Autobiographical Memories, Affect, and Consumer Information Processing

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The results of three experiments suggest that consumers' autobiographical memories involving products and product usage experiences are affectively charged. Furthermore, the three experiments demonstrate that the retrieval of autobiographical memories impacts information processing. When autobiographical memories are evoked, there is reduced analysis of product information. There is also clear evidence that cuing autobiographical memories influences ad evaluations. Support for the notion that the affect generated by cuing autobiographical memories influences brand evaluations is weaker. Also, the results demonstrate that autobiographical memories are naturally and spontaneously evoked in response to some types of ads and generate feelings of empathy for the characters and situations in the ad. Thus, together the experiments suggest an avenue for impacting consumer judgments that has not been investigated previously.

A great deal of research has now accumulated that suggests that consumers bring prior knowledge to bear upon the task at hand—to interpret advertising, evaluate products, or make choices—and that this knowledge has a profound effect on information processing (Alba & Hutchinson, 1987; Bettman, 1986; Bettman & Sujan, 1987). Following the semantic–episodic distinction initially made by Tulving (1972, 1984), most of the research dealing with consumers' prior knowledge has been concerned with semantic knowledge (i.e., abstract knowledge) about products (e.g., Johnson & Russo, 1984; Maheswaran &

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The early work of Krugman (1965, 1967) on the measurement of advertising involvement was a notable exception. Krugman emphasized the importance of accounting for the personal experiences that individuals accessed during exposure to persuasive communications and proposed that the number of connections consumers made between a persuasive stimulus and their own lives was a useful measure of advertising involvement. The purpose of this article is to further explore the role of such references to personal experiences in information processing. Specifically, we consider the role of episodic knowledge involving the self, or memories of autobiographical experiences, in information processing.

Broadly defined, autobiographical memory is memory for information related to the self (Brewer, 1986); more precisely, it corresponds to memory for events from one's own life (Neisser, 1988). Autobiographical memory has also been referred to as personal memory (Brewer, 1986; Brewer & Pani, 1983) and episodic memory (Tulving, 1972, 1984). Tulving (1984), in particular, observed the close parallel between episodic memory and autobiographical memory when he noted that "autonoetic," or self-knowing consciousness, was a necessary correlate of all episodic memory. Autobiographical memory provides the familiar phenomenal flavor of recollective experience characterized by "pastness" and subjective veridicality (Tulving, 1984). The memory is experienced as the representation of an event at a particular time and location (Brewer & Pani, 1983). This does not mean that the individual can assign an actual date to the memory; it just means that it is experienced as having been at a unique time. For location, the ability to actually recall a particular place seems stronger.

Defined in this way, autobiographical knowledge can be distinguished from other types of knowledge, including semantic knowledge concerning the self. For example, autobiographical episodes differ from self-schemas—cognitive structures that contain abstract or generic knowledge descriptive of the self. They also differ from knowledge concerning others primarily because of the amount of episodic memory involved. All episodic memories are by definition self-reference memories (Brown, Keenan, & Potts, 1986; Tulving, 1984), and only some proportion of them involve others. Therefore, other-knowledge is much less likely to be based on episodic memory than is self-knowledge.

As just noted, the purpose of this article is to consider the role of consumers' autobiographical memories in information processing. Retrieving autobiographical memories is likely to affect many processes, ranging from the memorability of presented information to judgments based on information processed in the context of autobiographical knowledge. For example, Brown et al. (1986) clarified the self-reference effect for recall (i.e., that memory for information can be enhanced by encoding information in reference to the self vs. others; cf. Kuiper & Rogers, 1979; Rogers, Kuiper, & Kirker, 1977) by

structured based on general world knowledge. Krugman's (1965, 1967) work on connections suggests that accessing autobiographical memories is likely to enhance the involvement in communicated information and possibly the persuasiveness of such information.

Despite the potential impact that the retrieval of autobiographical memories can have on information-processing tasks, there is very little research considering such processing effects. Much of the work on autobiographical memories has been descriptive and has focused on the characteristics of personal memories rather than on the relationship between the activation of such memories and information processing. In this article, we first characterize the nature of consumers' autobiographical memories by drawing on recent descriptive work on personal memories (e.g., Brewer, 1988). We then develop hypotheses and conduct three experiments to examine the effects that consumers' autobiographical memories have on brand evaluations in both product judgment contexts (Experiment 1) and in advertising contexts (Experiments 2 and 3).

THE CONTENT OF AUTOBIOGRAPHICAL MEMORIES: AFFECTIVE CHARGE

An autobiographical memory is a recollection of a particular episode from one's past. It frequently appears to be a reliving of the individual's phenomenal experience during that earlier moment. The content of such memories almost always seems to include visual imagery and sometimes includes other forms of imagery (Brewer, 1986). Furthermore, these memories are typically accompanied by a belief that they are a veridical record of the original episode (Brewer, 1986).

These trails of autobiographical memories—they are perceived as veridical records accompanied by strong visual and, hence, vivid reliving of the original experience—are important not only in themselves, but especially because they suggest that the original emotions are also likely to be important components of autobiographical memories. Several studies attest to the affective charge of autobiographical memories. Brewer (1988) used a random-alarm mechanism to gather data on the characteristics of personal memories. The basic procedure was to have subjects carry a beeper set to go off on a random schedule, and then have subjects record information about what was occurring each time the alarm went off. To assess the memorability of these personal events, subjects were tested after a delay. There were two findings of significance to our studies. First, though no formal content analyses were conducted on subjects' initial recordings of their personal episodes, affective thoughts appeared to be an important category of their recorded experiences. Second,
not investigated (e.g., affective strength may directly impact the strength of the memory representation, or affect may be associated with events that are distinctive in memory for other reasons such as infrequency of occurrence), the study does suggest that affect is an important component of autobiographical memories.

In another study, Robinson (1976) examined the effectiveness of various prompts—object words, activity words, and affect words—in eliciting autobiographical memories. The findings were informative regarding the extent of affect contained in autobiographical memories. In general, the supposition that object and activity words would elicit only emotionally neutral or trivial memories was contradicted by the findings. The affective quality of the experiences was present in virtually all the autobiographical reports: Affect was explicitly mentioned in some but could be readily assumed in others. For example, unexpected visits and gifts, remembered efforts or goals, and family interactions were among the experiences reported for which affect could be assumed. Thus, affect seemed to be an integral part of autobiographical memories.

Finally, two self-studies, one by White (1982) and the other by Wagenaar (1986), also confirmed the importance of emotions in autobiographical memories. Retention of information regarding a personal episode was found to correspond to how salient the episode was (inversely related to frequency of occurrence) and to the degree of emotional involvement. These studies also provided some insight into the valence of stored affect. Clearly, the affect associated with autobiographical episodes can be either positive or negative. However, both these studies (Wagenaar, 1986; White, 1982) suggested that pleasant episodes were recalled better than unpleasant ones.

In research that comes closer to examining autobiographical memories surrounding products, it has been suggested that possessions hold deep meaning for individuals (Belk, 1988, 1991; Csikszentmihalyi & Rochberg-Halton, 1981). For example, Belk suggested that possessions are sacred because they provide a sense of the past and have the power to evoke nostalgia-laden memories. Finally, Thorson and Friesad (1989) argued that responses to ads for products are often episodic and that emotion is coded into these episodes.

Based on this evidence, the general proposition can be forwarded that autobiographical memories are affectively charged. In this article, we make the more specific proposition that, in many cases, individuals' autobiographical memories of personal situations involving products also follow this general rule and are thus similarly affect laden. Note that we do not claim that all autobiographical memories involving products are affectively charged. Rather, we propose that autobiographical memories involving products often can be affect laden, either because the affect is inherent in the product itself (e.g., possessions such as vacation souvenirs, snapshots, and family heirlooms, to use some of Belk's, 1991, examples), or it is inherent in the function or usage situation for the product (e.g., video cameras are used to record important events), or because the product can be linked to a significant event (e.g., kitchen appliances perhaps can be linked to memorable events such as Thanksgiving or Christmas dinners). Of course, some autobiographical memories involving products (e.g., the last time one used paper towels or canned vegetables) may have little or no associated affect. Note, however, that such "cold" experiences may not be well-remembered as time passes (Brewer, 1988). We propose that priming memories of these affect laden, prior personal product usage experiences is likely to generate affect (Bower, 1981). For example, consumers observing basketball scenes in a Nike shoe commercial may remember the fun they had the last time they played basketball, or consumers watching a commercial for a video camera may recall with joy (or embarrassment) the taping of their 25th high school reunion. In the next section, we make formal hypotheses about the character of consumers' autobiographical memories and the effect that priming these memories has on consumers' processing of information in a product judgment context.

**EXPERIMENT 1: THE ROLE OF CONSUMERS' AUTOBIOGRAPHICAL MEMORIES IN PRODUCT JUDGMENT CONTEXTS**

Several researchers have conjectured that consumers access autobiographical memories when being exposed to product information. Krugman (1965, 1967) probably made the most direct statement of this possibility when he noted that consumers could make connections between their own lives and the product information provided. Other researchers (MacInnis & Jaworski, 1989; Mitchell, 1981) have also noted that consumers might retrieve personal memories. In the following discussion, we limit ourselves to those cases in which these autobiographical memories are affectively charged; this is probably a significant proportion of product-related autobiographical memories but not all of them, as was noted.

Such autobiographical memories in product judgment contexts can be product relevant and "connected" to product information (cf. Krugman, 1967) or product irrelevant and focused on the personal event rather than the product (MacInnis & Jaworski, 1989; cf. Mitchell, 1981). In either case, these memories are likely to have an important influence on the process of reaching product evaluations. The fundamental thesis of this article is that the strong affective charge released by priming autobiographical episodes is likely to shift the product evaluation strategy from an analytical review of product features and benefits to a more affective one in which there will likely be a carryover of feelings from the autobiographical episode to the product. The hypotheses that follow center around this basic idea.
The Effects of Retrieving Autobiographical Memories on the Process of Generating Product Judgments

The first set of hypotheses concerns the fundamental assertion that autobiographical memories are affectively charged (e.g., Brewer, 1988). Because the affect associated with personal memories can be either positive or negative, higher levels of both positive and negative affect are hypothesized to be associated with autobiographical memories evoked in a product judgment context. Although this could be true for each individual (i.e., he or she could have both positive and negative responses to the same autobiographical episode), it is perhaps more likely that some individuals evoke positive episodes and others retrieve negative episodes. Given the bias toward remembering positive episodes from one’s life, the effects may not be as strong for negative emotions. Nevertheless, we predict the following (H refers to hypothesis):

H1: Evoking autobiographical memories in a product judgment context results in
  a. higher levels of felt positive affect and
  b. higher levels of felt negative affect
  compared to a focus on the product alone.

Furthermore, the higher levels of affect generated when autobiographical memories are accessed are likely to reduce reliance on an analytical review of the product’s features and benefits in making evaluative judgments. This may be so because the retrieval of autobiographical memories serves as a distractor focusing attention away from product arguments and/or because the affect associated with the autobiographical memory provides an easy source of evaluation. (For similar notions on affect transfer, see Sujan, 1985.) This reduced focus on analytical processes is likely to be reflected in individuals’ thoughts protocols. When autobiographical memories are accessed, individuals’ thoughts are likely to reflect fewer cognitions about the product’s features, such as how the product rates on various attributes and the importance of these attributes. Also, as a consequence of this reduced focus, the product’s features are likely to be recalled more poorly. Thus, the following hypothesis is forwarded:

H2: Evoking autobiographical memories in a product judgment context results in
  a. fewer thoughts about the product’s features and
  b. reduced recall of the product’s features
  compared to a focus on the product alone.

Together, H1 and H2 suggest that the inputs to product evaluation are different when autobiographical memories are accessed. Specifically, when autobiographical memories are retrieved, information processing is characterized by higher levels of affect and lower attention to attribute information. Conversely, a product focus is characterized by lower levels of affect and higher attention to product features. Thus, the inputs to product evaluation are more affective and emotional in the context of personal memories and more informational and feature based in the context of a product focus.

Effects on Final Judgments

It is difficult to argue unequivocally that the retrieval of autobiographical memories will result in more favorable product evaluations. In fact, two factors could lead to lowered product evaluation scores: (a) reduced attention to generally favorable product information and (b) negative affect associated with the retrieved personal memories. Counterbalancing these effects are factors that may enhance product evaluations. Specifically, the higher levels of affect may more than offset the lowered attention to attribute information. Furthermore, these affects are more likely to be positive than negative given individuals’ biases toward remembering happy memories (Wagenar, 1986; White, 1982). Thus, it may be hypothesized, albeit tentatively, that the recall of autobiographical memories will result in more favorable product evaluations:

H3: Evoking autobiographical memories in a product judgment context results in more favorable product evaluations compared to a focus on the product alone.

METHOD

Overview of the Experiment

An experiment was designed to examine product judgments and judgment processes when product information is evaluated in the context of autobiographical memories. The autobiographical condition was contrasted with two control conditions. Subjects were given product information and asked to form an impression of the product while thinking about a specific personal experience from their lives in which such a product was used, while thinking about a general situation in which the product could be used, or while thinking about the description of the product itself. Half the subjects in each condition were asked to think about these instructions while forming an impression, whereas the other half were required to imagine these instructions. This manipulation was introduced to examine whether imaging might strengthen the expected effects. However, the manipulation had no effect and was dropped from the design. Thus, one more hypothesis was dropped from the analysis.
sign with three levels of impression set (autobiographical memory/general situation/product) was used. Note that, although the hypotheses were formulated in terms of contrasting an autobiographical focus with a product focus, a general usage situation was introduced as an additional control group. This was done primarily to remove the confound that the autobiographical condition differs from the product (control) condition because it inherently includes a usage situation. Thus, any differences between the autobiographical condition and both of the control groups can be attributed to the retrieval of personal usage situations from one's past.

A hypothetical brand of video camera was described with four bullets, including eight pieces of positive attribute information (i.e., uses standard VHS tape that allows up to 120 min of recording; has automatic focus, but can be switched to manual focus; viewfinder has a quick review feature that allows instant replay of the last 2 min of recording; motorized zoom lens moves at the touch of a button and has a zoom ratio of 6:1). Subjects were seated in front of a computer screen and had to press a key to activate the description. After reading the description and forming an impression of the product, subjects were instructed to go to a printed questionnaire. Subjects proceeded through the questionnaire sequentially and completed one measure before turning to the next. Subjects were first asked to list the thoughts that went through their minds while forming an impression of the video camera. They then evaluated the video camera. Subjects then went through a list of affect/emotion terms and indicated the extent to which each of these described their feeling state while they were forming an impression of the product. They then filled in scales that assessed their thinking process and some manipulation checks. Subjects finally engaged in a surprise recall test in which they recalled the features of the video camera.

Subjects
Subjects were recruited from a subject pool of undergraduate business students at a large eastern university. Ninety students took part in the experiment. The data from 4 subjects had to be discarded because they failed to follow the procedure and/or did not complete all the measures. Thus, a total of 86 usable responses was obtained: 27 in the autobiographical condition, 30 in the general situation condition, and 29 in the product focus condition.

Procedure
Subjects were tested in groups of 8 or fewer in a computer lab. All three experimental conditions were conducted in any one session, and subjects were randomly assigned to conditions. An experimenter told the subjects that they would be participating in a study the purpose of which was to get their reactions to a product. They were also told that the study would require them to first use the computer and then fill in a questionnaire, and that they should proceed through the study at their own pace.

Subjects then turned to the computer, which displayed the task instructions. The first part of the instructions was common to all subjects and informed subjects that they were to read the information provided and form an impression of the video camera. The second part of the instructions provided additional details that were specific to the subject's condition on how the impression was to be formed (the actual manipulation is described later).

Subjects then moved to the next screen, which displayed the product description, read the description, and formed an impression of the product. When they had completed forming an impression, they went to the printed questionnaire. The computer program prevented subjects from referring to the product information while filling in the dependent measures. Subjects then completed the questionnaire, which contained the dependent measures and the manipulation checks.

When all subjects had completed the task, they were debriefed. The entire procedure took about 40 min to administer.

Independent Variable
Three impression sets were manipulated. Subjects were either asked to form an impression of the product in the context of an autobiographical memory (autobiographical focus), while thinking of a general usage situation (general situation focus), or while thinking of the product description itself (product focus). The specific instructions were as follows. In the autobiographical memory condition, subjects were instructed that “in forming an impression of the video camera, think about a specific personal experience from your life in which a video camera was used.” In the general situation focus, subjects were instructed that “in forming an impression of the video camera, think of a general type of situation in which a video camera is typically used.” Finally, in the product focus condition, subjects were instructed that “in forming an impression of the video camera, think about the product description given.” The autobiographical condition was contrasted with the two control conditions. Note that the particular product used is one for which many personal usage memories are likely to be of special occasions (e.g., birthdays, holidays, weddings) and are affect laden.

Dependent Variables
As suggested by Wright (1980), subjects' cognitive responses were measured immediately after the impression formation task to ensure as complete a report as possible. Next, subjects evaluated the brand, and then they indicated what
their feelings had been while forming an impression. Then manipulation check measures were taken, and finally subjects' recall of product features was assessed. Each of these measures is described next in more detail.

**Cognitive responses.** The cognitive responses to the impression formation task were collected immediately after subjects read the product description and before the evaluation measures. Subjects were asked to list all thoughts that went through their minds while reading the product description. Subjects listed such thought on a new line. No time limit was imposed on the task, though observation of the subjects indicated that they completed the task in about 3 min.

Subjects' responses were separated into individual thoughts and coded by two independent judges who were blind to the conditions subjects were in. The interjudge reliability was 83%. Disagreements were resolved by discussion, so that all thoughts were coded. After reading the cognitive responses of about the first 10% of subjects, four broad categories of thoughts were identified: (a) mentions of product features, (b) mentions of general usage situations, (c) mentions of autobiographical experiences, and (d) other thoughts. The coding scheme for classifying the responses together with examples is given in the Appendix. The main categories of thoughts (i.e., the first three categories) accounted for 87% of the total responses.

**Brand evaluation.** Brand evaluation was measured on four 7-point semantic differential scales (i.e., favorable–unfavorable, good–bad, pleasant–unpleasant, positive–negative). These scales were averaged (alpha = .89) to provide one measure of brand evaluation.

**Affect measures.** Subjects were asked to indicate what their feelings had been while forming an impression of the video camera. Subjects responded to the question, "My feelings when I was forming an impression of the video camera were . . . ." Nineteen feeling states were listed (e.g., joyous, sentimental, proud, sad, angry), and subjects responded on a 7-point agree–disagree scale ranging from completely disagree (1) to completely agree (7). The feeling states were selected from classifications of emotions (e.g., Batra & Holbrook, 1990; Burke & Edell, 1989; Shaver, Schwartz, Kirson, & O'Connor, 1987; Smith & Ellsworth, 1985). A principal components analysis of the correlations among the 19 feeling states yielded two factors with eigenvalues substantially greater than 1, which together explained 58% of the variance in the data. A promax rotation showed that the two components were completely uncorrelated (r = .00). The first factor reflected feelings with positive valence, the second factor feelings with negative valence. The 11 positive feeling states were averaged to form one “felt positive” affect scale (coefficient alpha = .94). The 8 negative feeling states were averaged to form one “felt negative” affect scale (alpha = .83).

**Manipulation checks.** Subjects described their thought processes using a set of 7-point bipolar scales. Subjects indicated whether their thoughts could be described as ranging from impersonal (1) to personal (7), based on features of the product (1) to based on uses of the product (7), and hypothetical (1) to real (7). Thoughts that were impersonal and based on features of the product would be descriptive of a product focus. Thoughts that were personal, based on uses of the product, and hypothetical would be descriptive of a general situation focus. Thoughts that were personal, based on uses of the product, and real would be descriptive of an autobiographical memory focus. Thus, the pattern of results across the measures could be used to distinguish the conditions.

**Recall of product features.** At the end of the experiment, subjects were given an unexpected recall test and asked to list all the features of the product that they remembered. The number of features correctly recalled was counted. Because there were relatively few intrusions, no correction was made for incorrect recall. The recall score could vary between 0 and 8.

**RESULTS**

A summary of the results for Experiment 1 is presented in Table 1. First we consider the tests of the manipulation checks, and then the tests of the hypotheses are discussed. The tests were conducted using regression analysis with two dummy variables to represent the three conditions. Means for the three conditions and the overall F values are given in the table. Because a priori directional hypotheses were proposed, the impression set conditions were contrasted with directional t tests, with 83 degrees of freedom, using the mean square error from the overall regression.

**Manipulation Checks**

Ratings on the bipolar manipulation check scales confirmed the expected differences among conditions. The autobiographical condition, compared to the other two conditions, was rated as more real than hypothetical (6.4 vs. 4.5
TABLE 1
Results of Experiment 1

<table>
<thead>
<tr>
<th>Focus</th>
<th>Product (n = 29)</th>
<th>General Situation (n = 30)</th>
<th>Autobiographical Memory (n = 27)</th>
<th>Overall F Value</th>
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<tr>
<th>Manipulation checks</th>
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<tbody>
<tr>
<td>Hypothetical (1)–Real (7)</td>
<td>4.5a</td>
<td>5.5b</td>
<td>6.4c</td>
<td>F(2, 83) = 10.3*</td>
</tr>
<tr>
<td>Impersonal (1)–Personal (7)</td>
<td>4.7a</td>
<td>5.0a</td>
<td>6.2b</td>
<td>F(2, 83) = 5.8*</td>
</tr>
<tr>
<td>Features of Product (1)–Uses for Product (7)</td>
<td>2.8a</td>
<td>5.1b</td>
<td>4.2b</td>
<td>F(2, 83) = 9.6*</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Dependent measures</th>
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<tbody>
<tr>
<td>Felt positive affect (7 max)</td>
<td>3.4a</td>
<td>4.0b</td>
<td>5.0c</td>
<td>F(2, 83) = 14.7*</td>
</tr>
<tr>
<td>Felt negative affect (7 max)</td>
<td>1.8a</td>
<td>2.0ab</td>
<td>2.3b</td>
<td>F(2, 83) = 1.8</td>
</tr>
</tbody>
</table>

Proportion of cognitive responses that were related to:

| the product's features | .68a | .61a | .36a | F(2, 83) = 9.3* |
| typical usage situations | .09ab | .16a | .02b | F(2, 83) = 4.0* |
| personal experiences | .02a | .14a | .48b | F(2, 83) = 26.1* |

Recall of product features (max 8)

| 6.0a | 5.2ab | 4.6b | F(2, 83) = 4.2* |

Brand evaluation (max 7)

| 5.5a | 5.5a | 5.7a | F(2, 83) = .8 |

Note. Means with different superscripts are significantly different from each other at p < .05.

H1
The first set of hypotheses concerns the fundamental assertion that autobiographical memories are affectively charged. Subjects indicated the extent to which they experienced various feelings while forming an impression of the video camera. Subjects read a list of affect terms potentially descriptive of their feelings; using a set of agree–disagree scales, they responded whether they had these feelings while forming the impression. Subjects in the autobiographical condition were higher on felt positive affect than subjects in the other two conditions (5.0 vs. 3.4 in the autobiographical vs. product focus condition, t = 5.4, p < .01; 5.0 vs. 4.0 in the autobiographical vs. general situation condition, t = 3.4, p < .01), supporting H1a. Subjects in the autobiographical condition were also higher on felt negative affect than subjects in the product focus condition (2.3 vs. 1.8, t = 1.9, p < .05), but not significantly so compared to subjects in the general situation condition (2.3 vs. 2.0, t = 1.2, ns), providing some support for H1b. Thus, the task of forming impressions was more emotionally charged in the autobiographical condition, particularly with respect to positive affects.

H2
H2 predicted that the higher levels of affect generated when autobiographical memories are accessed would result in a reduced focus on product features. This reduced focus was apparent in subjects' thought protocols. There was no difference in the total number of thoughts across conditions, F(2, 83) = .65, ns, but there was a difference in the focus of these thoughts. There was a significantly lower proportion of thoughts related to the product's features and attributes in the autobiographical condition compared to the other two conditions (.36 vs. .68 in the autobiographical vs. product focus condition, t = 4.10, p < .01; .36 vs. .61 in the autobiographical vs. general situation, t = 3.3, p < .01), confirming H2a. Consistent with this reduced focus on product information, subjects in the autobiographical condition recalled fewer product features than subjects in the other two conditions. This difference was significant in comparison to the product focus condition (4.6 vs. 6.0, t = 2.89, p < .01) and directionally consistent in comparison to the general situation condition (4.6 vs. 5.2, t = 1.2, ns). Thus, H2b received some support.

H3
H3 argued that the higher levels of affect generated by retrieving autobiographical memories would be transferred to the product. Thus, given that the affect was predominantly positive, product evaluations would be more favorable. H3
was not supported. There were no differences in product evaluation across conditions.

DISCUSSION

The results of Experiment 1 confirm the fundamental thesis that consumers' autobiographical memories often are affectively charged. Retrieving personal memories about past experiences with video cameras generated emotion, especially positive emotion. Though the affective quality of autobiographical memories has been demonstrated before using other types of retrieval cues (e.g., action words, life events), it is important to find that memories involving some products and product usage situations can be similarly affectively laden.

The results of Experiment 1 also address how the retrieval of autobiographical memories impacts information processing. Previous research has focused on descriptive studies of the characteristics of autobiographical memories rather than on the effects of the activation of such memories on processing. Experiment 1 examined this issue in a product judgment context. The data suggest that when autobiographical memories are evoked, there is reduced analysis of product information, demonstrated by fewer cognitive responses related to product features and lower recall of product features. This change in processing orientation is apparent not only when the cognitive processes of individuals who accessed autobiographical memories are contrasted with those who focused on the product, but also when their cognitive processes are contrasted with individuals who judged products in the context of general usage situations. This finding, that the retrieval of specific personal situations rather than abstracted general situations is key to the change in processing orientation, is also consistent with the assertion made at the beginning of this article: Examining the effects of episodic rather than semantic knowledge on processing might significantly add to the extant literature on prior knowledge and information processing.

Experiment 1 also hypothesized that the retrieval of emotions and affects associated with autobiographical memories would be transferred to the product and influence brand evaluations. However, there was no support for this affect transfer process, and there were no differences in brand evaluations. Thus, it seemed imperative to determine whether this transfer of affect from autobiographical episode to brand evaluation can occur, or whether this lack of an effect was indeed a reliable and stable finding. Experiment 2 tested this affect transfer idea by providing a different context within which such an affect transfer process might occur. Specifically, the product judgment context of Experiment 1 was replaced with an advertising context. It was felt that the richness of an advertising context might facilitate the affect transfer process, relationship between empathy for characters in the ad and autobiographical memories. This relationship is important to examine, because some researchers (e.g., Deighton, Romer, & McQueen, 1989; Puto & Wells, 1984) have argued that feelings of empathy mediate feelings or emotional responses to certain types of advertisements. If access to autobiographical memories is associated with feelings of empathy, then one could argue that a general process of retrieving autobiographical memories may be fundamental to feelings or emotional responses to ads.

EXPERIMENT 2: THE ROLE OF CONSUMERS' AUTOBIOGRAPHICAL MEMORIES IN ADVERTISING CONTEXTS

The purpose of Experiment 2 was to examine the role of consumers' autobiographical memories in an advertising context. In Experiment 1, consumers evaluated a product based on a description of the product's attributes and features. In Experiment 2, the product description was embedded in an ad. It was felt that the richer advertising context—the characters and situations portrayed—could be used as a cue to stimulate richer autobiographical memories that would be likely to be directly and specifically related to the ad. Thus, compared to the possibility of affective transfer to the more general product impression stimuli, we felt that it was more likely that the affective charge from the autobiographical episode would transfer to the ad. Ad evaluations would thus be directly impacted by the activation of autobiographical memories. Furthermore, because the brand was embedded in and related to the events and characters shown in the ad, brand evaluations might also be impacted by the affective charge, although somewhat less directly than ad evaluations. Thus, the following effects are predicted:

H4: Evoking autobiographical memories in an advertising context results in
a. more favorable ad evaluations and
b. more favorable brand evaluations compared to a focus on the product alone.

Examining autobiographical memories in an advertising context also provides an opportunity to study how empathy for characters in the ad is related to access to autobiographical memories. Interest in feelings of empathy has arisen in the context of drama ads—ads that persuade not through argumentation but by having characters with whom the audience can identify enact a story using the product as a prop (Deighton et al., 1989; Wells, 1988). It has been suggested that when the depicted events are experienced with
trayed in the ad which then allow for a vicarious transformation of the viewer into the situation depicted in the ad. Through this empathic experience, the potential consequences of product use or nonuse become more concrete to the viewer (Boller & Olson, 1991; Deighton et al., 1989; MacInnis & Jaworski, 1989; Puto & Wells, 1984).

We feel that the issue of how feelings of empathy relate to autobiographical memories is important and not limited to the context of drama ads. Rather, empathy is relevant for any ad capable of evoking autobiographical memories. Although the relationship between autobiographical memories and empathy has not been investigated in any detail before, there is some, almost anecdotal, support for this relationship. Aaker and Stayman (1989), in discussing reactions to emotional ads with groups of viewers, found that reliving a prior experience was mentioned as an important correlate of feelings of warmth toward an ad. Specifically, we contend that empathetic feelings can evoke autobiographical memories. Thus, the process of empathizing with characters, or feeling like the characters, can lead to retrieval of affect-laden autobiographical memories. Furthermore, we contend that the flip side of this argument is also valid; that is, when individuals can retrieve an autobiographical episode that matches what is depicted in the ad, feelings of empathy for the characters are automatically generated. Finally, both the process of identifying with characters and evoking autobiographical memories act similarly in leading to greater feelings of empathy, compared to a focus on the product. Thus, the following hypotheses are forwarded:

H5a: The process of identifying with characters in an ad involves access to autobiographical memories.

H5b: Evoking autobiographical memories results in feelings of empathy comparable to a focus on identifying with characters in the ad.

H5c: The processes of identifying with characters in an ad and evoking autobiographical memories both result in greater feelings of empathy compared to a focus on the product alone.

Finally, given the hypothesized close association between retrieving autobiographical memories and feelings of empathy for the characters in the ad, H6a and H6b parallel H4a and H4b:

H6: The process of identifying with characters in an ad results in
a. more favorable ad evaluations and
b. more favorable brand evaluations
compared to a focus on the product alone.

Note that these hypotheses are consistent with the central thesis of this article: Retrieving autobiographical memories generates affect. If the relationship between empathy and autobiographical memory is demonstrated, then accessing autobiographical memory may be fundamental to the process by which an ad produces deep emotional reactions (cf. Burke & Edell, 1989) in many cases.

METHOD

Overview of the Experiment

In Experiment 2, we examined the impact of retrieving autobiographical memories in an advertising context. Subjects were shown an ad and were asked to form an impression of the advertised product. Subjects were prompted to either retrieve a specific personal memory from their life that reminded them of the situation shown in the ad, to empathize with one of the characters in the ad and experience the situation shown through the eyes of the character, or to think about the attributes and features of the product while forming an impression. Subjects then listed the thoughts that went through their minds while forming an impression and evaluated the product and the ad. Finally, they filled in scales to measure their empathic reactions. Thus, a one-way between-subjects ANOVA design with three levels (autobiographical focus/empathy focus/product focus) and several measures was used. Note that given the hypothesized close association between the autobiographical and empathy conditions (i.e., retrieving autobiographical memories creates empathy with the ad, and empathy is generated by retrieving personal episodes), these two conditions generally are predicted to produce equivalent effects which are different from the product focus condition.

Subjects. Subjects were recruited from a subject pool of undergraduate business students at a large Eastern university. Eighty students participated, providing sample sizes of 26 or 27 in each of the three conditions.

Procedure. Subjects were tested in small groups of about 8 in a research lab; all experimental conditions were conducted in any one session. Subjects were randomly assigned to conditions upon entering the lab. When all subjects were seated, an experimenter told subjects that they would be participating in a study, the purpose of which was to get their reactions to an advertised product. Subjects were told they would be viewing a print ad and that they should form an impression of the advertised product. Subjects then received the instructions that were specific to their condition (described next) that provided additional details on how the impression was to be formed. Then they
opened an envelope that contained the ad. The ad was a simulated print ad in color. The visual showed a family with Mickey Mouse standing in front of a small van with the Disney Magic Castle visible in the background. The ad was for a hypothetical car rental company. The headline stated, “Drive our Mini to See Mickey,” and the text gave four advantages of the car rental company (i.e., free drop-off anywhere in Florida, low weekly rates and special weekend deals, first 1,000 miles free on weekly rentals, wide selection of cars and vans). Subjects read the ad, and after they had formed an impression of the car rental agency, they put the ad away and filled in a questionnaire containing the various measures. After all subjects had completed the task, they were debriefed. The entire procedure took about 25 min to administer.

Independent Variable

Three impression sets were manipulated. Subjects were either instructed: (a) “When you look at the ad, retrieve a specific personal memory that reminds you of the situation in the ad. Reexperience the event from your past. Form an impression of the advertised product in the context of your personal experience” (autobiographical focus); (b) “When you look at the ad, empathize with one of the characters in the ad. Experience the situation shown through the eyes of the character. Form an impression of the advertised product in the context of the experience you imagine” (empathy focus); or (c) “When you look at the ad, focus on the product being advertised. Think about the attributes and features of the product. Form an impression of the advertised product in the context of your thoughts about the product’s attributes and features” (product focus).

Dependent Variables

**Cognitive responses.** Cognitive responses were collected immediately after subjects had read the product description and before the evaluation measures. Subjects’ responses were read by two independent judges blind to the condition subjects were in to determine whether there was a mention of a personal memory. The interjudge reliability was 96%.

**Brand evaluation.** The brand evaluation measures were collected immediately after the cognitive responses and before the ad evaluation measures. Brand evaluation was measured on four 7-point semantic differential scales (i.e., favorable–unfavorable, good–bad, pleasant–unpleasant, positive–negative). These scales were averaged (alpha = .94) to provide one measure of product evaluation.

**Ad evaluation.** Ad evaluation was measured on four 7-point semantic differential scales (e.g., favorable–unfavorable, good–bad, pleasant–unpleasant, positive–negative). These scales were averaged (alpha = .95) to provide one measure of ad evaluation.

**Empathy measures.** The inventory of general feeling states or emotions used in Experiment 1 was replaced by a specific ad-relevant emotion, namely empathy. Empathy, the extent to which the subject identified with the character(s) and situation(s) in the ad, was measured on four 7-point agree–disagree scales. The four scales were: “I felt I was right there in the ad experiencing the same thing;” “I really got involved in the feelings of the character(s) in the ad;” “While I was looking at the ad, I could easily put myself in the place of one of the characters;” and “While looking at the ad, I felt that the events were happening to me.” Responses on the scales were averaged (alpha = .90) to produce one empathy score.

**RESULTS**

All dependent measures were analyzed using regression analysis with two dummy variables to represent the three experimental conditions. Means and the overall F values are reported in Table 2. Because a priori directional hypotheses were made for H4, H5c, and H6, conditions were contrasted with directional t tests, with 77 degrees of freedom, using the mean square error from the overall regression.

H4 and H6

A summary of the results for Experiment 2 appears in Table 2. H4 predicted that the retrieval of autobiographical memories would enhance ad evaluation (H4a) and brand evaluation (H4b), and H6 predicted that the process of empathizing with characters in an ad would enhance ad evaluations (H6a) and brand evaluations (H6b). Ad evaluation was higher in both the autobiographical and empathy conditions when compared to the product focus condition, thus supporting H4a and H6a (means of 6.1 [autobiographical focus] vs. 6.2 [empathy focus] vs. 5.3 [product focus]; \( t = 2.74 \) for autobiographical vs. product, \( p < .01; t = 2.82 \) for empathy vs. product, \( p < .01 \)). Analysis of brand evaluation scores indicated that brand evaluation was directionally higher in both the autobiographical and empathy conditions relative to the product focus condition, providing marginal support for H4b and H6b (means of 5.5 [autobiographical focus] vs. 5.4 [empathy focus] vs. 5.0 [product focus], \( t = 1.60 \) for autobiographical vs. product, \( p < .10; t = 1.37 \) for empathy vs. product. \( n < .10 \)).
TABLE 2
Results of Experiment 2

<table>
<thead>
<tr>
<th>Focus</th>
<th>Instructions to Focus on the Product Shown in the Ad</th>
<th>Instructions to Empathize With a Character in the Ad</th>
<th>Instructions to Retrieve an Autobiographical Episode Similar to the Situation Shown in the Ad</th>
<th>Overall Significance Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 27)</td>
<td>(n = 26)</td>
<td>(n = 27)</td>
<td></td>
</tr>
<tr>
<td>Proportion of subjects accessing an autobiographical episode</td>
<td>19%&lt;sup&gt;a&lt;/sup&gt;</td>
<td>50%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>70%&lt;sup&gt;b&lt;/sup&gt;</td>
<td>( \chi^2(2) = 15.7^* )</td>
</tr>
<tr>
<td>Ad evaluation (max 7)</td>
<td>5.3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.2&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>( F(2, 77) = 5.2^* )</td>
</tr>
<tr>
<td>Brand evaluation (max 7)</td>
<td>5.0&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.4&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.5&lt;sup&gt;*&lt;/sup&gt;</td>
<td>( F(2, 77) = 1.5 )</td>
</tr>
<tr>
<td>Empathy (max 7)</td>
<td>3.1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.7&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4.3&lt;sup&gt;b&lt;/sup&gt;</td>
<td>( F(2, 77) = 8.8^* )</td>
</tr>
</tbody>
</table>

Note. Means with different superscripts are significantly different from each other at \( p < .05 \).

*Significant at \( p < .05 \).

H5 predicted that there would be a close relationship between the retrieval of autobiographical memories and feelings of empathy. Specifically, it was hypothesized that the process of empathizing with characters in an ad spontaneously involves access to autobiographical memories (H5a). The flip side of this hypothesis was also predicted, namely, autobiographical memories triggered in an advertising context generate feelings of empathy (H5b). We also hypothesized that identifying with characters and accessing autobiographical memories were similar in that both would lead to more empathic feelings than a product focus (H5c). Subjects' cognitive responses were used to test hypothesis H5a. The proportion of subjects in each condition who retrieved an autobiographical memory was calculated. Nineteen percent of subjects in the product focus condition spontaneously evoked autobiographical memories, compared to 50% in the empathy focus condition and 70% in the autobiographical memory condition.<sup>1</sup> Using logistic regression, the proportions in both the empathy and autobiographical conditions were found to be higher than in the product focus condition (empathy vs. product focus: 50% vs. 19%, \( \chi^2 = 5.5, p < .05 \); autobiographical vs. product focus: 70% vs. 19%, \( \chi^2 = 13.0, p < .01 \)). The proportion of subjects accessing personal memories was directionally but not significantly higher in the autobiographical condition than in the empathy condition (70% vs. 50%, \( \chi^2 = 2.3, \text{ ns} \)); however, this might be expected given that in the autobiographical condition subjects were specifically primed to retrieve personal memories. Particularly noteworthy is that a substantial proportion of individuals in the empathy focus condition spontaneously evoked an autobiographical memory, supporting H5a.

There was also support for H5b. Levels of felt empathy for subjects in the autobiographical memory condition were comparable to levels of empathy generated by subjects in the empathy focus condition (4.3 vs. 4.7 in the autobiographical vs. empathy condition, \( t = .96, \text{ ns} \)), supporting H5b. Furthermore, in both the autobiographical and empathy conditions, the levels of empathy were higher than in the product focus condition (4.3 vs. 3.1 in the autobiographical vs. product focus condition, \( t = 3.08, p < .01 \); 4.7 vs. 3.1 in the empathy vs. product focus condition, \( t = 4.01, p < .01 \)), supporting H5c.<sup>2</sup>

**DISCUSSION**

The results of Experiment 2 corroborate and extend the findings of Experiment 1. They confirm the notion that autobiographical memories are capable of generating affect. Specifically, in an advertising context these memories are associated with feelings of empathy with the characters and situations portrayed in the ad. Experiment 2 also demonstrates that these affective feelings

<sup>1</sup>Because two of the scales ("I felt I was right there in the ad experiencing the same thing" and "While looking at the ad, I felt that the events were happening to me") were very likely to be true of an autobiographical episode, the empathy score was also computed using only the two measures that more precisely measured feelings of identification: "I really got involved in the feelings of the character(s) in the ad," "While I was looking at the ad, I could easily put myself in the place of one of the characters." The findings were similar but not identical when all four items were used. Although the level of empathy was above the midpoint in both conditions, empathy was higher in the empathy condition than in the autobiographical condition (5.3 vs. 4.5, \( t = 1.9, p < .05 \)), which does not support this more stringent test of H5b. However, the levels of empathy were higher in both the autobiographical and empathy conditions than in the product focus condition (4.5 vs. 3.4 in the autobiographical vs. product focus condition, \( t = 2.7, p < .01 \); 5.3 vs. 3.4 in the empathy vs. product focus condition, \( t = 4.6, p < .01 \)), supporting H5c. Furthermore, an internal analysis across all conditions indicated that the level of empathy was higher for those retrieving autobiographical memories than for those who did not (4.8 vs. 4.0, \( t = 2.0, p < .05 \)).

<sup>2</sup>These numbers underestimate the proportion of subjects actually retrieving autobiographical memories. During debriefing, a few subjects suggested that they had accessed personal memories but failed to write them down. Thus, cognitive responses are probably incomplete measures of autobiographical retrievals. Furthermore, the coding scheme used to identify autobiographical memories was conservative, requiring explicit reference to past personal experiences.
do transfer to ad evaluations, but there is only very weak support for the transfer to brand evaluations.

Experiment 2 also provides greater understanding of how empathy is related to autobiographical retrievals. Although the importance of creating verisimilitude or identification with the characters and situations in an ad has been noted (Deighton et al., 1989), there has been little speculation into how this identification or empathy is generated in the audience. On the basis of Experiment 2, we can argue that one process for empathizing is accessing autobiographical memories. Previous research which has noted that these personal memories are accessed during advertising exposure has often categorized them as “brand irrelevant” (e.g., MacInnis & Jaworski, 1989; Mitchell, 1981). Though this can be true, because the focus can be the past personal event rather than the brand, these memories change the evaluation process to a more affective and empathetic one and influence ad evaluations and, to some extent, brand evaluation. Hence, the results provide new understanding of the fundamental role of consumers’ autobiographical memories in producing feelings or emotional responses to ads.

EXPERIMENT 3: SPONTANEOUS ACCESS OF AUTOBIOGRAPHICAL MEMORIES

Experiments 1 and 2 essentially instructed subjects to retrieve autobiographical memories. Although Experiment 2 provided some evidence that these memories are retrieved without explicit instruction—instructing subjects to identify with the characters in the ad resulted in a significant proportion of subjects spontaneously accessing personal memories—such evidence may not be considered very strong, as directive instructions were still given to the subjects. Therefore, the purpose of Experiment 3 was to test whether subjects would spontaneously generate autobiographical thoughts while viewing ads.

METHOD

Twenty-three people were recruited from a subject pool of undergraduate business students at a large eastern university. Subjects were told that the study was an advertising pretest and participated in the experiment in groups of 8 or fewer. Subjects were shown the same ad as in Experiment 2. Recall that the ad portrayed a family renting a mini-van to visit Disney World. Subjects were asked to look at the ad, to “allow whatever thoughts are triggered by the ad to come freely to your mind,” and to list those thoughts that had come to mind while reading the ad. Then, subjects provided brand and ad evaluations, rated what their feelings had been while viewing the ad using the same inventory of affects as in Experiment 1, and responded to the four measures of felt empathy from Experiment 2.

RESULTS

Two independent judges read subjects’ cognitive responses to determine whether there was a mention of an autobiographical episode. Coding a thought as an autobiographical memory required explicit reference to past personal experiences. The interjudge reliability was 96%, and the analysis indicated that 39% of the subjects had retrieved a personal memory. Thus, it does seem that retrieving autobiographical memories—at least in response to some types of ads—is relatively frequent and spontaneous.

In addition, an internal analysis was conducted on the data available. Subjects were divided into two groups based on their thought listings: those who did mention an autobiographical memory (n = 9) and those who did not (n = 14). The means comparing the two groups and the overall F values on the dependent measures are given in Table 3. The analyses indicated that the subjects retrieving autobiographical memories felt more positive affect (5.4 vs. 3.9, p < .01) and more empathy with the characters and situations in the ad (4.4 vs. 2.5, p < .01) than subjects not retrieving autobiographical memories. Autobiographical memory subjects also rated both the ad (6.3 vs. 5.1, p < .05) and the brand (5.8 vs. 4.7, p < .01) as more favorable than subjects not retrieving autobiographical memories. Thus, a more naturalistic inquiry into the effects of autobiographical memo-

<table>
<thead>
<tr>
<th></th>
<th>Subjects Who Did Not Retrieve an Autobiographical Memory (n = 14)</th>
<th>Subjects Who Did Retrieve an Autobiographical Memory (n = 9)</th>
<th>Overall F Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ad evaluation (max 7)</td>
<td>5.1</td>
<td>6.3</td>
<td>F(1, 21) = 5.1*</td>
</tr>
<tr>
<td>Brand evaluation (max 7)</td>
<td>4.7</td>
<td>5.8</td>
<td>F(1, 21) = 8.0*</td>
</tr>
<tr>
<td>Empathy (max 7)</td>
<td>2.5</td>
<td>4.4</td>
<td>F(1, 21) = 11.8*</td>
</tr>
<tr>
<td>Felt positive affect (max 7)</td>
<td>3.9</td>
<td>5.4</td>
<td>F(1, 21) = 22.6*</td>
</tr>
<tr>
<td>Felt negative affect (max 7)</td>
<td>2.0</td>
<td>1.8</td>
<td>F(1, 21) = .4</td>
</tr>
</tbody>
</table>

Note. Subjects were classified on the basis of their thought listings.

*Significant at p < .05.
GENERAL DISCUSSION

The results of three experiments conducted in a product judgment context (Experiment 1) and in an advertising context (Experiments 2 and 3) suggest that consumers' autobiographical memories involving products and product usage experiences often are affectively charged. Although not all product-related autobiographical memories will be affect laden, as already argued and demonstrated by the experiments, there will be many memories of product usage experiences that are affectively charged. Furthermore, results of the three experiments demonstrate that the retrieval of autobiographical memories impacts information processing. When autobiographical memories are evoked, there is reduced analysis of, and memory for, product information (Experiment 1). There is also clear evidence that cuing autobiographical memories influences ad evaluations (found in both Experiments 2 and 3). Support for the notion that the affect generated by cuing autobiographical memories influences brand evaluations is weaker (no support in Experiment 1, minimal support in Experiment 2, support in Experiment 3). Also, the experiments demonstrate that autobiographical memories are naturally and spontaneously evoked in response to some types of ads (Experiment 3) and are associated with feelings of empathy for the characters and situations in the ad (Experiments 2 and 3). Thus, together the experiments suggest an avenue for impacting consumer judgments that has not been investigated previously. Accessing autobiographical memories may be a fundamental component of feelings and emotional responses to ads and products.

Despite this initial success in characterizing consumers' autobiographical memories and demonstrating the effects of priming such memories on information processing, the experiments have limitations and raise many issues that remain unanswered. One major limitation concerns the generalizability of our results. Only two product categories—cameras and car rentals—were considered, and only one ad was used. In addition, these products and the context of the ad were perhaps more likely to be associated with emotional events than some other products or contexts. Hence, future research will need to carefully delimit the precise conditions under which our results hold.

Major issues that must be addressed by the next wave of research are the exact mechanism by which and the conditions under which the affect from the autobiographical memory is transferred to the product and influences brand evaluation. In Experiment 1 brand evaluations were not affected, in Experiment 2 brand evaluations were marginally affected, and in Experiment 3 brand evaluations were more strongly affected. Two parallel processes that can result when autobiographical memories are evoked might explain this pattern of inconsistent results. First, the retrieval of autobiographical memories may serve as a distractor focusing attention away from central product arguments. Second, autobiographical memories may generate feelings—generally positive ones—that can become associated with objects in the current context. Thus, the relationship between autobiographical memories and brand evaluation might be a complex one, depending on factors such as the current level of attention to product information, strength of product arguments, the affective quality of retrieved memories, and, critically, the degree of association between the object of evaluation and the retrieved memory. Future research needs to investigate which of these factors influence the retrieval of autobiographical memories, and it should also specify the boundary conditions for the transferance of affect from the retrieved memory to the brand.

A related issue concerns the mechanism by which the affect from the autobiographical memory transfers to the product. The affect transfer can be automatic, or it may occur through more controlled processes. Throughout the article, we imply that priming of autobiographical memories releases affect, thus automatically changing the evaluation process to a more affective one and influencing final judgments. Response time measures collected in Experiment 1 provide evidence generally consistent with the viewpoint that the processing of affect is automatic when autobiographical memories are cued. The time subjects took to form their impression was measured. Subjects in the autobiographical condition took less time to form an impression than subjects in the product focus condition (57.8 vs. 81.5 sec, \( t = -4.4, p < .01 \)), and the difference was directionally consistent in comparison to the general situation condition (57.8 vs. 59.4 sec, \( t = -.3, ns \)).

However, these response time data may also be consistent with the alternative view that affect is processed in a more controlled manner and used as a piece of information in making judgments.¹ Recent research (e.g., Schwarz, 1986) showed that affect can influence judgments even when it is not immediately apparent. The results of Experiment 2 suggest that affective information can influence judgments even when it is not immediately apparent. The results of Experiment 3 suggest that affective information can influence judgments even when it is not immediately apparent. The results of Experiment 4 suggest that affective information can influence judgments even when it is not immediately apparent.

¹Though the retrieval of affect-laden autobiographical memories can focus attention away from product information so that the inputs into product evaluation are more affective and less feature based, the attitudes formed in the context of personal memories compared to a product focus do not appear to have the characteristics of peripheral rather than centrally (cf. Petty & Cacioppo, 1986) formed attitudes. Subjects in Experiments 1 and 2 were asked to rate the strength or intensity with which they held their brand attitude (measured as strong-weak, intense-feeble). In both experiments, the brand attitudes formed in the context of autobiographical memories were more intensely held than the attitudes formed in the product focus conditions (Experiment 1: 5.0 vs. 4.6, \( t = 1.9, p < .05 \); Experiment 2: 4.6 vs. 4.1, \( t = 1.5, p < .10 \)). More data (e.g., on attitude decay, resistance to influence, links to behavioral intentions) would be needed to interpret more precisely what the intensity measures indicate. However, there appears to be a hint that brand evaluations formed on the basis of the carryover of the affective charge of retrieved autobiographical memories are qualitatively, if anything, more akin to centrally formed attitudes.

²We thank Professor Alice Isen for suggesting this alternative interpretation.
1990) suggests that individuals may use their affective states ("how does this make me feel") as a heuristic for judgments. Because this affect-based heuristic provides a simpler rule for evaluation compared to a review of individual features, impressions might be arrived at more quickly. However, this heuristic can be used in a controlled way, depending on the cue value or the perceived informational value of the affect for the judgment at hand. The contingent transfer of affect from autobiographical episodes to brand evaluations across the three experiments is consistent with this viewpoint of the use of affect in a more controlled manner. Thus, our data do not provide unambiguous evidence for either automatic or controlled processing. However, our position that affect from the retrieved autobiographical memory is transferred to the object of judgment does not necessarily require us to commit to whether the transfer process is an automatic or a controlled one. Further research and more data would be needed to distinguish between these alternative mechanisms.

Another avenue for future research is to characterize more completely the nature of autobiographical memories. Autobiographical memories are likely to differ on a range of dimensions, including the recency of these memories, their vividness, and the perspective from which these memories are relived and brought to mind. For example, Nigro and Neisser (1983) made an interesting distinction between an observer perspective, in which the memory is transferred so that one sees one's self in the situation, and a field perspective, in which one relives the experience from the original vantage points. These characteristics are likely to be important because they might be correlated with the affective quality of autobiographical memories (e.g., a memory relived from a field perspective might be more affect laden) and/or because they might have an independent effect on judgments (e.g., field memories compared to observer memories might be considered more relevant).

An investigation into the nature of autobiographical memories as suggested might be particularly meaningful if links can be established between the nature of ads and the type of autobiographical memory that is cued. This stream of research would thus need to engage in a detailed analysis of the primes that can be included in ads to trigger autobiographical memories. Specifically, this research can focus on how the degree of affect associated with retrieved autobiographical memories can be manipulated by the types of cues that are present in an ad (e.g., showing a food item in a holiday setting). For example, some recent L.L. Bean ads use written inset specifically relating their product to past holidays, vacations, or other memorable occasions of consumers depicted in the ads. Besides using memorable events as cues, the affective responses to autobiographical memories may also depend on other factors. For example, Conway (1990) argued that goal-derived categories (e.g., things to do on the weekend, birthday presents) are closely associated in memory with records of specific events; therefore, these categories can be incorporated in ads as primes

Singer (1990) argued that affective responses to autobiographical memories may depend on the relationship of the memories to goals, suggesting that the affective response to ads may be manipulated by the inclusion of different goals.

In sum, these experiments take an initial step in examining a provocative approach to influencing information processing—having consumers retrieve autobiographical memories. We hope that in the future researchers will test the mechanisms, the contingencies, and the contexts in which consumers' autobiographical memories will impact information processing and consumer judgments.

ACKNOWLEDGMENTS

We all contributed equally to the project.

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**APPENDIX**

**Coding Scheme for Thought Listings**

1. **Feature-based thoughts.** Thoughts about the brand’s features and attributes made up this category. Thoughts related to the brand’s features (e.g., “2 hr of tape time”), evaluation of features (e.g., “I thought the manual and auto focus were good attributes of this camera”), and other feature-based thoughts were included in this category.

2. **General usage situation thoughts.** Thoughts of abstract situations made up this category. Thoughts related to typical usage situations (e.g., “would be good to use at barbecues”) and typical consumers (“a dad with a video camera filming his kids”) were included in this category and comprised the bulk of the responses.

3. **Autobiographical thoughts.** Thoughts of specific personal usage experiences (e.g., “I thought about a time last summer when my sister was confirmed and our recorder was used to film the entire family;” “I thought about a time when my best friend’s father recorded us and played it back for us right away—I liked that”) comprised this category. These thoughts were characterized by descriptions that involved the self and were in the past tense, evoking a bygone time from one’s life. Thoughts that involved the self and were hypothetical and/or imagined (e.g., “I imagined myself on a beach videotaping”) were not
part of this category but were included in the general usage situation thoughts.

4. *Other thoughts.* These included overall brand evaluations (e.g., “I liked the video camera”), general task-relevant thoughts (e.g., “The computer part was interesting”), and task-irrelevant thoughts (e.g., “The room was too cold”).