

# CONSUMER PSYCHOLOGY: Categorization, Inferences, Affect, and Persuasion

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■ **Abstract** This chapter reviews research on consumer psychology with emphasis on the topics of categorization, inferences, affect, and persuasion. The chapter reviews theory-based empirical research during the period 1994–2004. Research on categorization includes empirical research on brand categories, goals as organizing frameworks and motivational bases for judgments, and self-based processing. Research on inferences includes numerous types of inferences that are cognitively and/or experienced based. Research on affect includes the effects of mood on processing and cognitive and noncognitive bases for attitudes and intentions. Research on persuasion focuses heavily on the moderating role of elaboration and dual-process models, and includes research on attitude strength responses, advertising responses, and negative versus positive evaluative dimensions.

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## INTRODUCTION

A recent *Annual Review of Psychology* chapter (Simonson et al. 2001) describes the consumer behavior literature as divided into three major subgroups: (a) the consumer information processing segment, (b) the behavioral decision theory (BDT) segment, and (c) the postmodernist, postpositivist, interpretive segment, the first two of which have psychological foundations. The first subgroup, consumer information processing, includes consumer cognition and affect, and is the focus of the present review. Consumer information processing has as its theory base social and cognitive psychology (e.g., research by Bargh 2002, Barsalou 1999, Chaiken 1980, Fishbein & Ajzen 1975, Fiske & Neuberg 1990, Higgins 2002, Markus & Kunda 1986, Petty & Cacioppo 1986, and Wyer & Srull 1989, to name just a few). The BDT literature, which includes topics such as choice models, economic psychology, and consumer search strategies, draws from a somewhat different psychological literature (see Simonson et al. 2001) and is covered in this review only to the extent that it overlaps with topics addressed. Individual differences research (personality, individual difference measures, and expertise) and domain-specific findings such as price perceptions, ethics and socially responsible business practices, social marketing, survey research, Internet marketing, and others, are not reviewed here unless applicable to the theoretical issues addressed. Included in this review is theoretically based, empirical research in consumer psychology published primarily in four journals: *Journal of Consumer Research*, *Journal of Consumer Psychology*, *Journal of Marketing Research*, and *Journal of Marketing*.

From 1982 to 1998, *Annual Review of Psychology* articles reviewed the consumer psychology literature every four years (Kassarjian 1982, Bettman 1986, Cohen & Chakravarti 1990, Tybout & Artz 1994, Jacoby et al. 1998). In 2001, Simonson et al. broke with tradition and wrote a historical perspective on consumer research and a more general discussion of philosophical debates in the discipline. With the expansive nature of the field, it has become increasingly difficult to evaluate all consumer psychology literature in a single review.

The present chapter returns to a more traditional review of consumer research, but differs from prior reviews in that it is both narrower in topic focus (consumer categorization, inferences, affect, and persuasion) and covers a broader range of years, 1994–2004, with primary emphasis on research in the years 1997–2004.

Research in the years 1994–1996 was reviewed previously (Jacoby et al. 1998), and is included to the extent that it helps frame and clarify research on the topics addressed. Research published outside the designated years or in publications outside of the four journals noted is included selectively.

## CONSUMER CATEGORIZATION

During the review period, research on brand categories (e.g., Healthy Choice products) and goal-derived categories (e.g., things to eat in my car on the way to work) has increased relative to more traditional research on product categories (e.g., automobiles, shampoos). Research on brand categories has focused on the manner in which perception of new category members (brand extensions) are influenced by category beliefs and affect and also on how information about new category members reciprocally influence beliefs and attitudes about the category. Research on goal-derived categories focuses on the flexibility of category representations, and the effects of goals on cognition and affect. Research on the self, as a category and as a basis for processing information, has continued and is increasingly directed toward the study of self-construals and multicultural views of the self.

### Similarity-Based Category Inferences to New Category Members

Consumers regularly use category information in making judgments about a new category member. For example, test-driving a Lexus hybrid automobile may lead consumers to infer that it shares similarities with a traditional Lexus (e.g., high performance, prestige, leather seats). Similarity-based inferences such as these have been the focus of research on brand categories. A brand category, such as Lexus, can be viewed as both a set of attributes (e.g., high performance, prestige) and a set of exemplar products (e.g., Lexus sedans, Lexus SUVs), and in any given context, information about either attributes or products may be accessible (Loken et al. 2002, Meyvis & Janiszewski 2004). Similarly, accessible information about the extension (e.g., Lexus hybrid) may pertain to its product category (hybrids), its individuating attributes (e.g., its front panel display), or its connection to the parent brand (Lexus). To the extent that accessible information about the brand category and accessible information about the brand extension increase consumers' perceptions of similarity between the parent brand and extension, category inferences should be more likely to occur. This well-established finding continues in the review period; greater perceived similarity (or perceived "fit") between the parent brand and the new brand extension increases acceptance of the brand extension, whether due to product category similarity or brand-specific associations (Barone et al. 2000, Bottomley & Holden 2001, Klink & Smith 2001). Similarity (between the parent brand and new extension) has also been viewed as a heuristic in decision making. Similarity is more often used in evaluating brand

extensions when the product category information of either the parent brand (Meyvis & Janiszewski 2004) or the extension (Klink & Smith 2001) is the only information accessible or available, and is less often used when the extension's individuating attribute information is available (Klink & Smith 2001). To the extent that both product category similarity and brand attribute similarity reflect a common goal, they will both predict extension acceptance; if goals are incongruent, other factors (e.g., only product category similarity or only brand attribute similarity) may determine extension acceptance (Martin & Stewart 2001).

In addition to research on brand extensions, other consumer research replicates earlier findings of a positive relationship between a category member's typicality (or similarity to other category members) and the category member's evaluation. In general, more typical category members are better liked (Carpenter & Nakamoto 1996; Folkes & Patrick 2003, study 3; Simonin & Ruth 1998; Veryzer & Hutchinson 1998; Zhang & Sood 2002).

Another type of similarity-based comparison involves the alignability of attributes of the new category stimulus and the existing category (e.g., Gentner & Markman 1997, Gregan-Paxton 2001, Gregan-Paxton & John 1997, Moreau & Markman 2001, Roehm & Sternthal 2001). Alignable differences (versus differences that are not alignable) are more memorable (Zhang & Markman 1998), comparative ads are more effective than noncomparative ads when brands can be compared along the same (versus different) attributes (Zhang et al. 2002; see also Lurie 2004 for research on structural properties of attributes), and brand evaluations are more prone to revision when counterattitudinal information can be compared along the same attributes as accessible brand information (Pham & Muthukrishnan 2002).

A different perspective argues that resolving a moderate disparity produces positive affect, which is applied to the object evaluated (Peracchio & Meyers-Levy 1994). Per this view, an object that is moderately dissimilar from a category will be better liked than either a similar or extremely dissimilar object. This moderate incongruity effect was found for people with low prior knowledge about the category, who required more effort to resolve the incongruity (Peracchio & Tybout 1996), and disappeared when people had low motivation to process information (e.g., under high risk conditions, Campbell & Goodstein 2001).

## Assimilation and Contrast

Theories of assimilation/contrast argue that if, during encoding, an object is perceived as similar to a category, it will be assimilated to the category and take on its features and affect; a contrast response occurs when responses to the object are adjusted away from the comparison standard, if an object is perceived as dissimilar to a comparison standard, and usually occurs at the time of judgment. Contrast effects occur when situational cues include dissimilarities information (Hafner 2004, Wanke et al. 1998) or individuating information highlights dissimilarities (Cooke et al. 2002), when sufficient cognitive resources are available

for processing contextual information or when people are high in need for cognition (Meyers-Levy & Tybout 1997), and when remembered information is recounted analytically rather than episodically (Bickart & Schwarz 2001). Others argue that contrast effects are not due to more cognitive effort, but rather depend on whether the accessible context information (the standard of comparison) is well defined (Levin & Levin 2000) and is both distinctive and relevant (Stapel et al. 1998). Finally, although assimilation responses are generally the default response, in some situations contrast effects can be the default (Raghunathan & Irwin 2001).

## The Influence of New Category Members on the Category

Information about new category members can also influence existing category beliefs. For example, brand extensions (new category members) can have effects on beliefs and attitudes about the parent brand category that are either negative (dilution of the brand) or positive (enhancement). Beliefs about a well-known brand were influenced negatively when information about a brand extension (John et al. 1998) or information about a brand context (Buchanan et al. 1999) was incongruent with beliefs about the brand (see also Milberg et al. 1997). People processed the incongruent information thoughtfully and analytically (Buchanan et al. 1999). Negative dilution, as well as positive enhancement, effects were replicated under conditions of high motivation (Gurhan-Canli & Maheswaran 1998) and when extension information was high in accessibility (Ahluwalia & Gurhan-Canli 2000). Under low motivation, people used nonanalytic processing; more (versus less) prototypical extensions modified parent brand evaluations (Gurhan-Canli & Maheswaran 1998). That is, extremely atypical category members had less impact on category beliefs than did moderately atypical category members. When extension information was low in accessibility, diagnostic cues were used; negative information (producing dilution effects) was more diagnostic for brand evaluations when extensions were in similar, but not dissimilar, categories to the parent brand, and positive information (producing enhancement effects) was more diagnostic when extensions belonged to dissimilar, rather than similar, categories (Ahluwalia & Gurhan-Canli 2000).

Negative brand extension information can also affect existing individual products of the parent brand if these products are not already strongly established in the minds of consumers (John et al. 1998). Outside a laboratory setting, too, people were found to update their perceptions of the parent brand and individual products of the brand based on their experiences with brand extensions (Erdem 1998).

Finally, priming a new brand extension can increase the accessibility of the parent brand category, particularly when the parent brand category is not already chronically accessible (Morrin 1999). Researchers have examined primes in a variety of other contexts, too, including prosmoker and antismoker stereotypes (Pechmann & Knight 2002), exemplars in television viewing (Shrum et al. 1998), and product expensiveness judgments (Adaval & Monroe 2002).

## Goals as Organizing Frameworks

Goals can serve as organizing frameworks for product or purchase information (Huffman 1996, Martin & Stewart 2001), and multiple goals can coexist within a given individual (Sengupta & Johar 2002). Activating a goal can influence members of a consideration set (Chakravarti & Janiszewski 2003, Ratneshwar et al. 1996), increase similarity perceptions of objects that do not visually resemble each other (Ratneshwar et al. 2001), and increase the attractiveness of objects related to those goals (Martin & Stewart 2001, Ratneshwar et al. 2000); objects not related to the goal are devalued (Brendl et al. 2003). Goal-derived categories have flexible boundaries; similarities between category members were found to vary depending on whether a personal or situational goal was salient (Ratneshwar et al. 2001). When goals conflict (i.e., a single product cannot meet all salient goals) or when there is goal ambiguity (i.e., a lack of salient goals), consumers are more likely to consider alternatives from different product categories (Ratneshwar et al. 1996). When people violated their goals, they showed decreased performance on a subsequent task, as compared to people with no goals (Soman & Cheema 2004).

Motivational and self-regulatory approaches to assessing goals have increased in interest (e.g., Ariely & Levav 2000, Bagozzi & Dholakia 1999, Baumeister 2002, Higgins 2002, Krishnan & Shapiro 1999). Researchers have compared consumers who were promotion-focused and prevention-focused using a variety of operationalizations (e.g., independent versus interdependent self-views, Aaker & Lee 2001; ideals versus “oughts,” Pham & Avnet 2004). Consumers who were promotion-focused (versus prevention-focused) were persuaded more by positive (versus negative) outcomes (Aaker & Lee 2001), subjective affective responses to an ad (versus message substance, Pham & Avnet 2004), hedonic, attractive, performance-related attributes (versus utilitarian, unattractive, reliability-related attributes, Chernov 2004a), and actions that departed from (versus preserved) the status quo (Chernov 2004b).

## Factors That Influence Category Expansion and Flexibility

Consumers need to have stable representations of objects and events in memory that can be used for interpreting and evaluating objects and events in their environment. Category stability was demonstrated by Viswanathan & Childers (1999) in their reanalysis of Loken & Ward’s (1990) study of prototypicality measures. Using the same attributes, with minor modifications, to measure attribute-based indices of prototypicality yielded—almost a decade later—significant relationships between these attribute-based measures and a global typicality measure. A new, fuzzy set-based measure also predicted global typicality.

Category representations also require flexibility and the ability to adapt to changes in the environment. In addition to the flexibility of goal-derived categories, noted earlier, research finds that category boundaries become broader or narrower, and more or less flexible, depending on motivational, ability, and contextual

factors. A positive mood state may increase motivation to engage in relational elaboration, as demonstrated by greater clustering of brands recalled by product category membership and greater recall of brand names when they were in the same product categories as stimulus brands (Lee & Sternthal 1999). When people were in a more (versus less) positive mood (Barone & Miniard 2002, Barone et al. 2000) and received information about a new brand category member (brand extension) that was moderately dissimilar to the parent brand category, they were more likely to perceive the brand extension as similar to the parent brand category and evaluate it favorably. However, mood did not enhance evaluations of extensions of unfavorable parent brands (Barone & Miniard 2002).

When consumers were exposed five times (versus once) to information about a brand category's positive link to an incongruent brand extension, their perceptions of extension consistency increased and they evaluated the extension more favorably (Lane 2000). When a brand's benefits were accessible, which occurred more for brand categories with more (versus less) diverse members, new incongruent category extensions were rated more positively (Meyvis & Janiszewski 2004). Innovative consumers, who tend to be less risk averse, were more accepting of incongruent category members (Klink & Smith 2001).

Ability and knowledge factors also increase flexibility. Experts (relative to novices) were more likely to organize information by product subcategories, retrieve different brands for different usage occasions (Cowley & Mitchell 2003), and store information about alternatives in a way that increased flexibility in evaluating the same product across different usage occasions (Mitchell & Dacin 1996). Older children, relative to younger children, define categories more by complex functional (versus perceptual) cues (John 1999; see also Achenreiner & John 2003). Owners (versus nonowners) of a brand (Kirmani et al. 1999) have broader, more flexible categories when making judgments. Strategies taught to consumers to break down frequency estimates into subcategories (e.g., unbundling credit card expenses) can reduce errors and processing effort (Menon 1997, Srivastava & Raghurir 2002).

## Self as a Category

The self category has been described as flexible or malleable (Aaker 1999). The same individual may retrieve and use different self-views, depending upon the chronic and temporal accessibility of these inputs, in the form of cultural views (Aaker & Lee 2001, Briley & Wyer 2002, Brumbaugh 2002, Forehand & Deshpande 2001, Lau-Gesk 2003, Mandel 2003), social identities (Bolton & Reed 2004, Reed 2004), or personality traits (Aaker 1999). A social identity that is salient, important to the self, and evaluatively diagnostic (versus one that is not) is more likely to influence attitudes (Reed 2004), and thinking dominated by a strong salient identity is more resistant to corrective procedures (Bolton & Reed 2004). Self-appraisals regarding performance or reflections of what others might think influenced more global self-definitions (Laverie et al. 2002). In comparison with

an independent self-view, priming an interdependent self-view has been associated with more financial risk-taking and less social risk-taking (Mandel 2003), and with prevention goals (Aaker & Lee 2001). Priming cultural identity (whether Chinese or American) produced a group mind-set that increased prevention goals (Briley & Wyer 2002).

Research continues to find that information processing with respect to the self increases elaborative thought and persuasion, such as when generating self stories (West et al. 2004) or when processing strong message arguments relative to the self (Burnkrant & Unnava 1995). But these positive effects of self-referencing on attitudes were found to be eliminated when consumers were not motivated to process the ad information (Meyers-Levy & Peracchio 1996), or when elaboration was excessive and created tedium or critical thinking (Burnkrant & Unnava 1995, Meyers-Levy & Peracchio 1996). The type of self-referencing used by consumers is also important. Self-referencing that is retrospective (with reference to autobiographical experiences from one's past) includes more thoughts with contextual detail than does self-referencing that is anticipatory (imagining experiences in one's future). If an ad provides detailed contextual information, this information interferes with retrospective thinking (which has its own detailed representations) but facilitates anticipatory thinking (Krishnamurthy & Sujana 1999).

## CONSUMER INFERENCES

### Inferences Based on Omitted Conclusions

Consumers make inferences beyond what they read or see in the text of a message, and these inferences can have an impact on judgments (Kardes et al. 2001, 2004b). When ads omitted (versus included) a key element, recall was improved along dimensions related to the element (Sengupta & Gorn 2002). When a comparative ad stated a specific (versus vague) cost savings amount (relative to a named comparison brand) for one service provided by the brand, consumers inferred that the brand was also superior on other, missing, service price data, contributing to suboptimal choices (Pechmann 1996). Greater motivation and ability increase the likelihood that consumers will engage in spontaneous inferences. Consumers were more likely to complete ambiguously cropped objects in ads under high than under low motivation conditions (Peracchio & Meyers-Levy 1994) and to later falsely recall the object as intact, although completing these objects did not necessarily improve evaluations of the product in the ads. With regard to deceptive inferences, highly motivated consumers were more likely to make invalid inferences from one type of deceptive ad claim (incomplete comparison claims); however, they were less likely to be deceived by ads that required detailed processing for nondeception to occur (inconspicuous qualification claims, Johar 1995). When cognitive capacity was high, consumers were also more likely to use product disclosures to correct or update their judgments about the product (Johar & Simmons 2000).



## Singular Brand Versus Multiple Brand Inferences

Research examines contexts in which a single brand is evaluated relative to contexts in which a brand is compared with alternative brands. Consumers are not always motivated to consider and compare alternative brands (Mantel & Kardes 1999), even when information about multiple brands is presented (Wang & Wyer 2002). When consumers do compare brands, generally under high motivation conditions, they rate a favorable focal brand less positively (relative to focusing on a single brand; Posavac et al. 2004; Hsee & Leclerc 1998), disregard features that are common across brands, leading to biased evaluations (Wang & Wyer 2002), and show greater direction-of-comparison effects (Mantel & Kardes 1999). Consumers also show correction effects when they are made aware that relevant information is missing (when the format is changed from a noncomparative to a comparative format, or vice versa; Muthukrishnan & Ramaswami 1999).

## Inferences Based on Irrelevant Attributes

Irrelevant attributes (e.g., silk in shampoo) can have an impact on brand preferences (Carpenter et al. 1994), and these initial preferences can be self-perpetuating because of selective interpretation of subsequent experience data (Muthukrishnan & Kardes 2001). Adding irrelevant information to supportive product benefit information reduced people's beliefs about the product benefit, even when people acknowledged the irrelevance of the information and when the irrelevant information increased the product's similarity to a liked typical product (Meyvis & Janiszewski 2002). Others find that, while the effects of irrelevant information are persistent, when the true irrelevancy is clarified to consumers, the effects are reduced (Carpenter et al. 1994, study 2), and when future brand extensions continue to use irrelevant attributes, a brand's equity may suffer (Broniarczyk & Gershoff 2003). Brown & Carpenter (2000) find that trivial attributes may have either positive or negative value depending on whether such valuation helps consumers accomplish a goal.

## Inferences Based on Experiential and Sensory Data

Experiential data are engaging (Hoch 2002), accessible (Park et al. 1994), and viewed as nonpartisan and unambiguous (see Hoch 2002 for a review). Experience information tends to be more influential than advertising information (Kempf & Smith 1998), and even imagined experience can be convincing to consumers (Hoch 2002).

But product experiences are not always unambiguous (Wooten & Reed 1998), and consumers believe they learn from experience even when those experiences are largely uninformative (Muthukrishnan & Kardes 2001). Other people's opinions influenced evaluation of a product if those opinions were considered before the consumer had had a chance to consider the evaluative implications of their own product experience (Wooten & Reed 1998). Even memory for a product experience has been

found to change in the direction of advertised information (presented after the product experience) that provides a different interpretation of the experience (Braun 1999), although only when product familiarity is low (Cowley & Janis 2004). Advertising was more likely to frame the interpretation of product experiences for older than for younger children (Moore & Lutz 2000). Research shows other fallibilities associated with experience data (Alba & Hutchinson 2000, Hoch 2002).

Although people like experience data, experience attribute claims (claims based on attributes that the consumer can verify only through direct experience) are generally regarded as less credible than search attributes, which are verifiable without consumption (Jain et al. 2000), but will be used by consumers when these attributes are the only data available and are accompanied by a high (versus low) credibility source (Jain & Posavac 2001).

Sensory experience data aside from traditional product usage also have an impact on judgment, and research on them has increased in emphasis during the review period. When consumers experienced sound quality, and were provided criteria with which to evaluate it (i.e., reducing its ambiguity and increasing its diagnosticity), their memory of the information improved, they placed more weight on it, and made better choices (Shapiro & Spence 2002). Other inferences based on auditory systems include those based on the consumer's formal writing system (phonetic versus logographic; Tavassoli & Han 2001, Tavassoli & Lee 2003, Zhang & Schmitt 2004), the speed and pitch of an announcer's voice (Chattopadhyay et al. 2003), and the phonetic structure of brand names (Yorkston & Menon 2004). When experiencing a product by touch, consumers' confidence in judgments increased if they were high (versus low) along a need-for-touch dimension (Peck & Childers 2003). Ambient scent improved memory for familiar and unfamiliar brands (Morrin & Ratneshwar 2003).

Visual elements, such as pictures (McQuarrie & Mick 2003), color as a backdrop on Internet Web sites (Gorn et al. 2004, Mandel & Johnson 2002), product shape (Folkes & Matta 2004, Raghurib & Krishna 1999, Wansink & Van Ittersum 2003), aesthetic design and unity (Veryzer & Hutchinson 1998), angle of vision, cutting rate, camera motion (Larsen et al. 2004), typeface (Childers & Jass 2002, Henderson et al. 2004), and numerical information (Viswanathan & Childers 1996), have been found to convey meaning and influence processes such as information search, elaborative processing, attitudes, and consumption. Visual elements can also cause interference effects if ads for two different brands have similar pictures (Kumar 2000, Kumar & Krishnan 2004).

A more direct link between perceptual (sensory-motor) data and cognition has emerged. Features of an ad compete for available cognitive resources if they require processing two elements simultaneously from the same (versus different) sensory modality (Olsen 1997, Tavassoli & Lee 2003, Unnava et al. 1996). Features of an ad can also be complementary and increase advertising effectiveness when perceptual and other features (e.g., celebrity endorser, picture, brand name, scent, plot of accompanying television show) are congruent with product attribute information (Luna & Peracchio 2001, Mitchell et al. 1995, Russell 2002).

## Conditional Inferences, Correlations, and Causal Reasoning

Research on conditional inferences found that when a belief in a conclusion was supported by a set of arguments that independently led to the same conclusion, it was more resistant to persuasion attempts than when a belief was supported by a set of arguments that only when considered together led to the same conclusion (Kardes et al. 2001). Areni (2002) proposes a model of belief probabilities for precise predictions of argument effectiveness.

Baumgartner (1995) found that people engaged in an active, theory-guided appraisal of the empirical data they received; when a theory was not available, the resulting judgment was suboptimal. Consumers were more sensitive to inter-attribute correlational data when information load was low or when consumers were motivated to elaborate (Kardes et al. 2004a), but were less prone to spillover effects of negative information when they were highly committed to the brand (Ahluwalia et al. 2001). While associative network theory continues to be a prominent paradigm for examining belief interconnections and consumer learning (Morrin 1999), others (van Osselaer & Janiszewski 2001) argue for a more dynamic adaptive network theory in which association strengths are not learned independently on the basis of the co-occurrence of two cues, but instead are updated and evolve as cues interact. Attribution theory (Weiner 2000) and dialectical thinking processes (Kahle et al. 2000) are useful for understanding the causal reasoning strategies of consumers, and causal reasoning has been found to be shared across cultural subgroups, which in turn influence the causal reasoning of individuals (Sirsi et al. 1996).

## Metacognitive Experiences and Knowledge

Judgments are based not only on what information comes to mind, but also on how it comes to mind (Lee 2004). In a dialogue published recently in the *Journal of Consumer Psychology* on consumers' metacognitive experiences, Schwarz (2004) argues that content-based theories of judgment formation cannot account for the subjective experiences that accompany thought processes that often give rise to counterintuitive findings. Processing fluency (e.g., the ease with which information is recalled) and other subjective experiences can be informational inputs used in judgments. Researchers discussed whether these metacognitive experiences (particularly with regard to processing fluency) were more likely to influence judgments under low motivation (Schwarz 2004) or under both low- and high-motivation (Lee 2004) conditions, the extent to which discrepancies from expectations (and the direction of those discrepancies) increase the use of naïve theories, how judgment and choice contexts differ (Huber 2004), and the importance of both affective and cognitive metacognitive experiences as signals in judgments (Pham 2004).

Researchers also have demonstrated that consumers form metacognitive beliefs about persuasion tactics and marketers' motives (e.g., Boush et al. 1994, Campbell & Keller 2003, Friestad & Wright 1995). The use of these beliefs depends on

whether, like other beliefs, they are easily accessible (Brown & Krishna 2004, Campbell & Kirmani 2000, Shiv et al. 1997) or an ulterior motive by the marketer is made salient (Warlop & Alba 2004).

## Brand Name Inferences

Some brand names carry meanings that are more transferable than are others to new product extensions (Wanke et al. 1998). Keller et al. (1998) found that a brand name that implied superiority on a specific attribute (e.g., PicturePerfect televisions) rather than a nonsuggestive name (e.g., Emporium) led to better memory for related product attributes but inhibited recall of unrelated product attributes. A general superiority name is often preferred to a category-specific name when extending to new product categories (Sen 1999), and focusing on a specific brand attribute rather than the brand name can sometimes reduce consumers' evaluations of brand extensions (van Osselaer & Alba 2003).

When two brand names are combined (e.g., Slim Fast chocolate cake mix by Godiva) the composite benefits more when the header brand (Slim Fast) is combined with a complementary brand (Godiva) than when presented alone or combined with a noncomplementary brand (e.g., Haagen-Dazs; Park et al. 1996). In brand alliances, both brands are affected, but familiar (versus unfamiliar) brands contribute more to brand evaluations (Siminon & Ruth 1998; see also Levin & Levin 2000). When the ingredient in a brand extension is branded (e.g., Tide with Irish Spring scent), more initial acceptance is found, but, unless the branded ingredient represents a dissimilar attribute, using a new ingredient name (e.g., Tide with EverFresh scent) improves long-range expansion of the brand to new categories (Desai & Keller 2002).

## Accessibility-Diagnosticity Model

A number of psychological theories incorporate the constructs of accessibility (salience) and diagnosticity (relevance). In consumer research, the framework of Feldman & Lynch (1988), which argues that judgments are a function of the accessibility and the diagnosticity of information inputs relative to the accessibility and diagnosticity of alternative inputs, has been used for understanding judgment revision (Pham & Muthukrishnan 2002), behavioral frequency judgments (Menon et al. 1995), car repurchase decisions (Fitzsimons & Morwitz 1996), the effects of previously formed attitudes on choice (Baker 2001), cultural differences in the use of cues (Aaker 2000), and brand extension information effects on family brand evaluations (Ahluwalia & Gurhan-Canli 2000). A variant of the accessibility-diagnosticity model, the mere-accessibility model, has been proposed to account for conditions under which accessibility alone is sufficient to determine judgments, for example when ease-of-retrieval occurs at a low awareness level and functions as an heuristic in decision making, when the cognitive demands of the task are too high, or when extra cognitive effort is unwarranted (Menon & Raghurir 2003).

## Biases and Motivated Reasoning

Among the types of biases that have been examined in the review period are the truth effect (Law et al. 1998), the inclusion effect (Joiner & Loken 1998), pre-decisional distortion (Russo et al. 1998), anchor-and-adjustment (Wansink et al. 1998), frequency heuristics (Alba et al. 1999), false consensus (West 1996), self-positivity (Lin et al. 2003, Menon et al. 2002, Raghurir & Menon 1998), negativity (Ahluwalia 2002), forward and backward telescoping (Morwitz 1997), and metacognitive biases (Alba & Hutchinson 2000).

Although most of the research on biases in consumer research has assumed cognitive bases for errors or deficits, research increasingly has examined bias as motivated reasoning. Researchers argue, for example, that inconsistent information (Jain & Maheswaran 2000) and impression and defensive goals (Ahluwalia 2002) increase consumers' selectively processing information in a biased manner. Other research finds that biases were reduced when consumers had sufficient motivation and ability to counter the bias, i.e., when accuracy in judgments was rewarded (West 1996), when the evidence against the bias was strong, when the bias was based on events not controllable, and when the judgments did not pertain to or protect the view of self (Kamins et al. 1997, Lin et al. 2003, Menon & Johar 1997).

## CONSUMER AFFECT, MOOD, FEELINGS, AND ATTITUDES

The importance of the role of affect has increased during the review period, and emotional states increasingly are being added to traditional models of consumer behavior (e.g., satisfaction/dissatisfaction, Phillips & Baumgartner 2002; decision choice models, Luce et al. 1999). Most research during the review period on affect and attitudes falls into two general categories: (a) research on the types of processes by which moods and feelings influence judgments, and (b) more traditional research on the cognitive (versus noncognitive) bases for attitudes and the role of cognition and attitudes in predicting intentions and behavior.

### The Effects of Mood on Judgments and Processing

Mood affects judgments; being in a positive mood can increase consumers' preferences for products. Mood can spread to others, too, who in turn will like the product (Howard & Gengler 2001). Predominant theoretical rationales for mood effects are mood-congruency theories, which argue that moods increase the accessibility of mood-congruent thoughts (e.g., Isen et al. 1992), and affect-as-information theories, which argue that moods are used (often mistakenly) as a source of information in evaluations of a target (e.g., Schwarz 1997). The information value of a mood may derive from its arousal dimension, its valence dimension, or both (Gorn et al. 2001). Mood valence has more effect on product judgments when mood information is a relevant basis for the judgments, for example, for consumers

using consummatory or hedonic (versus instrumental) criteria (Adaval 2001, Pham 1998, Yeung & Wyer 2004) or when the affective tone of a target ad is ambiguous (Gorn et al. 2001). Adaval (2003) found that moods influenced judgments through their effects on the extremity of evaluative implications of cognitions about the target rather than increased importance weights attached to the information. Yeung & Wyer (2004), however, found that when people have already formed an impression of a product based on a picture that elicits affect, subsequent mood and other information that becomes available has less impact on product judgments.

Research has also examined the regulatory processes in which consumers engage. Feelings convey both contextual appraisal information as well as motivational (goal-relevant) information (see Pham 2004). Some mood research suggests that consumers were willing to make decision errors in order to maintain a positive mood (Meloy 2000). But other research suggests that when the stakes are high (e.g., life threatening), consumers will forego short-term mood maintenance for longer-term gains (Keller et al. 2003), or will even maintain a negative mood if it will improve task performance; that is, people will guide affect regulation in a functional manner (Cohen & Andrade 2004).

Moods also affect type of processing. Some research supports the idea that people in a positive mood engage in nonanalytic, top-down, creative processing styles, and people in a negative mood engage in analytic, effortful processing (Keller et al. 2002, Murry & Dacin 1996). Shiv & Fedorikhin (1999) find that people will choose based on utilitarian considerations (e.g., fruit salad over cake) unless their processing load is high, in which case they will choose based on hedonic considerations (cake over fruit salad). Other findings suggest that people in a positive mood are *not* less motivated to process information (Adaval 2003, Pham et al. 2001), but instead rely more on strategic thinking (Lee & Sternthal 1999) or diagnostic inputs (Pham 1996), especially when the risks of not being informed are very high (Keller et al. 2003).

Aside from testing these theories of affect, consumer research finds that emotions are predictable and can be measured reliably. Consumers tend to provide reliable measures of emotion (Richins 1997) and have a shared knowledge of emotion categories (Ruth 2001), and negative emotions (which people prefer to avoid) cause predictable shifts in choice patterns (Luce et al. 1999). Baumgartner et al. (1997) showed how moment-to-moment emotional responses to an ad could be integrated into an overall evaluation of the ad.

## Cognitive Versus Noncognitive Bases for Attitudes

Many of the existing theories of mood and affect are consistent with traditional attitude research that assumes cognitions underlie attitudes and that feelings are used in reasoning processes (cf. Adaval 2003, Pham et al. 2001). Nevertheless, a debate published in the *Journal of Consumer Psychology* (1995, 1997) raises issues about whether attitudes are primarily belief based (driven by cognition) or nonbelief based (driven by affect or other factors). Central to the debate is

whether automaticity effects, degree of effort in processing, or mood and bodily reactions reflect degree of cognitive or belief-based processing (e.g., Fishbein & Middlestadt 1995, 1997; Haugtvedt & OSU Consumer Psychology Seminar 1997; Herr 1995; Miniard & Barone 1997; Priester & Fleming 1997; Schwarz 1997). Fishbein and Middlestadt argue that regardless of whether processing of information is more or less effortful (with respect to attention, counterarguing, or elaboration), such processing activity is cognitive and has impact effects on other cognitions that are more proximal determinants of attitude. These proximal determinants (i.e., salient beliefs and the evaluative implications of those beliefs) would need to be ruled out empirically in order to conclude that attitudes are not belief based. Using these criteria, some research (Fishbein & Middlestadt 1995) finds that attitude toward an ad influenced attitude toward a behavior indirectly through cognitive structure, whereas other research (Bodur et al. 2000) finds that the connection between affect and attitude was direct and not mediated by cognitive structure.

Most cognitive psychologists would agree that cognition includes an array of conscious and unconscious processes and representations (cf. Barsalou 1999). A growing number of consumer studies examine implicit brand attitudes, attitudes that may be activated automatically and outside conscious awareness (Bargh 2002, Maison et al. 2004, Shapiro 1999). Increased emphasis is being placed on development of appropriate measurement techniques to assess automaticity and nonconscious processing (see Krishnan & Chakravarti 1999), such as the Implicit Association Test (Brunel et al. 2004).

## Cognition, Affect, and Behavioral Intentions

A first avenue of research on intentions has examined factors that affect the relationship between behavioral intentions and behavior. The process of measuring a purchase intention (called the “mere measurement” effect) has been found to increase subsequent purchase in the product category, probably because it increases the accessibility of cognitions about the product category and cognitions of accessible brands in the category (Morwitz & Fitzsimon 2004). The effect was found to decay after three months (Chandon et al. 2004) and was attenuated when consumers viewed the intention question as a persuasion attempt and had sufficient cognitive capacity for correction (Williams et al. 2004). Asking people to predict whether they will perform a behavior also increases the probability of their performing the behavior (Spangenberg & Greenwald 1999).

A second avenue of research examines models of determinants of behavioral intentions. Tests of the theory of reasoned action (Fishbein & Ajzen 1975) and a variant found support across four countries, although, in general, components explained more variance in Western (United States, Italy) than in Eastern (China, Japan) cultures (Bagozzi et al. 2000). The models also explained differences in cultural orientation (independent versus interdependent). In a related model of social behavior, Lee (2000) found that the normative factor was a stronger determinant of

behavioral intention among collectivists, whereas the attitude factor was a stronger determinant among individualists.

A meta-analysis (Notani 1998) of the theory of planned behavior (Ajzen 1991), which is an extension of the theory of reasoned action, found that the construct of perceived behavioral control (PBC) predicted behavior more when it reflected control over factors primarily internal (versus external) to the individual, when it was operationalized as a global measure (rather than as a set of beliefs), when the behaviors were familiar (versus unfamiliar), and when the sample included nonstudent (versus student) samples. The meta-analysis also found attitude toward performing a behavior was a more consistent predictor than PBC of behavioral intention, and intention was a stronger predictor than PBC of behavior, supporting the original theory of reasoned action.

## MODELS OF PERSUASION

### Elaboration

The moderating role of elaborative thought on persuasion has been a key research issue in the past decade. Amount of elaborative thought (high versus low) and valence of thought (favorable or unfavorable) have been examined extensively. Type of thought has also been studied, such as analysis of item-specific versus relational thoughts (e.g., Malaviya et al. 1996), thoughts that vary as a function of specific goals (e.g., Escales & Luce 2004, Sengupta & Johar 2000), thoughts about the self (Meyers-Levy & Peracchio 1996), and metacognitive thoughts and experiences (e.g., Schwarz 2004). More commonly, elaborative thought has been examined as a function of how information is framed by goals or contextual factors. Research on the amount of elaborative thought predicted by dual process models, in particular, has been plentiful.

**DUAL-PROCESS MODELS OF PERSUASION** Consumer research on the elaboration likelihood model (Petty & Cacioppo 1986), the heuristic-systematic model (Chaiken 1980), and other dual-process models (e.g., Fiske & Neuberg 1990) has continued to stack up evidence in favor of two levels of processing (sometimes regarded as two ends of a continuum), one in which the level of consumer motivation and elaborative thought is high and relies on detailed, systematic, or central-route processing, and a second, more heuristic or peripheral route that is generally associated with lower levels of motivation and elaborative thought. Research finds that highly motivated consumers, who engaged in more elaborative processing, were more influenced by negative (versus positive) frames and message claims (Block & Keller 1995, Shiv et al. 2004), had more persistent attitudes (Haugtvedt et al. 1994, Sengupta et al. 1997), were more influenced by argument strength (versus number of arguments) in a collectivist culture (Aaker & Maheshwaran 1997), placed less



emphasis on country of origin as a processing cue (Gurhan-Canli & Maheswaran 2000), and engaged more in adaptive learning of feature-benefit associations (van Osselaer & Janiszewski 2001). Consumers also processed information more systematically when message arguments were preceded by counterfactual ("if only") thinking (Krishnamurthy & Sivaraman 2002) and when the message arguments were compatible with self-regulatory focus (Aaker & Lee 2001).

Incongruity of persuasive elements also increased elaboration. Information was processed more systematically when comparative ads featured dissimilar (versus similar) brands, especially when individuals were low in need for cognition (Priester et al. 2004), when information was inconsistent with prior preferences (Jain & Maheswaran 2000), when brand extensions were incongruent with expectations regarding the parent brand (Gurhan-Canli & Maheswaran 1998), and when message items were inconsistent with expectations, particularly for elderly adults (Yoon 1997). Consumers elaborated more on messages from endorsers who were untrustworthy (e.g., from endorsing too many products) than from endorsers who were trustworthy (Priester & Petty 2003).

Consumers showed more heuristic processing when information was in a narrative versus an unorganized list form, presumably because the narrative form is structurally similar to daily life experiences (Adaval & Wyer 1998). Heuristic processing was also found more for elderly (than for younger) adults (Yoon 1997), who show reduced ability over time to remember detailed information.

Under low motivation conditions, people may also rely more on their subjective accessibility experiences rather than content (Schwarz 2004). Children (versus adults) focused more on surface than on deep cues (Zhang & Sood 2002; cf. John 1999), and younger children engaged in less elaboration than did older children (Moore & Lutz 2000).

Cues that have been traditionally regarded as peripheral or heuristic (e.g., brand names and endorser attractiveness) led to more attitude persistence (Sengupta et al. 1997) and were processed more centrally or systematically (and elaborated upon more) when the cue was perceived to have relevance to the message arguments (e.g., endorser attractiveness, Shavitt et al. 1994; source effects, Kirmani & Shiv 1998) or was perceived as diagnostic (e.g., Aaker & Maheswaran 1997). Other variables, too, have been found to take on multiple roles in a persuasive message, such as rhetorical questions (Ahluwalia & Burnkrant 2004), message framing (Meyers-Levy & Maheswaran 2004), and color (Meyers-Levy & Peracchio 1995). Also, both types of thought (heuristic and systematic) can occur concurrently (Meyers-Levy & Maheswaran 2004).

Finally, even though high arousal is generally believed to reduce cognitive capacity, Pham (1996) found that when consumers were highly aroused, they selected informative diagnostic cues over a peripheral cue (endorser status). People also seemed to use different routes to persuasion because different types of information were perceived as diagnostic under different routes rather than because they had different desired levels of accuracy (Pham & Avnet 2004).

**PROBLEM-SOLVING AND ELABORATIVE THOUGHT** Problem-solving thinking that increases cognitive elaboration can increase the persuasiveness of a message. Two-sided advertisements in which the positive and negative attributes were logically related increased favorable inferences, especially when people had sufficient processing time to elaborate upon them (Bohner et al. 2003). Time (and presumably effort) can also reduce logical inconsistencies in beliefs (Kardes et al. 2001). Analogies require substantial cognitive resources, so they are more effective if used by experts who devote substantial resources to the processing task. They can even be effective for novices if substantial resources are allocated to the task and the novices are trained in how to map structural relations between a base and a target (Roehm & Sternthal 2001).

**NEGATIVE EFFECTS OF ELABORATION ON PERSUASION** Elaboration can have a neutral or negative effect on attitudes if consumers are elaborating upon irrelevant, nondiagnostic, or negative information (e.g., Grewal et al. 1997, Priester et al. 2004, Schlosser & Shavitt 2002). Asking a hypothetical question that contained negative information about a political candidate contaminated voting choices; increased contamination occurred as elaboration increased and the questions focused on aspects relevant to the choice (Fitzsimons & Shiv 2001). Too much cognitive elaboration can be viewed as cognitive effort, which people view as costly and tend to avoid (Fiske & Taylor 1984); when cognitive effort was expended without resolution or other benefits, negative affect and behavior resulted (Garbarino & Edell 1997).

When reasons against (as compared with reasons for) choosing a BMW over a Mercedes were easy to retrieve, or consumers imagined that they were easy to retrieve, consumers decreased (versus increased) their evaluations of the BMW relative to the Mercedes (Wanke et al. 1997), although results were attributed to fluency of retrieval rather than to negative thought content. A reasons analysis was also found to lower attitude stability (Sengupta & Fitzsimons 2004), increase attitude ambivalence (Sengupta & Johar 2002), increase culture-bound thoughts (Briley et al. 2000), and was disruptive of the link between attitude and behavior when attitudes at delay were reconstructed from contextual cues and there was a mismatch between original and delayed attitudes (Sengupta & Fitzsimons 2000).

Resource-matching theory (Peracchio & Meyers-Levy 1997) argues that processing is most efficient when the level of cognitive resources required for a task match the consumer's level of available cognitive resources. It's the dose that makes the poison (Paracelsus); too much elaboration can lead to irrelevant thoughts or counterarguments (Keller & Block 1997); having too few resources relative to those required can lead to heuristic processing (Peracchio & Meyers-Levy 1997). Both high and low levels of fear appeals have been persuasive, as long as available and required resources matched (Keller & Block 1996). Mantel & Kellaris (2003) found that perceptions of time were estimated to be longer when the available and required resources were matched, because information linked to the time period was more easily reconstructed.

## Attitude Strength, Resistance, and Confidence

Some research has examined the longer-term effects of previously formed attitudes on subsequent processing and evaluations. Haugtvedt et al. (1994) found that even when people showed similar levels of attitude persistence, extremity, and confidence, they were more resistant to attack if the basis for their attitude included more substantive product information. Priester & Petty (2003), too, show that equally extreme attitudes can vary in their cognitive bases, their strength, and their effectiveness. Priester et al. (2004) found that strong brand attitudes influenced choice because they increased the brand's inclusion in the consumer's consideration set.

Attitude certainty and thought confidence have been viewed as metacognitive responses to ads. When people counterargued a message, it increased their attitude certainty and their attitude-intention link, but only if the message was from an expert source (Tormala & Petty 2004). Just as strong attitudes are more likely than weaker attitudes to guide behavior, stronger beliefs (confidence in one's thoughts) are more likely to guide attitudes; increased confidence in positive thoughts increased the effectiveness of ads, and increased confidence in negative thoughts decreased their effectiveness (Brinol et al. 2004).

## Ad Repetition, Ad Spacing, Incidental Ad Exposure, and Fluency

With increased ad repetition, consumers' attention decreases (based on detection of eye movements), but the order in which visual elements of the ad are scanned remains the same (Pieters et al. 1999). Ad repetition increases attitude persistence, and when ads are substantively varied, repetition increases attitude resistance (Haugtvedt et al. 1994). Changing the ad executions and the modality of the advertising (e.g., between target and competitive advertising) also reduces competitive interference effects (Unnava & Sirdeshmukh 1994).

Incidental ad exposure may occur when consumers are focusing on a primary task (e.g., reading a magazine article) and nevertheless process advertising information that is not the focus (e.g., a print ad on the same or adjoining page). Incidental ad exposure is found to increase perceptual fluency, the perception of ad or brand familiarity (Shapiro et al. 1997), inclusion of the brand in the consumer's consideration set (Shapiro 1999, Shapiro et al. 1997), and perhaps conceptual fluency as well (Janiszewski & Meyvis 2001, Shapiro 1999).

Background music interfered with processing when the time interval between ad presentations was short under incidental learning, but it did not change the effect of time interval on recall under more effortful processing conditions (Olsen 1997). Based on a meta-analysis (Janiszewski et al. 2003) of the spacing effect (i.e., the time interval between presentations of ad material), the most effective schedule may be one in which ads alternate between encouraging intentional processing (e.g., using media such as television ads) and promoting incidental processing (e.g., using media such as billboards).

## Differences in Negative and Positive Evaluative Dimensions

Evaluations (positive/negative responses) are pervasive and dominant human responses (Jarvis & Petty 1996) that sometimes are performed automatically, unintentionally, and/or without awareness (Bargh 2002). Consumer research finds that negations (versus affirmations), whether they involve reporting a questionnaire response (e.g., disliking versus liking judgments; Herr & Page 2004) or processing message information (e.g., not difficult to use versus difficult to use; Grant et al. 2004), require more elaboration and are less spontaneously generated, suggesting a two-step process required for processing negations. When persuasive stimulus information that contained negative (versus positive) information or that was framed in a negative (versus positive) way required and/or motivated greater elaboration (as reported earlier; see also Cox & Cox 2001), it was often more persuasive (Block & Keller 1995, Homer & Batra 1994, Meyers-Levy & Maheswaren 2004, Shiv et al. 2004), especially when consumers were accuracy-motivated (Ahluwalia 2002) or perceived the negative tactic used as fair (Shiv et al. 1997). On the other hand, consumers who processed narratives and imagined scenarios were more resistant to incorporating negative (Adaval & Wyer 1998) and corrective information (Bolton 2003), their inferences about a firm's service providers were more resistant to negative than positive information (Folkes & Patrick 2003), and the greater influence of negative (versus positive) information was attenuated when consumers were impression-motivated but reversed when consumers were defense-motivated (Ahluwalia 2002).

Exposure to both positive and negative information weakens attitudes if reconciliation of evaluative items is not a salient goal or if issue elaboration is prevented. Attitudes also weaken when people feel inconsistencies in preexisting beliefs and attitudes or when they feel ambivalent, experiencing both positive and negative affect toward an attitude object (Sengupta & Johar 2002). Conflicting affective or emotional responses (Mick & Fournier 1998), that is, mixed emotions, may be difficult to manage (Williams & Aaker 2002), but in some cases, conflict in emotions may be a naturally occurring phenomenon. Ambivalent "weakened" attitudes may not always reflect weakness; older (versus younger) and Asian (versus Anglo) Americans have been found to be more adaptable in accepting mixed emotions (Williams & Aaker 2002).

## CONCLUSIONS

In the review period, general conclusions about psychological phenomena (e.g., dual processes of persuasion, relationship between category similarity and affect) have been followed up through studies that examine (a) the effects in more diverse and numerous domains and contexts than found previously (demonstrating the effects' generalizability and importance), and (b) contingencies and exceptions to these effects. The difficult task of determining the size and nature of the contingencies for many of these topic domains has not yet been accomplished.

However, the moderating roles of elaboration, accessibility, and diagnosticity have been successfully used to understand the patterns associated with contingent effects in a variety of consumer domains.

Amount of elaborative thought and valence of thought is an important moderating variable studied extensively in the review period. Not surprisingly, thoughtfulness or increased elaboration has been found to positively influence persuasion or problem solving in most cases because the information elaborated upon was, by and large, positive, relevant message information. When the information elaborated upon was irrelevant or negative, its effect on persuasion was reduced. When the information elaborated upon was biased, change occurred in a manner consistent with the bias or stereotypic thinking. To the extent that the effort of elaboration led to positive outcomes (such as reduced uncertainty or feelings of successful resolution of inconsistencies), these positive outcomes, in some cases, became associated with the attitude object. Most of the research on elaboration in the review period examined positive (or negative) thoughts about the message rather than positive (or negative) thoughts about the processes of elaboration (resolution or effort).

Interesting new research directions have emerged in the review period that pattern after some of the effects of social and cognitive psychology. Consumer research has placed increased emphasis on consumers' flexibility or malleability in retrieving different and multiple cognitive representations that, depending on the context, reflect different individual goals, cultural orientations, views of self, naïve theories or beliefs about the way the world works, and even differences in affective states and experiences. Research on retrieval and use of these multiple and different representations highlights the dynamic role of information accessibility in cognitive and affective judgments.

Research has also increasingly examined how consumers are motivated to control, manage, or self-regulate their cognitions and affect. People demonstrate control over affective processes and goals, sometimes undertake corrective processes to adjust for errors in accuracy or unwanted influences, and have knowledge of persuasion strategies. The role of context is important in determining when these control and corrective processes are used and in determining the nature of the cognitive or affective representations used in judgments. But research is also increasing on the role of implicit cognitions and affect and nonconscious ways in which cognition and sensory experiences influence affect and judgment. Finally, the relationship between sensory-motor, perceptual, and experiential information on the one hand, and cognition on the other, has emerged as an important research topic.

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## LITERATURE CITED

- Aaker JL. 1999. The malleable self: the role of self-expression in persuasion. *J. Market. Res.* 36(1):45–58
- Aaker JL. 2000. Accessibility or diagnosticity? Disentangling the influence of culture on persuasion processes and attitudes. *J. Consum. Res.* 26(4):340–57
- Aaker JL, Lee AY. 2001. “I” seek pleasures and “we” avoid pains: the role of self-regulatory goals in information processing and persuasion. *J. Consum. Res.* 28(1):33–49
- Aaker JL, Maheswaran D. 1997. The effect of cultural orientation on persuasion. *J. Consum. Res.* 24(3):315–28
- Achenreiner GB, John DR. 2003. The meaning of brand names to children: a developmental investigation. *J. Consum. Psychol.* 13(3):220–29
- Adaval R. 2001. Sometimes it just feels right: the differential weighting of affect-consistent and affect-inconsistent product information. *J. Consum. Res.* 28(1):1–17
- Adaval R. 2003. How good gets better and bad gets worse: understanding the impact of affect on evaluations of known brands. *J. Consum. Res.* 30(3):352–67
- Adaval R, Monroe KB. 2002. Automatic construction and use of contextual information for product and price evaluations. *J. Consum. Res.* 28(4):572–88
- Adaval R, Wyer RS. 1998. The role of narratives in consumer information processing. *J. Consum. Psychol.* 7(3):207–45
- Ahluwalia R. 2002. How prevalent is the negativity effect in consumer environments? *J. Consum. Res.* 29(2):270–79
- Ahluwalia R, Burnkrant RE. 2004. Answering questions about questions: a persuasion knowledge perspective for understanding the effects of rhetorical questions. *J. Consum. Res.* 31(1):26–42
- Ahluwalia R, Gurhan-Canli Z. 2000. The effects of extensions on the family brand name: an accessibility-diagnostics perspective. *J. Consum. Res.* 27(3):371–81
- Ahluwalia R, Unnava HR, Burnkrant RE. 2001. The moderating role of commitment on the spillover effect of marketing communications. *J. Market. Res.* 38(4):458–70
- Ajzen I. 1991. Attitudinal versus normative messages: an investigation of the differential effects of persuasive communications on behavior. *Sociometry* 34:263–80
- Alba JW, Hutchinson JW. 2000. Knowledge calibration: what consumers know and what they think they know. *J. Consum. Res.* 27(2):123–56
- Alba JW, Mela CF, Shimp TA, Urbany JE. 1999. The effect of discount frequency and depth on consumer price judgments. *J. Consum. Res.* 26(2):99–114
- Areni CS. 2002. The proposition-probability model of argument structure and message acceptance. *J. Consum. Res.* 29(2):168–87
- Ariely D, Levav J. 2000. Sequential choice in group settings: taking the road less traveled and less enjoyed. *J. Consum. Res.* 27(3):279–90
- Bagozzi RP, Dholakia UM. 1999. Goal-setting and goal-striving in consumer behavior. *J. Market.* 63:19–32
- Bagozzi RP, Wong N, Abe S, Bergami M. 2000. Cultural and situational contingencies and the theory of reasoned action: application to fast food restaurant consumption. *J. Consum. Psychol.* 9(2):97–106
- Baker WE. 2001. The diagnosticity of advertising generated brand attitudes in brand choice contexts. *J. Consum. Psychol.* 11(2):129–39
- Bargh JA. 2002. Losing consciousness: automatic influences on consumer judgment, behavior, and motivation. *J. Consum. Res.* 29(2):280–85
- Barone MJ, Miniard PW. 2002. Mood and brand extension judgments: asymmetric effects for desirable versus undesirable brands. *J. Consum. Psychol.* 12(4):283–90

- Barone MJ, Miniard PW, Romeo J. 2000. The influence of positive mood on brand extension evaluations. *J. Consum. Res.* 26(4):386–400
- Barsalou LW. 1999. Perceptual symbol systems. *Behav. Brain Sci.* 22:577–660
- Baumgartner H. 1995. On the utility of consumers' theories in judgments of covariation. *J. Consum. Res.* 21(4):634–43
- Baumgartner H. 2002. Toward a personology of the consumer. *J. Consum. Res.* 29(2):286–92
- Baumgartner H, Sujan M, Padgett D. 1997. Patterns of affective reactions to advertisements: the integration of moment-to-moment responses into overall judgments. *J. Market. Res.* 34(2):219–32
- Baumeister RF. 2002. Yielding to temptation: self-control failure; impulsive purchasing, and consumer behavior. *J. Consum. Res.* 28(4):670–76
- Bettman JB. 1986. Consumer psychology. *Annu. Rev. Psychol.* 37:257–90
- Bickart B, Schwarz N. 2001. Service experiences and satisfaction judgments: the use of affect and beliefs in judgment formation. *J. Consum. Psychol.* 11(1):29–41
- Block LG, Keller PA. 1995. When to accentuate the negative: the effects of perceived efficacy and message framing on intentions to perform a health-related behavior. *J. Market. Res.* 32(2):192–203
- Bodur HO, Brinberg D, Coupey E. 2000. Belief, affect and attitude: alternative models of the determinants of attitude. *J. Consum. Psychol.* 9(1):17–28
- Bohner G, Einwiller S, Erb H, Siebler F. 2003. When small means comfortable: relations between product attributes in two-sided advertising. *J. Consum. Psychol.* 13(4):454–63
- Bolton LE. 2003. Stickier priors: the effects of nonanalytic and analytic thinking in new product forecasting. *J. Market. Res.* 40:65–79
- Bolton LE, Reed A II. 2004. Sticky priors: the perseverance of identity effects on judgments. *J. Market. Res.* 41(4):397–411
- Bottomley PA, Holden SJS. 2001. Do we really know how consumers evaluate brand extensions? Empirical generalizations based on secondary analysis of eight studies. *J. Market. Res.* 38(4):494–500
- Boush DM, Friestad M, Rose GM. 1994. Adolescent skepticism toward TV advertising and knowledge of advertiser tactics. *J. Consum. Res.* 21(1):165–75
- Braun KA. 1999. Postexperience advertising effects on consumer memory. *J. Consum. Res.* 25(4):319–34
- Brendl CM, Markman AB, Messner C. 2003. The devaluation effect: activating a need devalues unrelated objects. *J. Consum. Res.* 29(4):463–73
- Briley DA, Morris MW, Simonson I. 2000. Reasons as carriers of culture: dynamic versus dispositional models of cultural influence on decision making. *J. Consum. Res.* 27(2):157–78
- Briley DA, Wyer RA. 2002. The effect of group membership salience on the avoidance of negative outcomes: implications for social and consumer decisions. *J. Consum. Res.* 29(3):400–15
- Brinol P, Petty RE, Tormala ZL. 2004. Self-validation of cognitive responses to advertisements. *J. Consum. Res.* 30(4):559–73
- Broniarczyk SM, Gershoff AD. 2003. The reciprocal effects of brand equity and trivial attributes. *J. Market. Res.* 40(2):161–75
- Brown CL, Carpenter GS. 2000. Why is the trivial important: A reasons-based account for the effects of trivial attributes in choice. *J. Consum. Res.* 26(4):372–85
- Brown CL, Krishna A. 2004. The skeptical shopper: a metacognitive account for the effects of default options on choice. *J. Consum. Res.* 31(3):529–39
- Brumbaugh AM. 2002. Source and nonsource cues in advertising and their effects on the activation of cultural and subcultural knowledge on the route to persuasion. *J. Consum. Res.* 29(2):258–69
- Brunel FF, Tietje BC, Greenwald AG. 2004. Is the implicit association test a valid and valuable measure of implicit consumer social cognition? *J. Consum. Psychol.* 14(4):385–415

- Buchanan L, Simmons CJ, Bickart BA. 1999. Brand equity dilution: retailer display and context brand effects. *J. Market. Res.* 36(3):345–55
- Burnkrant RE, Unnava HR. 1995. Effects of self-referencing on persuasion. *J. Consum. Res.* 22(1):17–26
- Campbell MC, Goodstein RC. 2001. The moderating effect of perceived risk on consumers' evaluations of product incongruity: preference for the norm. *J. Consum. Res.* 28(3):439–49
- Campbell MC, Keller KL. 2003. Brand familiarity and advertising repetition effects. *J. Consum. Res.* 30(2):292–304
- Campbell MC, Kirmani A. 2000. Consumer's use of persuasion knowledge: the effects of accessibility and cognitive capacity on perceptions of an influence agent. *J. Consum. Res.* 27(1):69–83
- Carpenter GS, Glazer R, Nakamoto K. 1994. Meaningful brands from meaningless differentiation: the dependence on irrelevant attributes. *J. Market. Res.* 31(3):339–50
- Carpenter GS, Nakamoto K. 1996. Impact of consumer preference formation on marketing objectives and second mover strategies. *J. Consum. Psychol.* 5(4):325–58
- Chaiken S. 1980. Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *J. Personal. Soc. Psychol.* 39:752–66
- Chakravarti A, Janiszewski C. 2003. The influence of macro-level motives on consideration set composition in novel purchase situations. *J. Consum. Res.* 30(2):244–58
- Chandon P, Morwitz VG, Reinartz WJ. 2004. The short- and long-term effects of measuring intent to repurchase. *J. Consum. Res.* 31(3):566–72
- Chattopadhyay A, Dahl DW, Ritchie RJB, Shahin KN. 2003. Hearing voices: the impact of announcer speech characteristics on consumer response to broadcast advertising. *J. Consum. Psychol.* 13(3):198–204
- Chernov A. 2004a. Goal-attribute compatibility in consumer choice. *J. Consum. Psychol.* 13(1,2):141–50
- Chernov A. 2004b. Goal orientation and consumer preference for the status quo. *J. Consum. Res.* 31(3):557–65
- Childers TL, Jass J. 2002. All dressed up with something to say: effects of typeface semantic associations on brand perceptions and consumer memory. *J. Consum. Psychol.* 12(2):93–106
- Cohen JB, Andrade EB. 2004. Affective intuition and task-contingent affect regulation. *J. Consum. Res.* 31(2):358–67
- Cohen JB, Chakravarti D. 1990. Consumer psychology. *Annu. Rev. Psychol.* 41:243–88
- Cooke ADJ, Sujana H, Sujana M, Weitz BA. 2002. Marketing the unfamiliar: the role of context and item-specific information in electronic agent recommendations. *J. Market. Res.* 39(4):488–98
- Cowley E, Janis E. 2004. Not necessarily better, but certainly different: a limit to the advertising misinformation effect on memory. *J. Consum. Res.* 31(1):229–35
- Cowley E, Mitchell AA. 2003. The moderating effect of product knowledge on the learning and organization of product information. *J. Consum. Res.* 30(3):443–54
- Cox D, Cox AD. 2001. Communicating the consequences of early detection: the role of evidence and framing. *J. Market.* 65(3):91–103
- Desai KK, Keller KL. 2002. The effects of ingredient branding strategies on host brand extendibility. *J. Market.* 66(1):73–93
- Erdem T. 1998. An empirical analysis of umbrella branding. *J. Market. Res.* 35(3):339–51
- Escales JE, Luce MF. 2004. Understanding the effects of process-focused versus outcome-focused thought in response to advertising. *J. Consum. Res.* 31(2):274–85
- Feldman JM, Lynch JG. 1998. Self-generated validity and other effects of measuring belief, attitude, intention, and behavior. *J. Appl. Psychol.* 73(3):421–35
- Fishbein M, Ajzen I. 1975. *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. Reading, MA: Addison-Wesley



- Fishbein M, Middlestadt SB. 1995. Noncognitive effects on attitude formation and change: fact or artifact? *J. Consum. Psychol.* 4(2):181–202
- Fishbein M, Middlestadt SB. 1997. A striking lack of evidence for nonbelief-based attitude formation and change: a response to five commentaries. *J. Consum. Psychol.* 6(1):107–15
- Fiske ST, Neuberg SL. 1990. A continuum of impression formation, from category-based to individuating processes: influences of information and motivation on attention and interpretation. In *Advances in Experimental Social Psychology*, ed. MP Zanna, 23:1–74. New York: Academic
- Fiske ST, Taylor SE. 1984. *Social Cognition*. New York: Random House
- Fitzsimons GJ, Morwitz VG. 1996. The effect of measuring intent on brand-level purchase behavior. *J. Consum. Res.* 23(1):1–11
- Fitzsimons GJ, Shiv B. 2001. Nonconscious and contaminative effects of hypothetical questions on subsequent decision making. *J. Consum. Res.* 28(2):224–38
- Folkes V, Matta S. 2004. The effect of package shape on consumers' judgments of product volume: Attention as a mental contaminant. *J. Consum. Res.* 31(2):390–401
- Folkes VS, Patrick VM. 2003. The positivity effect in perceptions of services: seen one, seen them all? *J. Consum. Res.* 30(1):125–37
- Forehand MR, Deshpande R. 2001. What we see makes us who we are: priming ethnic self-awareness and advertising response. *J. Market. Res.* 38(3):336–49
- Friestad M, Wright P. 1995. Persuasion knowledge: lay people's and researchers' beliefs about the psychology of advertising. *J. Consum. Res.* 22(1):62–74
- Garbarino EC, Edell JA. 1997. Cognitive effort, affect, and choice. *J. Consum. Res.* 24(2):147–58
- Gentner D, Markman AB. 1997. Structural alignment in analogy and similarity. *Am. Psychol.* 52(1):45–56
- Gorn GJ, Chattopadhyay A, Sengupta J, Tripathi S. 2004. Waiting for the web: how screen color affects time perception. *J. Market. Res.* 41(2):215–25
- Gorn GJ, Pham MT, Sin LY. 2001. When arousal influences ad evaluation and valence does not (and vice versa). *J. Consum. Psychol.* 11(1):43–55
- Grant SJ, Malaviya P, Sternthal B. 2004. The influence of negation on product evaluations. *J. Consum. Res.* 31(3):583–91
- Gregan-Paxton J. 2001. The role of abstract and specific knowledge in the formation of product judgments: an analogical learning perspective. *J. Consum. Psychol.* 11(3):141–48
- Gregan-Paxton J, John DR. 1997. Consumer learning by analogy: a model of internal knowledge transfer. *J. Consum. Res.* 24(3):266–84
- Grewal D, Kavanoor S, Fern EF, Costley M, Barnes JH. 1997. Comparative advertising: a meta-analysis of the empirical evidence. *J. Market.* 61(4):1–15
- Gurhan-Canli Z, Maheswaran D. 1998. The effects of extensions on brand name dilution and enhancement. *J. Market. Res.* 35(4):464–73
- Gurhan-Canli Z, Maheswaran D. 2000. Determinants of country-of-origin evaluations. *J. Consum. Res.* 27(1):96–108
- Hafner M. 2004. How dissimilar others may still resemble the self: assimilation and contrast after social comparison. *J. Consum. Psychol.* 14(1,2):187–95
- Haugtvedt CP, Ohio State Univ. Consum. Psychol. Semin. 1997. Beyond fact or artifact: an assessment of Fishbein and Middlestadt's perspectives on attitude change processes. *J. Consum. Psychol.* 6(1):99–106
- Haugtvedt CP, Schumann DW, Schneier WL, Warren WL. 1994. Advertising repetition and variation strategies: implications for understanding attitude strength. *J. Consum. Res.* 21(1):176–89
- Henderson PW, Giese JL, Cote JA. 2004. Impression management using typeface design. *J. Market.* 68(4):60–72
- Herr PM. 1995. Whither fact, artifact, and attitude: reflections on the theory of reasoned action. *J. Consum. Psychol.* 4(4):371–80

- Herr PM, Page CM. 2004. Asymmetric association of liking and disliking judgments: So what's not to like? *J. Consum. Res.* 30(4):588-601
- Higgins ET. 2002. How self-regulation creates distinct values: the case of promotion and prevention decision making. *J. Consum. Psychol.* 12(3):177-91
- Hoch SJ. 2002. Product experience is seductive. *J. Consum. Res.* 29(3):448-54
- Homer PM, Batra R. 1994. Attitudinal effects of character-based versus competence-based negative political communication. *J. Consum. Psychol.* 3(2):163-85
- Howard DJ, Gengler C. 2001. Emotional contagion effects on product attitudes. *J. Consum. Res.* 28(2):189-201
- Hsee CK, Leclerc F. 1998. Will products look more attractive when presented separately or together? *J. Consum. Res.* 25(2):175-86
- Huber J. 2004. A comment on metacognitive experiences and consumer choice. *J. Consum. Psychol.* 14(4):356-59
- Huffman C. 1996. Goal change, information acquisition, and transfer. *J. Consum. Psychol.* 5(1):1-15
- Isen AM, Niedenthal P, Cantor N. 1992. The influence of positive affect on social categorization. *Motiv. Emot.* 16:65-78
- Jacoby J, Johar GV, Morrin M. 1998. Consumer behavior: a quadrennium. *Annu. Rev. Psychol.* 49:319-44
- Jain SP, Buchanan B, Maheswaran D. 2000. Comparative and noncomparative advertising: the moderating impact of pre-purchase verifiability. *J. Consum. Psychol.* 9(4):201-12
- Jain SP, Posavac SS. 2001. Prepurchase attribute verifiability, source credibility, and persuasion. *J. Consum. Psychol.* 11(3):169-80
- Jain SP, Maheswaran D. 2000. Motivated reasoning: a depth-of-processing perspective. *J. Consum. Res.* 26(4):358-71
- Janiszewski C, Meyvis T. 2001. Effects of brand logo complexity, repetition, and spacing on processing fluency and judgment. *J. Consum. Res.* 28(1):18-32
- Janiszewski C, Noel H, Sawyer AG. 2003. A meta-analysis of the spacing effect in verbal learning: implications for research on advertising repetition and consumer memory. *J. Consum. Res.* 30(1):138-49
- Jarvis WB, Petty RE. 1996. The need to evaluate. *J. Personal. Soc. Psychol.* 70:172-94
- Johar GV. 1995. Consumer involvement and deception from implied advertising claims. *J. Market. Res.* 32(3):267-79
- Johar GV, Simmons CJ. 2000. The use of concurrent disclosures to correct invalid inferences. *J. Consum. Res.* 26(4):307-22
- John DR. 1999. Consumer socialization of children: a retrospective look at twenty-five years of research. *J. Consum. Res.* 26(3):183-213
- John DR, Loken B, Joiner C. 1998. The negative impact of extensions: Can flagship products be diluted? *J. Market.* 62(1):19-32
- Joiner C, Loken B. 1998. The inclusion effect and category-based induction: theory and application to brand categories. *J. Consum. Psychol.* 7(2):101-29
- Kahle LR, Liu RR, Rose GM, Kim W. 2000. Dialectical thinking in consumer decision making. *J. Consum. Psychol.* 9(1):53-58
- Kamins MA, Folkes VS, Perner L. 1997. Consumer responses to rumors: good news, bad news. *J. Consum. Psychol.* 6(2):165-87
- Kardes FR, Cronley ML, Kellaris JJ, Posavac SS. 2004a. The role of selective information processing in price-quality inferences. *J. Consum. Res.* 31(2):368-74
- Kardes FR, Cronley ML, Pontes MC, Houghton DC. 2001. Down the garden path: the role of conditional inference processes in self-persuasion. *J. Consum. Psychol.* 11(3):159-68
- Kardes FR, Posavac SS, Cronley ML. 2004b. Consumer inference: a review of processes, bases, and judgment contexts. *J. Consum. Psychol.* 14(3):230-56
- Kassarjian HH. 1982. Consumer psychology. *Annu. Rev. Psychol.* 33:619-49
- Keller KL, Heckler SE, Houston MJ. 1998. The effects of brand name suggestiveness on advertising recall. *J. Market.* 62(1):48-57

- Keller PA, Block LG. 1996. Increasing the persuasiveness of fear appeals: the effect of arousal and elaboration. *J. Consum. Res.* 22(4):448–59
- Keller PA, Block LG. 1997. Vividness effects: a resource-matching perspective. *J. Consum. Res.* 24(3):295–304
- Keller PA, Lipkus IM, Rimer BK. 2002. Depressive realism and health risk accuracy: the negative consequences of positive mood. *J. Consum. Res.* 29(1):57–69
- Keller PA, Lipkus IM, Rimer BK. 2003. Affect, framing, and persuasion. *J. Market. Res.* 40(1):54–65
- Kempf DAS, Smith RE. 1998. Consumer processing of product trial and the effects of prior advertising: a structural modeling approach. *J. Market. Res.* 35(3):325–38
- Kirmani A, Shiv B. 1998. Effects of source congruity on brand attitudes and beliefs: the moderating role of issue-relevant elaboration. *J. Consum. Psychol.* 7(1):25–47
- Kirmani A, Sood S, Bridges S. 1999. The ownership effect in consumer responses to brand line stretches. *J. Market.* 63(1):88–101
- Klink RR, Smith DC. 2001. Threats to the external validity of brand extension research. *J. Market. Res.* 38(3):326–426
- Krishnamurthy P, Sivaraman A. 2002. Counterfactual thinking and advertising responses. *J. Consum. Res.* 28(4):650–58
- Krishnamurthy P, Sujan M. 1999. Retrospection versus anticipation: the role of the ad under retrospective and anticipatory self-referencing. *J. Consum. Res.* 26(1):55–69
- Krishnan HS, Chakravarti D. 1999. Memory measures for pretesting advertisements: an integrative conceptual framework and a diagnostic template. *J. Consum. Psychol.* 8(1):1–37
- Krishnan HS, Shapiro S. 1999. Prospective and retrospective memory for intentions: a two-component approach. *J. Consum. Psychol.* 8(2):141–66
- Kumar A. 2000. Interference effects of contextual cues in advertisements on memory for ad content. *J. Consum. Psychol.* 9(3):155–66
- Kumar A, Krishnan S. 2004. Memory interference in advertising: a replication and extension. *J. Consum. Res.* 30(4):602–11
- Lane VR. 2000. The impact of ad repetition and ad content on consumer perceptions of incongruent extensions. *J. Market.* 64(2):80–91
- Larsen V, Luna D, Peracchio LA. 2004. Point of view and pieces of time: a taxonomy of image attributes. *J. Consum. Res.* 31(1):102–11
- Lau-Gesk LG. 2003. Activating culture through persuasion appeals: an examination of the bicultural consumer. *J. Consum. Psychol.* 13(3):301–15
- Laverie DA, Kleine RE III, Kleine SS. 2002. Reexamination and extension of Kleine, Kleine, and Kernan's social identity model of mundane consumption: the mediating role of the appraisal process. *J. Consum. Res.* 28(4):659–69
- Law S, Hawkins SA, Craik FIM. 1998. Repetition-induced belief in the elderly: rehabilitation age-related memory deficits. *J. Consum. Res.* 25(2):91–107
- Lee AY. 2004. The prevalence of metacognitive routes to judgments. *J. Consum. Psychol.* 14(4):349–55
- Lee AY, Sternthal B. 1999. The effects of positive mood on memory. *J. Consum. Res.* 26(2):115–27
- Lee JA. 2000. Adapting Triandis's model of subjective culture and social behavior relations to consumer behavior. *J. Consum. Psychol.* 9(2):117–26
- Levin IP, Levin AM. 2000. Modeling the role of brand alliances in the assimilation of product evaluations. *J. Consum. Psychol.* 9(1):43–52
- Lin Y, Lin C, Raghubir P. 2003. Avoiding anxiety, being in denial, or simply stroking self-esteem: Why self-positivity? *J. Consum. Psychol.* 13(4):464–77
- Loken B, Joiner C, Peck J. 2002. Category attitude measures: exemplars as inputs. *J. Consum. Psychol.* 12(2):149–62
- Loken B, Ward J. 1990. Alternative approaches to understanding the determinants of typicality. *J. Consum. Res.* 17:111–26

- Luce MF, Payne JW, Bettman JR. 1999. Emotional trade-off difficulty and choice. *J. Market. Res.* 36(2):143–59
- Luna D, Peracchio LA. 2001. Moderators of language effects in advertising to bilinguals: a psycholinguistic approach. *J. Consum. Res.* 28(2):284–95
- Lurie NH. 2004. Decision making in information rich environments: the role of information structure. *J. Consum. Res.* 30(4):473–86
- Maison D, Greenwald AG, Bruin RH. 2004. Predictive validity of the implicit association test in studies of brands, consumer attitudes, and behavior. *J. Consum. Psychol.* 14(4):427–42
- Malaviya P, Kisielius J, Sternthal B. 1996. The effect of type of elaboration on advertising process and judgment. *J. Market. Res.* 33:410–21
- Mandel N. 2003. Shifting selves and decision making: the effects of self-construal priming on consumer risk taking. *J. Consum. Res.* 30(1):30–40
- Mandel N, Johnson EJ. 2002. When Web pages influence choice: effects of visual primes on experts and novices. *J. Consum. Res.* 29(2):235–45
- Mantel SP, Kardes FR. 1999. The role of direction of comparison, attribute-based processing, and attitude-based processing in consumer preference. *J. Consum. Res.* 25(4):335–52
- Mantel SP, Kellaris JJ. 2003. Cognitive determinants of consumers' time perceptions: the impact of resources required and available. *J. Consum. Res.* 29(4):531–38
- Markus H, Kunda Z. 1986. Stability and malleability in the self-concept in the perception of others. *J. Personal. Soc. Psychol.* 51(4):858–66
- Martin IM, Stewart DW. 2001. The differential impact of goal congruency on attitudes, intentions, and the transfer of brand equity. *J. Market. Res.* 38(4):471–93
- McQuarrie EF, Mick DG. 2003. Visual and verbal rhetorical figures under directed processing versus incidental exposure to advertising. *J. Consum. Res.* 29(4):579–87
- Meloy MG. 2000. Mood-driven distortion of product information. *J. Consum. Res.* 27(3):345–59
- Menon G. 1997. Are the parts better than the whole? The effects of decompositional questions on judgments of frequent behaviors. *J. Market. Res.* 32:335–46
- Menon G, Block LG, Ramanathan S. 2002. We're at as much risk as we are led to believe: effects of message cues on judgments of health risk. *J. Consum. Res.* 28(4):533–49
- Menon G, Johar GV. 1997. Antecedents of positivity effects in social versus nonsocial judgments. *J. Consum. Psychol.* 6(4):313–37
- Menon G, Raghurib P. 2003. Ease-of-retrieval as an automatic input in judgments: a mere-accessibility framework? *J. Consum. Res.* 30(2):230–43
- Menon G, Raghurib P, Schwarz N. 1995. Behavioral frequency judgments: an accessibility-diagnosticsity framework. *J. Consum. Res.* 22(2):212–28
- Meyers-Levy J, Maheswaran D. 2004. Exploring message framing outcomes when systematic, heuristic, or both types of processing occur. *J. Consum. Psychol.* 14(1,2):159–67
- Meyers-Levy J, Peracchio LA. 1995. Understanding the effects of color: how the correspondence between available and required resources affects attitudes. *J. Consum. Res.* 22(2):121–38
- Meyers-Levy J, Peracchio LA. 1996. Moderators of the impact of self-reference on persuasion. *J. Consum. Res.* 22(4):408–23
- Meyers-Levy J, Tybout AM. 1997. Context effects at encoding and judgment in consumption settings: the role of cognitive resources. *J. Consum. Res.* 24(1):1–14
- Meyvis T, Janiszewski C. 2002. Consumers' beliefs about product benefits: the effect of obviously irrelevant product information. *J. Consum. Res.* 28(4):618–35
- Meyvis T, Janiszewski C. 2004. When are broader brands stronger brands? An accessibility perspective on the success of brand extensions. *J. Consum. Res.* 31(2):346–57
- Mick DG, Fournier S. 1998. Paradoxes of technology: consumer cognizance, emotions,

- and coping strategies. *J. Consum. Res.* 25(2):123–43
- Milberg S, Park CW, McCarthy M. 1997. Managing negative feedback effects associated with brand extension: the impact of alternative branding strategies. *J. Consum. Psychol.* 6(2):119–40
- Miniard PW, Barone MJ. 1997. The case for noncognitive determinants of attitude: a critique of Fishbein and Middlestadt. *J. Consum. Psychol.* 6(1):77–93
- Mitchell A, Dacin PA. 1996. The assessment of alternative measures of consumer expertise. *J. Consum. Res.* 23(3):219–39
- Mitchell DJ, Kahn BE, Knasko SC. 1995. There's something in the air: effects of congruent or incongruent ambient odor on consumer decision making. *J. Consum. Res.* 22(2):229–38
- Moore ES, Lutz RJ. 2000. Children, advertising, and product experiences: a multimethod inquiry. *J. Consum. Res.* 27(1):31–48
- Moreau CP, Lehmann DR, Markman AB. 2001. Entrenched knowledge structures and consumer response to new products. *J. Market. Res.* 38(1):14–29
- Morrin M. 1999. The impact of brand extensions on parent brand memory structures and retrieval processes. *J. Market. Res.* 36(4):517–25
- Morrin M, Ratneshwar S. 2003. Does it make sense to use scents to enhance brand memory? *J. Market. Res.* 40(1):10–26
- Morwitz VG. 1997. It seems like only yesterday: the nature and consequences of telescoping errors in marketing research. *J. Consum. Psychol.* 6(1):1–29
- Morwitz VG, Fitzsimons GJ. 2004. The mere-measurement effects: Why does measuring intentions change actual behavior? *J. Consum. Psychol.* 14(1,2):64–74
- Murry JP, Dacin PA. 1996. Cognitive moderators of negative-emotion effects: implications for understanding media context. *J. Consum. Res.* 22(4):439–47
- Muthukrishnan AV, Kardes F. 2001. Persistent preferences for product attributes: the effects of the initial choice context and uninformative experience. *J. Consum. Res.* 28(1):89–104
- Muthukrishnan AV, Ramaswami S. 1999. Contextual effects on the revision of evaluative judgments: an extension of the omission-detection framework. *J. Consum. Res.* 26(1):70–84
- Notani AS. 1998. Moderators of perceived behavioral control's predictiveness in the theory of planned behavior: a meta-analysis. *J. Consum. Psychol.* 7(3):247–71
- Olsen DG. 1997. The impact of interstimulus interval and background silence on recall. *J. Consum. Res.* 23(4):295–311
- Park CW, Jun SY, Shocker AD. 1996. Composite branding alliances: an investigation of extensions and feedback effects. *J. Market. Res.* 33:453–66
- Park CW, Mothersbaugh DL, Feick L. 1994. Consumer knowledge assessment. *J. Consum. Res.* 21(1):71–82
- Pechmann C. 1996. Do consumers overgeneralize one-sided comparative price claims, and are more stringent regulations needed? *J. Market. Res.* 33(2):150–62
- Pechmann C, Knight SJ. 2002. An experimental investigation of the joint effects of advertising and peers on adolescents' beliefs and intentions about cigarette consumption. *J. Consum. Res.* 29(1):5–19
- Peck J, Childers TL. 2003. Individual differences in haptic information processing: the "need for touch" scale. *J. Consum. Res.* 30(3):430–42
- Peracchio LA, Meyers-Levy J. 1994. How ambiguous cropped objects in ad photos can affect product evaluations. *J. Consum. Res.* 21(1):190–214
- Peracchio LA, Meyers-Levy J. 1997. Evaluating persuasion-enhancing techniques from a resource-matching perspective. *J. Consum. Res.* 24(2):178–92
- Peracchio LA, Tybout AM. 1996. The moderating role of prior knowledge in schema-based product evaluation. *J. Consum. Res.* 23(3):177–92
- Petty RE, Cacioppo JT. 1986. *Communication and Persuasion: Central and Peripheral*

- Routes to Attitude Change*. New York: Springer-Verlag
- Pham MT. 1996. Cue representation and selection effects of arousal on persuasion. *J. Consum. Res.* 22(4):373–87
- Pham MT. 1998. Representatives, relevance, and the use of feelings in decision making. *J. Consum. Res.* 25(2):144–57
- Pham MT. 2004. The logic of feeling. *J. Consum. Psychol.* 14(4):360–9
- Pham MT, Avnet T. 2004. Ideals and oughts and the reliance on affect versus substance in persuasion. *J. Consum. Res.* 30(4):503–18
- Pham MT, Cohen JB, Pracejus JW, Hughes GD. 2001. Affect monitoring and the primacy of feelings in judgment. *J. Consum. Res.* 28(2):167–88
- Pham MT, Muthukrishnan AV. 2002. Search and alignment in judgment revision: implications for brand positioning. *J. Market. Res.* 39(1):18–30
- Phillips DM, Baumgartner H. 2002. The role of consumption emotions in the satisfaction response. *J. Consum. Psychol.* 12(3):243–52
- Pieters R, Rosbergen E, Wedel M. 1999. Visual attention to repeated print advertising: a test of scanpath theory. *J. Market. Res.* 36(4):424–38
- Posavac SS, Sanbonmatsu DM, Kardes FR, Fitzsimons GJ. 2004. The brand positivity effect: when evaluation confers preference. *J. Consum. Res.* 31(3):643–51
- Priester JR, Dholakia UM, Fleming MA. 2004. When and why the background contrast effect emerges: thought engenders meaning by influencing the perception of applicability. *J. Consum. Res.* 31(3):491–501
- Priester JR, Godek J, Nayakankuppam DJ, Park K. 2004. Brand congruity and comparative advertising: When and why comparative advertisements lead to greater elaboration. *J. Consum. Psychol.* 14(1,2):115–23
- Priester JR, Fleming MA. 1997. Artifact or meaningful theoretical constructs? Examining evidence for nonbelief- and belief-based attitude change processes. *J. Consum. Psychol.* 6(1):67–76
- Priester JR, Nayakankuppam D, Fleming MA, Godek J. 2004. The A<sup>2</sup>SC<sup>2</sup> model: the influence of attitudes and attitude strength on consideration and choice. *J. Consum. Res.* 30(4):574–87
- Priester JR, Petty RE. 2003. The influence of spokesperson trustworthiness on message elaboration, attitude strength, and advertising effectiveness. *J. Consum. Psychol.* 13:408–21
- Raghubir P, Krishna A. 1999. Vital dimensions in volume perception: Can the eye fool the stomach? *J. Market. Res.* 36(3):313–26
- Raghubir P, Menon G. 1998. AIDS and me, never the twain shall meet: the effects of information accessibility on judgments of risk and advertising effectiveness. *J. Consum. Res.* 25(1):52–63
- Raghubir R, Irwin JR. 2001. Walking the hedonic product treadmill: default contrast and mood-based assimilation in judgments of predicted happiness with a target product. *J. Consum. Res.* 28(3):355–68
- Ratneshwar S, Barsalou LW, Pechmann C, Moore M. 2001. Goal-derived categories: the role of personal and situational goals in category representations. *J. Consum. Psychol.* 10(3):147–57
- Ratneshwar S, Mick DG, Huffman C, eds. 2000. *The Why of Consumption: Contemporary Perspectives on Consumer Motives, Goals and Desires*. London/New York: Routledge
- Ratneshwar S, Pechmann C, Shocker AD. 1996. Goal-derived categories and the antecedents of across-category consideration. *J. Consum. Res.* 23(3):240–50
- Reed A II. 2004. Activating the self-importance of consumer selves: exploring identity salience effects on judgments. *J. Consum. Res.* 31(2):286–95
- Richins ML. 1997. Measuring emotions in the consumption experience. *J. Consum. Res.* 24(2):127–46
- Roehm ML, Sternthal B. 2001. The moderating effect of knowledge and resources on the persuasive impact of analogies. *J. Consum. Res.* 28(2):257–72

- Russell CA. 2002. Investigating the effectiveness of product placements in television shows: the role of modality and plot connection congruence on brand memory and attitude. *J. Consum. Res.* 29(3):306–18
- Russo JE, Meloy MG, Medvec VH. 1998. Pre-decisional distortion of product information. *J. Market. Res.* 35(4):438–52
- Ruth JA. 2001. Promoting a brand's emotion benefits: the influence of emotion categorization processes on consumer evaluations. *J. Consum. Psychol.* 11(2):99–113
- Schlosser AE, Shavitt S. 2002. Anticipating discussion about a product: Rehearsing what to say can affect your judgments. *J. Consum. Res.* 29(1):101–15
- Schwarz N. 1997. Moods and attitude judgments: a comment on Fishbein and Middlestadt. *J. Consum. Psychol.* 6(1):93–98
- Schwarz N. 2004. Metacognitive experiences in consumer judgment and decision making. *J. Consum. Psychol.* 14(4):332–48
- Sen S. 1999. The effects of brand name suggestiveness and decision goal on the development of brand knowledge. *J. Consum. Psychol.* 8(4):431–55
- Sengupta J, Fitzsimons GJ. 2000. The effects of analyzing reasons for brand preferences: disruption or reinforcement. *J. Market. Res.* 37(3):318–30
- Sengupta J, Fitzsimons GJ. 2004. The effect of analyzing reasons on the stability of brand attitudes: a reconciliation of opposing predictions. *J. Consum. Res.* 31(3):705–11
- Sengupta J, Goodstein RC, Boninger DS. 1997. All cues are not created equal: obtaining attitude persistence under low-involvement conditions. *J. Consum. Res.* 23(4):351–61
- Sengupta J, Gorn GJ. 2002. Absence makes the mind grow sharper: effects of element omission on subsequent recall. *J. Market. Res.* 39(2):186–202
- Sengupta J, Johar GV. 2002. Effects of inconsistent attribute information on the predictive value of product attitudes: toward a resolution of opposing perspectives. *J. Consum. Res.* 29(1):39–56
- Shapiro S. 1999. When an ad's influence is beyond our conscious control: perceptual and conceptual fluency effects caused by incidental ad exposure. *J. Consum. Res.* 26(1):16–36
- Shapiro S, MacInnis DJ, Heckler SE. 1997. The effects of incidental ad exposure on the formation of consideration sets. *J. Consum. Res.* 24(1):94–104
- Shapiro S, Spence MT. 2002. Factors affecting encoding, retrieval, and alignment of sensory attributes in a memory-based brand choice task. *J. Consum. Res.* 28(4):603–17
- Shavitt S, Swan S, Lowrey TM, Wanke M. 1994. The interaction of endorser attractiveness and involvement in persuasion depends on the goal that guides message processing. *J. Consum. Psychol.* 3(2):137–62
- Shiv B, Britton JAE, Payne JW. 2004. Does elaboration increase or decrease the effectiveness of negatively versus positively framed messages? *J. Consum. Res.* 31(1):199–208
- Shiv B, Edell JA, Payne JW. 1997. Factors affecting the impact of negatively and positively framed ad messages. *J. Consum. Res.* 24(3):285–94
- Shiv B, Fedorikhin A. 1999. Heart and mind in conflict: the interplay of affect and cognition in consumer decision making. *J. Consum. Res.* 26(3):278–92
- Shrum LJ, Wyer RS, O'Guinn TC. 1998. The effects of television consumption on social perceptions: the use of priming procedures to investigate psychological processes. *J. Consum. Res.* 24(4):447–58
- Siminon BL, Ruth JA. 1998. Is a company known by the company it keeps? Assessing the spillover effects of brand alliances on consumer brand attitudes. *J. Market. Res.* 35(1):30–42
- Simonson I, Carmon Z, Dhar R, Drolet A, Nowles S. 2001. Consumer research: in search of identity. *Annu. Rev. Psychol.* 52:249–75
- Sirsi AK, Ward JC, Reingen PH. 1996. Micro-cultural analysis of variation in sharing of causal reasoning about behavior. *J. Consum. Res.* 22(4):345–72

- Soman D, Cheema A. 2004. When goals are counterproductive: the effects of violation of a behavioral goal on subsequent performance. *J. Consum. Res.* 31(1):52–62
- Spangenberg ER, Greenwald AG. 1999. Social influence by requesting self-prophecy. *J. Consum. Psychol.* 8(1):61–89
- Srivastava J, Raghurir P. 2002. Debiasing using decomposition: the case of memory-based credit card expense estimates. *J. Consum. Psychol.* 12(3):253–64
- Stapel DA, Koomen W, Velthuijsen AS. 1998. Assimilation or contrast? Comparison relevance, distinctness, and the impact of accessible information on consumer judgments. *J. Consum. Psychol.* 7(1):1–14
- Tavassoli NT, Han JK. 2001. Scripted thought: processing Korean Hancha and Hangul in a multimedia context. *J. Consum. Res.* 28(3):482–93
- Tavassoli NT, Lee YH. 2003. The differential interaction of auditory and visual advertising elements with Chinese and English. *J. Market. Res.* 40(4):468–81
- Tormala ZL, Petty RE. 2004. Source credibility and attitude certainty: a metacognitive analysis of resistance to persuasion. *J. Consum. Psychol.* 14(4):427–42
- Tybout AM, Artz N. 1994. Consumer psychology. *Annu. Rev. Psychol.* 45:131–69
- Unnava HR, Agarwal S, Haugtvedt CP. 1996. Interactive effects of presentation modality and message-generated imagery on recall of advertising information. *J. Consum. Res.* 23(1):81–8
- Unnava HR, Sirdeshmukh D. 1994. Reducing competitive ad interference. *J. Market. Res.* 31(3):403–11
- Van Osselaer SMJ, Alba JW. 2003. Locus of equity and brand extension. *J. Consum. Res.* 29(4):539–50
- Van Osselaer SMJ, Janiszewski C. 2001. Two ways of learning brand associations. *J. Consum. Res.* 28(2):202–23
- Veryzer RW, Hutchinson JW. 1998. The influence of unity and prototypicality on aesthetic responses to new product designs. *J. Consum. Res.* 24(4):374–94
- Viswanathan M, Childers TL. 1996. Processing of numerical and verbal product information. *J. Consum. Psychol.* 5(4):359–85
- Viswanathan M, Childers TL. 1999. Understanding how product attributes influence product categorization: development and validation of fuzzy set-based measures of gradeness in product categories. *J. Market. Res.* 36(1):75–94
- Wang J, Wyer RS. 2002. Comparative judgment processes: the effects of task objectives and time delay on product evaluations. *J. Consum. Psychol.* 12(4):327–40
- Wanke M, Bless H, Schwarz S. 1998. Context effects in product line extensions. *J. Consum. Psychol.* 7(4):299–322
- Wanke M, Bohner G, Jukowitsch A. 1997. There are many reasons to drive a BMW: Does imagined ease of argument generation influence attitudes? *J. Consum. Res.* 24(2):170–77
- Wansink B, Kent RJ, Hoch SJ. 1998. An anchoring and adjustment model of purchase quantity decisions. *J. Market. Res.* 35(1):71–81
- Wansink B, Van Ittersum K. 2003. Bottoms up! Peripheral cues and consumption volume. *J. Consum. Res.* 30(3):455–63
- Warlop L, Alba JW. 2004. Sincere flattery: trade-dress imitation and consumer choice. *J. Consum. Psychol.* 14(1,2):21–27
- Weiner B. 2000. Attributional thoughts about consumer behavior. *J. Consum. Res.* 27(3):382–87
- West PM. 1996. Predicting preferences: an examination of agent learning. *J. Consum. Res.* 23(1):68–80
- West PM, Huber J, Min KS. 2004. Altering experienced utility: the impact of story writing and self-referencing on preferences. *J. Consum. Res.* 31(3):623–30
- Williams P, Aaker JL. 2002. Can mixed emotions peacefully coexist? *J. Consum. Res.* 28(4):636–49
- Williams P, Fitzsimons GJ, Block LG. 2004. When consumers do not recognize “benign”



- intention questions as persuasion attempts. *J. Consum. Res.* 31(3):540–50
- Wooten DB, Reed A II. 1998. Informational influence and the ambiguity of product experience: order effects on the weighting of evidence. *J. Consum. Psychol.* 7(1):79–99
- Wyer RS, Srull TJ. 1989. *Memory and Cognition in Its Social Context*. Hillsdale, NJ: Erlbaum
- Yeung CWM, Wyer RS. 2004. Affect, appraisal, and consumer judgment. *J. Consum. Res.* 31(2):412–24
- Yoon C. 1997. Age differences in consumers' processing strategies: an investigation of moderating influences. *J. Consum. Res.* 24(3):329–42
- Yorkston E, Menon G. 2004. A sound idea: phonetic effects of brand names on consumer judgments. *J. Consum. Res.* 31(1):43–51
- Zhang S, Kardes FR, Cronley ML. 2002. Comparative advertising: effects of structural alignability on target brand evaluations. *J. Consum. Psychol.* 12(4):303–11
- Zhang S, Markman AB. 1998. Overcoming the early entrant advantage: the role of alignable and nonalignable differences. *J. Market. Res.* 35(4):413–26
- Zhang S, Schmitt BH. 2004. Activating sound and meaning: the role of language proficiency in bilingual consumer environments. *J. Consum. Res.* 31(1):220–28
- Zhang S, Sood S. 2002. "Deep" and "surface" cues: brand extension evaluations by children and adults. *J. Consum. Res.* 29(1):129–41

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