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MAPping the Frontiers: Theoretical Advances in Consumer Research on *Memory, Affect, and Persuasion*

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Information processing research published in the *Journal of Consumer Research* has produced theoretical advances in our understanding of consumer behavior. This article highlights two themes that have emerged in consumer research over the past 15 years. These are the interplay between motivation and cognition and the impact of implicit processes on consumer behavior. We examine these themes in three core areas of information processing research—memory, affect, and persuasion. We also discuss methodological innovations that have enabled theory building and conclude with suggestions for future theoretical work in consumer research.

What theoretical progress has information processing research in consumer behavior forged over the past 15 years? In this article, we address this question by highlighting a number of theoretical advances in information processing research published by the *Journal of Consumer Research (JCR)*. We focus our attention on two themes that emerged in the 1990s, the interplay between motivation and cognition and the study of implicit processes. We also discuss methodological advances in consumer research that have enabled theory building. These themes emerge from research in three core areas: memory, affect, and persuasion. Memory is broadly defined to include aspects of information encoding, learning, categorization, and knowledge. Affect refers to research on moods and emotions, while persuasion encompasses research on attitudes and judgments. In each area, we highlight the contribution of a few papers that exemplify a particular topic. This approach is therefore selective rather than broad. Our purpose is not to pick the

“top 10” papers in an area but rather to identify papers that together illustrate theoretical progress in the discipline of consumer research.

MOTIVATION AND COGNITION

Research published in consumer behavior in the late 1980s and early 1990s tended to focus on the cognitive processes underlying consumer judgments and decisions. The last decade of consumer behavior research has seen a resurgence of research examining how motivational forces shape cognition. This is consistent with research in social cognition that has embraced the interplay between motivation and cognition and proposed that the two constructs are intertwined (Kruglanski 1996). This synthesis of motivation and cognition has enriched our understanding of how consumers’ goals and desires influence the way they remember, process, and judge information. Below we discuss specific theoretical advances in the integration of motivation and cognition that have influenced memory, affect, and persuasion.

Memory

Traditional models of information processing posit that memory, as measured by recall or recognition, is influenced by the manner in which information is encoded as well as the context in which information is retrieved. Motivation can affect all stages of information processing—the extent and direction of stimulus encoding (e.g., via activation of

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goal-relevant categories; Higgins and King 1981), storage (e.g., the superior recall of information processed under impression formation vs. memorization; Srull, Lichtenstein, and Rothbart 1985), and retrieval (e.g., recall of information may be biased by the goal at retrieval; Anderson and Pichert 1978).

Although research on this issue remains sparse, consumer researchers have begun to explore the impact of motivation on memory in consumer contexts. Wood and Lynch (2002) found that high-knowledge consumers learn less about new products than low-knowledge consumers because of motivational deficits that manifest at the time of information encoding. Van Osselaer and Janiszewski (2001) also examined the role of motivation in learning brand associations and found that adaptive learning of feature-benefit associations occurs only when consumers are motivated to learn to predict a benefit. Aaker and Lee (2001) provided evidence of motivational influences on encoding information and showed that recall is greater when a persuasive appeal (promotion vs. prevention focused) is compatible with one's self-regulatory motive.

Other research by Park and Hastak (1994) has examined the influence of consumer involvement (i.e., motivation accuracy) with a product at the time of encoding as well as at the time of retrieving information on product judgments. Consumers under high involvement at the time of judgment (but low involvement at the time of encoding) searched memory for product-relevant information and presumably used it to form a judgment (even if a previously stored evaluation was available). This finding points to the effects of motivation on the extent of memory search at the time of retrieval without evidence of biased search. Biased memory for previous product experience based on postexperience advertising may result if consistency motives guide memory retrieval. Braun (1999) argued for a cognitive source memory explanation for this phenomenon, but it is likely that motivation also plays a role.

Motivation to regulate affective states can also influence memory so that mood-congruent information is recalled in a positive mood state and, given motivation to regulate one's mood, mood-incongruent information is retrieved in a negative mood state (see Blaney [1986] for a review). While there is an underlying cognitive rationale for mood-congruent recall based on the network theory of affect, the role of motivation is invoked to explain mood-incongruent recall in a negative mood state (Blaney 1986; Singer and Salovey 1988). Research on positive mood and recall has found mixed results, with some research finding limited information processing (Mackie and Worth 1989) and other research suggesting enhanced relational elaboration and recall (Isen and Daubman 1984). Lee and Sternthal (1999) tested the relational elaboration hypothesis and found that a positive mood enhanced learning and recall of brand names, relative to a neutral mood, by fostering relational elaboration linking the brand name to the category as well as enhancing brand name rehearsal at encoding. A motivational explanation for this finding comes from the hedonic contingency

account for mood effects (Wegener, Petty, and Smith 1995). Positive-mood participants engaged in greater processing of the brand names because they expected the names to be positively valenced.

Affect

Motivation has also been found to directly influence affect through processes such as mood regulation. Erber and Erber (2000) question the hedonistic assumption that people like to feel good and avoid feeling bad and suggest that this oversimplifies motivation. Rather, they propose a contextual model of mood regulation that emphasizes that mood management is strategic and that one's judgment of mood appropriateness is the crucial motivator. Evidence for mood regulation has been found in the recent consumer behavior literature in terms of hedonic assumptions of positive-mood maintenance (Meloy 2000) as well as strategic mood regulation (Cohen and Andrade 2004). While the basic predecisional distortion effect (where new information is interpreted as favoring the tentatively preferred brand) is present even under neutral mood conditions, it is exacerbated under positive mood conditions. Meloy (2000) reports that during the choice process, participants in a good mood are motivated to maintain their mood and hence are likely to discount mood-disrupting information, such as negative information about their preferred brand. Thus, the motivation to maintain a positive mood can actually result in sub-optimal choice.

Cohen and Andrade (2004) provide evidence for the strategic mood management perspective and develop a model of task-contingent affect regulation. Their experiments provide support for the role of learned affective state-behavior contingencies in mood regulation and also show that people appear to have insight into these contingencies (e.g., negative moods are preferred for analytical tasks, whereas positive moods are preferred for creative tasks). Further, people in a neutral mood are less likely to optimally match their affective state to the upcoming task, suggesting that polarized affective states (more than neutral states) provide people with cues that allow them to judge their readiness for an upcoming task. Finally, this research establishes that people are able to regulate their moods in accordance with their naive theories regarding the appropriate mood for a given task.

Persuasion

Dual-process models of persuasion hold that individuals may either engage in extensive message elaboration (systematic processing) or use simplifying decision rules (heuristic processing). Under conditions of high motivation and/or ability, people comprehensively process and integrate all advocacy-relevant information. However, when motivation and/or ability are low, people use peripheral cues to form attitudes (Chaiken 1980; Chaiken and Maheswaran 1994; Petty and Cacioppo 1979). During the past three decades, most research in consumer-related persuasion has evolved

around this conceptualization. One extension of this model has systematically investigated the different consumer-relevant operationalizations of motivation and ability (Burnkrant and Unnava 1995; Johar and Simmons 2000; Maheswaran and Sternthal 1990; Meyers-Levy and Maheswaran 1991, 1992; Meyers-Levy and Peracchio 1995a, 1995b; Peracchio and Meyers-Levy 1997; Priester, Dholakia, and Fleming 2004). Other extensions of this model have examined consumer-relevant cues, such as advertisement execution (Peracchio 1992, 1993; Peracchio and Meyers-Levy 1994; Peracchio and Tybout 1996), brand name (Gürhan-Canli, Mick, and Brucks 2003), and country of origin (Maheswaran 1994). Consumer research has also challenged the view that use of peripheral cues is blind to their utility and has shown that under some conditions (e.g., high arousal), only cues perceived to be diagnostic are used (Miniard et al. 1991; Pham 1996).

In a significant recent development, research has shown that under certain conditions, consumers may not necessarily engage in objective processing but may choose to selectively process message-relevant information in the service of their motivational goal. This view of *motivated reasoning* has enriched our understanding of persuasion by identifying two types of motivations, defense and impression, in addition to accuracy motivation that can also guide processing and persuasion (Agrawal and Maheswaran 2005b; Ahluwalia 2002; Eagly and Chaiken 1993). Each of these three goals has been viewed as promoting distinct motivational concerns. Accuracy motivation goals are primarily concerned with establishing the validity of current attitudes and are thought to induce objective processing. However, defense and impression goals are thought to induce qualitatively biased processing. Thus, while earlier research has focused mainly on the amount/quantity of elaboration as an antecedent of persuasion outcomes, the incorporation of motivation in this research has produced insights into the role of elaboration quality on persuasion. Persuasion research has also begun to focus on attitude strength measures, such as attitude resistance and persistence, as outcomes of different types of elaboration, in addition to examining attitude extremity (see Sengupta, Goodstein, and Boninger 1997).

In the consumer behavior context, Jain and Maheswaran (2000) demonstrated that when consumers hold strong preferences, they engage in motivated reasoning when the new information is inconsistent with the perceivers' preferences. Preference-inconsistent information was processed in greater depth and counterargued more than preference-consistent information. Relatedly, Sengupta and Johar (2002) found that consumers' motives at the time of encountering inconsistent information (e.g., forming an integrated attitude vs. minimizing later embarrassment) have a significant influence on the results of elaborating on the information—while both motives produce a high level of elaboration, the motive to form an integrated attitude increases the predictive strength of the final attitude, while a motive to minimize embarrassment actually decreases final predictive strength by increasing participants' underlying

ambivalence. This research points to the importance of considering antecedent motivations and the type of elaboration—in addition to simply the amount of elaboration—in determining persuasion outcomes.

Another development examining selective processing has addressed the resistant effects of defensive processing in the context of counterattitudinal information (Ahluwalia 2000, 2002). Ahluwalia (2002) found that highly (vs. less) committed consumers showed more resistance to change in response to negative information about the target brand. In a related extension, Agrawal and Maheswaran (2005b) have examined the selective use of the heuristic cues under motivated reasoning in the context of outcome bias. While past research has documented that the use of heuristic cues is attenuated under high motivation, Agrawal and Maheswaran (2005b) showed that motivated reasoning results in the selective use of heuristic cues (e.g., outcomes) if they are consistent with the motivation.

The influence of culture on persuasion can be viewed through a cognitive (accessibility of values/beliefs) or motivational (self-affirmation) lens. Culture can be operationalized as an individual-level variable, self-construal (Aaker and Williams 1998), or a culture-specific individualism-collectivism variable (Han and Shavitt 1994; Maheswaran and Shavitt 2000; Triandis 1989). In general, independent self-construals have been associated with Western cultures, and interdependent self-construals have been primarily observed in Eastern cultures. Self-construals function as individualized frameworks and give shape to individuals' motivations (Markus and Kitayama 1991). Those with independent self-construals are motivated to affirm the self, whereas those with interdependent self-construals are motivated to affirm their group identity.

Extant research examining cultural differences has produced a set of diverse findings suggesting that the effect of self-construal on persuasion warrants further inquiry (Aaker and Williams 1998; Gürhan-Canli and Maheswaran 2000a, 2000b; Han and Shavitt 1994). Some studies have shown that either independent or interdependent self-construals may be chronically accessible in a given culture and that advertising appeals that are compatible with and reflect the chronic values are more persuasive (Aaker and Maheswaran 1997; Han and Shavitt 1994). However, other research has argued that both interdependent and independent self-views may coexist in any given culture and that either could be temporarily primed and subsequently influence persuasion (Aaker and Lee 2001). In recent research that addressed this issue, Agrawal and Maheswaran (2005a) have identified brand commitment as a moderating variable that determines the effectiveness of appeals consistent with the consumers' chronic or latent self-construal. They documented that under high commitment, appeals consistent with the chronic self-construal are more effective. In contrast, under low commitment, appeals consistent with the primed self (independent or interdependent) are effective. In addition to self-construal, culture-related factors, such as bilingualism, have been shown to influence persuasion under lower versus

greater motivation levels (Luna and Peracchio 2001, 2005; Luna, Peracchio, and de Juan 2003).

Another way in which motivation influences persuasion may be through its effect on the relative weighting of affective and substantive cues in the message. Pham and Avnet (2004) have distinguished between persuasion based on subjective affective responses to an ad (more likely when motives are related to ideals) and that based on message substance (more likely when motives are related to oughts). In this case, the amount of elaboration is the same in all conditions, but a difference in type of motivation (promotion vs. prevention focus) leads to different antecedents of persuasion. Along similar lines, Yeung and Wyer (2004) found that exposure to product experience increases the effect of affective states on persuasion, but exposure to verbal product information limits the effects of affect on persuasion. Williams and Aaker (2002) demonstrated that ads that highlight mixed emotions increase felt discomfort among those with a lower (vs. higher) propensity to accept duality (e.g., Anglo Americans) and hence reduce persuasion. The mechanism may be motivational in that felt discomfort is aversive.

This section on motivation and cognition has focused on how motivational forces can influence consumers' cognitions and behaviors. An important question concerns whether people are aware of these influences on their behavior, and we turn to this issue next.

IMPLICIT PROCESSES

The dominant paradigm in consumer research, the cognitive information processing approach, involves conscious, deliberative processing (Jacoby, Johar, and Morrin 1998). Consumer researchers have begun to explore the appropriateness of purely consciousness-based information processing models (Janiszewski 1990) and are finding that people can behave without conscious awareness and are influenced by automatic and nonconscious processes in their purchase and consumption decisions (Fitzsimons and Shiv 2001; Janiszewski 1993; Shapiro 1999). Research indicates that memory, affect, and persuasion can be formed in "an immediate, automatic manner upon the mere presence or occurrence of that object or event" (Bargh 2002, 281).

Automatic processes have often been characterized as possessing four distinguishing features: efficiency, in that they occur without deliberative effort on the part of an individual and are immune to conditions that tax an individual's cognitive resources, and a lack of intention, conscious awareness, and control (Bargh 1996). By contrast, conscious processing has been thought to consume cognitive resources and to be intentional, controllable, and within the awareness of an individual. Recent consumer research supports the contention that automatic processes must have one or more of the four distinguishing features to be differentiated from conscious processing and that many processes must have both automatic and conscious components (Raghubir and Krishna 1996; Yorkston and Menon 2004). Consumer researchers have also begun to provide a variety of empirical demonstrations of the impact of automatic

and nonconscious processes on judgments (Raghubir and Krishna 1996; Raghubir and Srivastava 2002; Yorkston and Menon 2004). For example, Raghubir and Krishna (1996) introduce research on the impact of spatial perception biases on distance judgments to the consumer domain. Their findings indicate that consumers use the perceptual salience of direct distance measurement in an automatic manner in estimating distance. A two-stage model of cognition, one that suggests that information processing consists of an initial automatic evaluative stage followed by second stage involving deliberative processing, offers an explanation for their findings. In the first, automatic stage, consumers develop a holistic judgment of distance based on perceptually salient information. The second, adjustment phase consists of a more systematic distance assessment. Yorkston and Menon (2004) provide further evidence for two-stage judgment formation in their investigation of the phonetic effects of brand names. In their research, the sound symbolism of a brand name is initially processed automatically and subsequently adjusted according to the diagnosticity of brand name information. They provide evidence for this process by showing greater influence of first-stage, automatically processed information, when cognitive capacity is impaired.

The features that most typically distinguish automatic processing are a lack of awareness and control of a mental process (Alba and Hutchinson 2000; Bargh 1989). Such nonconscious processing occurs when an individual is unaware of or misidentifies the factors that influence memory, affect, and persuasion. Below we present an overview of recent consumer information processing findings regarding implicit processes.

Memory

Consumer research suggests that while a person focuses conscious attention on a primary task, other information that is not attended to can be processed (Shapiro 1999). This nonconscious, incidental exposure often occurs without explicit memory for ad, product, or marketing stimuli and can influence affect and persuasion. Consumer researchers have referred to this type of processing as implicit, unconscious, or incidental (Alba and Hutchinson 2000). An early demonstration of the power of such implicit memory comes from Nedungadi (1990), who found that simply increasing a brand's accessibility in memory via priming can influence the probability of the brand's being chosen even if its evaluations are unchanged. More recently, Fitzsimons and Morwitz (1996) found that asking a purchase intention question activated memory for the queried product category. The accessibility of this memory then affected intention to purchase.

Affect

Previous research in both marketing and psychology provide evidence that nonconscious processing of a stimulus creates a feeling of familiarity, resulting in positive affect toward the stimulus (Herr and Page 2004; Janiszewski 1990;

Zajonc 1968). This research suggests that the process by which such affect is formed is not accessible to an individual. Consumer research has begun to provide evidence for the automatic operation of some affect formation processes and for the subconscious resource allocation processes that may underlie the nonconscious development of affect (Janiszewski 1990, 1993). Relying on the matching-activation hypothesis, Janiszewski provides evidence that the affect for a stimulus can be enhanced when its placement results in engaging a single hemisphere. This finding suggests that nonconscious and automatic processing influence affect formation.

Persuasion

Brendl, Markman, and Messner (2001, 2003) document a powerful devaluation effect that occurs without conscious awareness. They find that when a focal need is activated (e.g., to eat), objects unrelated to that need (e.g., shampoo) become less valuable. Consumer researchers have begun to find that nonconscious processes affect not just attitudes but also product choice (Fitzsimons and Shiv 2001; Mandel and Johnson 2002; Shapiro 1999; Shapiro, MacInnis, and Heckler 1997). Incidental, nonconscious exposure to advertising increases the likelihood that an advertised product is included in a respondent's consideration set (Shapiro et al. 1997). Mere exposure to a product results in an increased preference for that product (Janiszewski 1993). Priming product attributes on a Web page via background pictures and colors can also affect product choice, without conscious awareness of this effect (Mandel and Johnson 2002). Thus, consumer research provides evidence that advertising can affect buying decisions even if respondents do not process an ad attentively and do not recall being exposed to or influenced by the ad. Findings in consumer research suggest that "ads receiving limited attention may nonetheless be effective agents of attitude change" (Janiszewski 1993, 376). More recently, Williams, Fitzsimons, and Block (2004) provide evidence for nonconscious effects on behavior by documenting that behavioral-intent questions change behavior (i.e., the mere-measurement effect) nonconsciously, without consumers' awareness; however, if the persuasive intent behind the questions is detected, correction takes place, and the mere-measurement effect is attenuated.

Our examination of implicit processes and our earlier review of the interplay of motivation and cognition highlight two topics that offer theoretical advancements to consumer research. Many of these and other advances were facilitated by methodological innovations in consumer research. In the next section, we document some of the methodological developments in consumer research furthering theory.

METHODOLOGICAL INNOVATIONS TO ADVANCE THEORY

Several methodological advances have enabled consumer behavior researchers to isolate processes underlying effects and to specify types of consumers that utilize different pro-

cesses (Lehmann 1999; Pham and Johar 1997). Other developments include a movement away from the sole use of closed-ended questionnaire responses to the use of additional and insightful dependent measures, such as response latencies (Herr and Page 2004). Methodological advances have also focused on improving the interpretation of complex experimental results (Hutchinson, Kamakura, and Lynch 2000). Below we highlight several of the methodological innovations in the study of memory, affect, and persuasion.

Memory

Consumer researchers have acknowledged that recall is not always retrieval of information in memory but may be the construction of a plausible response. Pham and Johar (1997) developed a methodology to assess the response construction process. The authors advanced a process decomposition model to estimate the probability that respondents use one of four processes to retrieve the source of a promotional message. The model enables theoretical insights into the likelihood of using each of the processes under different conditions and the cognitive resources demanded by each process. It relies on stimuli being constructed in such a way that conditional probabilities can be assigned for each response, given that a specific process was used. Observed aggregate responses in each condition are then combined with the conditional probabilities to estimate the probability that a particular process is used in each condition. The approach in this article departs from other process decomposition models developed in the psychological literature (e.g., Jacoby 1991). Process decomposition models, in general, assume independence of processes; in other words, people are assumed to use one and only one process. These models should be extended to account for the use of combination processes.

Affect

Although the study of affect generally uses cognitive paper-and-pencil measures to tap into emotions, consumer researchers have recognized the inadequacy of affect scales to tap into felt affect and have begun to examine alternative methods for measuring emotions. For example, Vanden Abeele and MacLachlan (1994) assessed the reliability and validity of the warmth monitor (Aaker, Stayman, and Hagerly 1986) as a process-tracing measure. Stayman and Aaker (1993) adapted this warmth monitor to a dial-turning measure and used it to measure a wider array of emotions (see also Woltman Elpers, Mukherjee, and Hoyer 2004). Recently, Pham et al. (2001) used a continuous dial-turning instrument (DTI) to assess real-time affect. This instrument employs an electronic dial that can be turned from 1 to 100; the position of the dial can be recorded in real time, thus enabling a study of moment-to-moment changes in affect. Pham et al. (2001) also used the DTI instrument to capture the time taken to reach a final response and concluded that affective responses are faster than evaluative, reason-based responses. This analysis enabled them to support the the-

oretical notion that affect-based processes are advantageous in enabling rapid responses to changing environmental stimuli. Information processing research could benefit from further development and integration of these measures of affect.

Persuasion

Research on persuasion generally uses attitude scales to measure evaluations. Consumer researchers have applied Anderson's model of information integration to study the locus of the effect of different situational variables on persuasion (Adaval 2003). Building on the routine attitude measurement procedure, Johar, Jedidi, and Jacoby (1997) developed a new methodology to study the attitude formation process, assuming the averaging model proposed by Anderson (1981). Participants formed evaluations of a product based on a possible total of 46 items of information; they accessed as many items as they desired and reported their evaluations on each item. The authors used varying-parameter regression to estimate the model and found that weight given to new information (i.e., attitude updating) is greater under high- than under low-processing ability conditions. This research was able to estimate order effects when order was endogenous; that is, participants were free to access information in any order. The model uncovered a tendency toward a recency effect such that information accessed later is given greater weight than information accessed earlier. This recency effect is attenuated under conditions of high category knowledge. The uncovering of a recency effect helps address a long-standing theoretical controversy regarding primacy versus recency effects in impression formation.

GENERAL DISCUSSION

Looking back at the past 15 years of research published in *JCR*, we identified three areas of research that have been at the forefront of theoretical progress in consumer research. These themes emerge over time, with multiple researchers tackling different aspects of the same question. In the early 1990s, consumer researchers might not have picked these to be the hot topics that were attracting the most research attention. It is only with hindsight that a pattern surfaces. Research on the interplay between motivation and cognition and on implicit processes provides strong evidence for the theoretical progress that information processing research in consumer behavior has made over the past 15 years. We acknowledge that our focus on two theoretical themes has meant the exclusion of several important papers published in *JCR* in the past 15 years, including those with a focus on purely cognitive theories of language and learning (e.g., Broniarczyk and Alba 1994; Schmitt and Zhang 1998; Tavassoli 1998). In an earlier review of consumer research, Calder and Tybout (1987) contended that the objective of research in consumer behavior is to produce theoretical knowledge advancing our understanding of the consumer. It appears that along with those researchers studying consumer culture theory (Arnould and Thompson 2005), in-

formation processing researchers are making steady progress toward this objective.

The examination of the past 15 years of information processing research in consumer behavior highlights differences between consumer behavior theorists and psychologists. Researchers in consumer behavior appear to approach psychological issues with a different lens. By focusing on everyday consumer experiences, researchers immersed in consumer theory have identified unique issues that have not been explored in depth in psychology. Examples include research on the effect of interactive Web-based communications on persuasion (Schlosser 2003), on the persuasive influence of negations (Grant, Malaviya, and Sternthal 2004), on package size and quantity estimation (Folkes and Matta 2004), on selection of shopping agents (Gershoff, Broniarczyk, and West 2001), on categorization of new products (Moreau, Markman, and Lehmann 2001), on brand extensions and core-brand feedback effects (Ahluwalia and Gürhan-Canli 2000; Gürhan-Canli and Maheswaran 1998; Gürhan-Canli et al. 2003; Loken and John 1993; Loken and Ward 1990), on country of origin effects (Gürhan-Canli and Maheswaran 2000a, 2000b; Maheswaran 1994), and on demarketing of harmful products (Pechmann and Ratneshwar 1994).

The exploration of these issues has allowed consumer behavior theorists to offer important theoretical insights to psychology. For example, Meyers-Levy and Peracchio (1995b) investigated the impact of an advertising executional element, color versus black-and-white images, on persuasion. The findings of this research provided significant insight into elaboration-likelihood theory by showing that a single ad executional element, a color image, can be processed as either a central argument or a peripheral cue, depending on the ad viewer's motivation level. In general, persuasion research in consumer behavior has provided theoretical insights by both extending the extant framework as well by identifying unique variables and effects that are consumer relevant.

Although significant theoretical advances in consumer research are evident over the past 15 years, much research enhancing our theoretical understanding of the consumer remains for future investigation. For example, research examining the interplay between motivation and cognition found that consumers may be aware of persuasion and may be motivated to resist persuasion attempts (Friestad and Wright 1995). Recent research has documented that persuasive attempts are less successful when consumers are primed with persuasion knowledge (Ahluwalia and Burnkrant 2004; Williams et al. 2004). These findings have implications for future research studies examining how consumers develop persuasion knowledge-related motives over time as well as for considering when persuasion may be conscious or nonconscious. In addition, the past 15 years of consumer research has found support for Bornstein's (1989) contention that preferences and choices can emerge without conscious awareness of the preference formation process. Our findings in consumer research seem to suggest that implicit processes may underlie decision biases; reliable

and valid measurement of implicit attitudes remains a challenge (e.g., Brendl et al. 2001; Greenwald, McGhee, and Schwartz 1998).

What direction should the field take in the next 15 years? Any recommendation on this issue reflects idiosyncratic preferences, and the prescription offered here is no different. With this caveat, we offer three possible directions for consumer behavior researchers: (1) focus on the global consumer, not just the Western marketer; (2) consider dynamic processes rather than one-shot exchanges; and (3) update information processing models.

The Global Consumer

We suggest that it is time we took a broader look at consumers, including those at different life stages, of different cultural backgrounds, and of varying means. Cross-cultural research has started documenting differences between individualistic and collectivist cultures (Aaker and Maheswaran 1997). Consumer research should move beyond dichotomous distinctions to richer classifications of cultural differences (e.g., horizontal and vertical individualism and collectivism: Triandis and Gelfand 1998; bilinguals: Luna and Peracchio 2001, 2005) that capture societal influences on psychology. We need to consider issues such as different belief systems and how they affect consumption (Mukhopadhyay and Johar 2005). The psychology of middle-class Asians may have more in common with that of middle-class Americans than with that of Asians of fewer means. The same belief system (e.g., individualism) may manifest differently across cultures. For example, findings suggest that life satisfaction in collectivist cultures is not driven by self-esteem, as it is in individualistic cultures (Diener and Diener 1995). However, it may be the case that self-esteem is reflected in different ways and serves different goals across cultures rather than that self-esteem needs are low in collectivist cultures (Chen and Brockner 1996). Cross-cultural research offers a platform for discovering the effects and psychological processes that lead to similarities as well as differences in consumer behavior (Maheswaran and Shavitt 2000).

The other aspect of this prescription is to move beyond managerial implications to study consumer implications of our work. Our collective emphasis as researchers is to vary aspects of the marketing mix, such as communications, and examine consumer behavior. We build models that implicate marketer actions (e.g., message frame), marketplace characteristics (e.g., number of options), and characteristics of the consumer (e.g., accuracy motive, need for cognition). This approach has yielded rich insights into individuals' information processing and can benefit marketers trying to influence consumers. The other perspective concerns benefiting consumers and helping them achieve their goals. This implies studying variables under the consumer's control that affect information processing as independent variables and variables likely to benefit the consumer (e.g., satisfaction or happiness) as dependent variables.

Other aspects of consumer behavior besides attitudes and

purchase also merit attention. These include social aspects, such as designing communications to facilitate consumer well-being (Johar 1995; Keller and Block 1996; Keller, Lipkus, and Rimer 2002; Luce and Kahn 1999; MacInnis and De Mello 2005; Moorman 2002; Raghuram and Menon 1998; Wansink and van Ittersum 2003) and examining ways to increase social welfare (e.g., increasing voting participation rates or charity and donation efforts). Consumer research should examine specific types of consumer roles (e.g., as voters or patients). In the domain of patients as consumers, several important questions invite investigations: What type of information processing precedes this decision? What types of biases are patients susceptible to? How are costs and benefits computed? For instance, patient noncompliance with doctor-recommended treatments is a major problem, and consumer researchers can isolate the underlying mechanisms, such as noncomprehension, forgetting, and reactance. In the citizens-as-consumers context, what biases affect voting behavior, and how can we increase citizen involvement in social issues (e.g., Morwitz and Pluzinski 1996)? In the context of consumers in society, what factors affect charity (Strahilevitz and Myers 1998) and socially responsible behavior (Pechmann and Ratneshwar 1994)?

Consumer Relationships as Dynamic Processes

Much of consumer behavior research is focused on understanding how consumers respond to specific one-shot events, be they advertising or some other aspect of marketing. However, marketing, more than any other field, is characterized by continuous exchange over time. Consumers shape and reshape their opinions in response to input from marketers, competitors, and other consumers. Now that we have an understanding of how different elements operate in isolation, it is time to examine how a sequence of events affects consumer information processing. Consumer research should move in the direction of studying the updating of memory and judgments (see Johar, Sengupta, and Aaker 2005). Incoming information may be consistent or inconsistent with other external, as well as internally represented, information. Studying the conditions under which attitudes are sticky versus labile is an important area of research. While the literature on belief updating suggests that beliefs are often resistant to change (Lord, Ross, and Lepper 1979), it is not clear that this finding would apply to issues such as brand (vs. self- or people) impressions. Recent research on judgment revision (Fabrigar and Petty 1999; Lord and Lepper 1999) can help shed some light on this issue and can inform consumer research.

Updating Information Processing Models

We need a comprehensive model of information processing that incorporates recent findings on the interplay between motivation and cognition and implicit processes (see Bettman 1979). Emerging research on motivational forces shaping cognition and on implicit memory and attitudes needs to be incorporated. In terms of motivational influences, early work

in consumer behavior differentiated between the effects of a choice and those of a judgment goal on information processing (Johnson and Russo 1984). More recently, consumer researchers have studied the effects of a broader variety of goals, including impression motives (Agrawal and Maheswaran 2005b), defense motives (Ahluwalia 2002), regulatory goals (Aaker and Lee 2001), emotion-driven goals (Keller and Block 1996), and self-esteem bolstering (e.g., through mortality salience; Arndt et al. 2004; Maheswaran and Agrawal 2004), and these influences need to be incorporated. The work on implicit attitudes has brought together research on implicit memory and attitude theory. Research now needs to highlight how implicit and explicit attitudes can exist simultaneously (Wilson, Lindsey, and Schooler 2000).

In closing, we note that any such comprehensive model of information processing must take into account the myriad findings in research on behavioral decision theory. Information processing and decision making research have been separate streams of research, and each has produced unique insights. However, this is a false dichotomy. We believe that it is time for more collaboration and bridging of ideas in the two streams. Such cross-fertilization has the potential to produce powerful findings concerning the processes underlying counterintuitive consumer phenomena in the areas of judgment and choice. Studying the interplay between choice and attitudes has a long-standing history going back to work on cognitive dissonance and self-perception. The wheel has come full circle, and we hope to see more research in this exciting area in the future.

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