
Response Latency Verification of Consumption Constellations: Implications for Advertising Strategy

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Consumers are assumed to organize information about lifestyle groups much like they organize other category knowledge, in that features of the object are used by the consumer to assign it to a category. Knowledge about the complementary consumption choices—consumption constellations—associated with different lifestyles is hypothesized to be organized in associative networks. A consumption constellation is a hypothetical construct used to describe the cognitive organization of cross-category product information. This study examines several processing alternatives pertaining to consumption constellations using response latency methodology. Participants were asked to respond to stimuli (products) representative of either an aspirational or an avoidance group consumption constellation. Results suggest that, at least for products defining an aspirational lifestyle, consumption constellations exist as constructs in memory. The findings support the value of adapting cognitive processing methodologies to understand better how consumers perceive the symbolic meanings of products. The article concludes with a call for additional research and a discussion of the ramifications for advertising strategy.

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Introduction

As noted by Levy (1964, p. 149), “a consumer’s personality can be seen as the peculiar total of the products he consumes.” The joint consumption of many disparate products and services often defines a lifestyle, or at least a stereotypical version of one. The *consumption constellation* construct has been defined as “a cluster of complementary products, specific brands and/or consumption activities associated with a social role” (Solomon and Assael 1987, p. 191). Thus, elements of a constellation often appear to “belong together” because of their symbolic rather than functional complementarity.

Attitudes toward products can symbolize and communicate information about a person’s identity (Shavitt 1990; Shavitt, Lowrey and Han 1992). By choosing some distinctive products and avoiding others, consumers communicate their affiliation with a desired social group (either actual or ideal) and its attendant values. Conversely, they may eschew other products because of an association with avoidance groups; such products may possess stigmatizing properties owing to their association with negatively valued social categories (Solomon and Englis 1996). This influence forms the foundation for the positive and negative effects of reference groups (Bearden and Etzel 1982; see also Cocanougher and Bruce 1971; Stafford 1966).

The concept of “possible selves” (Markus and Nurius 1986) suggests that individuals are motivated to acquire knowledge regarding desired future selves. Furthermore, people are likely to rehearse this knowledge and engage in consistent behaviors that communicate such knowledge to others, for “[t]hese possible selves are individualized or personalized, but they are also distinctly social” (Markus and Nurius 1986, p. 954). Such behaviors may include setting long-term goals (e.g., pursuing a particular field of study) or more immediate activities (e.g., purchasing an item that contributes to the desired image). Indeed, “in some decisions, such as the decision to purchase a particular car or a certain cologne, a possible self, rather than the current self, will be envisioned and guide the process” (Markus and Nurius 1986, p. 966).

To the degree that consumer lifestyles represent meaningful social categories for consumers (e.g., Solomon and Englis 1997), they should possess properties similar to other forms of social categorization. The social cognition literature suggests that individuals "code people and their behavior in terms of ... a few simple cognitive categories [to simplify] what one needs to know and look for in particular people" (Cantor and Mischel 1979, p. 6; cf. Cohen 1981; Wyer and Srull 1981). This approach also has been applied to studies of stereotyping (Broverman et al. 1970) and person perception and prototyping (e.g., Englis and Pennell 1993; Kinder et al. 1980; Rosch 1981). Early research hints at the notion that consumers organize information about product-person associations in ways that resemble other types of cognitive categorization (e.g., Rosch 1981), in that an object's symbolic or functional features are used by the perceiver to assign it to a person or lifestyle category (Solomon 1988; Solomon and Assael 1987).

Products associated with distinct lifestyle groups acquire symbolic utility, however, only to the extent that consumers agree that certain products seem to "go together" and mutually define a lifestyle category. A consumption constellation essentially constitutes a prototypical set of products associated with a lifestyle category (Englis and Solomon 1995). Those products that are firmly embedded as category attributes also should be more easily retrieved.

A goal of this study is to marry two quite different orientations to consumer behavior. Whereas most research on symbolic consumption phenomena tends to be qualitative in nature, we propose that the semiotic dimensions of products can be understood within the more conventional framework of information-processing models. Just as, say, knowledge about a camera can be viewed in terms of its (perceived) attributes and cognitive representation in memory, so too can a consumption constellation (symbolic product complementarity) be considered an "object," complete with its own attribute structure and cognitive network linking it to other structures in memory. However, previous research on consumption constellations has not examined their properties as associative networks. The purpose of this study is to explore how such constellations might be structured in memory.

Consumption Constellations and Advertising

The notion that the value of marketing exchanges involves sets of products rather than goods in isolation can be traced to Wroe Alderson, who argued that

exchanges occur because the utility of a product assortment held by Person A can be improved by the addition of a product held by Person B (Alderson 1957). Years later, Green, Wind and Jain (1972) studied product interdependencies (which they termed "commodity bundles") and Holbrook and Lehmann (1981) investigated complementarity among preferences for discretionary leisure time activities. Around that time, Wind (1977) observed that researchers' neglect of product interdependencies may have partially accounted for the relatively disappointing results often obtained in the prediction of single-brand choice behavior.

Although academic researchers have tended to ignore these product interdependencies in the past, marketers and advertisers often attempt to capitalize on cross-category product relationships and seem keenly aware of the importance of consumers' perceptions of which products go together. The most common application is in psychographic research. Many psychographic studies report cross-category associations in the factor loadings obtained, an entirely *post hoc*, data-driven technique termed "backward segmentation" (Wells 1968; see also Alpert and Gatty 1969). In one typical application, Tigert, Lathrope and Bleeg (1971) found that heavy consumers of Kentucky Fried Chicken were also heavy users of eye makeup, nail polish, soft drinks, gum and TV dinners.

Other related examples involving the use of cross-category product interdependencies in marketing communications also can be identified (Englis and Solomon 1996). For example, more than thirty companies in the United States now specialize in product placement, in which a brand is strategically featured in a movie or television show that has favorable demographics for that product. Successful product placements rely on the perceived symbolic fit between the character, setting and role (program elements) and the product or brand placed. In addition, advertisers increasingly are using a "spokesbrand" strategy, in which an unrelated product is featured in another product's ad, such as when a Corvette appeared in ads for Weber barbecue grills (Elliott 1991). As a final example, consider the current pairing of Lexus and Coach products; the Coach-edition Lexus comes complete with two Coach cabin bags in the trunk and, of course, a Coach leather interior.

These examples illustrate the intuitively held notion that the link among the products featured, the setting and characters somehow "makes sense" to consumers, who associate them within the rubric of some broader lifestyle category. Research has shown that some products convey more individuating information about their users than do other products

(Shavitt and Nelson 2000). It is also likely that some product pairings convey a clearer impression of their users than do others. For example, in an ad for tennis rackets, a company such as Wilson might include other sports-related products. Although adding a bicycle would make sense given the "tennis player" lifestyle, including a bowling ball in the execution might not. However, the foregoing begs the questions of how this information is organized in the minds of consumers. Do consumption constellations exist as associative networks in memory? If they do, what factors influence the strength of the associations between product and lifestyle information?

Integrating Perspectives on Consumption Constellations

Much empirical evidence exists to support the notion that persons, or person categories, are employed as a form of cognitive organization (e.g., Kinder et al. 1980; Wyer and Srull 1989). The essential features of people who belong to different social categories represent an integrated image, prototype, or stereotype. Therefore, "if you know somebody wears tweed, drives a small cheap foreign car and is introverted, forgetful and smart, those facts tend to go together because they fit your professor stereotype" (Fiske 1982, p. 6).

Suppose that a certain person is observed to display the following product attributes: He owns a Burberry trenchcoat, a Rolex watch and Gucci loafers and he prefers white wine and brie to beer and pretzels. This information might lead a perceiver to assign the person to the social category "yuppie," a construct that might also include other attributes such as plays squash, drives a BMW and prefers fresh pasta with pesto. If the perceiver is told that a person is linked to such attributes as Burberry, Rolex and Gucci, the "yuppie" construct will be activated and the other product linkages then might be activated in memory.

However, some attributes may be linked more strongly to the yuppie construct than are others. Thus, white wine and luxury cars may be strongly associated with yuppies, whereas playing squash and drinking beer may be weakly associated. This suggests that, if consumption constellations are organized as associative networks in memory, there should be much stronger links for attributes that are more suggestive of a distinct lifestyle category, but there should also be weak links for those attributes that do not readily differentiate among various lifestyle categories. Furthermore, the perceiver may have an evaluative component attached to such a cognitive structure; he or she may either desire to emulate this social stereo-

type by acquiring these items (aspirational lifestyle category) or (given the decline in social esteem accorded to the hapless yuppie in the 1990s) assiduously reject these activities to avoid being tarred with this stereotypical brush (avoidance lifestyle category).

Prior research on consumption constellations strongly suggests that functionally dissimilar yet symbolically related products are used cognitively by consumers to jointly define a lifestyle, that specific products vary in terms of their prototypicality or centrality to a given lifestyle, that a high degree of consensus often exists across perceivers with regard to the (assumed) contents of these constellation structures and that these perceived connections often can easily be elicited by researchers (Englis and Solomon 1995; Solomon and Assael 1987; Solomon and Buchanan 1991). One critical motivational variable is the reference group represented by a particular consumption constellation and its associated lifestyle. Consumption constellations associated with aspirational as compared with avoidance reference groups tend to be richer and more elaborated in content, more accurate and less stereotyped (Englis and Solomon 1995).

To date, however, little is known about the cognitive mechanisms underlying these knowledge structures. The study reported here was designed as an initial exploration of how constellation data are organized in memory. One of the assumptions guiding this research is that consumption constellations represent associative networks in memory and therefore, presentation of a cue that contains a subset of elements taken from a known consumption constellation should activate other elements of the network. The measurement of response latencies is an ideal method to begin an investigation of the structure of consumption constellations, as it provides information regarding consumers' responses that is not obtainable in any other way. That is, by measuring the amount of time it takes subjects to respond to a stimulus item after having been cued, it is possible to ascertain how strongly items are linked in memory. Whereas the use of traditional questionnaires can determine that linkages exist, such data cannot differentiate among varying levels of association in memory. Only reaction time methodology can differentiate between strongly linked concepts (faster reaction times) and weakly linked concepts (slower reaction times) (Fazio 1990).

Response Latencies

Through the use of response latencies, we hope to demonstrate that consumers access consumption constellations as they do other associative networks and

to shed light on some of the hypothesized features of these structures. A *response latency* is defined as the interval of time between presentation of a stimulus and the resulting response (Fazio 1990; see also Anderson and Bower 1972, 1974; Collins and Loftus 1975). Such latencies (also referred to as reaction times) can be used to investigate a variety of cognitive processes, such as construct formation, processing efficiency, associative strength in memory and accessibility from memory (Fazio 1990).

Thus, reaction times can be used to verify not only the existence of a construct in memory, but also its associative strength to the items that cued it. In general, the faster the response to construct-congruent stimuli, the more accessible is the construct. Because two constructs may contain information that can be accurately retrieved in response to an elicitation cue given a zero time constraint on response (as is the case with traditional questionnaires), the measurement of response latencies is a critical tool for investigating accessibility of that information. That is, there is a difference between the assessment of knowledge and the assessment of accessibility of knowledge. For example, two attributes both may be linked to a particular construct, but the strength of association may differ greatly. If asked whether such attributes are linked to the construct, people would be correct in responding "yes" to either item. It is only through the measurement of response latencies, then, that we can tease out the difference in accessibility of these two items for this particular construct.

Research Design

Critical to our research design was the calibration of aspirational and avoidance lifestyle groups for respondents. Therefore, we focused explicitly on college students, a homogeneous population that enabled us to calibrate positive and negative reference groups more accurately with regard to a specific market segment. Although the college student market is a substantial consumer group that spends \$20 billion a year (Solomon 1999), much of its consumption behavior may be best understood in relation to the students' anticipated transition to a new role upon graduation. Thus, motivation to learn about the consumption habits of aspirational others is particularly acute.

The lifestyle descriptions and associated groups of products (constellation elements) were chosen on the basis of prior empirical results. This prior research utilized Claritas Corporation's PRIZM segmentation system and identified lifestyle groups that represent aspirational and avoidance groups for our subject population (the calibration procedure is described in

Englis and Solomon 1995). That is, the lifestyle descriptions used in this study were identified and verified as aspirational versus avoidance in a previous study using the same subject population.

The previous research identified elements of the consumption constellation associated with both the aspirational and avoidance groups for several product categories. Among other findings, it suggested that the aspirational consumption constellation consists of a greater number of items than does the avoidance consumption constellation. Although this previous work focused on group-level measures (e.g., frequency of product mention), the findings make plausible certain assumptions regarding underlying cognitive structures and processes at an individual level.

We presume that the cognitive representations of meaningful lifestyle categories are organized as associative networks in memory. The structure of these associative networks should be revealed in a more sensitive, individual-level measure available through a reaction time paradigm. Therefore, we used a modified lexical priming method in which a lifestyle category description was used as the elicitation cue to activate the construct (either an aspirational or avoidance elicitation cue). Following the elicitation cue, respondents were presented with a product name (stimulus) and asked to decide whether the product belonged to the lifestyle category described by the elicitation cue. Response latencies in making this judgment were used as the primary dependent variable.

Given the exploratory nature of the present study, we propose three processing alternatives to shed light on whether consumption constellations exist as associative networks in memory, with each alternative building on different assumptions of how this information might be structured. Possible outcomes are outlined in Table 1. Note that each of these processing alternatives leads to a different pattern of results, which would support different assumptions about the structure of product and lifestyle information in memory.

Processing Alternative #1—Main Effect for Elicitation Cue

In general, some models of associative networks (Anderson and Bower 1972, 1974; Collins and Loftus 1975) predict response latencies on the basis of the set size of the activated construct. That is, the fewer the number of items in a network, the more quickly a subject can search that network and decide whether a given item belongs to it. In this study, if set size is the sole predictor of response latencies, we would expect faster reaction times when respondents make

Table 1
Reaction Time Patterns Implied by the Three Processing Alternatives

	Stimulus Category	
	<i>Aspirational Brand Stimuli</i>	<i>Avoidance Brand Stimuli</i>
Processing Alternative #1—Main Effect for Elicitation Cue		
Aspirational lifestyle elicitation cue	Slow (Yes)	Slow (No)
Avoidance lifestyle elicitation cue	Fast (No)	Fast (Yes)
Processing Alternative #2—Interaction Between Elicitation Cue and Stimulus		
Aspirational lifestyle elicitation cue	Fast (Yes)	Slow (No)
Avoidance lifestyle elicitation cue	Slow (No)	Fast (Yes)
Processing Alternative #3—Main Effect for Stimulus		
Aspirational lifestyle elicitation cue	Fast (Yes)	Slow (No)
Avoidance lifestyle elicitation cue	Fast (No)	Slow (Yes)

Note. Correct responses appear in parentheses.

a judgment regarding the avoidance group compared with the aspirational group, because prior research has indicated that the avoidance constellation is made up of fewer items than is the aspirational constellation (Englis and Solomon 1995). This would suggest a main effect for elicitation cue, such that reaction times to any stimulus would be faster after being exposed to the avoidance elicitation cue than after being exposed to the aspirational elicitation cue, regardless of whether the stimulus (product) belongs to the category described by the elicitation cue.

Processing Alternative #2—Interaction Between Elicitation Cue and Stimulus

Alternatively, if aspirational and avoidance consumption constellations are structured as distinct associative networks in memory, we might expect each to be activated by the presentation of constellation-congruent items. Such activation of a given constellation should spread to all items within the constellation. Thus, response times for construct-congruent items would be faster than for construct-incongruent items. In other words, latencies to respond to aspirational (avoidance) group stimuli would be faster following presentation of the aspirational (avoidance) elicitation cue than following presentation of the avoidance (aspirational) elicitation cue.

However, there exists an inherent confound in this pattern—"yes" responses tend to be made more quickly than "no" responses. That is, responses to construct-congruent information might be faster simply because the correct answer is "yes" rather than "no" (Fazio 1990). Thus, though it is tempting to compare yes (congruent)

responses to no (incongruent) responses within a particular consumption-constellation cue (e.g., matches versus nonmatches), this is difficult. Carpenter and Just (1975, 1976) have demonstrated that affirmations are formed more quickly than negations. The nature of negations has not yet been resolved in the social cognition literature. Some argue that a person can comprehend a false statement without believing it to be true (a Cartesian argument), whereas others argue that two distinct steps are involved (a Spinozan argument). In the latter case, comprehension includes belief of the false statement (however momentarily), with disbelief following as a separate process (see Gilbert, Tafarodi and Malone 1993 for empirical evidence of this two-step process). It is thus difficult to eliminate alternative explanations for differential reaction times for yes versus no responses in this study.

Nevertheless, evidence of an interaction between elicitation cue and stimulus would be suggestive of a construct congruence effect. Moreover, the assumptions underlying Processing Alternative #2 would lead to the expectation that congruent elicitation cue/stimulus pairs would yield equivalent results, irrespective of the specific lifestyle category being cued. Thus, congruent elicitation cue/stimulus pairs should show equally fast latencies and incongruent elicitation cue/stimulus pairs should show equally slow latencies.

Processing Alternative #3—Main Effect for Stimulus

Alternatively, if relevance to possible future selves is a primary factor in determining the accessibility of

information stored in an associative network, then aspirational and avoidance categories may not yield equivalent results. As mentioned previously, several studies on how self-concepts are formed and utilized in decision making suggest that people tend to rehearse idealized selves (Higgins 1987; Markus and Nurius 1986) and therefore that information associated with an idealized (or aspirational) self should be overlearned. It seems highly likely, then, that brands that belong to the appropriate aspirational consumption constellation would also be more likely to be rehearsed. Therefore, a greater number of links may be formed among them and between them and related information.

This would suggest a couple of outcomes. One is that aspirational elicitation cues will activate stimuli in their constellation (aspirational brands) more than avoidance cues will activate stimuli in their constellation (avoidance brands). This would lead to faster response times for construct-congruent aspirational versus construct-congruent avoidance brands. Another possibility is that the aspirational brands (compared with avoidance brands) will have more associative links in memory with other information as well. If people are more likely to focus on and rehearse what they do aspire to own rather than what they do not, there would be more opportunities to form links in memory between these highly rehearsed brands and any other information that is salient at the time, including other lifestyle categories. Thus, people may be faster at correctly responding either yes or no when asked whether a BMW, for example, belongs within a given lifestyle. In summary, compared with the case for avoidance brands, both greater interconnectedness among aspirational brands in memory and more connections between aspirational brands and other nonaspirational information are possible. These patterns would reflect the greater attention and thought that people presumably devote to brands that relate to desired self-concepts. This would suggest a main effect for stimulus, such that aspirational stimuli should yield faster response times than avoidance stimuli.

Method

The content and descriptions of aspirational and avoidance group consumption constellations were from a previous study (Englis and Solomon 1995) in which aspirational and avoidance lifestyles were identified for the same subject population as used in the present research (business students enrolled in the same course at the same university). The elicitation cues described groups of individuals on the basis of the

types of products and services they would be likely to consume (see Appendix A). The target stimuli (product names) also were selected on the basis of Englis and Solomon's (1995) findings (see Appendix B). Two criteria were used in selecting stimuli: (1) the product was among the most frequently mentioned in response to the elicitation cue and (2) the product was mentioned only in response to one of the elicitation cues (i.e., products appearing in more than one consumption constellation were not used).

Eighty-three students participated in an experimental setting using a microcomputer laboratory. Participants received detailed instructions regarding the presentation of stimuli (specific products and/or brands) and the collection of their responses. In addition, participants proceeded through several practice sessions to ensure familiarity and comfort with the task, in keeping with established methodology (Fazio 1990).

After these practice trials, participants were presented with an elicitation cue designed to make salient a particular lifestyle category. Two types of elicitation cues were used: an aspirational lifestyle description and an avoidance lifestyle description (see Appendix A). The full model of the research design included three within-subjects factors: elicitation cue (aspirational lifestyle versus avoidance lifestyle descriptions), stimulus category (aspirational versus avoidance products) and trial (eight products in each stimulus category). All elicitation cue (2) by stimulus category (2) by trial (8) combinations were presented to each respondent, for a total of 32 target trials. These trials were presented in one of two random sequences. (Note that internal analyses of the two orders used in the study revealed no interactions or main effects involving order on any of the dependent variables.)

Responses to the stimuli were in the form of a yes/no judgment about whether a particular stimulus was associated with the cued lifestyle. Both the actual response and the response latency (measured in milliseconds) were recorded. After the initial elicitation cue/stimulus pair, the process repeated, with participants being presented with another elicitation cue followed by another stimulus and so on until they had completed all trials.

Finally, as a manipulation check, participants were asked to fill out a questionnaire that assessed their beliefs about the same lifestyle categories in a nontimed task. Participants were provided with the lifestyle descriptions used as elicitation cues in the reaction time task and were asked to indicate the percentage of people of that lifestyle who would be likely to purchase each of the stimulus products. That is, they were presented with a lifestyle description

Table 2
Manipulation Check

Lifestyle Description	Percentages of Individuals in Each Lifestyle Category Likely to Purchase Items	
	Aspirational Stimuli	Avoidance Stimuli
Aspirational description	64% ^a	27% ^b
Avoidance description	16% ^b	63% ^a

Note Percentages with different superscripts differ significantly ($p < .001$)

and then asked to put a number between 0% and 100% next to each stimulus product, indicating how likely the individuals of that lifestyle would be to purchase each product. They performed this task for both the aspirational and the avoidance lifestyle.

In addition, participants were asked to indicate agreement with the statement "I would like to be like these people" for each lifestyle description on a seven-point scale (seven being the most positive attitude). Participants also were asked to indicate agreement with the statement "I would NOT like to be like these people" for each lifestyle description (also on a seven-point scale, seven being the most negative attitude).

Results

Manipulation Checks

First, for the aspirational lifestyle description, participants indicated moderate agreement with the statement "I would like to be like these people" ($M=4.79$). For the avoidance lifestyle description, participants indicated agreement with the statement "I would NOT like to be like these people" ($M=5.82$). This suggests that participants' attitudes toward the two descriptions were as expected.

Second, the manipulation of elicitation cue and stimulus congruence was effective, as reflected in a significant two-way interaction between elicitation cue and stimulus category ($F(1,80)=467.24; p < .001$). As shown in Table 2, higher percentages for likelihood of purchase were assigned to elicitation cue/stimulus matches than to nonmatches (collapsed across all products). This suggests, as expected, that participants in this study possess shared knowledge pertaining to these consumption constellations and moreover that they were equally knowledgeable regarding both constellations. It should be noted also that on-line responses (response latencies) supported this finding, in that more than 80% of responses were

as expected (i.e., yes responses for construct-congruent stimuli, no responses for construct-incongruent stimuli). However, these responses provide no insight into the accessibility of this knowledge or how such knowledge might be structured in memory. For this, we examined the response latency data.

Response Latencies

As suggested by Fazio (1990), residuals of all response latencies were computed to normalize the data. Recall that each of the processing alternatives suggests a different pattern of results. The mean response times are shown in Table 3.

Response latencies were faster for aspirational stimuli ($M=1394$) than for avoidance stimuli ($M=1569$; $F(1,80)=18.40; p < .001$). For aspirational compared with avoidance stimuli, participants were faster to respond with the appropriate "yes" ($1318 < 1537$) and the appropriate "no" ($1469 < 1601$), depending on which elicitation cue was presented. There was no main effect for elicitation cue, which indicates that differences in the set sizes of the constellations did not influence response times, as was suggested by Processing Alternative #1.

The interaction between elicitation cue and stimulus category was significant ($F(1,80)=9.91; p < .005$). Recall that there were four types of elicitation cue/stimulus category pairs: (1) aspirational/aspirational, (2) aspirational/avoidance, (3) avoidance/aspirational and (4) avoidance/avoidance. The first and last of these can be considered "matched" pairs and the other two as "nonmatched" pairs. Processing Alternative #2 suggests that construct congruence might be an important determinant of speed of response. If this were true, we would expect matched pairs to exhibit faster response times than nonmatched pairs. Although this relation held true for the aspirational elicitation cue, there was no difference in speed of response for the avoidance elicitation cue. As noted previously, this particular set

Table 3
Mean Response Latencies

Lifestyle Description	Stimulus Category	
	Aspirational Stimuli	Avoidance Stimuli
Aspirational description	1318 ^a	1601 ^b
Avoidance description	1469 ^c	1537 ^{bc}

Note: Means with different superscripts differ significantly ($p < .05$). Lower numbers (in milliseconds) indicate faster reaction times.

of comparisons is problematic because of a confound with type of response (yes responses possibly being inherently faster than no responses). In any case, construct-congruent (yes) responses were not consistently faster than construct-incongruent (no) responses.

In summary, the pattern associated with set size of the avoidance constellation, suggested by Processing Alternative #1, did not emerge. Similarly, the pattern anticipated by Processing Alternative #2 did not emerge, as there was no consistent effect of construct congruence on response times. The pattern instead appeared consistent with the assumptions of Processing Alternative #3. Faster response times were observed for construct-congruent aspirational stimuli versus avoidance stimuli. Moreover, responses were faster for construct-incongruent responses as well. These findings suggest both a greater interconnectedness among aspirational brands in memory and more connections between aspirational brands and other nonaspirational information.

Prototypicality of Stimuli

Further analyses at the individual stimulus level were conducted to examine a possible alternative explanation for our pattern of results—the prototypicality of each stimulus to aspirational versus avoidance lifestyles. Table 4 lists the individual products in order of their prototypicality ratings from this study, along with response latencies. As Table 4 shows, there is no relation between these subjects' perceptions of stimuli prototypicality and the corresponding response latencies. That is, as prototypicality decreases, reaction times do not consistently become slower. More important, however, products for both lifestyles are perceived as similarly prototypical by these subjects. Thus, the differences in response latencies must be attributable to another factor, namely, the strength of association in memory.

Discussion

These exploratory findings suggest that consumption constellations exist in the form of associative

networks in memory, each possessing unique properties. Aspirational stimuli yielded faster responses than avoidance stimuli, particularly after presentation of the aspirational elicitation cue. These reaction time patterns may reflect a greater interconnectedness among aspirational brands in memory and more connections between aspirational brands and other nonaspirational information. The results suggest that the aspirational constellation is better formed than the avoidance constellation. Moreover, these findings point to the possibility that relevance to a desired self-concept is an important factor in determining how readily product information is identified and responded to. That is, consumers may be particularly well attuned to information about their current lifestyle aspirations.

If consumption constellations are prevalent as modes of cognitive organization for consumers, marketers and advertisers should strive to provide media representations of desirable lifestyles with content consonant with consumers' knowledge. Consumption constellations may provide a useful tool for analyzing and understanding product meaning and brand identity. Definition of a brand's identity should go beyond simple mapping of a target product with regard to competitors and instead should be framed in terms of a relevant consumption constellation and its meaning to consumers. One arena in which brand identity is communicated is advertising. Our findings suggest that the creative framing of messages may be better informed by more systematic attempts to identify and include important constellation elements in the strategic planning behind marketing communications. Note, however, that alternative strategies exist, in which incongruent information might lead to greater levels of cognitive processing. We do not intend to argue that marketers should always use congruent information, only that if use of congruent information is the goal, marketers should systematically investigate which items are most accessible and most strongly linked with the desired consumption constellation.

For example, advertising often creates an environment in which a focal product is shown as a natural and neces-

Table 4
Stimulus Prototypicality Versus Response Latencies

<i>Stimulus Prototypicality (from current study) Aspirational Stimuli</i>	<i>Response Latencies</i>	
	<i>Congruent with Description</i>	<i>Incongruent with Description</i>
Obsession cologne (43%)	1466	1913
BMWs (42%)	1382	1362
Travel magazines (40%)	1420	1830
Polo cologne (38%)	1301	1451
Expensive wines (38%)	1262	1398
Vogue magazine (37%)	1392	1393
Heineken beer (36%)	1539	1563
Mercedes (36%)	1386	1623
<i>Avoidance Stimuli</i>		
Ford Broncos (45%)	1648	1842
Wrestling magazine (44%)	1616	1206
Mennen Speed Stick (39%)	1835	2205
Fishing magazines (37%)	1467	1574
Right Guard (36%)	2087	1889
Jack Daniels bourbon (36%)	1648	1988
Pick-up trucks (33%)	1269	1354
Busch beer (29%)	1495	1780

Note: Percentages were provided by participants in the current study in the pen-and-paper questionnaire used as a manipulation check.

sary element. Because the context of an advertisement plays such a vital role in the creation of meaning, marketers are wise to acknowledge the role of the physical and social environment depicted in determining perception of the focal product. Because consumption constellations are social category prototypes, a setting that contains some elements of a constellation should facilitate retrieval of the category as a whole, particularly for aspirational consumption constellations. Our findings suggest that consumers can process aspirational product or brand information more rapidly and therefore, advertising containing relevant information regarding aspirational products or brands should be more easily and accurately comprehended.

Although more research is necessary on the properties of consumption constellations as associative networks in memory, this study provides a better understanding of the relation between social categories and consumers' perceptions of the complementary products associated with those categories. Among other things, an awareness of these relationships should enable more effective set design in print and television advertising. For example, encoding and retrieval of ad messages might be facilitated when the

set includes products from a consumption constellation associated with the aspirational lifestyle positioning of the target product. To the extent that this work suggests the possibility that groupings of complementary aspirational products might be particularly effective when placed together in a single advertisement as a form of collaborative advertising strategy, it also suggests that additional research explore the particular parameters that underlie more or less effective groupings. Anecdotal evidence suggests that collaborative advertising is a little used but potentially powerful tool (Magrath 1991). A consumption constellation framework may provide a useful tool for an empirical (as compared with intuitive or correlational) basis of identifying the best fitting sets of products to use in collaborative advertising strategies. Thus, investigating response latencies associated with various products should lead to more effective pairings.

Finally, by shedding light on the structural properties of the consumption constellations associated with different social reference groups, we may gain insight into more effective uses of product placement. Effective product placement relies on the association of the char-

acters depicted in movies and television with appropriate groups of products. Our work suggests that, if the props (costumes, settings and other products) and other cues to the lifestyle of the character effectively draw from the appropriate consumption constellation (complementary aspirational products for the target audience), then even fleeting glimpses of a placed product or brand may be discerned and responded to by the viewer.

It is important to keep in mind that we used product information from Claritas Corporation's PRIZM database, one of the most widely used segmentation research tools in the industry. Therefore, the specific database already is being employed by advertisers in strategic decision making, including product placement, collaborative advertising and advertising design. Considering this widespread usage, it is imperative that we gain a better understanding of how consumers might organize such product information in memory, because they make up the very audience for advertiser output. We argue that, when concepts involving complementary products are used, whether based on intuition or correlational data, what is missing from current practice is any knowledge of the strength with which such product associations are held in consumers' memory structures. Furthermore, we argue that response latency methodology is the best way to determine the strength of such linkages and can add important insights to the tools that marketers employ to make decisions regarding product associations.

This study is a first step in investigating the nature of consumption constellations with respect to their existence as associative networks in memory. More work is needed to understand how these associative networks are structured and how they influence processing and comprehension of a wide range of communications. We encourage additional research in this area to add to our knowledge of the structure of these constellations and how they may facilitate or impede the processing of advertising and other persuasive messages.

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Appendix A Elicitation Cues

Aspirational Description

These people are especially LIKELY to use travel/entertainment cards, drink aperitifs, listen to classical music and have valid passports. They are especially LIKELY to eat natural cold cereals and whole-wheat bread. They are especially LIKELY to watch "At the Movies" and "Murder, She Wrote."

Avoidance Description

These people are especially LIKELY to own salt-water fishing rods, watch pro wrestling, eat at cafeterias and listen to gospel music. They are especially LIKELY to eat canned meat spreads and packaged instant potatoes. They are especially LIKELY to watch "Scrabble" and "The Today Show."

Appendix B Stimuli

Aspirational Products

BMW's
Mercedes-Benz
Heineken beer
Expensive wines
Polo cologne
Obsession cologne
Vogue magazine
Travel magazines

Avoidance Products

Pick-up trucks
Ford Broncos
Jack Daniels bourbon
Busch beer
Mennen Speed Stick
Right Guard
Wrestling magazine
Fishing magazines