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MULTIPLE PROCESSES BY WHICH ATTITUDES GUIDE BEHAVIOR: THE MODE MODEL AS AN INTEGRATIVE FRAMEWORK

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I. Introduction

Although the concept of attitude has been a central one in the field of social psychology for decades (Allport, 1935), it is not until relatively recently in this long history that much systematic work has been conducted on the correspondence between expressed attitudes and subsequent behavior. Researchers appear to have been more concerned with issues regarding attitude formation and change and, for the most part, appear to have presumed that attitudes guide later behavior. However, beginning in the late 1960s and running to the present time, a considerable amount of empirical work has addressed the issue of attitude-behavior consistency (see the *Annual Review* chapters by Chaiken & Stangor, 1987; Cialdini, Petty, & Cacioppo, 1981; Cooper & Croyle, 1984; Eagly & Himmelfarb, 1978).

Despite this increased attention over the last two decades, there exists a very fundamental question regarding the attitude-behavior relation that has not been subjected to much theoretical or empirical inquiry. The question concerns an issue of process: How do attitudes guide behavior? By what conceivably multiple processes do individuals' attitudes have impact on their behavior? The present article describes two very different basic processes that link attitudes and behavior, along with variants that amount to a mixture of the essentials of each process. Conditions that promote one process or the other also are discussed.

II. Current State of the Literature

Before presenting the two contrasting models of the attitude-to-behavior process, it is useful to consider the state of the present literature on attitude-

behavior consistency. Historically, the field shifted from virtual neglect of the issue of attitude-behavior correspondence to the more recent intense scrutiny of the issue. With the exception of a few early skeptics (e.g., Corey, 1937; LaPiere, 1934), the question of whether attitudes were predictive of subsequent behavior was largely ignored. Wicker's (1969) widely cited and extremely pessimistic review of the available literature called attention to the lack of supporting evidence, sparking interest and research. Later developments have made it clear that Wicker's conclusion regarding the lack of attitude-behavior consistency was overstated. Indeed, more recent reviews have portrayed the issue far more optimistically (Fazio & Zanna, 1981; Schuman & Johnson, 1976). The optimism stems, in part, from occasional observations of fairly impressive attitude-behavior correlations (e.g., Goodmonson & Glaudin, 1971; Kelley & Mirer, 1974; Seligman *et al.*, 1979). Thus, it appears that attitude-behavior relations can range from zero to the very strong. Zanna and Fazio (1982) have referred to research that has asked "Is there an attitude-behavior relation?" as the first generation of work concerning attitude-behavior consistency. The answer to this "is" question appears to be a resounding "sometimes."

Given the range of outcomes observed across various investigations, researchers began to ask what Zanna and Fazio (1982) characterized as "when" questions. That is, when or under what conditions are attitudes predictive of behavior? In its most general form, the issue that this generation of research focused on was, "Under what conditions do what kinds of attitudes held by what kinds of individuals predict what kinds of behavior?" (Fazio & Zanna, 1981, p. 165). As indicated by the question, researchers began to search for situational factors, personality variables, and classes of attitudes and behaviors that might moderate the attitude-behavior relations.

These efforts to identify moderating variables have been remarkably successful in that the literature now provides documentation for a lengthy list of such moderators. With respect to situational variables, normative constraints or inducements have been shown to affect the attitude-behavior relation (e.g., Ajzen & Fishbein, 1973; Schofield, 1975; Warner & DeFleur, 1969), as does the degree to which individuals hold a vested interest in the behavioral issue (Sivacek & Crano, 1982). Situational cues that suggest that one's attitude is relevant to a behavioral decision also have been found to enhance the attitude-behavior relation (Borgida & Campbell, 1982; Snyder & Kendzierski, 1982). Various personality factors are also known to moderate the relation. For example, self-monitoring (Snyder & Swann, 1976; Zanna, Olson, & Fazio, 1980), self-consciousness (e.g., Scheier, Buss, & Buss, 1978), and level of moral reasoning (Rholes & Bailey, 1983) have each been found to relate to attitude-behavior consistency.

Just as some kinds of people are more apt to display consistency, some kinds of attitudes seem more likely to promote attitude-behavior consistency. Various

attitudinal qualities, including the manner of attitude formation (Fazio & Zanna, 1981), the consistency between affective and cognitive components of attitudes (Norman, 1975), the temporal stability of the attitude (Schwartz, 1978), the confidence with which the attitude is held (Sample & Warland, 1973; Fazio & Zanna, 1978a, 1978b), and how clearly defined the attitude is, as measured by the width of the latitude of rejection (Fazio & Zanna, 1978b), have been found to moderate the attitude-behavior relation.

In addition to the variables mentioned above, it has been demonstrated that the prediction of behavior from attitude is improved by the assessment of attitudes and behaviors of equivalent levels of specificity (Ajzen, 1982; Ajzen & Fishbein, 1977; Fishbein & Ajzen, 1974). Essentially, specific behaviors are best predicted by a similarly specific attitude measure. General patterns of behavior or multiple behaviors are best predicted by a general attitude.

One conclusion is quite clear from even this brief summary of the present literature. There can be no doubt that attitudes do sometimes relate to subsequent behavior and that the field has achieved some understanding of just when that sometimes is. However, there are two additional, related observations that can be made. First, it is evident that the "when" approach has been primarily empirical in nature. What we have at this point in time is a fairly lengthy catalog of variables known to moderate the attitude-behavior relation. As commentators on this literature have noted, there has been a marked lack of theory (Cooper & Croyle, 1984). Second, there is the point alluded to earlier about the processes linking attitudes to behavior. Despite the resurgence of research on the attitude-behavior relation and despite the now voluminous literature, little attention has been paid to the very fundamental issue of how attitudes guide behavior. Throughout the literature, mention is made of attitudes guiding or influencing behavior with little or no accompanying explanation of how this might occur. It is this concern that Zanna and Fazio (1982) forecasted as the central issue of a third generation of research on attitude-behavior consistency.¹

¹Obviously, this categorization of the attitude-behavior literature into three generations of research was intended as a rough heuristic by which the literature could be organized and considered. It is not always the case that a single endeavor can be neatly characterized as fitting purely into one generation or another—the single best example being the work of Ajzen and Fishbein (1980). Initial efforts (e.g., Fishbein, 1967) appear to have been aimed primarily at indicating that attitudes (or at least, attitudes toward the act) can be predictive of behavior. Indeed, with the focus of attention having been on the value of the construct of attitude toward a specific act (e.g., Abelson, 1982; Schuman and Johnson, 1976), such attempted resolution of the "is" question appears to have been the primary nature of the work's impact on the field. However, given the model's postulate that any impact of attitudes on a behavioral decision can be overpowered by the influence of normative concerns, the work might just as well be characterized as falling within the "when" generation. Finally, as the work evolved into the theory of reasoned action (Ajzen and Fishbein, 1980), it provided specification of one conceivable process by which attitudes guide behavior and, hence, can be considered within the "how" generation. The theory is discussed in this manner at a later point in the present article.

These two points are not unrelated in the sense that models of the attitude-behavior process can provide the needed theoretical perspective. Such models have the potential to provide a conceptual integration of the host of moderating variables, in addition to suggesting how and why these various factors moderate the attitude-behavior relation.

In what follows, two types of models of the attitude-behavior process are discussed. The basic difference between the two types centers on the extent to which deciding on a particular course of action involves conscious deliberation about or a spontaneous reaction to one's perception of the immediate situation. An individual may analyze the costs and benefits of a particular behavior and, in so doing, deliberately reflect on the attitudes relevant to the behavioral decision. These attitudes may serve as one of possibly many dimensions that are considered in arriving at a behavior plan, which may then be enacted. Alternatively, attitudes may guide an individual's behavior in a more spontaneous manner, without the individual having actively considered the relevant attitudes and without the individual's necessary awareness of the influence of the attitude. Instead, the attitude may influence how the person interprets the event that is occurring and, in that way, affect the person's behavior. In either case, attitudes are impacting on behavior, but the process by which they are doing so differs markedly. The spontaneous processing alternative will be developed first and then contrasted to the deliberative process.

III. A Spontaneous Processing Model of the Attitude-Behavior Relation

The class of models based upon spontaneous processing must begin with the presumption that not all social behavior is deliberative or reasoned. Instead, the behavior is more spontaneous in nature. Many daily social behaviors appear to be of this sort (cf. Langer, 1978). For people to do otherwise, that is, for people to rely constantly on reflective reasoning processes in order to decide how to behave, would be enormously dysfunctional for daily living. The ease with which we all engage in normal social discourse in itself suggests that much of our behavior is spontaneous rather than the planned outcome of some reflective process.

How might such spontaneous behaviors be influenced by one's attitude toward the object in question? To the extent that individuals engage in any construal or interpretation of the attitude object and the situation in which the attitude object is encountered, there exists the possibility of attitudes guiding behavior toward the object. By influencing such perceptions, attitudes may have an impact on the eventual behavior. Furthermore, such influence may occur even though the

individual does not actively retrieve the attitude from memory and reflect upon it in any way.

This notion forms the crux of a model of the attitude-behavior process that has been proposed recently by Fazio and colleagues (Fazio, 1986; Fazio, Powell, & Herr, 1983). The model is presented in a detailed fashion elsewhere (Fazio, 1986) and will only be summarized here. The model postulates that an individual's social behavior is largely a function of the individual's perceptions in the immediate situation in which the attitude object is encountered. Given that the situations are typically at least somewhat ambiguous and that social stimuli frequently have multiple meanings, some degree of interpretation on the part of the individual is required. Such definition of the event that is occurring is presumed to determine the direction and nature of the individual's behavior in the immediate situation.

Latane and Darley's (1970) analysis of bystander intervention in emergency situations provides an excellent illustration of the importance of perceptions of the event that is occurring. Definition of the event as an emergency is viewed as a critical step if the individual is to intervene. For example, failing to define smokelike vapors as an indicant of fire greatly decreased the likelihood that a subject would report the event to the experimenter. Likewise, failing to define a person's moans following a crash as cries of anguish from a real victim decreased the likelihood that bystanders would intervene.

Definitions of the event obviously can be influenced by cues within the situation itself. Again using the bystander intervention work as an example, the emotional stoicism of other witnesses to the event can have a profound influence on the likelihood that a given individual defines the event as an emergency. If the others available for comparison purposes are not displaying any discernible reaction to a loud crash or to smokelike vapors, then the likelihood that the individual will view the event as an emergency is reduced.

However, the cues that are used to interpret an event also can stem from the activation of relevant constructs from memory. Beginning with the "new look" movement (e.g., Bruner, 1957), which so heavily emphasized the constructive nature of perception, psychology has recognized that such perceptions are dependent upon the knowledge structures, affects, values, and expectations that the individual holds. Advances in the area of social cognition make it evident that such memorial constructs can have an influence through a passive, automatic process. That is, the individual need not consciously reflect upon the construct and its applicability to current information for the construct to affect interpretations. Instead, the recent activation, or priming, of a construct from memory is sufficient for that construct to influence interpretations in a later situation (e.g., Fazio *et al.*, 1983; Higgins, Rholes, & Jones, 1977; Srull & Wyer, 1979). Indeed, such priming can even be subliminal in nature. For example, subjects in an experiment conducted by Bargh and Pietromonaco (1982) unknowingly were

exposed to words semantically related or unrelated to hostility during the course of a "vigilance task." The words were presented in a manner that was shown to preclude conscious recognition of the words. Subjects who had been exposed to a large proportion of hostility-related words were subsequently more likely to interpret the ambiguous behaviors of a hypothetical target person as hostile. Thus, hostility-related constructs were primed despite subjects' lack of awareness, and the heightened accessibility of the hostility construct affected subjects' interpretations.

One class of structures that are stored in memory and that might be relevant to construal of the event is the individual's knowledge regarding what behaviors are or are not normatively appropriate in a given situation. Indeed, as suggested earlier when the catalog of variables known to moderate the attitude-behavior relation was reviewed, norms have been found to exert such a moderating influence (e.g., Ajzen & Fishbein, 1973; Schofield, 1975; Warner & DeFleur, 1969). Thus, normative information may be activated from memory and may affect one's definition of the event. To the extent that normative guidelines are counter to the individual's attitude, the definition of the event may not be attitudinally congruent.

According to the model, whether the individual's definition of the event is attitudinally congruent determines the likelihood that the individual will display attitude-behavior consistency. That is, given that one's definition of the event determines behavior, the question of attitudes guiding behavior centers on the extent to which attitudes influence the definition of the event. The individual's attitude is also a construct that can guide perceptions. In particular, the attitude can affect perceptions of the attitude object in the immediate situation in which it is encountered.

The suggestion that attitudes guide perceptions is by no means novel. Allport (1935) argued that "attitudes determine for each individual what he will see and hear. . . . They draw lines about and segregate an otherwise chaotic environment; they are our methods for finding our way about in an ambiguous universe" (p. 806). Indeed, attitude theorists have long considered one of the major functions served by attitudes to be that of organizing and structuring a rather chaotic universe of objects (Katz, 1960; Smith, Bruner, & White, 1956). In the words of Smith *et al.* (1956), an attitude provides "a ready aid for 'sizing up' objects and events in the environment" (p. 41).

Consistent with these notions, a rich and varied literature exists documenting that attitudes influence perceptions of the attitude object. Just to give a few examples, attitudes have been found to relate to what is perceived in an ambiguous scene (e.g., Hastorf & Cantril, 1954; Proshansky, 1943; Seeleman, 1940), to affect individual's causal interpretation of a target person's behavior (e.g., Regan, Straus, & Fazio, 1974), and to affect individuals' evaluations of attitudinally relevant empirical evidence (e.g., Lord, Ross, & Lepper, 1979). In each of these

cases, individuals with differing attitudes toward the target person, object, or issue have been shown to arrive at different perceptions and judgments of the very same stimulus information.

Thus, when one encounters an attitude object, one's attitude can guide perceptions of the object in the immediate situation. These immediate perceptions, congruent as they are with one's attitude, can then prompt attitudinally consistent behavior. According to the model, it is through their mediating impact on perceptions that attitudes guide behavior in a spontaneous fashion. That is, the individual need not consciously reflect upon feelings toward the attitude object for an attitudinally biased perception of the attitude object in the immediate situation to occur. Yet, such differential perceptions on the part of individuals with differing attitudes can lead them to respond very differently toward the attitude object.

According to the spontaneous processing model, whether such differential perceptions occur depends on whether the individuals' attitudes are activated from memory. In many instances, the entire attitude-behavior process described thus far simply may not be initiated. Although the model does not postulate that it is necessary for individuals to reflect upon their attitudes toward the object in question for selective perception to occur, it is necessary that individuals' evaluations of the attitude object be activated from memory when they encounter the attitude object. Unless the attitude is activated from memory, it cannot produce selective perception of the object in the immediate situation. Indeed, an individual may never view the object in evaluative terms. Thus, the key to the model is attitude accessibility. The attitude must be activated from memory when the individual observes the attitude object if the attitude is to in any sense guide subsequent behavior.

A. A MODEL OF ATTITUDES AND THEIR ACCESSIBILITY FROM MEMORY

According to the model, the likelihood of activation of the attitude upon mere observation of the attitude object depends on the chronic accessibility of the attitude. An attitude is viewed as an association in memory between a given object and one's evaluation of that object. This definition implies that the strength of an attitude, like any construct based on associative learning, can vary. That is, the strength of the association between the object and the evaluation can vary. It is this associative strength that is postulated to determine the chronic accessibility of the attitude and, hence, the likelihood that the attitude will be activated automatically when the individual encounters the attitude object. Only if it is strongly associated with the object is it likely that the evaluation will be activated spontaneously upon observation of the attitude object.

Empirical tests of this view of attitudes as object-evaluation associations have yielded confirming results. Subjects who had been induced to express their attitudes repeatedly, which should have the consequence of strengthening the object-evaluation association, have been found to be capable of responding relatively quickly to direct inquiries about their attitudes (Fazio, Chen, McDonel, & Sherman, 1982; Powell & Fazio, 1984). For example, Powell and Fazio (1984) manipulated the number of times that an attitude was expressed by varying the number of semantic differential items that appeared relevant to a given attitude issue. In this way, subjects expressed their attitudes zero, one, three, or six times toward a given attitude object. In a subsequent task, subjects were presented with each attitude issue and instructed to make a good-bad judgment about each object as quickly as possible. Response latency was found to relate to the number of previous attitudinal expressions. The greater the number of expressions, the faster the latency of response to the attitudinal inquiry.

Further evidence regarding the relevance of the strength of the object-evaluation association to the chronic accessibility of the attitude is provided by a recent series of experiments concerning automatic activation (Fazio, Sanbonmatsu, Powell, & Kardes, 1986). These experiments examined the hypothesis that the mere presentation of an attitude object toward which an individual possesses a strong evaluative association would automatically activate the evaluation. Automatic processes are effortless and are initiated spontaneously and inescapably when the individual encounters appropriate stimulus conditions (see Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977). Indeed, Shiffrin and Dumais (1981) characterize as automatic any process that leads to the activation of some response "whenever a given set of external initiating stimuli are presented, regardless of a subject's attempt to ignore or bypass the distraction" (p. 117). In contrast controlled processes are effortful, requiring the active attention of the individual.

The experiments employed a priming procedure. On each trial, the prime that was presented was the name of an attitude object. Its presentation was followed by the display of a positive or a negative evaluative adjective. The subject's task was to press a key as quickly as possible to indicate whether the adjective had a positive or a negative connotation. The latency with which these responses were made was facilitated on trials that involved evaluatively congruent primes (attitude objects) and targets, provided that the attitude object possessed a strong evaluative association for the subject. For example, if a subject had a strong negative association to the object "cockroach," then presentation of "cockroach" as the prime facilitated the subject's indication that an evaluative adjective such as disgusting had a negative connotation.

Such facilitation was observed only in the case of attitudes characterized by strong object-evaluation associations. In some of the experiments, preexperimentally strong and weak associations were identified via a measurement pro-

cedure. The measurement involved latency of response to a direct attitudinal inquiry—the same measure that had been shown in the research described earlier to reflect the strength of the object-evaluation association. Attitude objects for which the subject was able to respond relatively rapidly when faced with an attitudinal inquiry had served as the strong primes and those for which the subject responded relatively slowly served as the weak primes. In an additional experiment, strength of the object-evaluation association was manipulated rather than measured. Attitude objects for which subjects had been induced to express their attitudes repeatedly produced facilitation when the objects later served as primes in the adjective connotation task.

These findings provide corroboration for the hypothesis that the likelihood of automatic activation of an attitude upon mere observation of the attitude object depends on the strength of the object-evaluation association in memory. The existence of facilitation suggests that the subject's attitude toward the object was activated automatically upon its mere presentation as the prime. Such a conclusion regarding automatism appears justifiable for two reasons. The first argument concerns the nature of the adjective connotation task. Subjects were merely exposed to the attitude object and were not asked to consider their attitudes toward the object. Nor was it to the subjects' advantage to do so, for the subjects' major task was simply to respond to the target adjective. Nevertheless, despite this irrelevance of attitudes to the immediate task concerns, exposure to objects for which subjects possessed strong affective associations appears to have prompted activation of the associated evaluation. Thus, the very nature of the task leads to the suggestion that the facilitation observed in the case of strong primes was a result of automatic rather than of controlled processing.

A second basis for this conclusion stems from the fact that facilitation was observed only under conditions that involved a relatively short interval between onset of the attitude object presented as the prime and onset of the target adjective, a timing differential commonly referred to as the stimulus onset asynchrony (SOA). Under conditions involving a longer stimulus onset asynchrony, no facilitation was found. Yet, if the results had been due to a controlled, effortful process, one would have expected that allotting the subjects more time to actively retrieve their attitudes would have produced greater facilitation. Instead, the findings imply that in the case of strong object-evaluation associations the attitude was activated automatically upon presentation of the prime. The level of activation of the associated evaluation was apparently sufficient to facilitate responding to an evaluatively congruent target adjective if the adjective was presented very soon thereafter (SOA = 300 msec). However, this level of activation apparently dissipated quickly (or was actively suppressed) due to the presumed irrelevance of the subject's attitudes to the major task of identifying the connotation of the target adjective. As a result, presentation of the target adjective 1000 msec after presentation of the attitude object appears to have been too

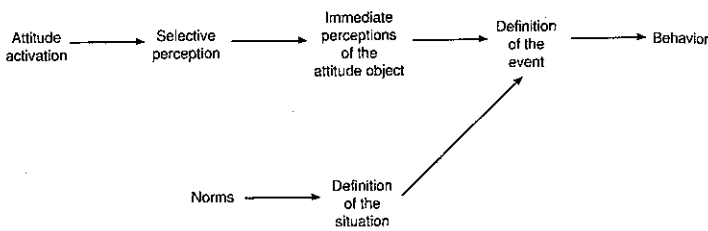


Fig. 1. A schematic diagram of Fazio's (1986) model of the attitude-behavior process.

late for the prime to facilitate response to adjectives of congruent valence. Thus, the results of these experiments indicate that attitudes can be activated from memory automatically and that the strength of the object-evaluation association determines the likelihood of such automatic activation (see Fazio, 1989, for a brief review of additional experiments corroborating this hypothesis).

It is activation of the attitude upon mere observation of the attitude object that forms the crux of the attitude-behavior process based upon automatism. Figure 1 presents a schematic summary of the spontaneous processing model that has been discussed. In essence, the model proposes that a number of steps must occur for behavior toward an object to be influenced in an automatic fashion by one's attitude. First and foremost, the attitude must be activated when the individual encounters the attitude object. Such activation is to be expected only if the object and its evaluation are strongly associated in memory. Once activated, the attitude will serve as a "filter" through which the attitude object will be perceived. A positive attitude that has been activated is likely to lead the individual to notice, attend to, and process primarily the positive qualities that the object is exhibiting in the immediate situation. Likewise, a negative attitude will direct attention to negative qualities of the object. Thus, selective perception produces perceptions of the object in the immediate situation that are consistent with the attitude. These immediate perceptions comprise at least a part of the individual's definition of the event. Normative guidelines may affect the individual's definition of the situation and, if counter to the attitude, may result in a definition of the event that is not attitudinally congruent. In situations where norms do not dictate the definition of the event, however, the definition will be attitudinally congruent if attitude activation and selective perception have occurred. It is this definition of the event that determines the direction and nature of the behavior. Approach behaviors are prompted by a definition of the event that consists primarily of positive perceptions of the attitude object in the immediate situation. Likewise, avoidance behaviors follow from a negative definition of the event.

This entire sequence need not involve any deliberate reflection or reasoning.

Instead, behavior simply follows from a definition of the event that has been biased by the automatically activated attitude. Neither the activation of the attitude from memory nor the selective perception component require conscious effort, intent, or control on the part of the individual. Indeed, it is within an entirely automatic sequence that attitude activation and selective processing take on a necessary role if the attitude is to exert any influence on the behavior. Such an automatic process will operate only to the extent that a strong evaluative association has been established toward the attitude object. If the relevant association is too weak to be activated, then behavior will follow from a definition of the event that is not attitudinally based. Instead, the behavior may be determined by whatever features of the situation and the attitude object are sufficiently salient to influence immediate perceptions.

B. THE MODERATING ROLE OF ATTITUDE ACCESSIBILITY

Some evidence supportive of the model already has been described. Additional confirming research merits a brief summary. Consistent with the model's assertion regarding attitudes that involve a strong object-evaluation association, both experimental and correlational work have provided support for the model's propositions that attitude accessibility serves as a moderator of the relation between attitudes and subsequent perceptions of the attitude object and of the relation between attitudes and subsequent behavior toward the object.

1. Perceptions of the Attitude Object

During the summer preceding the 1984 presidential election, Fazio and Williams (1986) measured attitudes toward Reagan and the accessibility of those attitudes, as indicated by latency of response to the attitudinal inquiry, within a large sample of townspeople. Judgments of the performance of the candidates during the televised debates held later in the fall served as the measure of subsequent perceptions. Just as postulated by the model, correlations between attitudes and perceptions were higher among those individuals who were able to respond relatively quickly to the attitudinal inquiry (the high-accessibility group) than among those who responded relatively slowly (the low-accessibility group).

A similar finding was observed by Houston and Fazio (1989) in a study involving judgments of research evidence concerning the efficacy of capital punishment. This investigation was modeled after the work by Lord *et al.* (1979) that was mentioned earlier. Their research indicated that people's attitudes toward the death penalty were predictive of their judgments regarding the quality of two ostensible empirical investigations—one of which purported to support

the deterrent efficacy of capital punishment and the other of which did not. Individuals with attitudes favorable to the death penalty viewed the pro-capital punishment study as better conducted and more convincing (and the anti-capital punishment study as poorer conducted and less convincing) than did individuals with negative attitudes. Houston and Fazio (1989) found this effect to be moderated by the accessibility of subject's attitudes toward the death penalty. The relation between attitudes and judgments of the studies was stronger among individuals whose latencies of response to an attitudinal inquiry regarding the death penalty were indicative of a relatively accessible attitude than it was among individuals whose attitudes were less accessible.

A second investigation (Houston & Fazio, 1989, Experiment 2) experimentally manipulated attitude accessibility as opposed to measuring the preexisting accessibility of the attitude. The associative strength between "death penalty" and the subject's evaluation of this issue was enhanced by inducing some of the subjects to express their attitudes repeatedly. As indicated earlier, past research employing this manipulation (e.g., Fazio *et al.*, 1986; Powell & Fazio, 1984) has shown it to be an effective means of enhancing the accessibility of attitudes. Once again, evidence was obtained that attitude accessibility determined the extent to which the attitude colored judgment of the information. Those subjects who earlier had expressed their attitudes repeatedly judged the empirical evidence in a manner that was more congruent with their attitudes than did those subjects who had expressed their attitudes only a single time. Thus, regardless of whether attitude accessibility was measured or manipulated, the findings indicated that the degree to which an attitude is capable of being activated automatically from memory upon mention of the attitude issue determines the extent to which that attitude biases one's interpretation of the available information.

2. Behavior toward the Attitude Object

The postulated role of attitude accessibility as a moderator of the attitude-behavior relation also has received support in both correlational and experimental studies. Experimental work has indicated that the strength of the object-evaluation association acts as a determinant of the degree to which attitudes guide later behavior (Fazio *et al.*, 1982, Experiment 4). The experiment concerned attitudes and behavior toward a set of intellectual puzzles. Subjects for whom the object-evaluation associations were strengthened through inducement to note and express their attitudes toward the puzzles repeatedly displayed greater attitude-behavior consistency subsequently than did subjects who expressed their attitudes only a single time.

The Fazio and Williams (1986) investigation of the 1984 presidential election also examined attitude-behavior consistency. Immediately following election day, and over 3 months after participating in the initial survey in which attitudes toward Reagan and the accessibility of those attitudes had been assessed, the

participants were telephoned and asked to reveal how they had voted. Attitudes were much more predictive of voting behavior among those individuals who had responded relatively quickly to the attitudinal inquiry concerning Reagan. Indeed, within the high-accessibility group, attitudes toward Reagan accounted for nearly 80% of the variance in voting behavior, compared to 44% within the low-accessibility group.

A recent study by Fazio, Powell, and Williams (in press) indicates that this moderating role of attitude accessibility is evident in situations involving actual behavior, as opposed to a self-report of behavior as in the voting study. The study involved attitudes and behavior toward a set of 10 products (e.g., Sun-Maid raisins, Dentyne gum, and Mounds candy bar). In the preliminary phase of the experiment, subjects responded to the names of a large number of products, including the 10 target items, by pressing either a "like" or a "dislike" button. The latency of the responses was recorded and served as the basis for indexing the accessibility of subjects' attitudes toward each of the 10 products. Following this task, subjects rated the extent of their liking along a typical 7-point scale, which constituted the attitude measure. In order to obtain behavioral data, subjects were shown a table on which the 10 target products had been arranged and were informed that they could select 5 products as reimbursement for having participated in the experiment.

The major concern was the extent to which the subjects' selections were related to their attitudes. For each product, subjects were classified into high, moderate, and low attitude-accessibility groups, and the correlation between attitudes and having selected the product or not was examined within each group. Averaged across the 10 products, the correlations displayed a significant linear trend as a function of the level of attitude accessibility. The more accessible a subject's attitude toward a given product was, the more likely it was that product selection behavior was consistent with that attitude.

The spontaneous processing model of the attitude-behavior relation (Fazio, 1986) views behavior as a function of the individual's perceptions of the attitude object in the immediate situation. These immediate perceptions may or may not be congruent with the individual's attitude. If the attitude is highly accessible, then it is likely to be activated automatically from memory upon observation of the attitude object and is likely to result in immediate perceptions that are attitudinally congruent. In contrast, if the attitude is not activated from memory, immediate perceptions are more likely to be based upon momentarily salient features of the attitude object. Because these features may not be representative of the object, the immediate perceptions are less likely to be congruent with the attitude.

The influence of a momentarily salient dimension was apparent in the product selection study. The 10 products had been arranged in two rows of 5. Apparently, the products positioned in the front row were more salient than those in the back row, for row status influenced product selection behavior, especially among

individuals whose attitudes toward a given product were relatively low in accessibility. Among the front row products, the lower the accessibility of subjects' attitudes, the more likely they were to select the product. For products in the back row, the lower the accessibility of subjects' attitudes, the less likely they were to choose the product. Thus, the lower the attitude accessibility, the more selection behavior was governed by row status. Products afforded relative salience by virtue of their position in the front row were more likely to be selected and those positioned in the "background" were less likely to be selected.

This finding illustrates the importance of the immediate perceptions of the attitude object. Apparently, individuals with accessible attitudes had immediate perceptions of a given product that were heavily influenced by their attitudes and, hence, tended to behave consistently with those attitudes. In contrast, the immediate perceptions of people with less accessible attitudes appear to have been less attitudinally congruent because these perceptions tended to be governed by the momentarily salient dimension of row position.

Together, the various investigations that have been summarized (see Fazio, 1989, for a fuller review of such work) indicate the importance of the attitude activation component of the model. Both the degree to which selective processing of subsequently presented information about the attitude object occurs and the degree to which attitude-behavior consistency occurs depend on the accessibility of the attitude from memory, just as suggested by the model. Activation of the attitude from memory initiates the spontaneous attitude-to-behavior process. Without such activation, behavior follows from perceptions of the object in the immediate situation that are relatively less likely to be congruent with the attitude.

This spontaneous attitude-to-behavior process is enormously functional for daily life. Attitudes that involve strong object-evaluation associations serve the object-appraisal function described earlier very well. They provide the individual with a "ready aid" for interaction. Because they guide behavior in an automatic manner, they free the individual from having to engage in deliberate, reasoned analyses. Yet, there certainly are instances in which individuals do reflect and deliberate. It is to such a deliberate attitude-behavior process that the discussion now turns.

IV. A Deliberative Processing Model of the Attitude-Behavior Relation

Beyond question, some social behavior is planned and deliberate. Indeed, we sometimes decide how we intend to behave and then follow through on that intention when we enter the situation. Deliberative processing is characterized by

considerable cognitive work. It involves the scrutiny of available information and an analysis of positive and negative features, of costs and benefits. The specific attributes of the attitude object and the potential consequences of engaging in a particular course of action may be considered and weighed. Such reflection forms the basis for deciding upon a behavioral intention and, ultimately, behavior.

Unquestionably, the most familiar model of this sort is the Ajzen and Fishbein (1980) theory of reasoned action. Because this model is so well known and so well specified, the present discussion will focus on it as an excellent illustration of deliberative processing. However, it should be kept in mind that any specific model that involves individuals engaging in an effortful analysis of attributes could be considered within the class of deliberative processing models of the attitude-behavior relation. The Ajzen and Fishbein model is clearly based upon deliberative processing.

Generally speaking, the theory is based on the assumption that human beings are usually quite rational and make systematic use of the information available to them. We do not subscribe to the view that human social behavior is controlled by unconscious motives or overpowering desires, nor do we believe that it can be characterized as capricious or thoughtless. We argue that people consider the implications of their actions before they decide to engage or not engage in a given behavior. For this reason we refer to our approach as "a theory of reasoned action". . . . We make the assumption that most actions of social relevance are under volitional control and, consistent with this assumption, our theory views a person's *intention* to perform (or to not perform) a behavior as the immediate determinant of the action. (Ajzen & Fishbein, 1980, p. 5)

Figure 2 presents a schematic diagram of the model proposed by Ajzen and Fishbein. Behavior stems from the behavioral intention, which is itself the consequence of the individual considering and weighing his or her attitude toward the behavior and subjective norms. This latter term refers to the person's beliefs that significant others think that he or she should or should not perform the behavior and the person's motivation to comply with these specific referents. It is important to note that within this model the attitude under consideration is not a general attitude toward the object in question (e.g., Reagan) but an attitude toward performing the specific behavior in question (e.g., voting for Reagan). According to the model, attitude toward the behavior is itself a function of the person's beliefs concerning the outcomes that are likely to result from performing the behavior and the person's evaluations of those outcomes. Clearly, the theory of reasoned action involves deliberative processing. Individuals are assumed to systematically weigh the available information, including the likely consequences of their engaging in the behavior under consideration and the expectations held by others.

This same focus upon deliberative action is apparent in Ajzen's (1985, 1987)

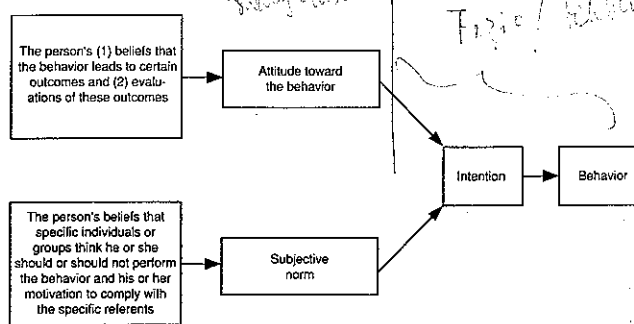


Fig. 2. A schematic diagram of Ajzen and Fishbein's (1980) theory of reasoned action.

recent extension of the theory. This extension, termed the theory of planned behavior, postulates that individuals also consider beliefs concerning their possessing (or lacking) the requisite resources and opportunities necessary to accomplish the behavior. Thus, in formulating a behavioral intention, people examine their perceived control over the behavior in question, in addition to evaluating the likely outcomes of the action (attitude toward the behavior) and considering the expectations of others (subjective norms).

Certainly for any behavior that has not been performed before (and within the Ajzen and Fishbein model this would be virtually any behavior because the behavior always has specific reference to a given context and time), individuals need to "compute" their attitudes toward the behavior. By evaluating the likelihood of the behavior producing various consequences and the desirability of these potential consequences, individuals can arrive at their attitudes toward a specific act in a very deliberate and reasoned manner. These attitudes and information regarding perceived normative pressures are then considered and weighted in order to construct the behavioral intention, which then determines the behavior. The important point is that this process is an effortful one. Reflection and deliberation are required.

The Ajzen and Fishbein model has been subject to some serious criticism at both the conceptual and methodological levels. Concerns have been raised about the value of considering specific attitudes toward the behavior as a remedy for the sometimes poor correspondence between attitudes toward the object and subsequent behavior (Abelson, 1982); about whether additional variables might improve the prediction of behavior beyond what is accomplished via the attitudinal and normative components (e.g., Bentler & Speckart, 1979; Sherman *et al.*, 1982; Songer-Nocks, 1976); and about whether the assessment, in and of

itself, of behavioral intention might enhance the likelihood of consistent behavior (Sherman, 1980). Nevertheless, there is little question that the model's attitudinal and normative components generally provide an excellent prediction of behavior. Indeed, investigations conducted by Ajzen and Fishbein and by others have applied the model successfully to a wide variety of domains (see Ajzen & Fishbein, 1980, for a review). Furthermore, there is little doubt that we sometimes do reason about and plan our actions in the manner suggested by Ajzen and Fishbein.

V. An Integrative Model: Conditions That Promote Each Process

It would appear that attitudes can influence individuals' subsequent behavior through either the spontaneous or the deliberative processes described above. The critical distinction between the two models centers on the extent to which the behavioral decision involves effortful reasoning as opposed to spontaneous flowing from individuals' definitions of the event that is occurring. The deliberative process can be viewed as relatively "data driven"; it involves consideration of the specific attributes of the attitude object and of the potential consequences of engaging in a particular behavior. In contrast, focusing as it does on the attitude toward the object and on the activation of this attitude from memory, the spontaneous process can be viewed as "theory driven." The obvious question that arises concerns the conditions under which a spontaneous attitude-behavior process versus a deliberative one might operate.

A. MOTIVATION AND OPPORTUNITY

Given the effortful reflection that is required by the deliberative processing alternative, it would appear that some motivating force is necessary to induce individuals to engage in the reasoning. One such possible force is simply the importance of the behavioral decision. Highly consequential behaviors may prompt a carefully reasoned analysis. Sherman and Fazio (1983) provide examples of deciding what college to attend and what job to pursue as the sort of consequential decisions that may lead individuals to form and consider carefully attitudes toward the behavior in question and to integrate those attitudes with relevant normative beliefs.

A fruitful way of conceptualizing the sort of situations that may foster the deliberative attitude-behavior process is provided by Kruglanski's theory of lay epistemology (Kruglanski, in press; Kruglanski & Freund, 1983). Kruglanski

attempts to delineate the general processes and motivating variables relevant to the acquisition of knowledge. In so doing, he discusses the importance of the motivation to avoid reaching an invalid conclusion—motivation that stems from the perceived costliness of a judgmental mistake. The theory suggests that a high fear of invalidity, as Kruglanski terms this motivating variable, facilitates careful reflection concerning the upcoming judgment. Consistent with this reasoning, Kruglanski and Freund (1983) found that the strength of a number of judgmental biases was reduced in a situation in which subjects were led to view judgmental mistakes as costly to themselves. In three experiments, high fear of invalidity was found to lessen (1) primacy effects in impression formation, (2) the extent of reliance upon ethnic stereotypes, and (3) the extent of influence of an initial numerical anchor in a task involving judgments of probability. In each case, the enhanced fear of invalidity appears to have led subjects to consider more carefully all the information that was available relevant to the judgment that they were required to make rather than rely on some convenient, less effortful shortcut or heuristic.

In the present context, it is such fear of invalidity that likely motivates individuals to undergo the effortful reflection and reasoning involved in a deliberative attitude-behavior process. Without such inducement, individuals have little reason to undertake a deliberative analysis. They perceive little potential cost to permitting behavior to flow spontaneously from however one has interpreted the event. Instead of considering and weighing the potential consequences of the behavior, individuals can allow themselves the effortless luxury of being "theory driven." That is, any attitudinal evaluation that has been activated from memory can guide individuals' definitions of the event and, ultimately, behavior.

Of course, the motivation to engage in the deliberative process is not in and of itself sufficient. The opportunity to do so also must exist. Situations that require one to make a behavioral response quickly can deny one the opportunity to undertake the sort of reflection and reasoning that may be desired. In such cases, individuals may have no alternative to the theory-driven mode characterized by the spontaneous processing model.

The present conceptualization is termed the MODE model of the attitude-behavior relation, referring to both its emphasis on different processing modes for linking attitudes to behavior and its depiction of motivation and opportunity as determinants of which processing mode is likely to operate in any given situation.

Obviously, the MODE model is not the first conceptual framework to consider the importance of motivation and opportunity. Kruglanski's general theory of lay epistemology already has been discussed as an instance in which such constructs have proved useful in distinguishing relatively data-driven processes from relatively theory-driven processes. Within the attitude literature itself, an obvious

parallel exists between the present efforts and the work of both Chaiken (1980) and Petty and Cacioppo (1986) regarding modes of processing persuasive communications. These theorists have distinguished (1) an effortful, deliberative analysis of the quality of the persuasive arguments, which has been termed central processing by Petty and Cacioppo and systematic processing by Chaiken, from (2) a relatively easier inference from the cues (e.g., credibility of the source) associated with the persuasive communication, which is referred to as peripheral and heuristic processing by Petty and Cacioppo and by Chaiken, respectively. Only when message recipients are motivated by the personal relevance of the issue at hand do they show evidence of having expended the effort of carefully considering the quality of the presented arguments. Without such motivation, individuals rely upon various cues concerning the source (e.g., source expertise) or the message structure ("length is strength"), as opposed to the quality of the arguments per se, when expressing their opinions. These models of persuasion have been very successful in accounting for a variety of findings concerning the mechanisms underlying persuasion. This success makes one optimistic about the utility of identifying motivation and opportunity as determinants of the mode by which attitudes guide behavior.

The MODE model provides a means of conceptually integrating the automatic processing impact of attitude upon behavior that is inherent to the model proposed by Fazio (1986) and the deliberative processing impact of attitude upon behavior that is central to Ajzen and Fishbein's (1980) theory of reasoned action. The present conceptualization would suggest that people reason and deliberate about their future actions in situations that are characterized by a fear of invalidity. In arriving at a behavioral intention, one of the dimensions that they consider is their attitudes toward the behavior in question. These attitudes are computed on the basis of an examination of the desirability of the likely consequences of the action. Thus, through direct reflection, attitudes can exert some influence on later behavior. The MODE model suggests that the central features of such a deliberative process—retrieving and constructing attitudes toward the behavior and deciding upon a behavior intention—occur only when both the motivation and the opportunity to deliberate exist. Because the perceived costliness of the potential behavior motivates the individual to exert cognitive effort, the degree to which the individual's attitude toward the object is capable of automatic activation from memory becomes irrelevant to the behavior decision process.

However, in situations that are not characterized by this fear of invalidity, or that are so characterized but do not permit the opportunity for deliberation, any effect of attitude on behavior will operate only through the spontaneous processing mode. Individuals will not be sufficiently motivated to deliberate and construct an attitude toward the behavior. Instead, as indicated earlier, the role of attitudes within such a process depends on the extent to which a strong evaluative

association has been established toward the attitude object. Only then will encountering the attitude object automatically activate the evaluation from memory. The activated attitude can then color individuals' immediate perceptions and, as a result, influence their behavior toward the attitude object. If the relevant attitudinal association is too weak to be activated, then behavior will follow from a definition of the event that is not attitudinally based. Whatever features of the attitude object and the situation happen to attract individuals' attention at that particular moment in time will serve as the basis for immediate perceptions and behavior.

B. SOME SUPPORTING EVIDENCE

Although not intended as a test of the model, recent research findings by Zanna and colleagues (Bechtold, Naccarato, & Zanna, 1986; Jamieson and Zanna, 1985, 1989) are consistent with the MODE model. For example, Jamieson and Zanna (1985, 1989) conducted two experiments involving simulated court cases. Attitudes toward affirmative action and verdicts in a simulated sex-discrimination suit served as the focus in one experiment, and attitudes toward capital punishment and verdicts in a simulated trial served as the focus in a second experiment. Through instructions, the experimenters emphasized to all subjects that such trial situations require their careful consideration of all the available evidence and that they were to deliver fair and objective decisions and remain as fair and impartial as possible. Thus, all subjects were presumably motivated to process information in a deliberative fashion. However, some subjects were given greater opportunity to do so than were other subjects. Some subjects were under time pressure to read the case material and reach a decision; others were free to study the material at their own pace. Substantially higher correlations between attitudes and judgmental behaviors were observed in both experiments when subjects were under time pressure than when they were not. Thus, even in simulated trial situations, in which deliberative reasoning is expected and in which one is not supposed to be influenced by attitudes, a relation was observed between attitudes and judgments when individuals' opportunity to engage in reflection was restricted.

Furthermore, this attitude-behavior correspondence when under time pressure was observed only among individuals who were classified as low on Snyder's self-monitoring scale. High self-monitoring individuals displayed little attitude-behavior consistency, regardless of the presence or absence of time pressure. Other research indicates that low self-monitoring individuals possess attitudes that are generally more accessible from memory than do high self-monitors (Kardes, Sanbonmatsu, Voss, & Fazio, 1986; Snyder & Kendzierski, 1982). Thus, the findings can be interpreted as indicating the critical moderating role of

attitude accessibility in situations in which individuals do not have the opportunity to reason carefully about the data that are available.

A direct test of the MODE model is provided by recent research by Sanbonmatsu and Fazio (1988). This research concerned the degree to which individuals' decisions would be based on their attitudes toward two alternatives (the theory-driven strategy) versus a careful consideration of the specific attributes that had earlier been ascribed to the two alternatives (the data-driven strategy). The experimental stimuli were carefully constructed in such a manner that theory-driven, or attitude-based, decision making would lead to the selection of one of the alternatives, and the data-driven, or attribute-based, strategy would lead to the selection of the other alternative. More specifically, while under instructions to form general evaluations of each of two stores, subjects were exposed to a series of statements (presented in a mixed order) describing a variety of departments (e.g., clothing, jewelry) of each of two fictitious department stores. One such store, Smith's, was described in generally favorable terms; two-thirds of the statements mentioned desirable attributes. The other store, Brown's, was described in predominantly unfavorable terms; two thirds of the statements concerned undesirable attributes. Thus, overall evaluations would lead one to favor Smith's over Brown's. Indeed, when asked to indicate their assessment of each store immediately after the presentation of the stimuli, subjects expressed a more positive attitude toward Smith's than they did toward Brown's.

However, the specific attributes ascribed to the camera departments of the two stores were designed to reverse the direction of this general preference. Brown's, the generally less favorable store, had the better camera department. The two statements describing Brown's camera department were both positive, whereas the two describing Smith's camera department were both unfavorable. The aim underlying the portrayal of the two stores was to create a situation in which subjects had constructed general attitudes toward each store, in addition to having the specific attributes of each store in memory.

At a later point in the experiment, the subjects were asked to imagine that they needed to buy a camera and to consider at which store they would do so. Choice of Brown's (the store with the better camera department) would be indicative of deliberative processing; such subjects would have undertaken the effort to retrieve from memory the specific attributes concerning the camera departments and would have used that information to construct an attitude and a behavioral intention concerning the specific behavior of buying a camera at Brown's versus Smith's. On the other hand, choice of Smith's (the generally superior store with the inferior camera department) would be indicative of a relatively effortless strategy involving simple consideration of the previously formed attitudes toward each store.

The critical concern was with how choice of decision strategy would be

affected by the variables postulated to be important by the MODE Model—motivation and opportunity. Prior to the introduction of the camera-buying scenario, both time pressure and fear of invalidity were manipulated. Subjects in the no time-pressure condition were specifically instructed to take their time in answering the question that was to follow. Subjects in the time-pressure condition were warned that they would have only 15 seconds in which to reach a decision about the question that was to follow. Fear of invalidity was manipulated in a manner similar to that employed by Kruglanski and Freund (1983). In the high fear of invalidity condition, the subjects were informed that their decision would be compared to the decisions reached by the other subjects in the group and that they would later have to explain their decision to the other subjects and the experimenter. This information was absent for subjects in the low fear-of-invalidity condition.

The MODE model predicts that both motivation (high fear of invalidity) and opportunity (no time pressure) are prerequisites for deliberative, attribute-based processing. Only then would subjects have the time and desire to retrieve specific bits of information from memory and realize that Brown's, although it might be generally inferior, was the better store at which to shop for a camera. This is precisely what the data revealed. Subjects in this one cell of the design displayed a significantly greater preference for buying a camera at Brown's than did subjects in any of the other three conditions.

Thus, the findings corroborate the hypotheses of the MODE model with respect to motivation and opportunity. Both appear to be necessary conditions for a deliberative, reasoned process to operate. To cast the findings in the language of the Ajzen and Fishbein theory of reasoned action, only subjects who had sufficient motivation and opportunity displayed evidence of having constructed an attitude toward the specific act of buying a camera at each store on the basis of their knowledge regarding the attributes of each store's camera department. In contrast, all the other subjects were guided by their general attitudes toward each store. Much additional research concerning the roles of fear of invalidity and the opportunity to engage in deliberation obviously needs to be conducted. Nevertheless, it appears that these notions may be useful in providing a comprehensive model of the multiple processes by which attitudes can guide behavior.

VI. Mixed Models of the Attitude-Behavior Process

Up to this point, it has been presumed that attitudes guide behavior through a mechanism that can be viewed as involving either essentially spontaneous or essentially deliberative processes. In some ways, this characterization is too simplistic. Although it is possible to consider a purely spontaneous or a purely

deliberative sequence, it also is conceivable that components within each basic process are themselves the result of automatic or controlled processing. As Shiffrin (1988) has emphasized, the components of any molar action sequence, for example, a backhand down the line in a tennis match, may involve both automatic and controlled processing. The conscious decision about which stroke to attempt may be the result of a controlled process, whereas the actual stroking of the ball may be automatic.

In the present context, an overall attitude-to-behavior process that is essentially deliberative in nature may still involve some components that are automatized. Likewise, the essentially spontaneous process that has been described may itself sometimes involve some components that are controlled. (See Sherman, 1987, for a similar discussion of automatic and controlled components within various processes of persuasion.) It is to such "mixed models" that we now turn our attention. The potential for automatic subprocesses within the deliberative attitude-behavior process will be discussed first. Then, the discussion will focus on the spontaneous attitude-behavior process and the possible role of controlled components considered.

A. AUTOMATIC COMPONENTS WITHIN A DELIBERATIVE PROCESS

According to Ajzen and Fishbein's theory of reasoned action, individuals construct an attitude toward the behavior in question and consider this attitude, along with normative beliefs, in order to arrive at a behavioral intention. This intention serves as the basis for later behavior. It was argued earlier that attitude toward the behavior typically needs to be computed anew each time an individual attempts to form a behavioral intention because the attitude refers to a specific context and time. The degree to which this is necessary depends upon the similarity of current and past behavioral situations. As Ajzen and Fishbein themselves have pointed out (Ajzen & Fishbein, 1980, chap. 16), an individual may not need to systematically reevaluate beliefs about the behavior. As result of having formed an attitude toward a given behavior in the past, the individual may have a strong evaluative association to the specific behavior available in memory. If this association is sufficiently strong and if the new behavioral situation differs little from the earlier one, the individual's previously formed attitude toward the behavior may be activated automatically from memory. For example, a person who meets another individual for lunch on a monthly basis may have formed an attitude toward this behavior that is capable of being activated from memory automatically when the next luncheon invitation is extended. This previously developed attitude may then be considered in conjunction with any relevant normative guidelines in order to reach a behavioral decision.

Even in situations for which no previously formed attitude toward a behavior exists, automatic processes may be of some relevance. As mentioned earlier, formation of the attitude toward the behavior is presumed to involve consideration of the likely consequences of performing the behavior and evaluation of these consequences. According to the Ajzen and Fishbein formulation, attitude formation can be represented as the summation of salient beliefs about the behavior in question weighted by the evaluation associated with each belief (cf. Anderson & Fishbein, 1965; Fishbein, 1963). There are at least two general ways in which automatic processes might be involved in such attitude formation. First, the chronic accessibility of the beliefs themselves may vary; some may be so strongly associated with the attitude object that they are activated automatically. For example, an individual may strongly associate Ronald Reagan with strengthening national defense, sufficiently so that when the attitude toward voting for Reagan is being developed, beliefs about national defense are activated automatically. Similarly, once the belief about a likely outcome of the behavior has been activated, the accessibility of the evaluation of that outcome comes into play. In some cases, the outcome itself may be so strongly associated with a positive or negative evaluation that the evaluation is activated automatically. Thus, in forming an attitude toward the behavior in question, the chronic accessibility of beliefs about the behavior and the chronic accessibility of evaluations of those beliefs are relevant.

A second manner in which automatic processes may operate in the formation of an attitude toward the behavior stems from the potential influence of attitude toward the object in question. The more accessible this attitude is from memory, that is, the stronger the object-evaluation association, the more likely it is that the attitude toward the object will influence not only the sort of outcomes that one imagines accrue from performance of the behavior but also the valence with which those outcomes are regarded. If the attitude toward the object is activated automatically from memory, it may serve as a retrieval cue that enhances the likelihood that the individual will retrieve and consider a belief that is evaluatively congruent with the attitude. For example, having a negative attitude toward Reagan may increase the likelihood that one retrieves and considers specific beliefs about the probable outcomes of voting for Reagan that also are viewed negatively. Recent research by Ross and his colleagues (Conway & Ross, 1984; Lydon, Zanna, & Ross, 1988; Ross, McFarland, Conway, & Zanna, 1983; Ross, McFarland, & Fletcher, 1981) clearly indicates that such selective retrieval as a function of attitudes is likely. Furthermore, such selective retrieval would appear all the more likely in the case of attitudes toward an object that are capable of automatic activation when individuals are considering how they feel about engaging in a specific behavior toward the object. Thus, through either of the mechanisms that have been mentioned, what is considered while constructing an attitude toward the behavior may be influenced by automatic processes.

An additional linkage of automatic processes to a deliberative, reasoned behavioral decision centers on the stability of the attitude toward the object over time. The more accessible from memory attitudes are, the more likely they are to be resistant to change in the face of contradictory information (Houston & Fazio, 1989; Wood, 1982). Because such attitudes are activated automatically from memory upon mention of the attitude object, they tend to bias individuals' interpretations of information to which they are exposed. Consequently, when an individual faces the need to make a decision about behavioral intention, it is likely that the attitude to be considered is equivalent to one that the individual held at an earlier point in time.

This interrelation between automatic and controlled processes is evident in the investigation of the 1984 presidential election that was described earlier (Fazio & Williams, 1986). Recall that the accessibility of attitudes toward Reagan was found to moderate both the extent to which judgments of performances in the debates and the extent to which actual voting were consistent with those attitudes. Attitudes and their accessibility from memory were measured nearly 4 months prior to the election. Yet, among those with highly accessible attitudes, substantially more selective perception of debate performance was apparent and substantially more consistency between attitudes and voting behavior was apparent than among those respondents whose attitudes were less accessible.

Voting behavior is most likely the result of a deliberative process in which individuals reflect and arrive at a behavioral intention prior to entering the voting booth. Yet, the moderating effect of attitude accessibility implies that automatic processes are relevant to such decisions. The more accessible the attitude is from memory, the more likely it is that the attitude will be activated automatically upon observation or mention of the attitude object. Once activated, the attitude affects the individual's processing of the information. The findings indicate that such differential selective processing on the part of individuals whose attitudes were high or low in accessibility was apparent for perceptions of debate performance. Presumably, the same occurred with respect to other information about the candidates that became available during the course of the campaign. Greater selective processing on the part of those individuals with relatively accessible attitudes is likely to have meant that their final voting decisions were affected by attitudinal positions more equivalent to the ones that they held months earlier than was the case for individuals with less accessible attitudes. Just as implied by this reasoning, the data from this study indicated the existence of an association between attitude-perception congruency and attitude-behavior correspondence. That is, individuals whose perceptions of the debates were not congruent with their initial attitudes were also less likely to vote in a manner that was consistent with those attitudes, presumably because those attitudes were more subject to modification during the course of the campaign.

The mechanism described above, then, constitutes a further manner in which

the likelihood of automatic activation of an attitude is relevant to behavioral decisions that are not themselves the immediate outcome of spontaneous processes but instead stem from conscious and deliberative reasoning. Which specific information and evaluations are considered at the time that the behavioral intention is formed may depend on the accessibility of the original attitude.

This discussion has focused upon the relevance of automatic processing to the attitudinal component of the Ajzen and Fishbein model because attitudes are the central focus of this article. Nonetheless, it should be noted that automatism also may be relevant to the normative component. According to the theory of reasoned action, individuals consider their beliefs about what significant others think they should do, in addition to their own attitudes toward the behavior in question, when forming a behavioral intention. What significant others are considered? There are many potentially relevant reference groups or individuals, including parents, spouses, friends, colleagues and so on. Which particular group or groups are considered may itself depend on accessibility from memory. Indeed, recent research by Baldwin and Holmes (1987) indicates that subjects' reactions to a passage describing sexual permissiveness can be influenced by the relative accessibility of different reference groups. In an ostensibly separate experiment prior to exposure to the passage, subjects had been asked to visualize two campus friends or two older members of their family. Subjects for whom the more liberal reference group of campus friends had been primed later reacted more positively to the passage than subjects for whom the more conservative family reference group had been primed.

In sum, then, the grist for a deliberative processing mill may stem from automatic processes. Whether the grist concerns attitudinal or normative dimensions, the specific information that is to be considered may be determined in part by its accessibility in memory. Furthermore, if previously analyzed and refined summary information is available in memory, such as an attitude toward the specific behavior in question, this information may be considered, rather than the raw material from which the summary was constructed.

B. CONTROLLED COMPONENTS WITHIN A SPONTANEOUS PROCESS

Just as deliberate, planned behaviors sometimes may involve a process that includes automatic components, spontaneous behavior that typically follows from an automatic attitude activation occasionally may involve a controlled component. The spontaneous attitude-behavior process that has been discussed centers on the likelihood of automatic activation of the attitude from memory when the individual encounters the attitude object. Essentially, the focus had been on the chronic accessibility of attitudes from memory. Yet, the activation of

an attitude also may be induced in an acute manner. A contextual cue may define attitudes as relevant to the immediate situation. For example, in a recent experiment, Snyder and Kendzierski (1982) exposed individuals with favorable attitudes toward psychological research to a sign posted on a wall of a waiting room that requested volunteers to participate in a particular experiment. The subject overheard two confederates discuss the request. When one indicated that he was trying to decide whether to volunteer, the other replied in a way that either promoted attitude activation or did not. In the experimental condition, the reply defined the situation as attitudinally relevant. The confederate said that the decision is "really a question of how worthwhile you think experiments are." In the control condition, the second confederate's reply was "beats me—it's up to you." Although all the subjects felt positive about psychological research, significantly more volunteered in the experimental condition than in the control condition. Apparently, the confederate's cue was sufficient to prompt subjects to consider their own attitudes toward volunteering.

The implication of this and similar research findings (Borgida & Campbell, 1982) is that situations sometimes provide cues that prompt individuals to access their attitudes from memory and thus momentarily affect the acute accessibility of the attitude. Such activation as a result of a cue may occur regardless of whether the individual's attitude is one that involves a strong object-evaluation association. Yet, once it is activated, the attitude may color individuals' definitions of the event and affect their subsequent behavior in a fairly automatic manner. Thus, the automatic attitude-to-behavior sequence that has been proposed may be initiated by a controlled activation of the relevant attitude in a situation that provides a cue regarding such attitude relevance.

Yet another manner in which a controlled subprocess may be relevant to the spontaneous sequence concerns cases in which the individual does not possess an affective linkage to the specific object that is encountered. Some relevant affect may be activated following some preliminary cognitive work on the part of the individual. The necessary cognitive work consists of identifying the object as a member of some category for which an evaluative association does exist. The process of categorization has received considerable empirical and theoretical attention (e.g., Cantor & Mischel, 1977; Smith & Medin, 1981). Generally speaking, the degree to which the features of the specific object match the features of the category seems to determine whether the object will be categorized as an instance of the category. This process of categorization may itself be accomplished in either an automatic or a controlled fashion. Such categorization may precede the various steps involved in the spontaneous attitude-to-behavior sequence.

This sort of two-stage processing—one involving categorization and the other involving both the activation of the evaluation associated with the category and the consequences of such activation for subsequent processing—is most applica-

ble to cases in which the individual holds a general attitude toward a category of objects, but no attitude toward the novel, specific object. For example, in considering the roles of general and specific attitudes, Lord, Lepper, and Mackie (1984) suggested that general attitudes will promote consistent behavior only to the extent that the specific instance matches the prototype of the general attitude object. These researchers examined the consistency between subjects' attitudes toward a typical member of a given Princeton University eating club and the extent to which the subjects would like to work with a specific member of the club on a joint task. Greater consistency was observed when this ostensible club member was described in a way that embodied subjects' prototypes of members of the eating club than when the target was described as possessing characteristics that were atypical. Thus, categorization of the target individual as a typical club member and application of the evaluation associated with the club were more likely in the former than in the latter case.

Such categorization may proceed in an automatic fashion. That is, exposure to a number of prototypical features may automatically activate the relevant category. Alternatively, the individual may consciously and actively attempt to identify the object as an instance of a particular class in a controlled fashion. Given successful categorization, the evaluation associated with the category may then be activated from memory (Fiske, 1982; Fiske & Pavelchak, 1986; see Fiske & Neuberg, in this volume) and the spontaneous attitude-to-behavior sequence then may proceed.

Once again, the focus has been upon the step of the process involving attitude. However, as with the discussion of the theory of reasoned action, it should be kept in mind that other steps in the spontaneous attitude-to-behavior sequence also may involve controlled components. A particularly striking instance concerns a situation in which the activation of knowledge regarding normative requirements induces an individual to define the event as one in which he or she needs to control and monitor carefully impulsive behavior. We have all experienced situations in which we feel the need to "bite our tongue." Such active control over the behavioral responses that one emits seems particularly likely when normative constraints intervene and prevent one from behaving in accordance with perceptions of the attitude object in the immediate situation.

VII. Conclusions

This discussion of "mixed models" illustrates the complexity of the role of spontaneous and deliberative processing in attempts to understand the manner in which attitudes influence behavior. Multiple processes clearly exist. Nevertheless, these processes can be divided roughly into two basic classes. A spon-

taneous sequence centers on individuals' spontaneous behavior as it flows from their constructions of the event that is occurring and links attitudes to behavior via the influence that attitudes can have on individuals' definitions of the event. Such a process appears to be quite common in individuals' daily lives and enables smooth, relatively effortless functioning. In contrast, the deliberative sequence is effortful and motivated; it requires reflection and the active retrieval or construction and consideration of attitudes. As a result, relative to the spontaneous process, this mechanism occurs less frequently. When it does occur, it stems from the individual's motivation and opportunity to reach an appropriate behavioral intention in a highly consequential action setting.

In concluding, it is useful to return to the earlier summary of the current state of the literature on attitude-behavior consistency. Recall that empirical efforts have produced a rather lengthy catalog of variables known to determine attitude-behavior consistency with little in the way of theoretical development to explain how attitudes guide behavior or why the identified variables moderate attitude-behavior consistency. The present attempt to delineate possible attitude-behavior processes may provide a theoretical integration of this catalog and suggest why these moderators have their effect.

The potential role of various personality variables is evident in both the spontaneous and the deliberative processing modes. The personality variables that are known to moderate the attitude-behavior relation may do so because they identify individuals who are not particularly sensitive to normative concerns. Within a deliberative mode, some individuals may consider the expectations of others more heavily than do other types of individuals. Recent research suggests that this possibility may operate with respect to the personality construct of self-monitoring. Low self-monitors display less sensitivity to subjective normative expectations than do high self-monitors (Ajzen, Timko, & White, 1982). Within a spontaneous mode, some kinds of individuals may be more likely than others to have guidelines regarding normative behavior in a given situation activated from memory. Jamieson and Zanna (1989) have suggested that the accessibility of norms may be less for low self-monitors than for high self-monitors. Finally, within a spontaneous process, personality moderators also may exert an influence because they serve to identify people who tend to form attitudes involving strong object-evaluation associations. Again, recent research confirms this notion with respect to the self-monitoring construct; low self-monitors generally hold attitudes that are more accessible from memory (Kardes *et al.*, 1986).

In a similar manner, situational variables that are known to moderate attitude-behavior consistency are relevant to the process models that have been discussed. Obviously, norms are involved in the attitude-behavior process. Likewise, the importance of situational cues that imply that one's attitude is relevant to a behavioral decision has been discussed. Finally, Sivacek and Crano's (1982) finding that individuals who hold a vested interest in the behavioral issue are

more likely than low-interest individuals to behave consistently with those attitudes is explicable by both the automatic and the controlled mechanisms. Such individuals would appear to be far more likely to develop a highly accessible attitude that is capable of automatic activation. Furthermore, the vested interest may provide the motivation necessary for individuals to reflect on the implications of their attitudes in a deliberative fashion.

The various attitudinal qualities that have been identified as moderators of the attitude-behavior relation also can be considered within the context of spontaneous and deliberative processing. Fazio (1986) has suggested that these attitudinal qualities may exert their impact within a spontaneous process because they relate to the strength of the object-evaluation association and hence to attitude accessibility. Thus far, research has supported this conjecture for one such attitude quality, the manner of attitude formation. Attitudes based on direct behavioral experience with the attitude object are both more accessible from memory (Fazio *et al.*, 1982) and more predictive of later behavior (Fazio & Zanna, 1981) than are attitudes formed through indirect, nonbehavioral experience with the attitude object.

In discussions of the theory of reasoned action, Ajzen and Fishbein (1980) have speculated that the various attitudinal qualities that moderate the attitude-behavior relation may do so because they affect the stability of attitudes and intentions over time. To the extent that attitudes fluctuate over time, the deliberative analysis underlying the actual behavior may not coincide with the information collected at the time of attitudinal assessment. Recall that this appeared to be the case with the role of attitude accessibility in the Fazio and Williams (1986) investigation of voting behavior.

The importance of assessing attitudes and behavior at equivalent levels of specificity also can be considered in terms of the general notions that have been discussed. More specifically, such assessments can be considered in terms of the information that is either actively retrieved or automatically activated from memory. Regardless of whether the behavioral decision is arrived at spontaneously or deliberately, an attitude measure that is as specific as the behavioral action in question increases the likelihood that an individual will consider the same attitudinal information when the attitude measure is completed as when the behavioral opportunity is encountered (Borgida, Swann, & Campbell, 1977). Attitude and behavior measures that are not equivalent may lead to the activation and consideration of different information from memory and hence to less apparent attitude-behavior consistency.

Such is the value of considering the issue of process within the attitude-behavior relation. To the extent that an understanding of the processes by which attitudes guide behavior can be achieved, it becomes much easier to understand why attitudes affect behavior only sometimes and to identify when that might be. Hopefully, the present attempt to compare and contrast a spontaneous and a

deliberative attitude-behavior process and the attempt to integrate the two into the more comprehensive MODE model can serve as a first step toward understanding the multiple processes by which attitudes influence behavior.

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