensions that are perceived central to the merits of the attitude object. According to the ELM, attitudes formed or changed by this central route are postulated to be relatively persistent, predictive of behavior, and resistant to change until they are challenged by cogent contrary information along the dimension or dimensions perceived central to the merits of the object. However, it is neither adaptive nor possible for people to exert considerable mental effort in processing all of the persuasive information to which they are exposed. This does not mean that people never form attitudes when motivation and/or ability to think are low, but rather that attitudes are more likely to be changed as a result of relatively simple associations, on-line inferences, and well-learned heuristics in these situations. Attitudes formed or changed by these peripheral

route processes are postulated to be relatively less persistent, resistant, and predictive of long-term behavior than those based on central route processes. Thus, the ELM holds that both central and peripheral processes are important for understanding attitude change, but their influence varies depending on the likelihood of thinking.

The ELM holds that there are many variables capable of affecting elaboration and influencing the route to persuasion. Some variables affect a person's motivation to process issue-relevant information (e.g., the personal relevance of the issue; personal accountability for a decision), whereas others affect their ability or opportunity to think about a message (e.g., the extent of distraction present; the number of times the information is repeated). Some variables affect processing in a relatively objective manner (e.g., distraction disrupts both favorable and unfavorable thinking) whereas others influence elaboration in a biased fashion (e.g., a positive mood makes positive thoughts more likely than negative thoughts when people are motivated and able to think). Biases can stem from both ability factors (e.g., a biased knowledge store), or motivational factors (e.g., when a desire to maintain one's current attitude is more salient than one's desire to consider new information objectively).

Research on the ELM has shown that when the elaboration likelihood is high (e.g., high personal relevance, high knowledge of topic, simple message in print, no distractions, etc.), people typically know that they want and are able to evaluate the merits of the information presented, and they do so. Sometimes this effortful evaluation is relatively objective, but sometimes it is biased. On the other hand, when the elaboration likelihood is low, people know that they do not want and/or are not able to carefully evaluate the merits of the information presented (or they do not even consider exerting effort). Thus, if any evaluation is formed, it is likely to be the result of relatively simple associations or inferences (e.g., agreement with an expert source; counting the number of arguments presented). When the elaboration likelihood is moderate (e.g., uncertain personal relevance, moderate knowledge, moderate complexity, etc.), however, people may be unsure as to whether the message warrants or needs scrutiny, and whether or not they are capable of providing this analysis. In these situations, they may examine the persuasion context for indications (e.g., is the source credible?) as to whether or not they should attempt to process the message.

There are at least two important implications of the ELM. First, the model holds that any one variable can produce persuasion by different processes in different situations. For example, putting people in a positive mood can influence attitudes because of a simple inference process when the likelihood of thinking is low (e.g., 'I feel good so I must like it'), bias thinking when the likelihood of thinking is high (i.e., making positive interpretations more likely than negative

ones), and influence the extent of thinking when it is not already constrained to be high or low (e.g., thinking about an unpleasant message less when happy than when sad). Second, as explained next, the model holds that not all attitude changes of the same magnitude are equal. Specifically, thoughtful attitude changes (central route) tend to be more consequential than nonthoughtful changes (peripheral route).

6. Consequences of Attitude Changes Produced by Different Processes

It is now clear that there are a variety of processes by which attitudes can be changed, and that the different processes dominate in different situations. That is, some change processes dominate when motivation and ability to think are high, but other change processes dominate when motivation and ability to think are low. Research suggests that attitudes formed by different processes often have different characteristics (Petty and Cacioppo 1986). For example, persistence of persuasion refers to the extent to which attitude changes endure over time. When attitude change is based on extensive issue-relevant thinking, it tends to persist longer than when it is not. However, multiple exposures to positive cues can also produce relatively persistent attitudes.

Resistance refers to the extent to which attitude change is capable of surviving an attack from contrary information. Attitudes are more resistant the stronger the attack they can withstand. Although attitude persistence and resistance tend to co-occur, their potential independence is shown conclusively in work on cultural truisms (McGuire 1964). Truisms such as 'you should brush your teeth after every meal,' tend to be highly persistent in a vacuum, but very susceptible to influence when challenged. People have very little practice in defending truisms because they have never been attacked. These beliefs were likely formed with little issue-relevant thinking at a time during childhood when extensive thinking was relatively unlikely. Instead, the truisms were probably presented repeatedly by powerful, likable, and expert sources. As noted above, the continual pairing of an attitude with positive cues may produce a relatively persistent opinion, but it may not prove resistant when attacked. The resistance of cultural truisms and other attitudes can be improved by motivating and enabling people to defend their positions in advance of a challenging communication. One such 'inoculation' treatment involves exposing people to a few pieces of counter-attitudinal information prior to the threatening communication and showing them how to refute it. The inoculation procedures do not change the valence of a person's initial attitude, but it makes it stronger. Other persuasion treatments that seem ineffective in changing the valence of attitudes might nonetheless be

effective in modifying the strength of the attitude—making it more or less enduring, resistant, or predictive of behavior than it was initially.

7. Summary

In sum, contemporary persuasion theories hold that changes in attitudes can come about through a variety of processes which imbue them with a multiplicity of characteristics and render them capable of inducing a diversity of consequences. According to the popular dual process logic, the processes emphasized by the central route theories should be largely responsible for attitude change when a person's motivation and ability to scrutinize issue-relevant information is high. In contrast, the peripheral route processes should become more dominant as either motivation or ability to think is attenuated. This framework allows understanding and prediction of what variables affect attitudes and in what general situations. It also permits understanding and prediction of the consequences of attitude change. It is now accepted that all attitudes can be based on cognitive, affective, and behavioral information, and that any one variable can have an impact on persuasion by invoking different processes in different situations. Finally, attitudes that appear identical when measured can be quite different in their underlying basis or structure and thus can be quite different in their temporal persistence, resistance, or in their ability to predict behavior. Work on attitude change to the present has focused on the intrapsychic processes responsible for change in adult populations mostly in Western cultures. Future research is needed on the interpersonal processes responsible for attitude change, and the potentially different mechanisms that produce change in different population groups (e.g., children versus elderly individuals, those in individualistic versus collectivist cultures). In addition, as the field matures, current theories are ripe for exportation to important applied domains such as health promotion (e.g., AIDS education), political participation (e.g., determinants of voter choice), and others.

See also: Attitude Formation: Function and Structure; Attitude Measurement; Attitudes and Behavior

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R. E. Petty

Attitude Formation: Function and Structure

Attitude is a psychological tendency that is expressed by evaluating a particular object or entity with some degree of favor or disfavor. In this definition, an object or entity can be virtually any 'thing' in a person's