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## *Associative Strength and Consumer Choice Behavior*

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### INTRODUCTION

The practice of advertising is predicated on the assumption that consumer choice behavior is at least partially determined by representations of the product or brand in memory. Rather than entering a choice situation as a "blank slate" and assessing alternatives completely on-the-spot, individuals virtually always have some knowledge of the type or category of product in question and often about specific brands as well. According to associative network theories of cognition (e.g., Anderson & Bower, 1973), these representations are not isolated but linked in memory by connections that vary in strength. This chapter will consider how concepts like brands and categories of products can be related to other representations in memory and the implications for consumer behavior.

We begin with the assumption that these consumer-related concepts can be uniquely represented in memory and associated to varying degrees with other mental representations. This variation, the strength of the association between two representations, determines the likelihood that activating one concept will result in the activation of the associated concept. Obviously, the nature of the associates of, for example, the representation of a brand will largely determine how an individual thinks about that brand and whether they might choose to purchase it. Further, not all associations are created equal. A representation strongly associated with a brand is more likely than a representation weakly associated with a brand to ultimately influence behavior. Predicting consumer choice thus entails having some idea about both the content of associated representations and on the strength of those associations.

Many different kinds of associations in memory may prove relevant to consumer behavior. A brand, for instance, might be associated with usage situations, particular attributes, previous experiences, and so on. We will focus on two kinds of associated representation: *attitudes*, which can be conceptualized as associations between an object and a summary evaluation of that object, and *category-exemplar* associations, associations between an object and a superordinate classification. The goal of this chapter is to describe some differences and commonalities between these two types of associations, both of which we believe to be important for understanding consumer choice

behavior. The chapter will present some broad guidelines for identifying situations and product classes for which each type of association is likely to be particularly relevant. We will first focus on the determinants and consequences of attitudinal associative strength. We then will turn to category-exemplar associations, and then finally we will discuss some contextual factors that moderate the role of associative strength in consumer choice situations.

### ATTITUDES: OBJECT-EVALUATION ASSOCIATIONS

Attitudes can be viewed as associations in memory between an object and one's summary evaluation of that object (Fazio, Chen, McDonel, & Sherman, 1982). When individuals encounter or consider an attitude object, the associated evaluation can be activated. The likelihood that an evaluation is activated contingently by the attitude object is the attitude's *accessibility*, and it is determined by the strength of the association between the object and evaluation. Since the proposal of this theoretical perspective, considerable research has examined the consequences, determinants, and correlates of attitude accessibility and its role in the attitude-to-behavior process (see Fazio, 1995, for a review). This section will review these findings with attention to the implications for how attitudes function in object-appraisal and decision-making processes of interest to consumer psychology.

Before proceeding, it will be useful to clarify what is intended when describing attitudes as object-evaluation associations in memory that vary in strength. Both object and evaluation are meant broadly. Individuals may not only store evaluations of physical objects, but also of concepts of all levels of abstraction. These evaluations associated with objects have various bases that range from "hot" affective responses to "cold" analytical beliefs concerning attributes of the object. Regardless of the precise nature of the object and evaluation, the strength of the association between the two will influence the likelihood of its use. This structural approach to attitude strength and to attitudes in general has the advantage of operating at an information processing level of analysis, allowing for specificity in the treatment of the concept and integration thereof into broader models of cognition and behavior (e.g., Fazio, 1990; Herr & Fazio, 1993).

#### Accessibility

The crux of the conceptualization of attitudes as object-evaluation associations is that the strength of this association influences attitude accessibility, the likelihood that the attitude will be activated from memory automatically when the object is encountered. Here, the term "automatic" refers to the attitude being activated "whenever a given set of external initiating stimuli are present, regardless of a subject's attempt to ignore or bypass the distraction" (Shiffrin & Dumais, 1981, p. 117). This begs the question of how associations attain such strength. According to associative network theories of mental representation, associations in memory will be strengthened to the extent that the representations they link are experienced or thought about together; this strength changes only slowly over time (Smith & Queller, 2001). Attitude accessibility can be measured by the latency of response to a direct attitudinal inquiry. Relatively high accessibility may be chronic, reflecting high associative strength, or it may be temporarily enhanced by recency of use (Higgins, 1996).

Empirical support regarding the automatic activation of attitudes was gathered using priming procedures (Fazio, Sanbonmatsu, Powell, & Kardes, 1986). The evidence concerns the effect of semantic primes on the latency with which individuals are able to identify the connotation of target adjectives (e.g., attractive, disgusting) as positive or negative. These primes were positive or negative words selected idiosyncratically for each participant. For each participant, attitudes towards the

objects were categorized as accessible or inaccessible according to the latency of response required to evaluate them. Priming with these items, which were presented to participants as distracting "memory words," facilitated performance in the adjective connotation task when the valence of the primed object was the same as the valence of the target adjective. That is, responding was faster. On the other hand, when the valence of the prime and target were incongruent, it took longer to identify the target adjective as positive or negative. So, participants were able to classify a positive adjective more quickly when it was preceded by a positively valued object. Importantly, the facilitation and inhibition effects of the primes were more pronounced for objects towards which participants held accessible attitudes.

Similar automatic attitude activation has been demonstrated in research employing brand names as primes (Sanbonmatsu & Fazio, 1986). Accessible attitudes towards brand names influenced how quickly individuals could categorize the target adjectives that followed them as positive or negative.

A notable characteristic of the priming procedure is that accessible attitudes towards the prime words influenced evaluative categorization even though participants were aware that the prime itself was irrelevant to their goals in the task, providing preliminary evidence that the influence of the primes was spontaneous and uncontrollable. Further evidence of the validity of automatic attitude activation is that it also occurs when participants are engaged in a task that is not dependent on any evaluative intent (e.g., Bargh, Chaiken, Raymond, & Hymes, 1996).

The findings regarding the moderating role of associative strength on automatic attitude activation relate to an important conceptual distinction offered by Converse (1970). Noting that a person may respond to an evaluative item on a survey even though that person had never previously encountered or considered the item's referent, Converse (1970) distinguished between attitudes and nonattitudes. Based on the finding that attitude accessibility varies as a function of associative strength, it has been suggested that the distinction between attitudes and nonattitudes may be more usefully considered a continuum (Fazio, Sanbonmatsu, Powell, & Kardes, 1986). At the non-attitude end of the continuum is the case in which no appropriate a priori evaluation is available in memory and evaluative assessment must occur in an on-line fashion. Approaching the upper end of the continuum, well-learned object-evaluation associations are increasingly capable of being activated automatically from memory. This does not mean that only highly accessible attitudes are available in memory. Attitudes that are low in accessibility may also be activated, but this is more likely to require motivated efforts to retrieve information about the attitude-object.

The potential for automatic activation provides much of the functional value of attitudes. Accessible attitudes can be activated instantly upon encountering an attitude-object and help individuals understand and react to the world around them. The basic value of attitudes is this object-appraisal function (Smith, Bruner, & White, 1956) and automatic activation allows the rapid initiation of approach or avoidance behavior based on these object-appraisals. The following sections will discuss the consequences of attitude accessibility, which determines the functional role of attitudes in guiding thought and behavior.

### Manipulating Associative Strength

A number of manipulations have been used to increase the strength of the association between attitude-objects and evaluations (thus increasing attitude accessibility) in the laboratory. Always, participants are one way or another induced to note and rehearse their attitudes by repeatedly expressing them. For instance, this has been achieved by requesting that participants copy their attitudinal ratings onto multiple forms (Fazio et al., 1982, Experiment 3). Other studies (e.g., Powell

& Fazio, 1984) varied the number of times that a particular attitude-object appeared on a questionnaire, in each instance followed by a different (but always evaluative) semantic differential scale. Another variation of this manipulation has the advantage of distinguishing the effects of attitude accessibility from mere object accessibility (e.g., Fazio et al., 1986, Experiment 3; Roskos-Ewoldsen & Fazio, 1992, Experiment 2). In these experiments, each attitude-object was presented an equivalent number of times, but how often the attitude-object was paired with an evaluative question versus some control question (e.g., "Is this object animate or inanimate?") varied. Increasing attitudinal associative strength through repeated expression increases automatic attitude activation, measured by the extent to which that attitude-object facilitates the evaluative categorization of items of congruent valence and inhibits the evaluative categorization of items of incongruent valence (Fazio et al., 1986). As we describe the ways in which attitudes ultimately exert an influence on behavior in the following sections, it should be remembered that such effects should only be expected when object-evaluation associations are sufficiently strong, either due to a manipulation of associative strength or the pre-existing strength of associations held by individuals.

### CONSEQUENCES OF ATTITUDE ACCESSIBILITY

An interaction with a physical object often begins with a perception and ends in behavior. We will first review evidence suggesting that attitudes can bias individuals' basic perceptions of visual stimuli. In subsequent sections, we will explore other consequences of the associative strength of attitudes—ones that serve as further mechanisms through which attitudes ultimately shape behavior.

#### Perception

Higher-order cognitive and motivational processes can influence perception in a top-down fashion. For example, it has been demonstrated that individuals perceive a briefly presented ambiguous figure (it could be construed as either the letter "B" or the number "13") in the manner consistent with their desired outcome (Balcetis & Dunning, 2006). Participants were informed that a number or letter would appear on a computer screen, indicating into which experimental condition they would be assigned. Participants were more likely to perceive the stimulus in a way that would indicate that they would be in the condition requiring that they drink orange juice rather than a disgusting, viscous "health drink." This type of motivation, described by Balcetis and Dunning as "wishful thinking" extends previous research documenting similar perceptual effects caused by motivation from biological drives. For example, Changizi and Hall (2001) found that when individuals were thirsty, they displayed a greater tendency to perceive a concept associated with water, transparency, in ambiguous visual stimuli varying in opacity.

Research by Powell and Fazio (summarized in Fazio, Roskos-Ewoldsen, & Powell, 1994) examined the influence of attitudinal biases on perception in an informationally sparse visual environment. Participants were required to observe a computerized tennis game in which flashes of light appeared in a rectangle divided by a vertical line, representing a tennis court. The flashes of light represented the location of shots landed by either the computer or (supposedly) a confederate who had previously behaved in such a way that he/she would be liked or disliked by the participant. On target trials, flashes of light appeared within 5 pixels of the end line, making the participants' task, judging whether the shot landed "in" or "out," difficult. Despite being informed that their judgments (indicated with a key press) were solicited only to test the quality of the game's visual display and that the computer would accurately judge and tally the score, participants displayed patterns

of errors that were influenced by their liking of the confederate. Participants who had been led to like the confederate called more balls hit by the confederate "in" when they were truly "out" and balls hit by the computer "out" when they were truly "in" than errors which would have been in the computer's favor. The opposite pattern of results was observed when participants had been led to dislike the confederate.

### Attention

An important aspect of the influence of associative strength on basic perceptual processes is the potential for objects associated with highly accessible attitudes to attract visual attention when the object enters the visual field. Roskos-Ewoldsen and Fazio (1992) assessed recall for stimulus items presented briefly in groups of six in a circular visual array. Participants were more likely to notice and report objects for which they held more accessible attitudes. This was the case both when attitude accessibility had been previously measured by latency of response and when it was manipulated through attitude rehearsal. In another experiment in the series, participants noticed the more attitude-evoking objects incidentally, i.e., even when their task was to categorize a stimulus that appeared in the center of the visual array of objects as either a number or a letter. In a final experiment, performance on a visual search task was shown to be disrupted by the presence of more attitude-evoking objects as distractors. Attitude accessibility predicted the extent to which these distractors interfered with performance on the visual search task. Thus, the influence of attitude accessibility on selective attention appears to be automatic not only in that it is spontaneous, but also in that it occurs regardless of intentional efforts to ignore the attitude-object.

Roskos-Ewoldsen and Fazio (1992) argued that attitudes provide an adaptive, orienting function towards objects that have hedonic value, allowing them to be rapidly approached or avoided. These findings may be of particular relevance to consumer psychologists. In any environment, multiple stimuli are likely to be present that may attract an individual's attention. Indeed, in environments such as supermarkets, many objects are specifically designed to attract attention and are intended to compete in this respect with one another. One strategy to ensure that a product draws attention is through manipulating properties of the object itself, usually by carefully designing its appearance. Another approach is to depend on the accessibility of consumers' attitudes towards the brand to guide attention. Sometimes, it may be easier or more effective to influence consumers' mental representation of the product than to enhance the relative attention-drawing capacity of the object itself.

### Categorization

All objects are multiply categorizable and the particular category or categories activated depend not only on properties of the object, but also on those of the observer. Another consequence of the associative strength of an attitude is its capacity to determine which of multiple suitable categories is actually applied to the object (Smith, Fazio, & Cejka, 1996). For instance, at any moment in time a given individual might construe a cup of yogurt as a "snack" or as a "dairy product." For a person with lactose-intolerance, the category dairy product is likely to be strongly associated with a negative evaluation. This associative strength makes the category more attitude-evoking, more likely to attract attention, and, hence, more likely to dominate construal of the yogurt. That is, the individual is more likely to categorize yogurt as a dairy product than a snack. Across a series of experiments, Smith et al. (1996) obtained empirical support for the notion that highly accessible attitudes towards categories determine which categories will be preferentially applied to multiply

categorizable stimuli. An attitude rehearsal manipulation increased the accessibility of attitudes toward one of two potential categorizations for each item in a series of objects. When these objects were later presented as a cue, the category for which attitudes had been rendered more accessible was more likely to be evoked. In addition, individuals could more quickly verify that the category applied to the object. Thus, accessible attitudes shape basic categorization processes and facilitate construals that are hedonically meaningful.

### Information Processing

Relatedly, yet another well-known consequence of attitudes is their potential to shape the manner in which individuals interpret information. As a function of their personal biases, individuals may view and describe the same event in radically different ways (e.g., Hastorf & Cantril, 1954). In a classic experiment, Lord, Ross, and Lepper (1979) found that individuals who held strong opinions toward the death penalty examined relevant empirical evidence in a biased manner. College students who either supported or opposed capital punishment were exposed to two fabricated studies, one that seemingly provided evidence supporting the efficacy of the death penalty as a deterrent to crime and one that denied it. Participants rated not the conclusions but the actual methodology of the studies as being more valid when the study reached conclusions consistent with their own attitudes. Participants actually endorsed their initial opinions more strongly after reading the conflicting accounts, even though the quality of the messages themselves was essentially equal.

Houston and Fazio (1989) examined the influence of attitude accessibility on such information processing. Because the participants in the research by Lord and colleagues (1979) were selected on the basis of their strong pre-existing attitudes toward the topic, Houston and Fazio reasoned that these participants likely had highly accessible attitudes toward capital punishment and that the biased processing effect might be less general and not occur for participants who did not have such accessible attitudes—an attitude will not bias processing if it is not activated. Attitude accessibility was measured in one study via latency of response to a direct attitudinal query and experimentally manipulated via repeated attitudinal expression in another. In both cases, the strength of the object-evaluation association predicted the degree of correspondence between attitudes toward capital punishment and ratings of the scientific quality of the studies. The correlations were rather meager among the participants whose attitudes were relatively low in accessibility ( $r$ 's  $< .18$ ), but accounted for much more variance among those with greater attitude accessibility ( $r$ 's  $.44-.58$ ). Attitudes had a much stronger biasing influence as the strength of the object-evaluation association increased.

That accessible attitudes bias the processing of incoming information is consistent with the finding that the impact of a persuasive communication is attenuated when an individual can rapidly retrieve attitudinal beliefs about the message topic from memory (Wood, 1982). For this reason, another consequence of attitudinal associative strength may be stability, insofar as highly accessible attitudes are relatively resistant to change. Holding accessible attitudes towards a product or brand, then, will influence the processing of relevant information. A positive attitude, if activated, can attenuate the impact of all manner of negative information, be it unfavorable nutritional information or a communicated negative reaction from a friend, acquaintance, or even an expert, as suggested by the supposed origin of the capital punishment arguments in the above studies. Of course, negative attitudes, exert a similar biasing influence, suggesting that, for example, advertisers may have great difficulty in modifying highly accessible negative attitudes and that attempts to "re-position" the brand as a new product may be a more successful alternative (Herr & Fazio, 1993).

### Ease of Decision Making

Attitudes allow individuals to access stored evaluations from memory based on previous experience with an attitude-object rather than being forced to effortfully generate immediate appraisals of an object on every instance on which it is encountered, a process that is dependent on the availability of cognitive resources and is comparatively slow. For this reason, attitudes should influence the decision making process not only by biasing it, but also by easing it. Research in psychophysiology has established that "patterns of enhanced autonomic, especially cardiovascular, reactivity are associated with psychologically effortful or challenging situations involving decision making and other types of cognitive activities" (Blascovich, Ernst, Tomaka, Kelsey, Salomon, & Fazio, 1993, p. 165). A series of experiments exploited these biological hallmarks of effort to test the hypothesis that accessible attitudes ease decision making by using physiological measures (Blascovich et al., 1993; Fazio, Blascovich, & Driscoll, 1992). Sharing a common paradigm, these experiments required participants to make preference judgments between pairs of abstract paintings under significant time pressure. Before this pairwise preference task, some participants repeatedly reported their liking for each painting while others merely announced the predominant color appearing in each painting, allowing the experimenters to control for the familiarity of the stimuli while manipulating their position on the attitude-nonattitude continuum. When making their pairwise preference decisions, participants in the attitude-rehearsal condition displayed less reactivity on a variety of cardiovascular and skin conductance measures. Accessible attitudes, importantly, reduce the resource-dependence of decision making both cognitively and physically (see Fazio & Powell, 1997, for consideration of the long-term implications of such attitudinal functionality for adjustment and well-being).

### The MODE Model

Attitudes are generally of interest because of their potential to guide behavior. However, human behavior is multiply determined, and the specific role of attitudes in provoking behavior has been a subject of some controversy (see Zanna & Fazio, 1982, for a historical review). Much of the research program discussed so far grew out of an investigation of the problem of attitude-behavior consistency. That is, sometimes attitudes have been noted to be very poor predictors of actual behavior (e.g., see LaPiere, 1934, for a famous albeit not methodologically rigorous instance; or Wicker, 1969, for an influential review). There are obvious reasons why this could be the case. As a determinant of behavior, attitudes sometimes compete against impulses derived from individuals' immediate construal of their situation that may dictate a different behavior than would be predicted from an attitude measure. Behavioral norms, for instance, have a moderating influence on attitude-behavior consistency (Ajzen & Fishbein, 1973). Also, as individuals experience the world they encounter actual, unique exemplars of attitude-objects. Deliberative evaluations of these objects in the context in which they appear may bear little resemblance to a stored evaluation of a prototype (Lord & Lepper, 1999; Lord, Lepper, & Mackie, 1984).

The MODE model (Fazio, 1990) of attitude-behavior consistency outlines the general conditions under which object-evaluation associations can be predicted to guide behavior. Attitudes can be activated automatically and influence behavior in a relatively spontaneous manner. By coloring one's appraisal of an object in the immediate situation, attitudes can promote approach or avoidance behavior, even without the individual reflecting upon the behavioral action. However, individuals also may determine a situationally appropriate course of action through thoughtful analysis of its costs and benefits (see Ajzen & Fishbein, 1980). The MODE model postulates that

Motivation and Opportunity are *Determinants* of which mode of evaluative processing, spontaneous or deliberative, is likely to occur in a given situation. First, deliberative processing is contingent on an individual's Motivation to undergo thoughtful reflection regarding a behavioral decision. The MODE model may be viewed as an extension of Kruglanski's (1989) theory of lay epistemology to the question of the attitude-behavior relation. Kruglanski (1989) described general processes and motivating variables relevant to the acquisition of knowledge. When individuals are motivated to avoid reaching an invalid conclusion due to its perceived consequences, they are said to have "fear of invalidity," and are likely to carefully deliberate concerning the relevant judgment or action. Applying these ideas to the attitude-behavior relation, when individuals are motivated by "fear of invalidity" to expend cognitive effort, behavioral decisions (which may or may not appear consistent with one's attitudes) will be reached through effortful deliberation.

While motivational factors may initiate deliberative processing, it must also be considered that even when such deliberation is desirable, it may not always be possible. Thus, Opportunity is the second element of the MODE acronym, because situations will occur in which time pressure or resource depletion precludes the possibility of sufficient cognitive effort. By virtue of their capacity for automatic activation, attitudes may guide behavior by default in these circumstances. In the case of a more spontaneous attitude-behavior relation, accessibility will play a moderating role. Even if motivation and opportunity are lacking, attitudes will only determine behavior if they are activated from memory. If stored attitudes are not retrieved, an individual's behavior must depend on their immediate appraisal of the situation, regardless of any insufficiency in motivation or opportunity for satisfactory deliberation on it.

MODE's acronymic assumption that motivation and opportunity are determinants of processing type has been tested in a laboratory experiment using consumer choice scenarios. Sanbonmatsu and Fazio (1990) presented participants with a series of statements about two department stores that described qualities of the various departments of each. The hypothetical department store "Smith's" was generally presented in favorable terms whereas "Brown's" was generally described in unfavorable ones. Consistent with their instructions to form a general evaluation of the two stores, participants did come to view Smith's much more favorably than Brown's. However, contrary to the general evaluation thus formed, the camera department of each store was described in the opposite fashion—as unfavorable at Smith's but as favorable at Brown's. This resulted in particular attribute information in opposition to the valence of the summary evaluation associated with each store. Later, participants were asked to imagine which store they would prefer to buy a camera from. Choosing Smith's would suggest that participants relied on their attitudes toward the department stores themselves without any further considerations, indicating relatively effortless processing. On the other hand, a choice of Brown's would suggest that participants underwent the deliberative process of retrieving relevant information, comparing specific attribute information, and disregarding the general preference for Smith's relative to Brown's.

The conditions under which the decision was made were manipulated with respect to both the motivation and the opportunity participants would have to deliberate upon it. The opportunity to deliberate was determined by allowing some participants only 15 seconds to decide while others were not subject to time constraints. Crossed with the manipulation of opportunity for deliberation, half of the participants were motivated to make an accurate decision by the expectation that they would later have to justify their choice to other participants and the experimenter, while others would have no reason to perceive their choice as having any repercussions whatsoever. The results conformed to predictions from the MODE model. Participants who were motivated to make an accurate decision and had unlimited time to do so were more likely to make a choice indicative of deliberative processing (choosing the store with the better camera department) than partici-



participants in any of the other three conditions. The latter relied on their general attitudes toward the two stores.

The specific role of attitude accessibility in the MODE model was tested in a field experiment investigating the 1984 presidential election (Fazio & Williams, 1986). Attitude accessibility towards the Republican and Democratic presidential candidates, Ronald Reagan and Walter Mondale, was measured in a large sample of individuals approached at a shopping mall. Latency of response to attitudinal queries regarding each candidate moderated the degree to which those attitudes predicted (1) participants' judgments of the quality of performance by each candidate during a subsequent televised debate, and (2) participants' actual voting behavior several months later. That those with highly accessible attitudes towards the candidates judged the performances in the presidential debates in accordance with those attitudes supports the assertion that one's attitudes can color judgments about complex social stimuli, likely due to the various perceptual, attentional, and biased-processing consequences of attitude function described above. Moreover, such attitudinally-driven biases increase as the strength of the object-evaluation association increases. The finding regarding voting behavior illustrates the persistence of more accessible attitudes over time and, hence, their greater likelihood of influencing subsequent behavior, in this case months later.

The basic finding from the election study supporting the prediction that attitude accessibility moderates the attitude-behavior relation was replicated in the laboratory using consumer products as attitude-objects (Fazio, Powell, & Williams, 1989). Following the usual latency measure of the accessibility of attitudes towards 100 products, participants were given the opportunity to select five products from a set of 10 alternatives that were arranged into two rows of five and presented on a table. Two observed relationships were moderated by attitude accessibility. First, attitude accessibility moderated the consistency between attitudes and the subsequent product selection measure such that attitudes had greater predictive utility when they were more accessible for a given individual. Also, as attitude accessibility increased, the extent to which participants tended to exhibit a preference for products from the first row decreased. This position effect was irrelevant to the quality of the randomly ordered products, and it was less evident when participants possessed accessible attitudes to guide behavior. Yet, among those with less accessible attitudes, the salience afforded a product by virtue of its positioning in the first row increased the likelihood of its being selected. When people lack strong evaluative associations to an object, their immediate appraisals of the object must be constructed as part of the decision process. In such cases, the immediate appraisals are subject to the influence of momentarily salient, and potentially extraneous, considerations.

#### Implications for Consumer Behavior

Herr and Fazio (1993) have articulated the relevance of the MODE model to the domain of consumer behavior. The model offers a perspective on when and how attitudes towards products are likely to influence consumer behavior (see Herr & Fazio, 1993, for a much fuller description of the approach, as well as additional implications for advertisers). Most centrally, the model serves to highlight that different marketing strategies may be more appropriate for particular classes of products. Decisions regarding "big ticket" items, which are expensive and/or important purchases, are more likely to be executed in a deliberative fashion than routine purchases (Herr & Fazio, 1993). Even an extremely positive, accessible attitude is irrelevant if an individual has reasoned that they cannot afford the product. Moreover, the importance of the decision is likely to lead to additional review and consideration of the available attribute information, instead of reliance on the pre-existing attitude. Accessible attitudes may color the sampling and evaluation of the relevant data.

So, it is not that attitudes are irrelevant. However, fear of invalidity is likely to promote a return to the data—a bottom-up process instead of a top-down, attitudinally driven process.

In the case of routine purchases, on the other hand, behavior is more likely to be determined by spontaneous processes resulting from automatic attitude activation. With such minor purchases, the potential for normative concerns or fear of invalidity is reduced. The multiple consequences of attitude accessibility and its moderating role in the attitude-behavior relation suggest that, especially with respect to routinely purchased products, attitude accessibility is a variable that marketers have a vested interest in fostering, presuming that the product is good and attitudes are generally positive. Hence, we now turn to what is known about the determinants of associative strength and specific strategies for strengthening object-evaluation associations through advertising.

## DETERMINANTS OF ASSOCIATIVE STRENGTH

### Rehearsal

As seen in the research on attitude accessibility, the strength of object-evaluation associations can be increased through repetition. Repetition refers to any instance in which the attitude object and the evaluation co-occur, whether solely in one's mind or in the environment. One of the basic assumptions of associative network theories in cognition is that links are strengthened to the extent the objects they link are experienced or thought about together and that strength changes only slowly over time (Smith & Queller, 2001). Noting these co-occurrences may function as trials of associative learning whether the attitude-object is actually present and being evaluated or not. Repetitions may not only take the form of passive observation of co-occurrences, but also may involve actively relating the associated concepts. Repeatedly rehearsing an attitude by expressing it seems to be particularly effective in increasing attitude accessibility, though initial rehearsals will increase attitude accessibility more than subsequent ones when they occur within a short span of time (Powell & Fazio, 1984).

Repetitions of advertisements or other product-related messages obviously have the potential to increase associative strength. Indeed, Berger and Mitchell (1989) found that although four repetitions of an entire advertisement did not enhance the favorability of participants' attitudes toward the target products relative to one presentation of the ad, four exposures did increase the likelihood that their brand selections would be consistent with those attitudes. Presumably, the multiple exposures functioned as instances of attitude rehearsal, which enhanced attitude accessibility and, hence, the likelihood of attitudinally-congruent subsequent behavior.

### Evaluative Conditioning

Repeated attitudinal expression involves an individual's noting and rehearsing object-evaluation associations. However, as implied earlier, more passive processes also may promote the development of relevant associations in memory. Mere co-occurrence can be consequential. When two objects are experienced together, a cognitive association between the two will form or strengthen. In addition to strengthening object-object associations, mere co-occurrence may affect other associations. Sometimes when two objects are experienced in conjunction an object-evaluation association of one object becomes closer in valence to that of the other, even in the absence of a causal or otherwise meaningful relationship between the two that would explain and justify such changes in attitude. This phenomenon has been termed "evaluative conditioning" (EC) and is believed to be a distinct form of Pavlovian conditioning. Hence, researchers in this domain have adopted the terminology of classical conditioning research.

According to evaluative learning theory (De Houwer, Thomas, & Baeyens, 2001), the mere spatio-temporal co-occurrence of a positively or negatively valenced unconditioned stimulus (US) and a relatively neutral conditioned stimulus (CS) is sufficient to elicit an affective transfer from the US to the CS. For example, in the implicit learning procedure developed by Olson and Fazio (2001), participants are presented with a rapid, non-rhythmic stream of images on a computer screen. Participants are instructed to attend for particular target cartoons within this stream of images and to respond to them with a button-press. Embedded at intervals within this stream of images are CS-US pairs composed of a different type of relatively neutral cartoon and a moderately positive or negative word or image. One cartoon is paired with positive words or images a total of 20 times, and another is paired with negative words or images 20 times. Olson and Fazio (2001) found that on both an implicit and an explicit attitude measure, participants expressed greater liking for the cartoon that had appeared with positive stimuli than for the cartoon that appeared with negative stimuli, even though these participants did not demonstrate awareness of the CS-US contingencies on a subsequent recall task. Merely presenting the pairs contiguously while participants performed an unrelated task influenced individuals' attitudes toward the CS.

EC is of obvious interest to advertisers and marketers as a method of creating and strengthening positive attitudes. Some of its characteristics serve to further heighten its utility. In addition to potentially occurring without an individual's explicit awareness, EC is a notable attitude-forming process because its effects are more resistant to extinction than signal or expectancy-learning forms of Pavlovian conditioning (Baeyens, Crombez, Van den Bergh, & Eelen, 1988). Presenting the CS without the US after an *evaluative* conditioning procedure does not generally result in "extinction." That is, the attitude towards the object typically does not revert to its prior valence. Another characteristic suggestive of its practical utility is that some studies have successfully demonstrated evaluative conditioning with few conditioning trials, though increasing the number of pairings generally increases evaluative conditioning (De Houwer, Thomas, & Baeyens, 2001). Evaluative conditioning can also occur subliminally (see Dijksterhuis, Aarts, & Smith, 2005, for implications for practical, commercial, and political usage). Dijksterhuis (2004) demonstrated the procedural flexibility of subliminal EC in a series of experiments testing whether implicitly-measured self-esteem could be enhanced by presenting self-related words with positive nouns and adjectives. Such enhancement was obtained not only when the self-related words were presented subliminally (Experiments 1-2), but also when both the CS and US were presented subliminally (Experiments 3-5b). Finally, EC effects can be mediated both by a direct transfer of affect from the US to the CS, or they can be cognitively mediated when the US causes the formation of inferential beliefs about the CS (Kim, Allen, & Kardes, 1996; Kim, Lim, & Bhargava, 1998). The latter cognitive route, however, appears more dependent upon conditions of high involvement and individual need for cognition, as well as upon the awareness of CS-US contingencies (Priluck & Till, 2004).

Some EC research has been conducted in the domain of consumer psychology, though much further research will be necessary to fully explore its role in the formation of attitudes toward brands and products and its potential as a tool for influencing them. The earliest work in consumer psychology related to EC described an associative transfer called "affect referral" as an antecedent of consumer purchases (e.g., Wright, 1975). Shimp and colleagues have most thoroughly examined the role of associative learning in an advertising/consumer behavior context. Gresham and Shimp (1985) attempted to evaluate a classical-conditioning model of advertising by treating affectively valenced commercials as US. Results were mixed. Responses to only 3 of 10 advertisements provided support for the hypothesis that attitudes toward the advertisement would affect attitudes toward the product. Using hypothetical brand names as CS and pleasant images of natural scenes as

US, Stuart, Shimp, and Engle (1987) were more successful in demonstrating a robust conditioning effect on consumer attitudes and replicated some well-known effects in the conditioning literature (e.g., that forward conditioning is superior to backward conditioning), in the consumer domain. A series of 21 experiments tested the effectiveness of evaluative conditioning for various brands of cola (Shimp, Stuart, & Engle, 1991). This research supplied further evidence for EC in the consumer domain and identified a noteworthy moderator. Evidence for EC was only obtained for brands low and moderate in familiarity (see also Cacioppo, Marshall-Goodell, Tassinari, & Petty, 1992).

Another moderator of EC of practical interest is mood. Theories of mood agree that happy moods tend to elicit top-down, concept-driven information processing while sad moods elicit bottom-up, stimulus-driven processing (Forgas, 2002; Schwarz & Clore, 2003). This suggests that sad moods might induce modes of information processing that tend to result in stronger cognitive associations between objects that enter individuals' perceptual fields. The finding that sad moods increase implicit covariation detection (Braverman, 2005), provides some evidence for this hypothesis. Walther and Grigoriadis (2004) found that individuals in sad moods showed greater evidence of both positive and negative evaluative conditioning for consumer attitudes. In their experiment, liked and disliked faces presented with the CS (various images of shoes) had a greater influence on attitudes after watching a sad film clip. More research would also be useful to identify further moderators that determine when evaluative conditioning will prove effective in influencing attitudes towards what products.

#### PERCEIVED DIAGNOSTICITY

The strength of object-evaluation associations has been found to be influenced by factors in addition to rehearsal and co-occurrence. The perceived diagnosticity of the information on which the attitude is based also plays a role. Attitudinal evaluations may be based on a variety of sources including the emotional reactions evoked by the object, beliefs about the object's attributes and significance, and prior behavior towards that object. Fazio (1995) argued that individuals are sensitive to attitudinal diagnosticity, the perception of the evidentiary base upon which an evaluation is relying, and may view some classes of information as more reliable than other classes of information. As a consequence of individuals' tendency to view particular classes of information as especially diagnostic of their attitudes, individuals may be more likely to note them and to form stronger object-evaluations.

Attitudes are perceived as more diagnostic if they are based on one's own direct experience with the attitude object. Consequently, such attitudes tend to be more accessible from memory (Fazio et al., 1982; Fazio, Powell, & Herr, 1983) and more likely to influence subsequent behavior (see Fazio & Zanna, 1981, for a review). Similar effects of direct experience have been observed in the consumer domain. Smith and Swinyard (1983) found that attitudes towards various snack foods were more consistent with behavior when they were based on a product trial (direct experience) rather than advertising (see Wu & Shaffer, 1987; Berger & Mitchell, 1989, for related findings).

A reason attitudes based on first-hand experience are perceived as diagnostic derives from Bem's self-perception theory. One's own freely chosen behavior is viewed as diagnostic of one's internal states (Bem, 1972). Fazio, Herr, and Olney (1982) found that inducing individuals to recall voluntary behaviors relevant to a given attitude domain increased the strength of the object-evaluation association more so than having individuals review the same class of behaviors in circumstances in which the behavior occurred under coercion.

Emotional reactions to an object also may be viewed as especially diagnostic of one's attitudes toward the object. One's emotional experiences are very much one's own, and, hence, thought to be revealing. Some relevant evidence is provided by Fazio, Zanna, and Cooper (1978), who presented participants with video clips of an actor working on various novel intellectual puzzles. Participants were instructed either to "just listen and watch carefully" or to "imagine how you would feel if you were working the examples." Focusing on the feelings that the puzzles generated led to greater correspondence between the attitudes that participants developed and their behavior during a subsequent "free play" period. In contrast, an extensive research program by Wilson and his colleagues has demonstrated that analyzing the reasons (cognitive bases) for one's attitudes, especially in domains in which it is difficult to verbalize the basis for liking or disliking an object, can weaken attitude-behavior correspondence. Focusing on the presumed reasons underlying one's attitudes can lead to a momentary emphasis on salient and easily verbalizable features that do not necessarily correspond to the factors that determine behavior, or if they do, that determine post-choice satisfaction (Wilson et al., 1989, 1993).

This is not to say that analytical thought cannot provide a useful and valid basis for attitudes. In domains not marked by difficulty in noting and verbalizing significant features, more extensive thought has been shown to enhance attitude strength. For example, attitudes formed through the careful consideration of the arguments contained in a persuasive message (central processing) are generally more accessible than those formed through peripheral processing (Petty, Haugtvedt, & Smith, 1995).

## CATEGORY-EXEMPLAR ASSOCIATIONS

### Structure

To this point, we have focused exclusively on the strength of object-evaluation associations. However, a second kind of association is also very relevant to consumer choice behavior — that between the representation of a category and an exemplar or instance of the category. These category-exemplar associations also vary in strength such that activation of the category can automatically activate particular exemplars and vice versa. For example, the category "U.S. Presidents" will cause many people to automatically retrieve exemplars such as George Washington and George W. Bush. These individuals have not only often been thought of frequently, but also have been frequently thought of *as Presidents*, whereas other exemplars (e.g., Rutherford B. Hayes) may be more weakly associated with the category and are not as likely to be activated automatically by the relevant category.

One property of category-exemplar associations that distinguishes them from attitude-object associations is their bidirectionality. The likelihood that an exemplar automatically activates a category may differ from the likelihood that that category automatically activates that exemplar. To use the previous example, the likelihood that the category "U.S. Presidents" will automatically activate Rutherford B. Hayes may be low for most people. However, mentioning Rutherford B. Hayes to many people will often automatically activate the category "U.S. Presidents" (and perhaps little else). This bidirectionality is less relevant to attitudes. Encountering attitude objects can automatically activate associated evaluations, but individuals don't generally encounter evaluations that activate specific attitude objects. The more useful variable tends to be the likelihood that objects automatically activate evaluations, not the other way around.

With category-exemplar associations, however, the likelihood that the category will evoke the exemplar and the likelihood that the exemplar will evoke the category are often both of interest. Additionally, it is possible for an exemplar and category to be strongly associated in both directions

such that a "unit relation" exists in which the pair has all-or-none storage and retrieval properties (Anderson, 1980). In this case, the category and exemplar will each always automatically activate the other. Consumer psychologists have recognized that it is important to consider the bi-directionality of associations between brands (exemplars) and the relevant product category (see Farquhar & Herr, 1993). The terms "category dominance" and "instance dominance" have been used to describe, respectively, the strength of the category-to-brand association and the strength of the brand-to-category association.

### Category Dominance

Regarding category dominance, a brand has a relative advantage if for many individuals that brand is activated automatically from memory upon consideration of a relevant product category. This "top-of-mind awareness" has been posited as a key link between media advertising and purchase behavior (Krugman, 1965; Sutherland & Galloway, 1981). It is easy to imagine situations in which retrieving a brand from memory is a prerequisite to initiating purchase behavior, and research does indicate that brand retrieval is a predictor of choice (Nedungadi, 1990). As this would suggest, the first brand listed upon presentation of a product category is both a reliable and valid measure of repeat purchases (Axelrod, 1968). As an example, imagine that an individual has decided to order a pizza. The first brands activated in consideration of the category "pizza" have an enormous advantage. The first pizza considered, if it "sounds good" and is practical, is ordered post haste.

Indeed, consumer studies have observed that only the first brands recalled are likely to be part of a consideration set. If the first option considered is deemed desirable, actions toward acquiring that brand rather than a competitor are undertaken without further consideration, preempting the choice process (Nedungadi, 1990). This seems especially likely if the steps required to make a purchase are clear and convenient, for example if the necessary phone number is known or easily locatable and so on. Sometimes this occurs to the detriment of satisfaction with a purchase or other choice. Had the individual recalled more pizza purveyors, it is possible that another would have seemed even better, but the advantage of accessibility is such that sometimes highly accessible exemplars can be chosen even if ultimately not preferable given the full set of potential options. Category dominance, the strength of the category-to-brand association, appears to be an important determinant of consumer choice that advertisers and marketers would want to foster unconditionally.

### Instance Dominance

Sometimes it may also be beneficial for advertisers and marketers to consider instance dominance, the strength of the brand-to-category association. Instance dominance is a fundamental aspect of "brand meaning" along with other brand associates like usage situations, product attributes, or customer benefits (Herr, Farquhar, & Fazio, 1996). Instance dominance for a particular brand may apply to various specific categories and also to more general categories. For example, some individuals might associate the brand Johnson's® most strongly with baby shampoo, others with baby powder, and still others, more generally, with personal care products. These associations will influence what comes to mind upon consideration of the brand and how information about the brand will be interpreted.

Instance dominance has interesting implications for automatic attitude activation. As already mentioned, encountering an object that is an exemplar of a category may result in activation of an attitude associated with that object. Additionally, though, it has been observed that exemplars can automatically activate attitudes associated with the *category* (e.g., Fiske & Pavelchak, 1986; Castelli,

Zogmaister, Smith, & Arcuri, 2004). Presumably, this spreading activation is dependent on the strength of the exemplar-to-category association. So, consideration of a product or brand is likely to automatically activate attitudes associated with categories strongly associated with that product or brand.

This process has some interesting implications for marketers. It may be desirable for pragmatic reasons for businesses to attempt to create positive attitudes specifically towards a product category rather than a brand, even when the primary goal is in service of a particular brand. One such reason is that it may be easier to influence attitudes subtly at the category level. Social influence attempts often evoke psychological reactance (Brehm, 1966), a motivation to assert autonomy and defy another's prescription for one's behavior. The awareness that one is targeted for a persuasive message can reduce the efficacy of that message (e.g., Petty & Cacioppo, 1979). In modern society, individuals are bombarded with advertisements and consumer psychologists have recognized that consumer cynicism can be problematic (Kanter, 1989). Attempts to influence attitudes towards categories of products may be inherently more subtle because of the absence of conspicuous focus on particular brands, often an obvious cue that one is currently a target of persuasive efforts. Often when advertisements influencing attitudes at a category level are actually observed it is because businesses not representing particular brands but having a vested interest in the successful marketing of a product category are responsible, as when the National Cattlemen's Beef Association informs, "Beef—It's what's for dinner." Research demonstrating that exemplars automatically activate attitudes associated with superordinate categories provides some empirical evidence suggesting that such efforts should have the effect of influencing attitudes towards particular brands, presuming that brand-to-category associations are strong and that the fit between the object of the advertisement and the categorical mental representation of the brand is good. Upon encountering an actual product, attitudes toward the category can be as or more important than attitudes towards the brand.

### Brand Extensions

It has been argued that advertisers and marketers should consider the bi-directionality of category-exemplar associations and that failure to take them into account (as when symmetry is assumed) can result in mistaken predictions about consumer choice behavior (Farquhar & Herr, 1993). The issue of brand extensions, the transfer of brand-related associations to new product categories, illustrates the necessity of considering category and instance dominance. Brand extensions are desirable because they allow new products to be accompanied by immediate brand recognition and because individuals may infer that positive aspects of brand's known product will generalize to the new extension.

Herr et al. (1996) investigated the impact of category dominance and intercategory relatedness on the transfer of associations to hypothetical brand extensions. Relatedness refers to the strength of association between the brand's parent category and the target extension category. For example, a soda company extending their brand to bottled water would have greater relatedness between the parent and target extension categories than if that soda company introduced potato chips (or swimwear). This associative strength is determined by factors including but not limited to the similarity of common features. Herr et al. (1996, Experiment 2) showed that the transfer of associations was facilitated for closely related categories relative to distantly related categories. Participants were presented with lists of 16 hypothetical extensions to real brands that varied in the relatedness of the target category to the parent category and in the strength of the category-to-brand association of

the parent category. Following a distractor task, participants' recall of the extension was measured as were liking for and intention to purchase each extension. Regarding the mental representations held by consumers, the success of a brand extension should depend, at least, on both the ease of learning the new brand-category pairing and on the transfer of affect to the extension. Participants were very successful in learning extensions when the target category was closely related to the parent category. Also, participants displayed somewhat better recall for extensions of highly category dominant brands regardless of relatedness. Affective associations also transferred more easily to extensions (according to the liking and intention to purchase measures) when intercategory relatedness was high and when the brand was highly category dominant. Furthermore, an interaction emerged such that brand extensions were viewed *most* favorably when category dominance was strong and the categories were highly related.

On the other hand, it is likely that instance dominance is a limiting factor of the extent to which brands might be stretched to other categories. A strongly instance dominant association defines a brand specifically and is likely to inhibit learning of the extension and its subsequent inclusion in consideration sets. This seems especially likely in the case of distantly related parent and target categories, in which extensions to far-flung categories may seem jarring or inappropriate given the strength with which the brand is associated with a very different class of product. Research has not fully addressed the role of instance dominance in brand extensions, and more research is required to test this reasoning. Regardless, category and instance dominance probably have different impacts on the feasibility of brand extensions, demonstrating that sometimes the nuances of associative structure are necessary considerations when predicting choice.

#### Determinants of Category-Exemplar Associations

The basic principles of associative strength that applied to strengthening attitudes again apply to category-exemplar associations. Various forms of repetition and rehearsal of the pairing of category and exemplar will form and strengthen connections between the two (Smith & Queller, 2001). Advertisements can be specifically designed to promote strong category-exemplar associations between product categories and brands. One form of commercial, for example, has been shown to be effective in increasing the strength of category-brand associations. *Mystery ads* leave the identity of the brand being advertised unclear until the very end of the ad, despite well-established benefits of early brand identification on message recall (Stewart & Furse, 1986). Mystery ads are intended to induce some curiosity about the subject of the ad. The technique used to achieve this can vary. A dramatic narrative might create suspense about the product's identity. Surreal or absurd commercials sometimes seem to be largely intended to provoke the question "What is this a commercial for, anyway?" Fazio, Herr, and Powell (1992) argued that mystery ads create a "readiness to categorize" the product when it is finally revealed by inducing viewers to ask "What is it?" questions. In their study, participants viewed television commercials in either their original, mystery forms, or in professionally edited non-mystery versions in which everything was identical except the identification of the brand having been moved from the end of the ad to the beginning.

Afterwards, the strength of category-brand associations was measured by the latency of response required to correctly identify the brands as belonging to their product category. The results indicated that mystery ads were more effective than traditional ads in strengthening category-brand associations. However, this effect was only observed for novel brands, ones that were promoting brands unavailable in the United States. For familiar brands, mystery ads were no more effective



than traditional ads in influencing category-brand associations. Thus, it appears that mystery ads are an effective means of introducing a new brand to a product category.

### FURTHER IMPLICATIONS FOR CONSUMER PSYCHOLOGY

We have argued that object-evaluation associations and category-exemplar associations are important for understanding consumer behavior at an information processing level. The previous sections described various consequences and determinants of object-evaluation and category-exemplar associations. The applied focus has been on methods of strengthening the cognitive associations that are involved in consumer choice. Advertisers and marketers may wish to devise explicit strategies for fostering particular types of associations depending on the nature of the product and brand. To do so, however, requires some understanding of when object-evaluation associative strength versus category-exemplar associative strength is more likely to matter. When is one more likely to predict consumer behavior than the other?

#### Which Associations Matter?

Generally, no single type of association will be important to the exclusion of all others, but sometimes it will be more strategically valuable to focus efforts on creating or strengthening specific associations in memory. Posavac, Sanbonmatsu, and Fazio (1997) investigated the impact of whether decision alternatives are self-generated or presented externally to the decision-maker. In a series of two session experiments, participants first generated a list of worthwhile charities (along with several other lists to obscure its significance) and were later asked in a second session unexpectedly to choose a charity to receive a small donation. This choice occurred under one of two conditions. Participants were either required to write their choice on a blank piece of paper or were first provided with a list of charities by the experimenter. Studies 1 and 2 showed that when alternatives were provided to participants, the charity chosen was highly consistent with their self-reported attitudes, but when alternatives had to be self-generated, decisions were less consistent with attitudes. Instead, choice was better predicted by the order in which participants generated charities during the first session—an indicator of category-exemplar accessibility. In Study 3, participants were not presented with a list of charities when they made their decisions. During the first session, participants either did or did not repeatedly rehearse the *category membership* of several charities. Notably, when the accessibility of several charities had been increased, the decisions again were highly consistent with attitudes. Thus, when several strong category-exemplar associations were available and a larger set of exemplars readily came to mind in response to the category consideration, participants comparatively evaluated the favorability of the alternatives on the basis of their attitudes, much as they did when the alternatives had been presented by an experimenter.

Attitudes are generally more likely to guide behavior when alternatives are salient, whether in memory or the environment. After all, attitudes involving strong object-evaluations are automatically activated as a response to the object being encountered. Some cue must be present for the evaluation to be activated. When behavioral alternatives must be self-generated, category-exemplar associations necessarily play an important role. Only accessible exemplars can be included in a consideration set. The research findings highlight the role of influencing attitudes as the major goal of advertisement for the many products that are typically encountered in consumer situations involving environmentally salient alternatives. When a brand appears in a supermarket, for example, surrounded by eye-catching, competitive alternatives, category-brand associations are

rendered largely irrelevant. On the other hand, when decisions are made in the absence of salient alternatives, the most favorably evaluated option may not be chosen. The example of ordering pizza again comes to mind. Regarding an individual, perhaps sitting on a couch, wondering from where to order pizza, category-brand accessibility is paramount.

However, a point made previously bears repeating in this context. The impact of associative strength and accessibility on consumer judgment is greatest when individuals are not motivated to recall or seek out many choice alternatives and are not motivated to effortfully reevaluate the merits of the relevant product rather than relying on preexisting attitudes. Thus, the role of associative strength will generally be more important for routine, inexpensive purchases rather than purchases which elicit some fear of choosing poorly. Also, associative strength will also play a greater role in situations in which the opportunity to deliberate or seek out alternatives is low, as when decisions occur under time pressure.

### Situational Cues

Associative strength and accessibility have been thus far presented as susceptible to social influence (e.g., advertising) but basically as fixed characteristics that the consumer essentially brings to the choice situation. So, individuals enter a consumer situation with some pre-existing associative structure of mental representation pertinent to the purchase decision which determines what concepts will be activated as objects are encountered in the environment. Though this is often what happens, it is also possible for environmental cues to activate associative representations in memory or elicit the formation of new associations, rendering irrelevant their chronically low accessibility or absence. Through point-of-purchase displays and other techniques, it is possible to increase the likelihood that desirable attitudes or category-exemplar associations are activated—ones that may promote the desired consumer behaviors.

An example of how cues can be used to form or activate desired associations comes from an experiment by Snyder and Kendzierski (1982). These researchers demonstrated that attitude-behavior consistency can be increased by exposing individuals to an attitudinal cue just before a choice is required. In their study, participants' attitudes toward psychological research had been previously measured and all selected participants had positive attitudes toward psychological research. Upon arriving for the experimental session, participants encountered two confederates reading a notice posted on the wall. The notice requested that participants sign-up to return for two future sessions for a small compensation. Two confederates were always present. One read the notice aloud and asked, "I don't know whether I should volunteer or if I shouldn't volunteer. What do you think?" In the control condition, the other confederate replied "Beats me—It's up to you." Or, the second confederate replied "Well, I guess whether you do or don't is really a question of how worthwhile you think experiments are." When a situational cue provoked participants to assess their attitudes toward psychological research, the percentage of participants who signed up for further participation more than doubled, reflecting greater attitude-behavior consistency given that all the selected participants believed psychological research to be meritorious. In such a manner, an appropriate situational cue can induce individuals to activate or construct associations that would have otherwise not influenced behavior, enhancing attitude-behavior consistency.

### Measurement

Having hopefully made a case for the importance of the strength of association between various representations as determinants of consumer behavior, we will conclude with some comments for

those who may be interested in measuring associative strength. Fazio, Williams, and Powell (2000) investigated the validity of three methods of assessing the strength of category-brand associations. The researchers identified one particular method as providing essentially a "gold standard" measure of category-exemplar associations. The procedure involves presentation of a category label as a prime, followed by presentation of a visually degraded exemplar that gradually becomes less obscured. The degree to which the category prime facilitates recognition of the exemplar is the most direct indicant of the extent to which the exemplar is spontaneously activated when the category is considered. This measure minimizes the potential role of individuals' immediate goals and conscious retrieval strategies. When feasible, this method is recommended, but each of the two other methods that were examined was substantially correlated with the facilitation measure. One such procedure involves latency to a direct query, which was employed in many of the experiments summarized in this chapter. The latency required for individuals to correctly categorize exemplars as members or non-members of a specific category can be used to measure the strength of category-exemplary associations. Both the priming measure and the direct query measure require the electronic measurement of latencies. A far easier method of assessment was also found to be valid, corroborating previous research (Axelrod, 1968). The order in which participants listed brands following a category cue also reflects associative strength. This simple order-of-output measure is especially well-suited to field research methodologies requiring easily-administered, paper-and-pencil assessments.

Many readers will be aware that there has been a surge in the development and use of indirect or implicit measures of attitude in recent years (see Fazio & Olson, 2003, for a review). A proper discussion of the merits of various measures and their appropriateness for particular research problems is beyond the scope of this chapter. Nevertheless, a few brief comments are in order, for the implicit measures hold the potential for providing important insights. The most frequently used implicit measures of attitude, affective priming (Fazio, Jackson, Dunton, & Williams, 1995) and the Implicit Association Test (IAT, Greenwald, McGhee, & Schwarz, 1998), are especially pertinent in this context because they involve inferring attitudes from the latencies with which participants categorize objects. The priming measure is based on the paradigm described earlier for investigating automatic attitude activation; attitudes are inferred from the extent to which a given prime facilitates identification of the connotation of positive versus negative evaluative adjectives. The IAT assesses the ease with which participants can associate the dual meanings of a given response key. Is performance better when the presentation of a given type of object is to lead to responding with the same key that signifies "good" or when the response to that object is mapped onto the key that also represents "bad?" In other words, these methods reflect associative strength rather than deliberative evaluations. Individuals may not realize that their attitudes are being assessed during these procedures (more true, in our view, of the priming procedure). Or, if they do come to such a realization, it is difficult for individuals to misrepresent one's attitudes, provided they follow the task instructions (more true, in our view, of the IAT). Another difference between IAT measures and affective priming ones is that IAT measures seem to primarily reflect the associations between the category labels and their evaluations, whereas affective priming measures reflect the associations between the particular exemplars used and their evaluations (see Fazio & Olson, 2003). Researchers in consumer psychology should consider this distinction when choosing what kind of implicit attitude measure is most appropriate for the task at hand.

For research involving certain types of attitudes, for instance those probing for prejudicial attitudes, implicit measures of attitude are almost a necessity due to concerns about the truthfulness of responses and social desirability effects. Though individuals generally have little motivation to misrepresent their attitudes in most consumer studies, implicit measures may be nevertheless

desirable at times. For example, participants who believe (accurately or not) that the experimenter wishes them to express (dis)liking for a particular brand over another may do so regardless of their actual attitudes.

Some evidence has been offered in the domain of consumer psychology for the IAT's validity and predictive utility (Brunel, Tietje, & Greenwald, 2004; Maison, Greenwald, & Bruin, 2004). Moreover, an experiment conducted by Brunel et al. (2004, Study 2) demonstrates the potential for divergence between implicit and explicit measures of attitude within an advertising context. Participants viewed multiple ads for sneakers. Each ad consisted of a spokesperson and a brand logo. Attitudes toward the ad itself were assessed by explicit measures and the IAT. The critical manipulation was whether the spokesperson was White or Black. On explicit, semantic differential measures, white participants professed equally positive attitudes toward the ads with Black and White spokespeople. On the IAT, however, white participants showed an implicit preference for the ads with White spokespeople. Regardless of the specific interpretation of these findings and their relation to individuals' "true" attitudes, this type of divergent finding is worthy of consideration. Consumer psychologists should be aware that implicit measures of attitude can suggest different inferences than those revealed by explicit measures. In accord with Fazio and Olson (2003), we believe that as more is learned about the mechanisms that underlie implicit measures, and the appropriate inferences to be drawn from them, they will become increasingly valuable tools for understanding choice behavior.

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