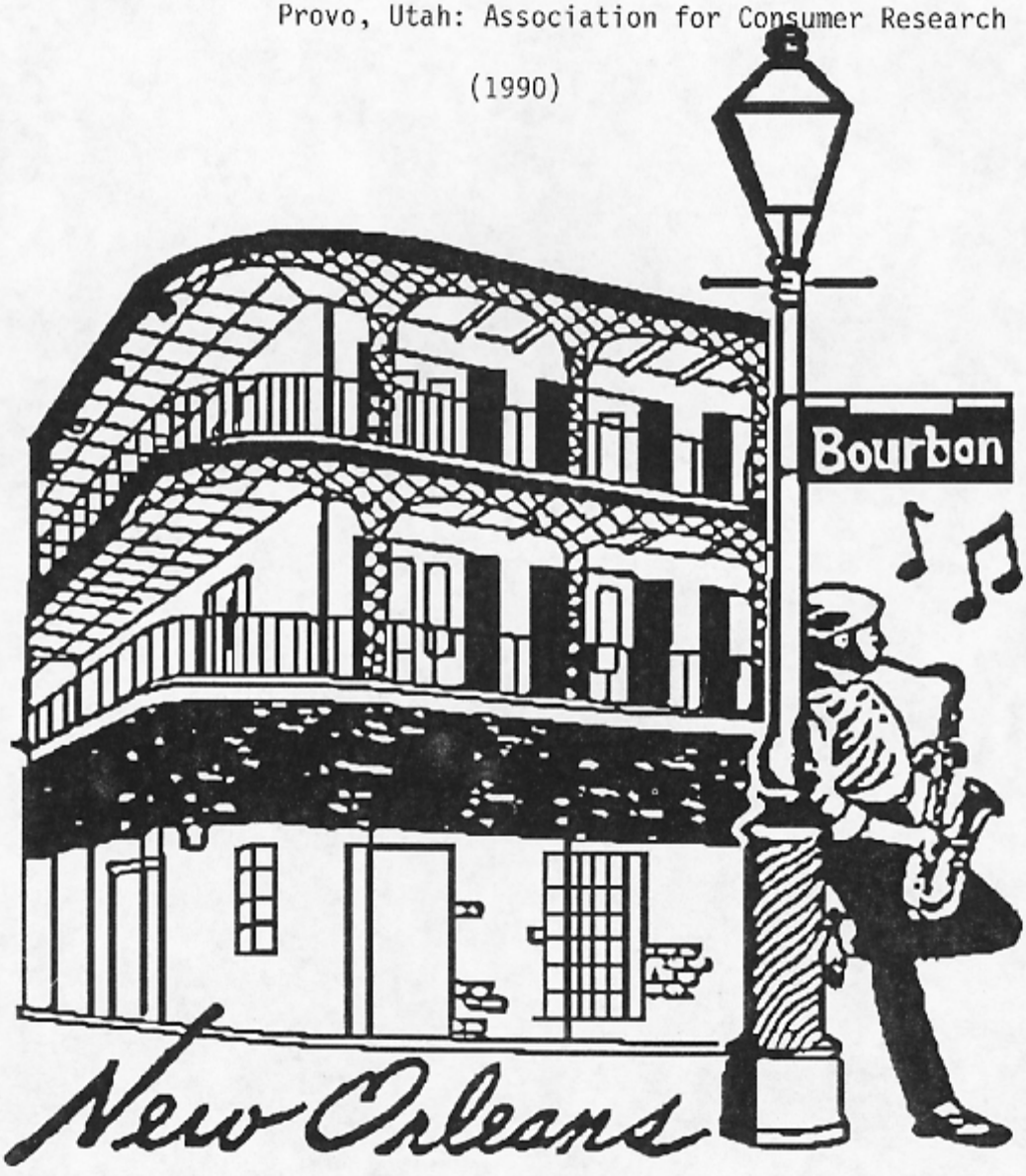
Advances in Consumer Research

Volume XVII

Provo, Utah: Association for Consumer Research

(1990)



Marvin E. Goldberg
Gerald Gorn
Richard W. Pollay, Editors

Selective Attention in Consumer Information Processing: The Role of Chronically Accessible Attributes

S. Ratneshwar, University of Florida
David Glen Mick, University of Florida
Gail Reitinger, University of Florida[1]

ABSTRACT

Understanding the determinants of selective attention and elaboration in consumer information processing is important since the outcomes are crucial to product evaluation and memory for information which, in turn, impact brand preferences and choice behavior. This study focused on an individual difference factor shown to facilitate information processing, namely the *chronic accessibility* of an attribute in memory. Subjects were classified as "Chronics" or "Nonchronics" based on a card-listing method. They were then presented with attribute information in the context of a product judgment task; two different rates of information presentation were utilized in a between-subjects design. Most importantly, the results showed that in the rapid presentation condition "Chronics," as compared to "Nonchronics," exhibited enhanced recall of target attribute information and made more positive judgments. Implications of the study are discussed and suggestions are made for future research on chronically accessible attributes.

INTRODUCTION

An important issue in consumer information processing is the manner in which environmental information is *selected* for deeper or more elaborative processing from the vast amounts potentially available. On a daily basis, consumers confront a barrage of information about products and brands from media advertising, packaging, point-of-purchase displays, etc. Given the widely accepted model of a capacity-constrained information processor (cf. Bettman 1979), *attention* serves as an important "tuning" mechanism in the active selection of information for additional processing (Bargh 1982; Broadbent 1977; Kahneman 1973; Neisser 1976).

The issue of information selection is particularly significant when one also considers the contexts of everyday information processing. For a variety of reasons, purchase decisions are often made very quickly. Research has shown that as time pressures mount, consumers are likely to reduce the dimensions they consider during brand choice (Wright 1974). Moreover, some information is delivered at rates the consumer cannot control, such as television and radio commercials. Faster rates have been shown to decrease attention and disrupt cognitive elaboration (Moore, Hausknecht, and Thamodaran 1986). These and other readily conceivable examples underscore the fact that information reception conditions are usually far from ideal. Given this fact, two conclusions may be drawn from a research standpoint. First, understanding the determinants of attention and elaboration processes is critical to a comprehensive theory of consumer behavior. Second, from a methodological perspective, simulating information *overload* experimentally is important for gaining insights into the causal antecedents of attention and elaboration in conditions that parallel real-life information contexts.

Though information overload research in consumer behavior has been controversial, few researchers would deny that the phenomenon can and does occur (Jacoby 1984; Malhotra 1984). In the present context overload occurs when processing capacity is sufficiently strained such that cognitive processes like attention are disrupted or forced to become increasingly selective. Varying information presentation rates and providing subjects with concurrent tasks are two ways that overload has been operationalized (see Bargh and Thein 1985 for related discussion).

A considerable amount of previous research in consumer behavior and advertising has been devoted to studying variables that impact attention and elaboration. One stream of such research has focused on *characteristics of the stimulus* and/or the *local context* in which the stimulus occurs (e.g., vividness, the use of various ad executional elements). Another stream of research has focused on the role of *individual motivational characteristics*, typically in the form of consumer involvement (e.g., Celsi and Olson 1988; Gardner, Mitchell, and Russo 1985; Petty, Cacioppo, and Schumann 1983). A robust finding from these studies has been that higher levels of involvement tend to be associated with more elaborative and systematic processing of central information (i.e., key message arguments).

This paper seeks to contribute to our knowledge of the factors that affect attention and elaboration processes by focusing on individual differences in the *chronic accessibility* of product attributes. We begin by briefly reviewing social cognition research on chronically accessible constructs as applied to person perception. Next, we present an empirical study designed to explore the role of a chronically accessible product attribute in affecting attention and elaboration processes, as observed through attribute information recall and product judgments. Finally, we discuss the

[1]The authors are indebted to Michelle DeMoss for conducting the experiment sessions and to Joe Alba, Rich Lutz, and John Lynch for helpful comments on an earlier draft of this paper. They also thank the University of Florida Marketing Department for financial support of the project.

implications of the present work and suggest directions for future research.

CHRONICALLY ACCESSIBLE CONSTRUCTS IN PERSON PERCEPTION

Kelly's (1955) work on the psychology of personal constructs is seminal to recent social cognition research on chronic accessibility. Kelly's thesis was that over a lifetime each individual develops a set of constructs that are applied in a relatively invariant manner to anticipate, structure, and understand environmental information. In a more recent discussion of attention and information processing, Bargh (1984) points out that most contemporary models of social cognition continue to emphasize the interaction between the environmental stimuli that are currently present and the individual's "structural" readiness to perceive some of the stimuli and not others. Thus, informational inputs may be given attentional emphasis not only because of their own characteristics (intensity, vividness, etc.), but also because of the perceiver's "perceptual readiness" (Bruner 1957), based on the activation of relevant constructs or representations in memory. This active perceptual set may be influenced by relatively *temporary* expectancies generated (or experimentally induced) by the task context (cf. Asch's original work on impression formation, 1946; more recently Hastie and Kumar 1979 and Srull 1981). More pertinent to the theme of this paper, however, are the relatively *permanent* or *chronic* constructs that individuals utilize to select information for elaborative processing, i.e., those at the heart of Kelly's original work.

Higgins, King and Mavin (1982) operationalized chronic construct accessibility on the basis of frequency and primacy in traits (e.g., intelligence, honesty) used by subjects to describe different people. These researchers then showed that subjects deleted significantly more *inaccessible* than *accessible* trait-related information in their impressions and in their recall of information about a target person. Using a dichotic listening task, Bargh (1982) demonstrated that information relevant to a trait (e.g., independence) which was central to the self-description schema of a subject was capable of provoking automatic attentional responses. Finally, and most germane to our study, Bargh and Thein (1985) hypothesized that people might be able to engage in elaborative processing even under overload conditions if they possess processing structures for which the informational input is relevant. Their results confirmed that when information about a target person was rapidly presented, impression formation and information recall were influenced by whether or not subjects possessed a relevant chronically accessible construct.

To summarize, previous research in person perception has demonstrated that chronically accessible constructs play a vital role in the selection of information for deeper or more elaborative processing, based on the reasoning (Bargh and Thein 1985) that such processing occurs when target information is recalled better and is utilized to form evaluative impressions. In addition, such constructs enable people to pick up and process construct-relevant information even when processing resources are taxed. Bargh (1982) points out that the *development* of such constructs is probably illustrative of the general principle of greater cognitive skill arising from greater experience with some particular environmental domain (see also Alba and Hutchinson 1987). Enhanced *accessibility* of a construct in memory is likely to result from both *frequency* and *recency* of activation of the particular construct in encounters with the domain (Bargh 1982; Higgins and King 1981).

PRESENT STUDY

The major objective of our empirical study was to begin building what we see as a potentially insightful bridge between research on chronically accessible constructs in social cognition and the determinants of attention and elaboration in consumer information processing. It appears likely that the functional reason underlying the development of these constructs in social cognition--enabling the capacity-constrained perceiver to cope with a "blizzard of cues" (Bargh and Thein 1985)--is equally applicable to the issue of selective attention in consumer information processing.

Based on the findings in person perception, our major hypotheses were as follows. When information is presented rapidly about a target product, and it contains a target attribute that is chronically accessible in memory to some subjects but not to others, the former will be likely to direct their attention to the target attribute and process it more deeply and/or elaboratively. Thus, they should exhibit enhanced recall for the target attribute. However, when the information presentation rate is relatively slow, differences between "Chronics" and "Nonchronics" in efficiency of processing of the target attribute should not significantly affect its recall. Hence, we predicted an interaction between chronic accessibility of the attribute and information presentation speed on recall of the target attribute. With respect to subjects' attitudinal judgments of the target product, we expected that both in rapid-paced and slow-paced conditions subjects for whom the target attribute was chronically accessible should process the attribute information sufficiently for it to impact their judgments. While nonchronic subjects may process the stimulus attribute information sufficiently in slow-paced conditions, with the attribute not being of primary importance to these subjects, it should not impact their judgments. Hence, we predicted a main effect for chronic accessibility of the target attribute on attitudes toward the target product, i.e., irrespective of the pace of information presentation.

As part of our study we also examined the extent to which an individual dispositional variable, "need for cognition," might influence the processing and subsequent recall of attribute information. The

"need for cognition" scale was developed to distinguish between individuals who tend to engage in and enjoy effortful analytical activity, and those who do not (Cacioppo and Petty 1982). It has been shown that individuals high (vs. low) in "need for cognition," when presented with a persuasive message, subsequently recalled more message arguments and reported expending more cognitive effort in processing the message (Cacioppo, Petty, and Morris 1983). Thus, in our study we expected high (vs. low) "need for cognition" individuals to recall more attribute information, particularly in rapid-paced information presentation conditions. We hoped that this might provide a useful "benchmark" with which the effect size in recall due to chronic accessibility might be compared. We anticipated that the recall effect due to domain-specific individual differences, such as the chronic accessibility of a particular product attribute, should be considerably larger than the effect due to domain-neutral individual differences such as "need for cognition."

METHOD

Subjects

Eighty-one undergraduates in a large public university were recruited for the study and received extra class credit for their participation.

Procedure

Subjects participated in two supposedly "unrelated" studies, with an interval of about three weeks between the two.

The first session used a memory probe in order to elicit chronically accessible attributes from subjects. A modified version of the card-listing method used by Zajonc (1960) and Higgins, King, and Mavin (1982) was employed for this purpose. Subjects were informed that they were participating in a study of consumers' perceptions of different products. Attributes were elicited for several different product categories (e.g., automobiles, banks). For *each* product category, subjects were asked to list on blank cards the attributes or characteristics that came to mind in four different contexts of product affect, namely, "like, "dislike," "seek," and "avoid." For example, on the first page of the booklet they were instructed to "think of the type of automobile that you *like* a lot. What are the characteristics or aspects of such an automobile that come to your mind? Taking one blank card each time from the card pile, please write down these characteristics in the order in which they occur to you." The order of presentation of the various product categories in the booklet was rotated so that subjects had to elicit attributes for several other products in between tasks related to the same product. The order of production of attributes in each task was recorded by the subject. Each attribute was written on a separate card which the subject then turned over and kept face down. Subjects were instructed to complete the tasks without looking back at the cards on which they had already written. After the attribute elicitation was completed, subjects filled out the 34-item "need for cognition" scale (Cacioppo and Petty 1982). Subjects' responses on the 34 items (scale of +4 to -4) were summed up (after adjusting the sign of reverse scored items) in order to derive their "need for cognition" (NFC) scores.

The attributes produced by the subjects in the above session were analyzed as follows. First, the data were scrutinized with the goal of selecting a target product category and a related target attribute on which subjects revealed a clear pattern of inter-individual differences with respect to attribute accessibility. The category *banks* was selected, with the target attribute *friendly employees*. Next, the attribute data produced by the subjects were analyzed in order to classify them on the basis of whether the target attribute was chronically accessible ("Chronics") or inaccessible ("Nonchronics"). Following the procedures of Higgins, King, and Mavin (1982) and Bargh (1984), attribute accessibility was operationally defined on the basis of both frequency and primacy of attribute production. Synonyms and antonyms of the target attribute were taken into account in the analysis. As mentioned earlier, subjects had produced attributes for the category *banks* in four different contexts of affect. The criterion used to classify a subject as a "Chronic" was that the target attribute should have been listed in either the first or the second serial position in a minimum of two out of the four contexts. Subjects were classified as "Nonchronics" if the target attribute did not occur in the first four serial positions in any of the four contexts. These criteria resulted in 28 subjects being classified as "Chronics" and 21 as "Nonchronics"; the remaining 32 subjects were eliminated from the second study reported below, since they could not be identified as clearly belonging to either of the two categories.

Three weeks later subjects were scheduled for the second session ostensibly concerning their impressions of products under real life conditions where people are often exposed to product information for only brief periods of time, "for example, during a TV commercial or when glancing at an ad while flipping the pages of a magazine." Hence, they were told to expect only a limited amount of time for reading information which was to be presented to them on an overhead screen. While all subjects were provided the same instructions, they were randomly assigned to sessions (average n = 6) where either the information presentation time was actually very brief ("Rapid Pace" condition) or relatively ample ("Slow Pace" condition), as described in more detail below.

Subjects were asked to respond with their judgments on eight successive "trials," in each of which attribute information was presented on the screen with respect to a different product category. On each trial, the product category was first identified at the top of the screen for 5 seconds (e.g., "A CALCULATOR"). Next, attribute information was presented below the product category name in one of two manipulated time

conditions - either for 3 seconds ("Rapid Pace") or for 20 seconds ("Slow Pace"). In all trials, the attribute information was in the form of a list of six features displayed simultaneously, one below the other in block letters (e.g., "BRIGHT DISPLAY," "SOLAR POWERED," etc.) On each trial, as soon as the information presentation was over and the screen was empty, subjects recorded their judgments of the product on three bipolar 9-point (- 4 to + 4) scales. These items asked for attitudinal judgments of the target product in terms of how favorable, how good, and how likeable the product was in the opinion of the subject. As anticipated, the data revealed the three items to be highly intercorrelated (average r = 0.80), and hence they were summed to form one composite attitude index (range - 12 to + 12).

The target product ("A BANK") was in the fourth position in the above block of eight trials. The first three "dummy" trials served the purpose of familiarizing the subject with the task before responding to the actual stimulus. The last four dummy trials were inserted to ensure that any stimulus attribute information being maintained in short-term memory through rehearsal was cleared out before subjects were administered the free recall task (described later in this section). The attribute information presented to the subjects on the target product included the target attribute ("FRIENDLY EMPLOYEES") in the fourth serial position, along with five attributes (e.g., "ATTRACTIVE LANDSCAPING," "MODERN BUILDING") that were judged nondiagnostic for banks in pretests. Care was taken to ensure that there were no overlaps between the attribute information on the target product and the attribute information on the dummy products.

On completion of the above judgment task, subjects were asked to respond to items in the questionnaire which asked how pleasant was the task, how much effort did the subject put into the task, and how adequate was the time given for reading the product information (all scales - 4 to + 4). Subjects were then asked to rate their English reading ability in terms of speed and comprehension relative to other undergraduate students (scales of 1 to 5 with higher numbers indicating higher ability). After this, subjects were administered a surprise attribute recall task. The experimenter named the product, and the subjects were asked to recall and write down as much as they could remember of the information presented earlier about the product, using the same words as much as possible. The experimenter prompted the subjects with the product names that corresponded to the various trials, and in the same sequence as before. On hearing each product name, subjects recalled the attribute information in a self-paced manner. Subjects' responses with respect to the target product were scored on the basis of whether or not they had recalled the original information in gist form. One judge (blind to condition) scored all the protocols and two other judges scored a random sample. Interjudge agreement was close to 100%. Recall for each subject was scored in terms of whether or not the target attribute had been recalled, and the total number of other attributes (range 0 to 5) which had been correctly recalled. Finally, on completion of the recall task, subjects were asked to judge, in terms of their personal preferences in banks, how important it was for them that a bank have friendly employees (scale - 3 to + 3).

RESULTS

Attitude toward target product

A 2 ("Chronics" vs. "Nonchronics") x 2 ("Rapid Pace" vs. "Slow Pace") analysis of variance on the attitude index revealed a marginally significant main effect for chronicity, $F(1, 45) = 3.00$, $p < 0.10$. As predicted, "Chronics" had more positive attitudes toward the target product than "Nonchronics," Ms = 5.54 vs. 3.29 respectively. Neither the main effect for Pace nor the Chronicity x Pace interaction was significant ($p > 0.50$ in both cases).

Recall of target attribute

In "Rapid Pace" conditions, a significantly higher proportion of "Chronics" correctly recalled the target attribute *friendly employees* as compared to "Nonchronics," 84% vs. 20%, $p < 0.01$ (Fisher's exact test, 2 - tail). However, as anticipated, in "Slow Pace" conditions "Chronics" did not recall significantly more than "Nonchronics," 89% vs. 73%, $p > 0.50$.

Recall of other attributes of target product

A 2 x 2 (Chronicity x Pace) ANOVA was performed on the total number of other attributes correctly recalled by subjects. As anticipated, a significant main effect was found for presentation speed, with subjects in "Slow Pace" recalling more attributes than subjects in "Rapid Pace," Ms = 3.10 vs. 2.03, $F(1, 45) = 11.39$, $p < 0.01$. Neither Chronicity ($p > 0.20$) nor the Chronicity x Pace interaction ($p > 0.17$) had significant effects on the recall of other attributes.

Other measures

2 x 2 (Chronicity x Pace) ANOVAs were performed on subjects' judgments of task pleasantness, effort put into task, adequacy of time, and self-assessed ability in English reading speed and comprehension. These analyses revealed only one significant effect: as anticipated, and in confirmation of our manipulation, subjects in "Slow Pace" conditions judged the time provided for information processing to be more adequate than subjects in "Rapid Pace" conditions, Ms = 3.35 vs. -0.76, $F(1, 45) = 47.34$, $p < 0.001$. All other main effects and interactions in the above variables were nonsignificant, p's > 0.20. A similar 2 x 2 ANOVA was also performed on subjects' ratings of their perceived importance of the target attribute. This analysis showed that "Chronics," as compared to "Nonchronics," rated the attribute *friendly*

employees as significantly more important, Ms = 2.54 vs. 1.76, $F(1, 45) = 7.72$, $p < 0.01$.

Effects of "need for cognition"

Subjects were split on the median "need for cognition" (NFC) score into "Low NFC" and "High NFC" groups (median score = 62, range - 14 to 119). Low NFC subjects did not differ from High NFC subjects with regard to recall of the target attribute in either "Rapid Pace" or "Slow Pace" conditions ($p > 0.50$ in both cases). 2 x 2 (NFC x Pace) ANOVAs were conducted on the other variables. These analyses revealed that Low NFC subjects did not differ significantly from High NFC subjects in recall of other attributes of the target product, in attitudes toward the target product, in pleasantness ratings, or in effort put into the task (p's > 0.25). Interestingly, however, High NFC subjects rated their reading speed higher than did Low NFC subjects, Ms = 3.42 vs. 2.96, $F(1, 45) = 3.32$, $p < 0.10$. The former also rated their comprehension ability higher as compared to the latter, Ms = 3.96 vs. 3.26, $F(1, 45) = 6.89$, $p < 0.05$.

DISCUSSION OF PRINCIPAL RESULTS

The results supported our hypotheses about differences in information processing between subjects for whom a target attribute was chronically accessible in memory, and those for whom it was not. In rapid-paced conditions, a significantly higher proportion of "Chronics" (84%) as compared to "Nonchronics" (20%) was able to correctly recall target attribute information. In slow-paced conditions, as anticipated, the difference in recall was not significant because the additional time provided to process the target attribute erased the advantage of processing efficiency that "Chronics" exhibited in the rapid-paced condition. The magnitude of the difference in recall between "Chronics" and "Nonchronics" in rapid-paced conditions is striking. So is the fact that 84% of the "Chronics" recalled the target attribute in the rapid-paced condition, given that (a) they were not instructed to memorize the attributes, (b) they received only three seconds to process information on six attributes, including the embedded target attribute, and (c) the study design included delay and interference before recall was tested. Also noteworthy is the fact that in comparison, the average recall proportion among "Chronics" for the other five non-target attributes in the rapid-paced condition was only 41%.

Consistent with the social cognition literature discussed earlier, the findings in this study are most likely explained by the structural readiness of "Chronics" to process more deeply and/or elaboratively information on the target dimension consequent to the target product category being activated in their memory. "Chronics" did not differ from the "Nonchronics" on recall of the non-target attributes, nor on self-assessed measures of effort put into the task, reading speed, or comprehension. Therefore, differences in effort or language abilities are unlikely to be implicated in the inter-group difference in attribute recall. The one other possibility is that in rapid-paced conditions instead of *encoding* the presented information better, "Chronics" may have *generated* the attribute in a schema-based manner at the point of test. However, the data on "intrusions," i.e., false recall of items not actually presented in the stimulus, do not support such an alternative explanation. Overall, intrusions amounted to only 8% of the total number of attributes recalled, and "Chronics" did not significantly differ from "Nonchronics" in number of intrusions in rapid-paced or slow-paced conditions (p's > 0.30).

The results also supported our expectation of a main effect in attitudes due to chronic accessibility of the target attribute. Both in slow-paced and rapid-paced conditions, "Chronics" made more positive judgments of the target product than "Nonchronics." This suggests that even when processing capacity was strained, "Chronics" were able to process the target attribute sufficiently for it to impact their product judgments. (Recall that the non-target attributes, based on pre-tests, were intentionally designed to be nondiagnostic for both "Chronics" and "Nonchronics.")

As anticipated, "Chronics" also judged the target attribute to be more important than "Nonchronics." This raises the following question: are inter-individual differences in attribute importance ratings also associated with differences in recall of the target attribute (as chronic accessibility was shown to be), particularly in the rapid-paced conditions? To assess this possibility, the data were analyzed after conducting a median split of subjects based on their attribute importance ratings ($W \leq +2$ and $W = +3$). Results showed that these two groups of subjects did not differ in recall of the target attribute in either rapid-paced conditions (58% vs. 65%, $p > 0.50$) or in slow-paced conditions (83% vs. 75%, $p > 0.50$). In rapid-paced conditions, target-attribute recall and chronic accessibility were highly associated, while there was negligible association between target-attribute recall and subjects' target-attribute importance ratings (phi coefficient = 0.63 vs. 0.07). Hence, whereas target-attribute importance ratings were significantly associated with chronic accessibility classifications (point-biserial $r = 0.37$, $p < 0.01$), unlike chronicity, the ratings were not a reliable predictor of inter-individual differences in target-attribute recall during information overload conditions. However, this result must be viewed with caution since the importance ratings had a skewed distribution.

IMPLICATIONS AND FUTURE RESEARCH

A chronically accessible attribute is likely to have some inherent similarities to one that is particularly important or salient to an individual. Previous researchers have speculated that there may exist a causal relation between attribute importance

and attention to attribute information in advertising (e.g., MacKenzie 1986). While the present work was not an advertising study per se, the findings suggest the possibility of benefit segmentation on the basis of chronic accessibility for product attributes; in particular, those in the "Chronic" segment can be expected to process *relevant* ad information much more efficiently than "Nonchronics." By emphasizing the chronic attribute in a headline and/or visual, and by placing the ad in a medium appropriate to the "Chronic" segment, an advertiser may maximize limited opportunities to communicate in information-cluttered environments. Future research must test the robustness of our findings and their advertising implications, using different overload manipulations, different product classes, different consumer groups, different media, and more ecologically valid advertising stimuli.

From a methodological perspective, we note that there is considerable diversity and a lack of convergent validity with respect to measures of attribute importance (Jaccard, Brinberg, and Ackerman 1986). Our approach to assessing attribute chronicity was taken directly from the social cognition literature where the concept has been studied most. The card-listing technique employed in this study is similar (though not identical) to the free elicitation method (E) used in Jaccard et al. (1986); importance (I) rating measures were identical in both studies except for the number of scale points. Correlations between the E and I measures were considerably lower in Jaccard et al. (1986) than in our study. Moreover, in their factor analyses, the E measure consistently loaded on a separate factor. If the E and I measures do in fact assess different constructs or different dimensions of the same construct, then that may explain why our analyses revealed discrepant findings in predicting target-attribute recall based on chronicity versus attribute importance.

Jaccard et al. (1986, p. 467) go on to speculate that the E measure "appears to measure, albeit imperfectly, factors that people consciously consider in their evaluations." In fact, a free elicitation measure like the card-listing task used to determine attribute chronicity is an *indirect* and less obtrusive measure than the I measure; as such, it can reveal through the order and frequency of elicited attributes which attribute(s) people are most inclined to use in rapid evaluations. Our preliminary conjecture is that, in an attitude judgment context, attribute chronicity is more closely related to the notion of "salience" than "importance" (see Higgins and Bargh 1987 for related discussion). Further, chronically accessible attributes likely enable consumers to efficiently process environmental information in relatively *familiar* product categories. The extent to which such processing may be deemed to be "automatic" or "conscious" are significant theoretical issues, but space limitations preclude their discussion here; however, it appears to us that Jaccard et al. (quoted above) may have prejudged the issue of consciousness (see Bargh 1984; Janiszewski 1988).

Our present findings may also have implications for choice research, especially choices made under time pressure. Fazio's (1986) research has shown that as the accessibility of an attitude in memory increases (operationalized by decreases in the response latency of an attitudinal judgment), the likelihood that the attitude will influence subsequent overt behavior also increases, i.e., there will be stronger attitude-behavior consistency. By analogy, the more accessible an attribute in memory (increasing chronicity), the more likely it may be that inputs relevant to the attribute will influence choice behavior under rapid information presentation and time-pressured choice scenarios, i.e., where the spontaneous activation of the attribute is needed for consistency between attribute information and choice. Future research could measure attribute chronicity, manipulate brand attribute profiles, manipulate information exposure time, and determine whether systematic variations in brand choices verify a chronicity explanation for attribute-choice consistency.

A potential moderator of chronicity effects is structural variations in the knowledge network in which the chronic attribute resides. The card-listing task employed in this study is a modified form of Zajonc's (1960) card-sorting technique that can yield measures of cognitive complexity, differentiation, unity, and organization of the domain to which the chronic attribute applies. For instance, prior social cognition research has shown that cognitive differentiation has little or no impact on construct-accessibility recall effects, but does substantially influence construct-accessibility attitudinal effects (Higgins, King, and Mavin 1982). Future research should investigate the moderating role of cognitive structure on attribute-accessibility effects in consumer information processing.

CONCLUSION

Drawing from previous research in social cognition literature, this study examined the effects of chronically accessible attributes in selective attention and elaboration during consumer information processing. In particular, it was found that subjects chronic to a target attribute recalled information relevant to the attribute more readily than non-chronic subjects after rapid presentation of product information. "Chronics" also judged the product more positively than "Nonchronics" in both rapid and slow information conditions. Implications of these results were discussed in terms of advertising and choice behavior, including directions for future research.

REFERENCES

Alba, J. W. and J. W. Hutchinson (1987), "Dimensions of Consumer Expertise," *Journal of Consumer Research*, 13(4), 411-454.

Asch, S. E. (1946), "Forming Impressions of Personality," *Journal of Abnormal and Social Psychology*, 41, 258-290.

Bargh, J. A. (1982), "Attention and Automaticity in the Processing of Self-Relevant Information," *Journal of Personality and Social Psychology*, 43 (3), 425-436.

_____ (1984), "Automatic and Conscious Processing of Social Information," in *Handbook of Social Cognition*, Vol. 3, eds. R. S. Wyer, Jr., and T. K. Srull, Hillside, NJ: Erlbaum, 1-43.

_____ and R. D. Thein (1985), "Individual Construct Accessibility, Person Memory, and the Recall-Judgment Link: The Case of Information Overload," *Journal of Personality and Social Psychology*, 49 (5), 1129-1146.

Bettman, J. R. (1979), *An Information Processing Theory of Consumer Choice*, Reading, MA: Addison-Wesley.

Broadbent, D. E. (1977), "The Hidden Pre-Attentive Process," *American Psychologist*, 32, 109-118.

Bruner, J. S. (1957), "On Perceptual Readiness," *Psychological Review*, 64, 123-152.

Cacioppo, J. T. and R. E. Petty (1982), "The Need for Cognition," *Journal of Personality and Social Psychology*, 42 (1), 116-131.

_____ , R. E. Petty, and K. J. Morris (1983), "Effects of Need for Cognition on Message Evaluation, Recall and Persuasion," *Journal of Personality and Social Psychology*, 45 (4), 805-818.

Celsi, R. L. and J. C. Olson (1988), "The Role of Involvement in Attention and Comprehension Processes," *Journal of Consumer Research*, 15 (September), 210-224.

Fazio, Russell H. (1986), "How Do Attitudes Guide Behavior?" in *Handbook of Motivation and Cognition: Foundations of Social Behavior*, eds. Richard M. Sorrentino and E. Tory Higgins, New York: Guilford, 204-243.

Gardner, M. P., A. A. Mitchell, and J. E. Russo (1985), "Low Involvement Strategies for Processing Advertisements," *Journal of Advertising*, 14 (2), 4-12.

Hastie, R. and P. A. Kumar (1979), "Person Memory: Personality Traits As Organizing Principles in Memory for Behavior," *Journal of Personality and Social Psychology*, 37, 25-38.

Higgins, E. T. and J. A. Bargh (1987), "Social Cognition and Social Perception," *Annual Review of Psychology*, 38, 369-425.

Higgins, E. T. and G. A. King (1981), "Accessibility of Social Constructs: Information-Processing Consequences of Individual and Contextual Variability," in *Personality, Cognition, and Social Interaction*, eds. N. Cantor and J. F. Kihlstrom, Hillsdale, NJ: Erlbaum, 69-121.

Higgins, E. T., G. A. King, and G. H. Mavin (1982), "Individual Construct Accessibility and Subjective Impressions and Recall," *Journal of Personality and Social Psychology*, 43 (1), 35-47.

Jaccard, J., D. Brinberg, and L. J. Ackerman (1986), "Assessing Attitude Importance: A Comparison of Six Methods," *Journal of Consumer Research*, 12 (4), 463-468.

Jacoby, J. (1984), "Perspectives on Information Load," *Journal of Consumer Research*, 10 (4), 432-435.

Janiszewski, C. (1988), "Preconscious Processing Effects: The Independence of Attitude Formation and Conscious Thought, *Journal of Consumer Research*, 14 (September), 199-209.

Kahneman, D. (1973), *Attention and Effort*, Englewood Cliffs, NJ: Prentice-Hall.

Kelly, G. A. (1955), *The Psychology of Personal Constructs*, New York: Norton.

MacKenzie, S. B. (1986), "The Role of Attention in Mediating the Effect of Advertising on Attribute Importance," *Journal of Consumer Research*, 13 (2), 174-195.

Malhotra, N. K. (1984), "Reflections on the Information Overload Paradigm in Consumer Decision Making," *Journal of Consumer Research*, 10 (4), 436-440.

Moore, D. L., D. Hausknecht, and K. Thamodaran (1986), "Time Compression, Response Opportunity, and Persuasion," *Journal of Consumer Research*, 13 (1), 85-99.

Neisser, U. (1976), *Cognition and Reality*, San Francisco: Freeman.

Petty, R. E., J. T. Cacioppo, and D. Schumann (1983), "Central and Peripheral Routes to Advertising Effectiveness: The Moderating Role of Involvement," *Journal of Consumer Research*, 10 (2), 135-146.

Srull, T. K. (1981), "Person Memory: Some Tests of Associative Storage and Retrieval Models," *Journal of Experimental Psychology: Human Learning and Memory*, 7, 440-462.

Wright, P. L. (1974), "The Harassed Decision Maker: Time Pressures, Distractions, and the Use of Evidence," *Journal of Applied Psychology*, 59 (October), 555-561.

Zajonc, R. B. (1960), "The Process of Cognitive Tuning In Communication," *Journal of Abnormal and Social Psychology*, 61, 159-167.