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Information Processing from Advertisements: Toward an Integrative Framework

The authors provide a framework and a set of research propositions that capture and extend current theory on information processing from advertisements. The integrative attitude formation model includes antecedent levels of ability, motivation, and opportunity (AMO), processing of brand information, cognitive and emotional responses, brand attitude formation processes, and brand attitude. Key features of the framework are (1) a more complete, integrative discussion of needs and motivation, (2) a more precise specification of processing mechanisms than currently is proposed in two-routes-to-persuasion models, (3) inclusion of a new typology of emotional and cognitive responses explicitly linked to the levels of brand processing, and (4) a discussion of how alternative attitude formation models correspond to each level of brand processing. To assess the relative advantage of the framework, the authors compare the model with previous integrative models and discuss its implications for related research streams.

SINCE the 1950s researchers have been developing theories to describe, understand, and predict consumers' attitudinal responses to advertising (Cohen 1987). Every few years, new and/or anomalous findings have sparked new streams of information processing research. The early 1960s brought the development of hierarchy of effects models (e.g., Colley 1961; Lavidge and Steiner 1961) and the late 1960s and early 1970s reflected an interest in low involvement learning (e.g., Krugman 1965; Ray 1973). Research on cognitively based attitude formation processes crystallized in the mid-1970s with work on multiattribute attitude models (e.g., Fishbein and Ajzen 1975; Holbrook 1978; Lutz 1975; Wilkie and Pessemier 1973) and cognitive response models (Greenwald 1968; Lutz and Swasy 1977; Olson, Toy, and Dover 1982; Wright 1980).

In the late 1970s and early 1980s, integrative models

parsimoniously explained attitude formation processes by introducing involvement as a variable moderating the advertisement-attitude relationship (e.g., Batra and Ray 1985; Greenwald and Leavitt 1984; Mitchell 1981; Park and Mittal 1985; Petty and Cacioppo 1986a,b; Smith and Swinyard 1982). More recent work has identified alternative noncognitive routes to persuasion such as mood (Gardner 1985a; Srull 1983), classical conditioning (Bierly, McSweeney, and Vannieuwkerk 1985; Gorn 1982; Stuart, Shimp, and Engel 1987), mere exposure (Mitchell and Olson 1981; Zajonc and Markus 1982), preconscious processing (Janiszewski 1988), and attitude toward the ad (MacKenzie, Lutz, and Belch 1986; Mitchell and Olson 1981).

Though current research reflects these interests, it also focuses on (1) emotions as factors that influence brand attitudes (e.g., Aaker, Stayman, and Hagerty 1986; Batra and Ray 1986b; Burke and Edell 1989), (2) identifying factors that affect processing from ads (Alwitt and Mitchell 1985; Kardes 1988; MacKenzie 1986; Mitchell 1980; Moore, Hausknecht, and Thammadarani 1986; Swasy and Munch 1985), and (3) relating executional aspects of ads to brand attitudes

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(Belch, Villareal, and Belch 1984; Gelb, Hong, and Zinkhan 1985; Percy 1983).

The hierarchy of effects, attitude, and involvement models have a rich history of cumulative and interrelated research, but several basic research issues have yet to be fully explicated. First, though the current emphasis on two-routes-to-persuasion models (i.e., Petty and Cacioppo 1986a,b) has captured the interests of academicians and practitioners alike, focus on these two routes may obscure fundamentally different attitude formation processes (Miniard, Lord, and Dickson 1988; Pechmann and Stewart 1989). Second, current research has directed more effort to detailing the predictors of processing than to specifying the nature of processing itself. Third, though recent research is beginning to explore the linkages between responses to ads and their impact on brand attitudes (e.g., Batra and Ray 1986b; MacKenzie, Lutz, and Belch 1986), such work is emergent and not fully linked to various levels of processing. Nor has the interesting, emergent work on emotions and brand attitudes been fully linked to various levels of brand processing. Finally, little research has specified the impact of types of motives on processing, even though recent research suggests that such factors may moderate the attitude formation process (Park and Young 1986).

The objective of our article is to address these issues by constructing an integrative model of brand attitude formation processes. The model integrates emergent research and details more precisely both the nature of processing and the moderating impact of types of needs on processing. We also link work on emotions and cognitive responses to both the level of processing and the brand attitude formation process. The model goes beyond the current two-route paradigm by proposing six attitude formation processes. To stimulate future research, we advance baseline and unique propositions and discuss the relative advantages of the proposed model.

Framework and Research Propositions

Figure 1 is a brief overview of the proposed model. Basic constructs in the model are needs; antecedent levels of processing ability, motivation, and opportunity (AMO); processing of information (i.e., attention, capacity, levels of processing); cognitive and emotional responses; attitude formation processes; and brand attitudes. Following the progression of Figure 1, we begin by examining antecedents, processing, and consequences. Within the antecedents subsection, we develop propositions related to needs and motivation. In the processing subsection, we explicate the processing constructs more fully and develop propo-

sitions pertaining to attention, processing capacity, processing operations, and processing moderators. In the final subsection, we construct a typology of emotional and cognitive responses that links processing operations and attitude formation processes. Table 1 serves as a framework for the discussion.

Antecedents

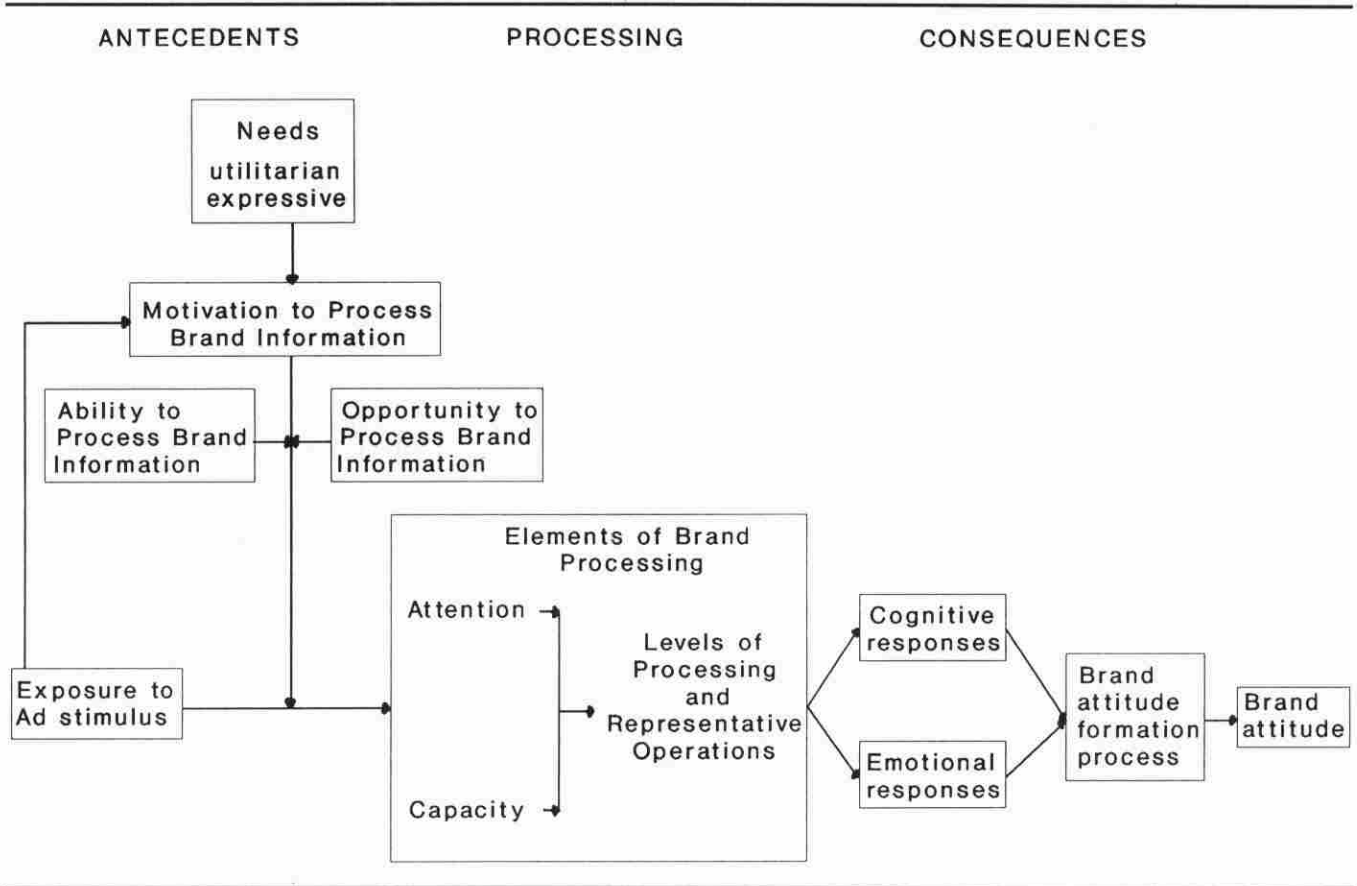
Types of needs. Needs are defined as requirements for something essential or desirable that is lacking (Webster's 1982). Past research has identified numerous needs that influence processing motivation. They have been classified variously as affective versus cognitive (McGuire 1976), affectional, ego-bolstering, and ego-defensive (Bayton 1958), utilitarian versus value-expressive (Park and McClung 1986; Park and Mittal 1985; Park and Young 1986), and others (Fennell 1975, 1978; Rossiter and Percy 1985, 1987). Though researchers differ on (1) the relative importance of emotions and cognitions in defining these needs and (2) their analysis of needs as personality-based (e.g., Bayton 1958; McGuire 1976) or product-in-use driven (e.g., Fennell 1975, 1978; Rossiter and Percy 1985, 1987; Vaughn 1980), they are consistent in the view that activated needs stimulate motivation (see also Bettman 1979).¹

On the basis of past research, we identify two general consumer needs: utilitarian and expressive. *Utilitarian needs* are defined as requirements for products that remove or avoid problems. For example, the consumer may need a rug cleaner with stain removing power because the carpet has a deep wine stain. The product is seen as instrumental to the removal of the problem. Utilitarian needs are thus consistent with McGuire's (1976) cognitive needs by "stress[ing] the person's need for being adaptively oriented to the environment" (p. 315). They are also analogous to Rossiter and Percy's (1985, 1987) discussion of informational needs and Park and his colleagues' utilitarian needs (Park and Mittal 1985; Park and Young 1986).

Expressive needs are defined as requirements for products that provide social or aesthetic utility. One type, termed "socially expressive" needs, reflects the desire to express one's actual or ideal self-image, role position, or feelings toward group members (Park and McClung 1986; Park and Mittal 1985; Park and Young 1986). The use of products as symbols (Belk 1988; Levy 1959; Park, Jaworski, and MacInnis 1986) ex-

¹Many of the authors cited use the term "motives" rather than "needs." We prefer to speak of needs to avoid confusion with the term "motivation." Needs reflect desires for specific products for utilitarian or expressive reasons. Motivation refers to the desire to process brand information from ads because it is relevant to one or more activated needs. Hence, needs, in our model (and motives in others' models) are *product*-related whereas motivation is *processing*-related. Had we used the term "motives," this distinction between the product and processing aspects might have been confusing.

FIGURE 1
Proposed Model



emphasizes the ubiquity of this need. A second expressive need, termed "experiential," reflects the desire to consume products for their cognitive or sensory stimulation. Work on need for cognition (Cacioppo, Petty, and Morris 1983), hedonic and aesthetic aspects of consumption (Hirschman and Holbrook 1982; Holbrook and Hirschman 1982), and variety seeking (McAlister 1979, 1982; McAlister and Pessemier 1982) illustrates the pervasiveness of this need.

Utilitarian and expressive needs assume varying degrees of preeminence in the individual's need hierarchy and may be activated by factors in the ad (see Figure 1). For example, because products can be arrayed on an experiential-functional continuum (Batra 1986; Batra and Ahtola 1987; Batra and Ray 1985; Hirschman and Holbrook 1982), the product category represented in the ad may stimulate the type of need (Vaughn 1980). Relatedly, the type of need may be stimulated by the advertised message. Advertisers thus may use utilitarian or expressive appeals to stimulate consumers' utilitarian or expressive needs. Ads with utilitarian appeals relate the brand to utilitarian needs and indicate the brand's instrumentality in removing/avoiding functional problems. Ads with expressive

appeals link the brand to one of several positively oriented needs, such as experiential or symbolic gratification (Rossiter and Percy 1985, 1987).

Though the type of need may be controlled by the ad, it may be influenced also by needs the individual brings to the exposure situation (Bettman 1979; see Stephens and Russo 1987 for a discussion of ad- vs. viewer-controlled processing). Thus, a viewer for whom attractiveness is self-schematic may approach an ad for shampoo with expressive needs, whereas a consumer interested in controlling dandruff may view the same ad from a more utilitarian perspective (Park and Young 1986).

Motivation. Since Krugman's (1965) initial work, a vast and growing literature has suggested that motivation moderates the link between ad exposure, processing, and the attitude formation process (Batra and Ray 1985, 1986a; Greenwald and Leavitt 1984; Mitchell 1981; Petty and Cacioppo 1986a,b; Rossiter and Percy 1985). Though the term "involvement" has been used in the past, our model is consistent with recent work that uses the broader motivation construct (see Batra and Ray 1985; Cohen 1982a; Park and Mittal 1985; Petty and Cacioppo 1986a,b).

TABLE 1
Antecedents and Consequences of Brand Processing

Antecedents	Processing				Consequences ^a		
	Motivation to Process Brand Information	Attention	Capacity	Level of Processing	Representative Operations	Cognitive Responses ^b	Emotional Responses ^b
Very low	Focused on secondary task	Extremely low	One	Feature analysis	S:cells 5.0, 3.3	S:cells 6.0, 4.3	Mood-generated affect (if prompted)
Low	Attention divided between secondary task and ad	Low	Two	Basic categorization	S:cell 3.1 O:cells 5.0, 3.3	S:cell 4.1 O:cells 6.0, 4.3	Pure affect transfer
Low-moderate	Attention focused on ad	Low-moderate	Three	Meaning analysis	S:cell 1.3 O:cells 3.1, 3.2, 3.3	S:cell 2.3 O:cells 4.1, 4.2, 4.3	Heuristic evaluation
Moderate	Attention focused on ad	Moderate	Four	Information integration	S:cell 1.2 O:cells 3.1, 1.3	S:cell 2.2 O:cells 4.1, 2.3	Message-based persuasion
High	Attention focused on ad	High	Five	Role-taking	S:cell 1.1	S:cell 2.1	Empathy-based persuasion
Highest	Attention focused on ad	Highest	Six	Constructive processes	S:cell 1.1	S:cell 2.1	Self-generated persuasion

^aSee Table 2 for a more complete description of the cells.

^bS refers to the strongest predictors/determinants of brand attitudes; O refers to less significant predictors.

Bayton (1958, p. 282) describes motivation as "the drives, urges, wishes, or desires which initiate the sequence of events known as 'behavior'." Because motivation does not always culminate in action, however, Park and Mittal (1985) define motivation as goal-directed arousal. We adopt this perspective. In our model, the object of motivation is to evaluate the brand. Thus, motivation is defined as the desire to process brand information in the ad. Consistent with previous research, the relevance of brand information to activated needs is the mechanism that stimulates processing (Celsi and Olson 1988; Petty and Cacioppo 1986a,b; Zaichkowsky 1985). Because needs can be situationally or personality-based, so too can processing motivation be situational or enduring (Celsi and Olson 1988; Houston and Rothschild 1978; Richins and Bloch 1986).

We acknowledge that other motivations may be present at the time of exposure (see Lutz 1985; MacKenzie and Lutz 1989), but have chosen to focus on brand evaluation as the object of motivation for several reasons. First, our model is formulated from the perspective of the advertising practitioner whose objective is to encourage processing of brand information. Second, by specifying a single goal object we avoid the confusion and ambiguity that arise by failing to define the goal object (see Park and Mittal 1985; McGuire 1969 for a discussion). Third, by clearly

specifying brand evaluation as the goal object, we implicitly address situations in which processing motivation includes other goal objects. Thus, if other goal objects are the focus of attention, motivation to process brand information will necessarily be low (Eysenck 1984; Kahneman 1973; Mitchell 1981).²

Processing

According to Bettman (1979), motivation affects both the direction and intensity of behavior. Consistent with this notion, recent models propose that motivation affects two dimensions of processing: direction of attention and intensity of processing (e.g., Mitchell 1981; Petty and Cacioppo 1986a,b). Our model makes sim-

²For example, an individual who attends to an ad for chewing gum because it contains pictures of sailboats (a product category for which he shows enduring involvement) is likely to allocate attention and cognitive capacity to the sailboats, not the advertised product (chewing gum). Motivation to process brand information is likely to be low. Note that this position differs from that by Lutz (1985) and MacKenzie and Lutz (1989), who argue that under some conditions consumers may have high motivation to process several goal objects simultaneously (i.e., the ad context and the message). Though we argue subsequently that highly motivated individuals can integrate information from the executional aspects and message of the ad when the object of motivation is the formation of brand attitudes, we do not address the situation in which evaluation of the brand and evaluation of the ad context are separate motivations. Given that attentional resources are selective and that processing capacity is limited, we propose that high motivation to process several goal objects simultaneously may not result in high levels of processing of either object.

ilar predictions, but differs from other models by more precisely specifying the processing operations that are matched to the various levels of processing.

Attention. Attention, defined as the general distribution of mental activity to the tasks being performed by the individual (Moates and Schumacher 1980), reflects both that which receives mental activity (direction) and the duration of the focus. As a limited cognitive resource (Broadbent 1977; Kahneman 1973; Mitchell 1983b; Moray 1967; Norman and Bobrow 1975), attention can be allocated in varying degrees to the ad (termed here the primary task) or to secondary tasks such as daydreaming, conversation, or other environmental stimuli. As the perceived need relevance of ad information outweighs the perceived need relevance of the secondary task, motivation to process ad contents increases. As a result, greater attention is allocated to the ad and less is allocated to the secondary task (Celsi and Olson 1988).³ The selective aspect of attention is under conscious control and is directed toward need-relevant stimuli. It is also recognized, however, that stimuli may contain properties that automatically elicit attention (Berlyne 1960).

The type of need directs consumers' attention to specific ad cues. Thus, consumers for whom utilitarian needs are salient may attend to information about product attributes. Consumers for whom expressive needs are salient attend to cues related to the symbolic or experiential value of the brand (Park and Young 1986). Note that though the type of need affects which ad cues receive attention, we assume that the consumer is indeed attending to the ad. Hence motivation is hypothesized to have the following influences.

- P_{1a}: The greater the processing motivation, the more attention is focused on the ad in comparison with a secondary task.
- P_{1b}: The greater the utilitarian need, the more attention is focused on aspects of the ad that indicate how the brand solves consumer problems (i.e., brand attributes).
- P_{1c}: The greater the expressive need, the more attention is focused on ad cues that indicate the symbolic or experiential value of the brand.

Processing capacity. As attention to the stimulus increases, greater amounts of working memory may be allocated to attended information. We use the term "processing capacity" to reflect the amount of work-

³Ability to perform two tasks simultaneously also depends on the amount of prior learning of one or both tasks, specifically, the extent to which processing of one or both tasks is automatic (Shiffrin and Schneider 1977). It also depends on the extent to which information from one task differs in modality from information presented in a different task. For example, Allport, Antonis, and Reynolds (1972) and Treisman and Davies (1973) have found that performance on a secondary task is improved if the information presented in the secondary task is in a modality (e.g., visual) different from that of information presented in the primary task (e.g., aural).

ing memory allocated to an attended stimulus. Though in models of attention both focus (our term "attention") and the extent of processing (our term "capacity") are considered under the general rubric of attention (see Kahneman 1973; Norman and Bobrow 1975), we separate the two constructs here. In our view, attention more clearly details that which receives processing resources. This construct may or may not predict the extent of working memory (capacity) allocated to the task.

As is consistent with other integrative attitude formation models (Batra and Ray 1985; Greenwald and Leavitt 1984; Mitchell 1981; Petty and Cacioppo 1986a, b), we propose that allocated processing capacity is a limited resource that is partitioned in varying degrees as a function of processing motivation.

P_{2a}: The greater the processing motivation, the greater is the processing capacity allocated to analyze the ad.

P_{2b}: The greater the processing capacity allocated to the ad, the less processing capacity is available to analyze aspects of the secondary task.

Levels of brand processing and associated operations. Perhaps no term has caused more ambiguity in the literature on processing than "levels of processing." To illustrate, the term has been used to refer to (1) the amount of attention allocated to a task (our "attention" term), (2) the extent of semantic processing, and (3) the depth of understanding (see Baddeley 1979; Craik and Lockhart 1972; Eysenck 1984; Greenwald and Leavitt 1984). We define level of processing as depth of understanding about the brand. As attention becomes increasingly focused on the brand instead of on a secondary task, and as greater cognitive capacity is *allocated* to brand analysis, the individual becomes capable of greater understanding of the brand, its benefits, and its implications for the self. Thus, attention and allocated processing capacity create the potential for deeper brand processing.

Stimulated by the work of Greenwald and Leavitt (1984), we propose six levels of brand processing. Because of terminological confusion in describing various levels of processing (Greenwald and Leavitt 1984) and because of our heavy use of terminology in this article, we avoid attaching labels to these levels. Instead, numerical labels, 1 through 6, are used to represent increasing levels of brand processing. Within each level, specific processing operations are undertaken. Processing operations are defined as mental activities involving the analysis of encoded information. These operations are the mechanics that utilize attended information and allocated capacity to achieve a given level of processing. Though not exhaustive of the types of operations, the six processing operations, each involving greater attentional and/or capacity resources, are: feature analysis, basic categorization,

meaning analysis, information integration, role-taking, and constructive processes (see Table 1). The notion that achieving increased levels of processing is contingent upon more complex processing operations is compatible with a variety of other processing models (see Baddeley 1979; Celsi and Olson 1988; Craik and Lockhart 1972; Eysenck 1984; Greenwald and Leavitt 1984; Mitchell 1983a,b; Morris, Bransford, and Franks 1977; Treisman 1979).

When motivation to process brand information is very low, attention is allocated primarily to the secondary task. The level of brand analysis is therefore extremely low. Consequently the only operations that can be performed on ad information are those utilizing few processing resources. For example, consumers involved in a conversation while watching TV may notice that the TV screen contains something gray, but may be unable to determine whether this feature belongs to an identifiable cue such as a basketball shoe or a T-shirt, or even whether it is part of an advertisement. Hence the only processing operation performed on ad/brand information is *feature analysis*, defined as the encoding of salient properties (features rather than identifiable cues such as the type of source) of the ad. Salient features are defined as the ones that are most prominent, noticeable, or conspicuous. Factors such as stimulus novelty, extremity, dominance, or figural qualities (e.g., bright, complex, changing) predict salience effects (see reviews by McArthur 1981; Taylor and Fiske 1978).⁴

When attention is divided between the ad and the secondary task, the individual becomes capable of somewhat higher levels of brand processing. Such a situation may arise when motivation to process brand information is low. At this level of processing, sufficient capacity is available to identify salient ad cues. *Basic categorization* occurs when consumers combine features associated with a specific cue within the ad to perform a categorization judgment and assign a semantic label (Cohen and Basu 1987). For example, a consumer may combine the voices, beat, and instruments inherent in a song so as to categorize the song as a Beatles tune. Such categorization may occur despite involvement in a conversation. However, the consumer may have little understanding of the song's role in communicating brand information.

When motivation to process brand information is low to moderate, attention is directed primarily at the ad instead of to a secondary task. However, the absolute level of cognitive capacity allocated to the processing task is still relatively low. The level of pro-

cessing is therefore relatively superficial and is characterized by global rather than detailed analysis of the ad. A processing operation characteristic of this level is defined as *meaning analysis*, the interpretation of salient ad cues to derive some basic understanding of the message. To extend the preceding example, the individual at this stage may realize that the ad is for a new type of Nike basketball shoe and may encode salient aspects of the ad to attempt a superficial understanding of the advertised message.

When motivation is moderate, sufficient resources are allocated for more detailed processing of brand information and a higher level of processing is achieved. Specifically, the global analysis characteristic of the previous level of processing is followed by a local analysis that identifies salient and nonsalient ad cues relevant to the ad's main point. One cognitive operation possible at this stage is *information integration*, the combining or synthesis of meanings assigned to several stimuli in the same or different modalities. In the aforementioned Nike ad the consumer may focus on verbal information about the brand's stated and demonstrated attributes, then relate these attributes to the Beatles' tune "Revolution."

Constructive processes and *role-taking operations* are possible only at the highest levels of processing when the capacity allocated to the brand is high. Both processing operations involve relating product information to the self (i.e., bridging experiences; Krugman 1965). To engage in role-taking, the individual first must categorize the appropriate portrayed situation and evaluate its believability (Shaver et al. 1987) and then transcend the advertised information to assume vicariously the role portrayed by the source (Goldstein and Michaels 1985; Hoffman 1986; Mizerski and White 1986; Puto and Wells 1984). For example, the consumer may assume vicariously the role of the source who wears the Nike shoes and outplays Michael Jordan. With constructive processes the consumer uses prior knowledge to go beyond the ad and build novel scenarios involving the brand. Embellishments associated with constructive processes may be semantic or imagery-based (MacInnis and Price 1987). For example, the consumer may build novel scenarios in which he imagines how much better he will play when wearing the Nike shoes.

P₃: The more attention is allocated to the ad and the greater the allocated processing capacity, the deeper is the level of brand processing.

Ability and Opportunity as Moderators of Processing

As indicated in Figure 1, the impact of motivation on attention, processing capacity, operations, and their associated levels of processing is moderated by processing ability and opportunity. In an information pro-

⁴Feature analysis is not analogous to preattentive processing as reported by Janiszewski (1988) because feature analysis implies conscious awareness of attended features. Nor does feature analysis take place at the preattentive level. This operation takes place at a higher level of processing than preattention.

cessing context, ability is defined as skill or proficiency in interpreting brand information in an ad. Lack of ability implies that knowledge structures necessary to perform more complex operations either do not exist or cannot be accessed (Alba and Hutchinson 1987; Sujan 1985). If ability to process brand information is low, prior knowledge cannot enter working memory and hence information encoded from the advertisement is uninterpretable.

Consistent with this notion is Greenwald and Leavitt's (1984) observation that a competence constraint (i.e., lack of ability) limits the processing level that can be achieved. Research elsewhere also indicates that such factors as limited intelligence/education (Anderson and Jolson 1980), limited product knowledge or experience (Anderson and Jolson 1980; MacKenzie 1986), and message difficulty (Yalch and Elmore-Yalch 1984) reduce processing ability. Ad factors also can influence processing ability. Results by Edell and Staelin (1983), for example, suggest that a picture alone, without a verbal accompaniment, may provide ambiguous information that constrains processing ability (see also Bransford and Johnson 1972).

Opportunity also moderates the impact of motivation on attention and processing capacity. In an information processing context, opportunity reflects the extent to which circumstances evidenced during ad exposure are favorable for brand processing. Lack of opportunity implies that situational or ad factors impede the encoding process or the time spent on processing brand information. Such a situation may arise when attention is distracted from brand evaluation to the secondary task. For example, distraction inherent in the ad exposure situation has been found to inhibit brand processing (MacKenzie 1986; Mitchell 1980; Petty and Brock 1981). Likewise, message-irrelevant factors in an ad, such as music (Park and Young 1986) or an attractive source, can distract attention from brand information (Chaiken and Eagly 1983).

Lack of processing opportunity may arise also when the presentation of brand information is limited. For example, time compression of the message (La-Barbera and MacLaughlin 1979; Moore, Hausknecht, and Thamodaran 1986) and inability of the individual to control the pace at which the message is delivered (Chaiken and Eagly 1976; Krugman 1965; Wright 1974) have been found to have effects that imply limited processing opportunity. In contrast, increased message repetition facilitates processing because it provides greater encoding opportunities (Batra and Ray 1986a; Cacioppo and Petty 1980, 1985; Obermiller 1985; Rethans, Swasy, and Marks 1986).

The amount and type of information present in the ad also can affect processing opportunity. If, for example, the ad contains little brand information, little brand information can enter working memory. Note

that what constitutes "information" depends on whether needs are utilitarian or expressive. Hence, an "image"-oriented ad may limit processing opportunity of consumers with utilitarian needs if the ad contains no information relevant to the utilitarian motive.

Though not represented in Figure 1, ability and opportunity "work" at different points in the information processing sequence. *Ceteris paribus*, a consumer with low ability may still attend to the ad completely and allocate considerable capacity to brand processing. What accounts for the limited extent of brand processing is the fact that prior knowledge is insufficient for meaningful analysis of information in working memory. Hence, ability has its dominant effects on the processing operations performed. Ability may also influence the attentional and capacity aspects by its effects on motivation (see Bettman and Park 1980). Thus, lack of ability or too much ability may constrain processing motivation. Low opportunity affects the attention, capacity, or operations components. Distraction implies a lack of attention and hence greater capacity allocated to the secondary task. Additionally, because of insufficient ad information, low opportunity can affect processing operations by inhibiting meaningful analysis of encoded information. We therefore propose that:

- P_{4a}: The lower the ability to process brand information, the less complex are the processing operations performed on the ad. This effect is expected even though attention may be directed fully to the ad and allocated processing capacity is high.
- P_{4b}: The lower the opportunity to process brand information, the less complex are the processing operations performed on the ad. Such effects may be tied to attentional deficits or ad stimulus characteristics that inhibit meaningful processing.⁵

⁵Though it is not our purpose to develop measures, we believe measures could be developed readily to test these hypotheses. For example, individual differences in existing knowledge (Celsi and Olson 1988; Sujan 1985) or experimentally created knowledge could be used to manipulate ability. Processing ability also could be manipulated by ad content (Yalch and Elmore-Yalch 1984). Processing opportunity could be manipulated by distraction (Mitchell 1980; Petty, Wells, and Brock 1976) or information presentation conditions (Chaiken and Eagly 1976, 1983; Moore, Hausknecht, and Thamodaran 1986). Motivation to process brand information can be manipulated by personal relevance, as is standard in marketing experiments (i.e., Park and Young 1986; Petty, Cacioppo, and Schumann 1983), or by assessing individual differences in needs due to situational or enduring product involvement (Celsi and Olson 1988; Zaichkowsky 1985). The effects of such variables on attention and capacity then could be assessed. Eyetracking measures, event recorders (Celsi and Olson 1988), or observations (Anderson 1985) could be used to measure attention to the ad. Measures of capacity are less well developed, but it could be measured by interference of a secondary task. Attention manipulations (much like the dichotic listening experiments) and capacity manipulations (conducted via experimental instructions manipulating the amount of thinking—working memory—allocated to the ad) then could be conducted to determine whether consumers remember features, basic ad cues, integrate ad information, etc.

Consequences

The level of brand processing, in turn, is expected to influence the type of responses generated from ad exposure (see Figure 1). Though researchers typically have examined such responses as "support arguments," "counterarguments," and "source derogations" (Cacioppo, Harkins, and Petty 1981; Greenwald 1968; Lutz and Swasy 1977; Wright 1980), it has recently been recognized that other responses also may be relevant to understanding ad effects. Cacioppo, Harkins, and Petty (1981) propose that cognitive responses include recognitions, associations, elaborations, ideas, and images. Other researchers have identified responses to ad executions (Batra and Ray 1985; MacKenzie, Lutz, and Belch 1986; Swasy, Rethans, and Marks 1984), attribute-oriented thoughts and inferences (Sujan 1985), and responses that reflect emotions about the ad (Batra and Ray 1986b; Edell and Burke 1987).

Our model incorporates and extends this "response" research by (1) proposing a parsimonious, hierarchically driven typology of responses that are (2) explicitly linked to the processing operations we have identified.⁶ By identifying these linkages, we gain a better understanding of both the factors that influence brand attitudes and the processes by which brand attitudes are formed. Table 2 summarizes this response typology.

The responses we have identified can be classified initially as cognitive or emotional responses. Cognitive responses are defined as thoughts (including inferences) during ad exposure. Such thoughts can be evaluative or nonevaluative.⁷ Emotional responses are defined as feelings elicited during ad exposure. Despite the attention recently given to the effect of emotions on A_{Ad} and A_B (Edell and Burke 1987), few researchers (except Aaker and Stayman 1989) have specified the process by which emotions are formed or the conditions under which emotional responses influence A_{Ad} and A_B . We address these issues subsequently.⁸

Cognitive and emotional responses can be classified as message-, execution-, and viewing-context-re-

lated (see Table 2). Message-related responses are brand-specific responses generated in reaction to ad information. Execution-related responses are brand-irrelevant responses generated in reaction to ad information (see Cacioppo and Petty 1980; Rethans, Swasy, and Marks 1986 for a similar distinction). Viewing-context-related responses reflect the general viewing environment and/or the interaction between the viewing environment and the ad. As indicated in Table 1, specific cognitive and emotional responses are linked to the various levels of brand processing. We next describe (1) specific cognitive and emotional responses produced by each processing operation, (2) their impact on brand attitudes, and (3) the brand attitude formation process.

Level 1 processing, associated responses, and brand attitude formation. At low levels of brand processing, the consumer may be aware only of features associated with salient ad cues. Responses therefore reflect recognition of salient ad features. Because processing of brand information is negligible, cognitive responses should be unrelated to the message. Though little attention is focused on the ad, emotional responses to attended features are possible even with this processing operation (see Tables 1 and 2). In fact, attended features may *automatically* trigger emotional reactions (Mehrabian 1972). Mehrabian proposes an analogical relationship between stimulus features and dimensions of emotion. To continue the Nike example, the "Revolution" song may automatically elicit an emotion classified as high arousal and dominance (i.e., excitement) because features of the music (i.e., its speed, loudness, beat) bear an analogical relationship to the emotion (see Table 2, cells 3.3 and 4.3). This automatic processing mechanism implies that emotions are formed without additional processing resources.

Because much of consumers' attention is directed at the secondary task (i.e., a conversation, thoughts about the program, etc.), cognitive and emotional responses are likely to reflect this attentional focus (see Table 2, cells 5 and 6). For example, consumers may express cognitive and emotional reactions to the previous commercial or program (Goldberg and Gorn 1987; Lutz 1985; Park and McClung 1986) or cognitive responses may reflect the distracting influence of the secondary task on ad processing (i.e., children talking, distraction thoughts related to the previous ad/program). Such distractions may have accompanying emotional reactions.

Because attention is devoted primarily to the secondary task, brand or ad attitudes are unlikely to be formed (Heath and Gaeth 1987). If consumers are asked to indicate an attitude, however, brand and ad attitudes are likely to reflect only the halo effect or mood

⁶The variables in the matrix are not exhaustive of all possible responses, but they do reflect those likely to be present in an attitude formation context. Note that in contrast to traditional cognitive response theory (see Brock and Shavitt 1983), we do not assume that comprehension of the advertised message is necessary for the occurrence of responses. For example, a consumer engaged in processing operations that reflect greater attention to the ad context (vs. the ad) may generate responses to the context. These responses may have a carryover effect on ad/brand evaluation.

⁷Though thoughts and evaluations are theoretically distinct constructs, they are combined here for simplification.

⁸Audience characteristics also may influence the emotion-elicitation process (see Aaker and Stayman 1989; Goldstein and Michaels 1985; Hoffman 1977). Detailing these moderating effects is beyond the scope of our article.

TABLE 2
Cognitive and Emotional Responses Generated From Ad Processing

Cognitive Responses		Emotional Responses	
Message Related			
	Cell 1		Cell 2
1.1	<ul style="list-style-type: none"> ● Evaluative and nonevaluative thoughts about imagined brand consumption or nonconsumption ● Evaluative and nonevaluative thoughts about empathic identification with situation or characters 	2.1	<ul style="list-style-type: none"> ● Emotional responses to imagined consumption (or nonconsumption) outcomes ● Emotional responses to empathic identification
1.2	<ul style="list-style-type: none"> ● Interpretive inferences ● Responses reflecting integration of salient and nonsalient ad information ● Evaluative and nonevaluative thoughts about importance, persuasiveness, and relevance of salient and nonsalient cues 	2.2	● Emotional responses to (1) interpretive inferences, (2) integration of ad information, or (3) message-relevant cues
1.3	<ul style="list-style-type: none"> ● Evaluative and nonevaluative thoughts about credibility or relevance of ad based on salient cues ● Schema-based inferences ● Comprehensibility of ad 	2.3	● Emotional responses tied to credibility and comprehensibility
Execution Related			
	Cell 3		Cell 4
3.1	● Evaluative and nonevaluative thoughts about salient ad cues	4.1	● Emotional responses to salient ad cues
3.2	● Message-irrelevant elaborations/memories triggered by salient cues	4.2	● Emotional responses associated with irrelevant elaborations/memories
3.3	● Thoughts about salient ad features	4.3	● Automatic emotional responses to salient ad features
Viewing Context Related			
	Cell 5		Cell 6
	Distraction thoughts (e.g., about program viewing context or program)		Emotional responses to program and/or viewing context

created by emotional and evaluative reactions to the attended features and exposure context (Isen et al. 1982). Hence, consumers asked to indicate ad and brand attitudes when the exposure context is negatively (positively) valenced are likely to generate negative (positive) brand and ad attitudes. Because the mood is idiosyncratic to the viewing context and only weakly tied to the brand, however, any "attitudes" are likely to be ephemeral. Note, too, that "attitudes" toward the ad and brand are likely to be highly correlated because (1) consumers do not pay sufficient attention to the ad to distinguish the ad from the brand and (2) the mood generated by the features or exposure context is expected to generalize to all evaluations. Hence, at the feature analysis stage:

P_{5a} : Brand and ad attitudes are not formed.

P_{5b} : If a consumer is prompted to form brand attitudes, cognitive and emotional responses to (1) salient ad features and (2) the viewing context will be the strongest determinants of brand attitudes.

P_{5c} : Attitudes toward the ad and brand will be highly correlated.

Level 2 processing, associated responses, and brand attitude formation. If processing motivation and/or opportunity are sufficient to stimulate a higher processing level, basic categorization is performed. Cognitive responses are likely to reflect the recognition of the ad and salient ad cues (i.e., music, sources, pictures; see Table 2, cell 3.1). Moreover, they are likely to retrieve evaluative associations connected to these salient stimuli (Cohen 1982b; Fiske 1982; Mitchell 1986). Fiske, for example, suggests that evaluative responses to stimuli are stored at the level of the category. These evaluative responses are retrieved automatically when features of the stimulus match the features that describe a typical category member (see also Fiske et al. 1987).

For example, the consumer who categorizes the ad's music as the Beatles' song "Revolution" may automatically elicit upbeat feelings typically associated

with that song. A verbal ad cue (e.g., the word "destruction") may also evoke emotion (e.g., fear). Such learned stimulus-emotion or stimulus-evaluation linkages may have been formed through classical conditioning (Staats and Staats 1958), mere exposure (Zajonc, Markus, and Wilson 1974), or other forms of learning (i.e., category-based affect). Note that responses to these salient cues can be generated independently of the cue's relevance in conveying *brand* information. For example, a baby is likely to evoke positive emotional responses whether he or she appears in an ad for diapers, tires, or carpets. Indeed, with this processing operation, insufficient capacity is allocated to analyze cues for their relevance. Hence the consumer is unlikely to understand the advertised message and consequently will have few message-relevant cognitive or emotional responses.

Message-irrelevant elaborations/memories also may be triggered by salient ad cues (see Table 2, cells 3.2 and 4.2). For example, the consumer observing basketball scenes in the Nike commercial may think about how much he would like to play basketball (brand-irrelevant elaborations) or about the things he did the last time he played basketball (brand-irrelevant memories) (Mitchell 1981). Because consumers' attention is divided between the ad and the secondary task, cognitive and emotional responses to salient ad features and the viewing context should still be prevalent. They should also contribute to brand and ad attitudes via the affect retrieval mechanism described before.

Though brand and ad attitudes may not have been formed at the previous level of processing, they are likely to be formed at this level and all levels following. The brand attitude formation process at this stage is described best as "pure affect transfer," the retrieval of emotions and evaluations associated with salient ad stimuli or stimulated by message-irrelevant memories/elaborations. Retrieval of such affect subsequently biases evaluations of the ad and brand. Past research has amply documented such a biasing effect of feelings on subsequent evaluations (see reviews by Gardner 1985a,b; Isen et al. 1982; see also Mitchell 1988; Srull 1983). The valence of these evaluations and emotional responses therefore should affect the valence of ad and brand attitudes. Stimuli that evoke negative (positive) feelings will have a negative (positive) impact on A_B . Research has found that, consistent with this notion, positive affect associated with salient ad cues affects brand attitudes, particularly at low levels of processing. These cues include attractive, pleasant, or likable characters (Aaker and Bruzonne 1985; Chaiken 1980; Kahle and Homer 1985; Petty and Cacioppo 1981; Petty, Cacioppo, and Schumann 1983; Thorson and Page 1988), visually appealing versus unappealing scenes (MacInnis and Price 1985; Miniard, Lord, and Dickson 1988; Mitchell

1986), pleasant, upbeat versus unpleasant music (Bierly, McSweeney, and Vannieuwkerk 1985; Park and Young 1986), and upbeat versus low key situations (Aaker and Bruzonne 1985; Alwitt 1987; Batra and Ray 1985). Some of these same factors have been found to affect ad attitudes (Aaker and Bruzonne 1985; Alwitt 1987; Mitchell 1986; Mitchell and Olson 1981). Because both ad and brand attitudes are affected by affect-laden stimuli and because consumers may not devote sufficient resources to distinguish ad from brand attitudes, A_{Ad} and A_B are likely to be highly correlated.

The difference between the attitude formation processes associated with the second versus the first level of processing is that the mood-generating mechanism is (1) tied to the ad and (2) may eventually generate a conditioning effect. Thus, though the emotional or evaluative linkage between the ad and the brand may be ephemeral at first exposure, repeated associations between the affectively laden stimulus and the brand may eventually make the brand a conditioned stimulus for the evoked feeling. As a result, the brand may be capable of generating affective reactions on its own. Such a conditioning effect will not occur with feature analysis because (1) the individual is unaware of the brand, (2) the mood-eliciting stimuli need not be tied to the ad, and (3) those stimuli are likely to be situation-specific. Therefore, with this level of processing:

- P_{6a} : Cognitive and emotional responses to salient ad cues will be the strongest determinants of brand attitudes.
- P_{6b} : Cognitive and emotional responses to the exposure context and salient features of the ad will also affect brand attitudes.
- P_{6c} : Ad and brand attitudes are likely to be highly correlated.
- P_{6d} : Repeated associations of the brand with affectively laden stimuli contained within the ad make the brand a conditioned stimulus to the affective response.

Level 3 processing, associated responses, and brand attitude formation. With somewhat higher levels of processing, meaning analysis is invoked. Brand processing is relatively superficial, however. Unlike the schematic knowledge characteristic of basic categorization, schema knowledge is used here to understand *brand* meaning. Hence message-relevant responses should be evident (see Table 2, cell 1.3).

One type of schema that may be invoked is the schematic expectation for persuasive attempts ("schemer schema" of Kirmani and Wright 1986). These schematic expectations drive consumers' search for global, easily processed cues that indicate the credibility of the persuasive message. Hence, cognitive and emotional responses should reflect such salient aspects of the ad as the quality of the production (Aaker and Bruzonne 1985), the likely expertise, objectivity, or

credibility of the source (Petty and Cacioppo 1986a; Petty, Cacioppo, and Goldman 1981), and/or the number of message arguments (Alba and Marmorstein 1987; Petty and Cacioppo 1984). These responses have been variously labeled "execution bolstering" and "discounting responses" (Batra and Ray 1986b; Lutz, MacKenzie, and Belch 1983; MacKenzie, Lutz, and Belch 1986). Consumers may also experience emotional reactions to the perceived credibility of the advertised message. Thus, a message perceived to lack credibility may elicit feelings of anger.

Note that though these responses are generated from the execution, the consumer uses them to make inferences about the *message*. Hence such responses are listed as message-related responses in Table 2. Note also that at this level of processing, consumers evaluate salient ad cues (i.e., the source) for their relevance. Indeed, for a consumer to evaluate the credibility or expertise of a salient executional cue (i.e., source) he or she must engage in at least a global analysis of the intended message. The notion that salient, message-relevant cues affect brand attitudes has been adequately substantiated.

In using schema-based knowledge, the consumer derives credibility responses from simple nonanalytical inferences such as similarity- or schema-based inferences (Alba and Hutchinson 1987). For example, the consumers' evaluations of the credibility of the source (i.e., a playground vs. professional basketball player) may stem from a schema for credible sources for a particular product category (Kahle and Homer 1985) or the overall gestalt similarity of the salient ad cue (i.e., a Michael Jordan look-alike) to a category prototype (Michael Jordan). Lutz (1985) notes that one's schema for the advertiser or advertising in general also may be used to generate credibility responses. Note that the nonanalytical nature of these inferential processes is consistent with the relatively superficial nonanalytical processing operation itself.

With this processing operation, consumers also may invoke schematic knowledge of other easily processed (perhaps visual) cues in the ad to infer brand attributes or benefits. For example, a kitten in a tissue ad is likely to lead to inferences that the brand is soft (Mitchell and Olson 1981; see also Smith 1988).

In attempting to evaluate the brand globally for its meaning, consumers who are unable to extract brand meaning from the ad may generate cognitive and emotional responses about the comprehensibility of the ad (Aaker and Bruzonne 1985; Alwitt 1987; MacInnis and Price 1987). Such effects are likely to be strongest when higher order operations are impeded because consumers lack the ability to interpret cues or when the ad itself provides insufficient opportunity to determine the ad's main point (Alsop 1988). Responses to attended features and salient ad cues also may oc-

cur with meaning analysis because such responses are elicited automatically. For example, consumers who evaluate the brand of tissue as soft may automatically generate emotional or evaluative responses to the kitten. These responses may transfer to consumers' feelings about the ad and the brand.

Consistent with Chaiken's (1980) terminology, the attitude formation process evident at this stage is labeled "heuristic evaluation," the use of easily processed information to derive an overall evaluation of the brand. Schema-driven knowledge is used to interpret and evaluate these salient ad cues. In past research, the credibility or expertise of the source (MacKenzie, Lutz, and Belch 1986; Petty, Cacioppo, and Goldman 1981; Yalch and Elmore-Yalch 1984) and the number of message arguments (Petty and Cacioppo 1984; Petty, Cacioppo, and Goldman 1981; see also Alba and Marmorstein 1987) have been found to affect brand attitudes by serving as heuristic cues upon which the quality of the message is based. Because ads perceived as credible should also be well-liked, credibility-related responses should also influence ad attitudes. Likewise, inferential beliefs formed through schema-based analysis of salient visual cues have been found to influence brand attitudes (Mitchell and Olson 1981). Note, however, that beliefs formed about the brand may have little impact on evaluations of the ad. Finally, consumers have been found to have more favorable brand and ad attitudes when exposed to ads labeled as "comprehensible" (Aaker and Bruzonne 1985; Alwitt 1987; MacInnis 1988). The fact that inferential beliefs should affect only brand attitudes whereas perceptions of the credibility and comprehensibility of the ad should influence both brand and ad attitudes suggests that the latter responses may affect brand attitudes through the mediational effect of A_{Ad} . Some research findings are consistent with this hypothesis (Batra and Ray 1986b). The notion that ad attitudes and beliefs mediate attitude formation is also consistent with Mitchell's (1988) dual component model. Hence, with meaning analysis:

P_{7a} : Cognitive and emotional responses to the credibility of the ad, the comprehensibility of the ad, and attribute/benefit beliefs generated through schematic inferences will be the strongest determinants of brand attitude.

P_{7b} : Cognitive and emotional responses to the credibility and comprehensibility of the ad influence brand attitudes partially through the mediational effect of A_{Ad} .

As indicated before, ad and brand attitudes are likely to be affected also by the cognitive and emotional responses automatically generated from salient ad cues (see Table 1). Interestingly, whether these responses exert a positive or negative effect on brand and ad attitudes may depend on the type of need stimulated by the ad. Ads that stimulate utilitarian needs typi-

cally illustrate a negatively oriented problem situation, and then indicate the instrumentality of the brand in reducing the problem. The portrayal of a negatively evaluated situation may automatically elicit negative feelings, which in turn reduce consumers' attitude toward the ad. For example, an ad for tartar-control Crest may automatically elicit disgust because a visual shows tartar being scraped from teeth.

Interestingly, automatically generated negative evaluations and emotions may reduce ad attitudes, but need not adversely affect brand attitudes. To the extent that these negative cues convince consumers that the brand reduces the negative aspects (i.e., affects beliefs), emotions may serve as heuristic cues that subsequently have a positive effect on A_B . Thus, the elicitation of negative emotions followed by a demonstration of the brand's ability to remove the negative feelings may have a positive influence on brand attitudes.

In contrast, ads grounded in expressive needs typically show only a positively valenced situation because they are rooted in positively oriented motivations (see Rossiter and Percy 1985, 1987). Such ads are likely to elicit positive feelings and evaluations. This positive affect is likely to have a subsequent positive influence on both A_{Ad} and A_B .

- P_{7c} : When needs are utilitarian, negative feelings automatically elicited by salient ad cues (1) need not have a negative impact on brand attitudes but (2) may negatively affect A_{Ad} .
- P_{7d} : When needs are expressive, few negative feelings are likely to be elicited automatically. Automatically elicited positive feelings will affect both ad and brand attitudes.
- P_{7e} : The mediational effect of A_{Ad} on A_B will be weaker when the ad stimulates utilitarian versus expressive needs.

Note that which cues serve as heuristic indicators of brand benefits is likely to depend on the type of need (see Park and Young 1986). When needs are expressive, for example, consumers focus on salient cues that relate to symbolic/self-image benefits. Hence characteristics such as the attractiveness of the source may serve as an indicator of the credibility of the ad. Such a phenomenon should explain why past research has shown that when involvement is low-moderate and the ad relates to expressive needs, such factors as source attractiveness influence brand attitudes (Kahle and Homer 1985; Petty and Cacioppo 1981).⁹

- P_{7f} : When needs are utilitarian (expressive) and the consumer is engaged in meaning analysis, salient cues that communicate the brand's ability to solve functional problems (that communicate emotional, sym-

bolic, or ego-related meaning) will serve as heuristic indicators of brand benefits.

Level 4 processing, associated responses, and brand attitude formation. When greater processing capacity is allocated to brand analysis and a higher level of processing is invoked, consumers go beyond a schema-driven impression of the ad and engage in a bottom-up analysis of specific points/cues contained within the ad. Two elements characterize this processing level.

One element is an *analytical focus* on and search for salient and nonsalient ad cues perceived as message-relevant. Stored product knowledge, used to evaluate these ad elements, may result in evaluations of the importance, persuasiveness, or relevance of attended information. Such evaluations have been labeled "support arguments" and "counterarguments" (see Table 2, cell 1.2). Support arguments may be evident if the ad is seen to provide information on important or personally relevant attributes. Likewise, the extent to which the ad provides information perceived as compelling or strong should generate support arguments (Petty and Cacioppo 1986a). Finally, responses related to cue relevance or "fit" are likely to appear (see Aaker and Bruzzone 1985; Kahle and Homer 1985; Miniard, Lord, and Dickson 1988). Emotional responses such as anger may be elicited by ads evaluated negatively on each of the preceding dimensions. Consumers' beliefs about the brand also are likely to be affected by evaluations of the importance, persuasiveness, or relevance of message cues (MacInnis 1988).

Note that consumers' ad attitudes are likely to be affected by these evaluations. Hence, an ad that is perceived to contain "important" attributes, persuasive arguments, and relevant information is also expected to be well liked. This notion is supported by research by Alwitt (1987), who found that ad likability was influenced by the extent to which the ad indicated an advantage of the product or provided new information. Schlinger (1979) also found that ads were better liked to the extent that they were perceived to provide relevant news. Finally, MacInnis (1988) found that under high involvement conditions, ad attitudes were affected by the comprehensibility of the ad and the extent to which it provided persuasive information. Hence, these variables may partially affect A_B through the mediational effect of A_{Ad} .

A second aspect of this processing level is that consumers allocate sufficient resources to *integrate* ad cues in working memory. When consumers integrate salient and nonsalient ad elements, their cognitive responses may reflect the formation of one of several classes of interpretive inferences (see Table 2). Coherence inferences are formed when consumers associate presented information (i.e., facts about the

⁹Note that in contrast to basic categorization, consumers engaged in meaning analysis relate the source's attractiveness to the brand.

basketball shoe and the "Revolution" song) to derive new knowledge. Thus consumers may infer that the shoe has a revolutionary design (Alba and Hutchinson 1987). Deductive inferences are formed when consumers integrate advertised information to infer unstated brand attributes. Consumers make causal inferences if they link brand attribute with brand benefit information to infer that the attributes causally affect stated benefits (Alba and Hutchinson 1987). Note that by integrating information, consumers form inferential beliefs. Note also that the analytically oriented information integration operation is necessary for the formation of these inferences.

The attitude formation process is described best as message-based persuasion, the evaluation and integration of salient and nonsalient cues perceived as message-relevant. Cue importance, persuasiveness (Moore and Reardon 1987; Petty and Cacioppo 1979, 1981; Petty, Cacioppo, and Schumann 1983), and relevance (e.g., Friedman and Friedman 1979; Kahle and Homer 1985; MacInnis 1988; Miniard, Lord, and Dickson 1988) have been found to affect brand attitudes under conditions of relatively high processing. The fact that such information is integrated subsequently to form brand attitudes is also consistent with traditional attitude models. According to traditional cognitive response theory, the combination of counter and support arguments influences consumers' brand attitudes, partially through their beliefs about the brand (e.g., Olson, Toy, and Dover 1982; Petty and Cacioppo 1979). Finally, the multiattribute attitude model holds that consumers' attitudes are predicted by the integration of beliefs and evaluations (Fishbein and Ajzen 1975). Both models imply an analytical processing operation consistent with information integration (see also Park and Young 1986).

Cognitive and emotional responses to salient ad cues may be elicited automatically if the ad contains affect-laden stimuli. Their impact on ad and brand attitudes is likely to be weak, however, because the ad and the brand are both evaluated primarily in terms of the quality of brand information. As indicated before, the direction of their effect on ad and brand attitudes may depend on the type of needs the ad evokes. Thus the relationships specified in P_{7c-e} are also likely to be operative at the information integration stage. With information integration we predict that:

P_{8a} : Cognitive and emotional responses based on the importance, persuasiveness, and relevance of ad cues, and cognitive responses reflecting the integration of salient and nonsalient ad information, will be the strongest determinants of brand attitudes.

P_{8b} : Cognitive and emotional responses based on the importance, persuasiveness, and relevance of ad cues affect brand attitudes partially through the mediational influence of brand beliefs and partially through the mediational effect of A_{Ad} .¹⁰

P_{8c} : Cognitive and emotional responses automatically elicited to salient ad cues have a weak effect on ad and brand attitudes.

Level 5 processing, associated responses, and brand attitude formation. At even higher levels of processing, role-taking and constructive operations may be performed. A key element of both operations is that the individual relates information about the brand to the self, thus forming bridging experiences between the self and the brand (Krugman 1965). *Role-taking* involves a vicarious experience in which the individual places the self into the ad or product experience. To engage in role-taking, the individual first must undertake a cognitive appraisal of the situation (Buck 1984; Goldstein and Michaels 1985) and then match what is depicted to his or her own experiences. Identification with the person or situation presented in the ad then allows for a vicarious transformation of the viewer to the situation depicted in the ad. By this vicarious experience, the potential consequences of product use or nonuse become more concrete to the viewer (Puto and Wells 1984).

According to Aaker and Stayman (1989), such transformations are likely only under conditions of high processing motivation (see also Holman 1984; MacInnis and Price 1987). In addition, responses are unlikely to reflect role-taking if emotions portrayed in the ad do not "ring true" (Aaker and Stayman 1989; Hoffman 1986). According to recent theory, ads that lack verisimilitude, those that are not perceived as literal, and those that lack coordination between visual and/or verbal cues reduce believability and disrupt the production of a vicarious experience (Aaker and Stayman 1989; Dichter 1988; Goldstein and Michaels 1985; Shaver et al. 1987). Moreover, empathic identification with the situation or characters implied by the ad is possible only when the ad contains sufficient ad cues (facial expressions, music, prototypical emotion-laden scenarios) to allow for such a transformation. A purely informational ad, which contains no cues about the actor's feelings or the emotional consequences associated with product use or nonuse, is unlikely to elicit a role-taking operation. Finally, the act of role-taking itself is primarily an analogically as opposed to an analytically based processing operation. That is, the individual's analysis of the actor's emotions and his or her identification with the characters or situations implied by the ad are done by analyzing the gestalt of the ad (Park and Young 1986).

Responses for consumers engaged in role-taking

¹⁰MacKenzie, Lutz, and Belch (1986) found that A_{Ad} affected brand cognitions. Our model suggests the relationship between the two constructs goes in the opposite direction. Our model is still consistent with their results, however, because the causal modeling methodology cannot unambiguously determine the direction of causal linkages.

should reveal their empathic identification with the characters, situations, or problems portrayed in the ad (Hoffman 1986; see Table 2, cell 2.1). Hence, we refer to the attitude formation process as empathy-based persuasion, which is defined as a persuasion process that occurs when consumers' attitudes are affected by vicariously experiencing the emotions the source exhibits in response to brand use or nonuse. Consumers who identify with the characters in the ad may also experience intense emotions. In fact, the act of identification may be required for the emotional intensity. For example, an ad that produces such intense or deep (Edell and Burke 1987) emotions as "fear," "joy," and "pride" may be possible only if the consumer identifies with the situation or character portrayed in the ad.

Role-taking in essence provides the individual with a vicarious form of product trial. As trial-based experience has been found to have a strong effect on brand beliefs (Smith and Swinyard 1982, 1983), ads that evoke a role-taking response should contribute to the formation of beliefs about the brand. Thus, elicited emotions should affect brand attitudes through their effect on brand beliefs. Moreover, the valence of evoked emotions should influence the valence of brand attitudes. An ad that enables the consumer to experience vicariously the negative consequences associated with brand use (i.e., overconsumption of alcohol) should generate a negative brand attitude, whereas an ad that enables the consumer to experience vicariously the positive consequences associated with brand use (i.e., its relationship to fulfilling expressive or utilitarian needs) should generate a positive brand attitude. Elicited ad attitudes are likely to mirror the emotional response generated by the ad. Thus, ads that generate favorable emotions are likely to be well liked, whereas ads that elicit negative emotions are not likely to be well liked. For role-taking we predict that:

- P_{9a}: Responses based on empathic identification with the characters and situations in the ad will be the strongest determinants of brand attitudes.
- P_{9b}: Responses based on empathic identification with the characters and situations in the ad influence brand attitudes partially through the mediational effect of brand beliefs and partially through the mediational effect of A_{Ad}.
- P_{9c}: Factors inherent in the ad, such as its verisimilitude, coordination of cues, or the availability of emotion-laden cues, may limit consumers' ability or opportunity to engage in a role-taking processing operation.
- P_{9d}: The more complex the processing operation, the more intense are consumers' emotional responses to ads.¹¹

¹¹Burke and Edell (1989) suggest that feelings may affect thoughts about the ad or brand (i.e., evaluations or judgments). Likewise, as our cognitive responses suggest, thoughts may influence feelings. Though we acknowledge that complex relationships may be present

Level 6 processing, associated responses, and brand attitude formation. With the constructive process operation, the individual embellishes presented brand information by mentally constructing product attributes, benefits, uses, or usage situations not presented in the ad (Alba and Hutchinson 1987; Greenwald and Leavitt 1984; Kisielius and Sternthal 1984; MacInnis and Price 1987). For example, consumers may combine presented information with prior knowledge to consider potential (Puto and Wells 1984) or innovative product uses (i.e., engage in problem solving; see Alba and Hutchinson 1987). Cognitive responses therefore may detail how the brand is relevant to solving expressive and/or utilitarian needs or may reflect descriptions of brand attributes/benefits/uses beyond what the ad presents. According to MacInnis and Price (1987), these constructions can be semantic or imagery-based. The interesting aspect of constructive processes is that after attention to the ad, they involve a subsequent inward focus of attention on the embellished information.

When processing is imagery-based and when processing reflects the potential consequences associated with product use or nonuse, consumers are likely to generate emotional responses to the constructed image (Lang 1979; MacInnis and Price 1987). For example, imagining the negative consequences of not buying the Nike shoes may evoke images of exclusion from a valued social group, which in turn generates fear.

The brand attitude formation process is described as self-generated persuasion, defined as an attitude formation process based on thoughts, ideas, and arguments generated by the individual rather than the message. Cognitive responses associated with constructed product use/nonuse situations should contribute to brand attitudes. Emotions should contribute to the formation of brand attitudes because the consumer attaches bridging experiences between the self and the brand. The evocation of positive (negative) emotions associated with using (not using) the product should contribute to brand attitudes.

Interestingly, the act of self-generated thinking, either imagery- or verbally based, is likely to generate relatively strong beliefs about the brand (Tesser 1978), which in turn affect brand attitudes. Also interesting is that when the individual engages in such self-generated thinking, advertisers have less control over the

among thoughts, evaluations, and feelings, we do not attempt to model these relationships here. We believe our model could readily accommodate these extensions, however. It is also interesting to consider that emotional responses may actually increase the level of processing motivation. This notion is consistent with those of emotion theorists, who propose that emotions have motivational significance. Again, though interesting, these reciprocal relationships are deemed outside the scope of our basic framework.

content of consumers' thoughts.¹² Thus, even though the ad may represent positive consumption outcomes, consumers' imagery of their own product use may result in imagined experiences that are negative. This phenomenon may explain the negative impact of embellishment on brand attitudes found in earlier studies (Kisielius and Sternthal 1984). Finally, with constructive processes, ad attitudes should be relatively weak or nonsalient because the individual's attention is focused internally, rather than externally at the ad. Hence the relationship between ad and brand attitudes is likely to be relatively weak. When the individual is engaged in constructive processes:

- P_{10a}: Cognitive and emotional responses related to imagined product consumption experiences are the strongest determinants of brand attitudes.
- P_{10b}: The relationship between attitudes toward the ad and brand is relatively weak.

Relative Advantages of the Framework

To assess the relative merits of the proposed framework, we compare its features with those of several previously developed frameworks. Space constraints limit our analysis to models that build an integrative account of brand attitude formation processes under various motivation levels. We exclude integrative frameworks that focus on different dependent variables (i.e., choice, Baker and Lutz 1987; comprehension, Burnkrant and Sawyer 1983) or do not include motivation as a mediator (e.g., Kisielius and Sternthal 1984, 1986). Our framework also has some unique implications for research in related areas.

Elaboration likelihood model. Petty and Cacioppo's Elaboration Likelihood Model (ELM) added considerable parsimony to attitude research by suggesting that various attitude formation processes could be classified into two general types, those that take considerable effort/cognitive resources and those that require little thinking. When processing motivation, ability, and opportunity are each high, individuals engage in central route processing, focusing and elaborating on cues relevant to the true merits of the issue. Message arguments evaluated as strong (weak) generate support arguments (counterarguments), which in turn affect brand attitudes. In contrast, consumers who

lack the motivation, ability, and/or opportunity to evaluate the true merits of the issue engage in less effortful processing and use peripheral cues to form attitudes. Factors such as the expertise, credibility, likability, or attractiveness of the source have been found to serve as peripheral cues (Petty and Cacioppo 1979, 1981; Petty, Cacioppo, and Goldman 1981; Petty, Cacioppo, and Schumann 1983; Yalch and Elmore-Yalch 1984; see Petty and Cacioppo 1986a).

Petty and Cacioppo have added extensively to their initial (1983) model, identifying factors that affect the processing motivation, ability, and opportunity (see Petty and Cacioppo 1986a,b). They have also modified their model (see Petty and Cacioppo 1986a,b) to account for anomalous findings (Petty and Cacioppo 1981; Kahle and Homer 1985) and to accommodate criticisms (see Bitner and Obermiller 1985; Miniard, Dickson, and Lord 1987; Stiff 1986).

Our framework incorporates many of the strengths of the ELM. First, like the ELM, it posits that motivation, ability, and opportunity enhance the likelihood that processing resources will be devoted to the ad. We agree that (1) these factors are affected by conditions inherent in the ad, the individual, or the viewing context, (2) there may be more than one route to persuasion, (3) these "routes" differ according to the amount of cognitive capacity they utilize, and (4) the various attitude formation processes differ in the extent of message processing. Finally, we agree that consumers' "responses" to ad exposure may affect their brand attitudes.

However, our framework differs from the ELM in several important respects. First, whereas the ELM primarily addresses situations that correspond to our basic categorization, meaning analysis, and information integration stages, we also detail processing operations and attitude formation processes at higher and lower levels of processing. Second, we detail more explicitly the various types of processing that characterize Petty and Cacioppo's "peripheral route" processing. Miniard, Lord, and Dickson (1988) note that ELM is unclear as to whether "peripheral" route processing reflects an affective or inferential-belief-based mechanism. Our model explicitly separates these processes, tying the affect-based mechanism to basic categorization and the inferential-belief-based mechanism to meaning analysis. Whereas Petty and Cacioppo's (1983a,b) purpose has been to collapse various attitude formation models into two distinct routes, our model attempts to accommodate these various processes explicitly into a single framework. Thus, our model accommodates conditioning, combinatory approaches, cognitive-response approaches, role-playing, and mere thought models of the attitude formation process by linking them with basic categorization, information integration, role-taking, and con-

¹²Interestingly, though advertisers may have less control over the nature of consumers' thoughts at higher levels of processing, there may be a positive relationship between level of processing and attitude stability. Petty and Cacioppo (1986a,b) and Park and Mittal (1985) propose that as processing motivation (and, *ceteris paribus*, the level of processing) increases, brand attitudes become more stable because the individual has scrutinized message arguments or considered their implications for the self. Attitudes also are held with greater confidence. Research addressing these ideas has been reported elsewhere (see review by Petty and Cacioppo 1986a,b).

structive processes, respectively.

Our model also goes beyond the simple analysis of the favorability of consumers' responses to ads to detail the *types* of responses elicited at various levels of processing. These responses extend the cognitive responses typically evaluated in attitude research to include emotional responses and responses associated with the viewing context. Our analysis links these responses to processing operations, attitude formation process, and attitude toward the ad. Moreover, we more clearly explicate major processing constructs such as attention, capacity, operations, subsequent responses, and their explicit link to brand attitudes. This specification adds significantly to the attitude literature. As Chaiken and Stangor (1987) note, attitude researchers have given little attention to these processes, despite their importance as precursors to evaluation.

Our affect transfer mechanism also provides a better theoretical explanation for first-exposure A_{Ad} and A_B attitude formation processes under conditions of low motivation than do the classical conditioning and mere exposure processes implied by the ELM (Petty and Cacioppo 1986a,b). Classical conditioning generally assumes that an affectively valenced stimulus is associated repeatedly with a neutral object (brand) so that the brand ultimately generates the same affect as the unconditioned stimulus (though Stuart, Shimp, and Engel 1987 have found a conditioning effect with first exposure). With mere exposure, consumers come to like the ad and brand simply because of familiarity generated by repeated exposures. As both mechanisms generally involve multiple exposures, they are less suitable to a first-exposure situation than is affect transfer.

Mitchell's brand processing model. Mitchell and colleagues independently developed a model of involvement (Mitchell 1980, 1981, 1983b; Gardner, Mitchell, and Russo 1978; Mitchell, Russo, and Gardner 1980) similar to the ELM, but more strongly grounded in theories of information processing. Mitchell labeled his routes to persuasion "brand versus non-brand processing." We drew on many of the strengths of this model in formulating our own. Like Mitchell (1981), we agree that needs within the individual's goal hierarchy and the advertisement itself influence involvement (motivation). We also agree that involvement influences both the direction of attention and the intensity of processing. Mitchell's model recognizes that variables other than involvement, such as prior knowledge or distraction, affect processing. These ideas are reflected in our ability and opportunity constructs.

According to Mitchell (1981, 1983b), high involvement consumers execute a brand processing strategy, focusing attention on brand-relevant ad information and processing it deeply. Attitudes are based on thoughts about the persuasiveness of presented in-

formation. When involvement is low, consumers may execute a brand processing strategy, activate schema-relevant knowledge, and comprehend the message. However, the consumer does not allocate sufficient attention for critical analysis. Attitudes are thus formed by the evaluation of learned information, rather than the persuasiveness of the message. In a second type of processing that occurs under low involvement, the consumer executes a nonbrand processing strategy. Though the consumer may acquire information from the ad, few thoughts about the advertised message occur and they are not organized coherently. Consumers may not form attitudes after exposure, but form them later if needed. Ad information learned incidentally influences brand attitudes.¹³ Our model incorporates many of these ideas.

Our model is more inclusive than Mitchell's by incorporating needs, processing operations, cognitive and emotional responses, and additional attitude formation processes. The framework also differs from Mitchell's in its treatment of motivation. Though Mitchell defines involvement as a state, his terminology causes some confusion because he discusses high versus low involvement processes. In our model the term "motivation" is restricted to the state itself. We discuss processing operations, not high versus low involvement processing. Thus, we attempt explicitly to remove the definition of the term "motivation" from its effects.

Greenwald and Leavitt's model. Greenwald and Leavitt significantly extended two-route-to-persuasion models by postulating four routes to persuasion. Their analysis made the attitude formation processes corresponding to different levels of involvement more precise. Though their model is one of involvement, they implicitly postulate that lack of ability (competence constraint) or opportunity (capacity constraint) limits the achieved level of processing. Our model incorporates and extends these notions and is considerably more inclusive.

Our model also overcomes some criticisms of Greenwald and Leavitt's model (see similar discussions by Mitchell 1981; Park and Mittal 1985). The most significant pertains to their treatment of involvement. Though they refer to involvement as a process, we define motivation as a state and view qualitatively distinct levels of processing as a consequence of motivation. This approach is more consistent with recent conceptualizations of involvement (Mitchell 1981; Park and Mittal 1985).

Lutz's typology. Recently, MacKenzie and Lutz (1989) modified a typology (see Lutz 1985) of ad-based persuasion processes designed to explain the

¹³Unlike our model, which is limited to explaining the process of attitude formation, Mitchell's model also makes predictions about the effect of involvement on memory.

processes by which A_{Ad} influences brand attitudes. Four persuasion processes are identified by considering whether involvement in the message is high versus low and whether involvement in the ad execution is high versus low. Classic message-based persuasion, analogous to Petty and Cacioppo's central route to persuasion, occurs when motivation to evaluate the message is high but motivation to evaluate the execution is low. Little processing of the ad execution is achieved. A_{Ad} is unlikely to exist or to have any determinant effect on brand attitudes. This processing "route" roughly corresponds to our message-based persuasion stage; however, our model suggests that (1) ad elements are processed to the extent that they are relevant to brand evaluation and (2) ad attitudes exist and are (3) modestly related to brand attitudes.

Dual mode persuasion occurs when the individual is motivated to evaluate both the message and the execution. Processing of the message results in brand cognitions, as with classic message-based persuasion; however, processing of the ad affects (1) consumers' acceptance/rejection of message claims and (2) ad cognitions. These two factors in turn affect brand attitudes through the mediational role of A_{Ad} . We have no directly comparable persuasion process in our model because we do not consider situations in which more than one goal object (brand evaluation and ad evaluation) is held simultaneously. Such a situation represents an extension of our model.

"Pure affect transfer" in Lutz' typology occurs when motivation to process both the message and the execution is low. Though such a process may correspond to our affect transfer process, Lutz' (1985) model does not completely describe this process. "Contextual evaluation transfer" occurs when motivation to process the execution is high but motivation to process the message is low. MacKenzie and Lutz (1989) empirically identify the antecedents of A_{Ad} and their effect on brand attitudes under this condition. This condition has some correspondence with our heuristic evaluation process, but our model focuses more on the role of inferential beliefs in forming brand attitudes.

Aside from areas of inclusion, the basic differences between the models are in the role of ad context as the object of motivation. We do not include both the ad and brand as simultaneous goal objects for processing. Our model also proposes that emotional responses can be achieved not only from executional elements of the ad, but also by considering the brand's relevance to the self.

Implications for Related Research Streams

Types of needs. Our model incorporates the potentially important moderating influence of types of needs on brand processing. Consistent with recent research (Park and Mittal 1985; Park and Young 1986; Rossiter and Percy 1985, 1987), we have identified two basic

types of consumer needs. The type of needs has two important moderating effects on processing. First, it directs which cues are perceived as message-relevant and hence which cues receive attention (see Park and Young 1986).¹⁴ Second, it may influence the valence of elicited emotions. Ads that stimulate utilitarian needs may elicit negative emotions because they arouse unpleasant associations with the utilitarian problem, whereas those that elicit expressive needs may stimulate positive emotions because they demonstrate only the positive aspects associated with the brand (Rossiter and Percy 1985, 1987).

Relationship Between A_{Ad} and A_B

Considerable research has demonstrated that attitudes toward the ad mediate the relationship between ad exposure and brand attitudes (Batra and Ray 1986b; Batra and Stephens 1987; Gardner 1985b; Lutz, MacKenzie, and Belch 1983; MacKenzie, Lutz, and Belch 1986; Mitchell and Olson 1981). Though initially such an effect was hypothesized to predominate under low involvement conditions, recent research has shown a relatively strong relationship under conditions of both low and high motivation (Batra and Stephens 1987; Gardner 1985b; MacKenzie, Lutz, and Belch 1986; Mitchell 1986; Park and Young 1986).

Our model incorporates this idea, positing that A_{Ad} may mediate the relationship between ad exposure and A_B under conditions of meaning analysis, information integration, and role-taking. Our model also makes three extensions to this research. First, we propose that A_{Ad} may not mediate the relationship between ad exposure and A_B at the highest and lowest levels of processing. At the lowest levels of processing, the biasing effect of mood and the failure to discriminate ad from brand attitudes suggest that any observed relationship is purely correlational. At the highest level of processing, ad attitudes are weakly developed because attention is focused internally on self-generated thoughts.

Second, our model extends MacKenzie, Lutz, and Belch's (1986) idea that the variables that predict the mediational effect of A_{Ad} on A_B may depend on the extent of brand processing. According to our model, the variables that influence A_{Ad} (and A_B) depend on whether meaning analysis, information integration, or role-taking operations are performed. Finally, our model extends the A_{Ad} research by indicating that automatically elicited emotional responses to ads sometimes

¹⁴Though we do not distinguish between types of motivation, as Park and Young (1986) do, we agree that at low levels of processing, the processing operations are analogically based. At very high levels of processing, the act of identifying with the characters in the ad may also stimulate an analogical processing mechanism that differs from the analytical focus on message arguments characteristic of information integration.

can have opposite effects on A_{Ad} and A_B (i.e., when the ad appeals to utilitarian motives).

Emotional responses to ads. Recent research has examined the types of emotions elicited by ads (Aaker, Stayman, and Vezina 1988; Holbrook and Batra 1987, 1988) and the impact of emotions on brand and ad attitudes (Aaker, Stayman, and Hagerty 1986; Batra and Ray 1986b; Edell and Burke 1987; Thorson and Page 1988). Though work to date has been largely exploratory, our framework adds direction to this research stream. First, it predicts that emotional responses to ads stem from different sources (i.e., emotional responses to the viewing context, attended features, salient cues, the persuasiveness of the message, constructed images, role-taking). Second, it predicts that emotions are formed in different ways. Some emotional responses are formed relatively automatically, based on the physical (Mehrabian 1972) or psychological association of various stimuli within the ad. Others require the allocation of considerable resources (i.e., role-taking). Third, our model predicts that under some situations, emotions can have opposite effects on ad attitudes and brand attitudes. Specifically, negative attitudes toward an ad, generated by the presence of affectively disliked ad cues, need not translate to negative brand attitudes. Finally,

the framework predicts that emotions themselves have different relative impacts on brand attitudes at different levels of processing. Hence, though automatically generated emotional responses to salient cues may have significant effects on brand attitudes under basic categorization, they may exert little relative impact under information integration or constructive processes.

Conclusion

The purpose of our article is to provide a comprehensive framework that captures and extends state-of-the-art development on information processing from advertisements. Several concerns motivated the development of the model. For example, despite the heuristic value provided by two-route-to-persuasion models, current literature suggested that the processing mechanisms describing attitude formation processes could be articulated more precisely. Integration also was regarded as necessary given developments in related research streams (i.e., the role of emotion, processing antecedents). Finally, causal paths between core constructs such as A_{Ad} and A_B warranted more careful consideration. The framework builds on these concerns while simultaneously incorporating and extending significant contributions of other researchers.

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