The Role of Taxonomic and Goal-Derived Product Categorization in, within, and across Category Judgments

E. Marla Felcher  
Cambridge, MA  
Prashant Malaviya  
INSEAD  
Ann L. McGill  
University of Chicago

ABSTRACT

Consumers can face two types of judgment and choice situations: They may be considering products that are classified in a single product category, or products that may belong to several different product categories. This article compares these within- and across-category judgments on the basis of the distinction between taxonomic and goal-derived categorization. The first study examines how products that belong to taxonomic and goal-derived categories are represented in memory. The findings support the view that taxonomic categories differ from goal-derived categories in terms of the ease with which the features shared between members of the category are accessible and the type of features that are used to represent the members. In turn, these differences influence consumer beliefs, judgments, and choice sets when consumers make within- and across-category product comparisons. A second study examines how consumers’ familiarity with consumption situations influences the construction of choice sets. Results indicate that as
familiarity with consumption situations increases, consumers construct more narrowly defined, within-category choice sets, whereas in less-familiar situations consumers construct broader, across-category choice sets. The implication of these findings on marketing action is discussed. © 2001 John Wiley & Sons, Inc.

The ways that consumers categorize products has significance for many issues in consumer behavior. Categorization processes have been found to facilitate the comprehension and assimilation of product information (Park, Milberg, & Lawson, 1991; Sujan & Bettman, 1989; Sujan & Dekleva, 1987), to influence product judgments (Meyers-Levy & Tybout, 1989), to determine the formation of consideration sets (Nedungadi, 1990), and ultimately, to influence choice among considered products (Lynch, Marmorstein, & Weigold, 1988). Consumers commonly choose between alternatives that belong to the same product category. Such within-category choice proceeds by comparing alternatives that belong to the same product category and then selecting the preferred alternative (Lynch et al., 1988; Nedungadi, 1990).

In contrast to within-category choice, consumers may also consider products that seemingly belong to different categories (Bettman & Sujan, 1987; Johnson, 1984, 1986, 1988, 1989; Park & Smith, 1989). For example, consumers may choose between cereal and fast food breakfast sandwiches as alternatives for breakfast or they may decide between a new high-definition television set and a vacation to France as alternative ways to spend savings. It is generally assumed that such across-category consideration proceeds differently than within-category consideration because televisions and vacations, or cereal and sandwiches, share few physical features (Johnson, 1984). Because they are unable to directly compare these options on concrete features, consumers focus on more abstract benefits that the alternatives may share (Bettman & Sujan, 1987; Johnson, 1984, 1986, 1988, 1989; Park & Smith, 1989).

The present research extends this analysis by examining the influence of the context in which alternatives are encountered on the comparison process. A central premise of this research is that the context influences the mental representation of choice options by making salient particular attributes and attribute relationships that the alternatives share (Barsalou, 1983, 1985, 1992; Gentner, 1983; Gentner & Clement, 1988; Goldstone, Medin, & Gentner, 1991; Medin, Goldstone, & Gentner, 1993). To the extent similarity among alternatives guides their comparison, changes in how alternatives are represented may change the outcome of the comparison process.

A second premise of this research is that consumption settings typically provide the context within which alternatives are considered, and these settings influence how consumers compare and choose between alternatives. This observation is consistent with prior research, which
has demonstrated that situational factors have a significant influence on choice (Belk, 1974, 1975; Miller & Gintner, 1979; Srivastava, Alpert, & Shocker, 1984). It is also consistent with research in psychology that similarity, and consequently, object comparability, are not fixed characteristics, but are context dependent (Medin et al., 1993).

The next section develops these ideas and presents the theoretical basis of the analysis. Following this discussion, two studies are presented that test the hypotheses. The first study examines how consumers represent choice alternatives in memory and how information about the category context influences this representation. Thus, this study extends research in cognitive psychology on object categorization and memory structure (e.g., Barsalou, 1983, 1992) to a consumption setting. Further, this study examines categorization effects on dependent measures that are likely to be of particular relevance to marketers, such as the ability to generate additional alternatives in a category (Hutchinson, Raman, & Mantrala, 1994) and the product attributes used to represent alternatives in specific choice contexts (Johnson, 1984). Finally, this study examines the basis of similarity judgments, testing the hypothesis that in addition to the number of common features, the type of common features evoked by the context influences perceived similarity (cf. Tversky, 1977). The second study extends these findings by examining the influence of familiarity with consumption situations on the construction of choice sets, and the extent to which these choice sets are made up of alternatives that are from the same or from different product categories. The article concludes with a discussion of the implication of our findings for both consumer psychology theory and marketing practice.

TAXONOMIC AND GOAL-DERIVED PRODUCT CATEGORIES

The analysis of across-category versus within-category choice consideration is developed around the distinction between taxonomic and goal-derived categories (Barsalou, 1983, 1985, 1992; Ratneshwar and co-authors, 1991, 1996).1 Taxonomic categories such as dogs and birds are formed on the basis of naturally occurring relationships between objects and their features (Barsalou, 1983; Lassaline, Wisniewski, & Medin, 1993). This article follows the convention of the categorization literature in distinguishing between taxonomic categories and goal-derived categories (e.g., Barsalou, 1985, 1992; Alba and Hutchinson, 1987) raise the possibility of a further distinction between types of goal-derived categories, which vary with the frequency with which these categories are encountered. Specifically, Alba and Hutchinson suggest the terms “ad hoc goal-derived” for less frequently encountered categories and “taxonomic goal-derived” for more frequently encountered categories. This finer distinction between types of goal-derived categories is ignored in this research because it is not central to the hypotheses.
1992; Rosch and co-workers, 1975, 1978). For example, given that a dog possesses the physical attribute has four legs, it is highly probable that it also possesses the physical attribute has a tail. Members of the taxonomic category dogs share many such physical features, but they share fewer features with members of other taxonomic categories such as birds.

Consumer goods can similarly be organized by physical features. Research suggests that consumers use taxonomic categories such as beverages, cameras, and automobiles, in which products share many physical features, to organize information about alternatives in their environment (Bettman & Sujan, 1987; Meyers-Levy & Tybout, 1989; Sujan & Dekleva, 1987). In addition, consumer goods manufacturers, retailers, and market researchers frequently measure market share in terms of taxonomic categories (Cooper & Nakanishi, 1993; Information Resources Inc. [IRI], 1989). In this way, Grape Nuts and Cheerios compete for share in the ready-to-eat cereal category, whereas other breakfast alternatives, such as Sara Lee muffins and Entenmann’s croissants, are treated as competing for share in other product categories.

Although taxonomic categories are useful in many circumstances for organizing information about alternatives, in other consumption situations goal-derived categories may be more useful for comparing goods and services (Barsalou, 1983; Ratneshwar et al., 1996). Although members of goal-derived categories may have some physical attributes in common, these categories are created primarily with respect to the fulfillment of goals, for example, getting something quick and easy to eat before going to work. Hence, consumers may treat a bowl of Cheerios and a McDonald’s Egg McMuffin, products that presumably belong to different taxonomic categories, as members of the same goal-derived category because they relate to a common consumption goal.

It is important to note that the distinction between taxonomic and goal-derived product categories is not always clear-cut. For one thing, in many situations, taxonomic categories adequately reflect consumers’ goals. Further, some marketers do recognize that products from different taxonomic categories may compete to fulfill consumer goals and have developed measures to reflect this competition. For example, fast-food producers use a share-of-stomach measure to compare how well foods from restaurants and grocery stores compete for the dollars spent on meals and snacks, and bankers use a share-of-wallet measure to compare how well financial instruments of different types such as mutual funds and life insurance compete for customers’ investment business. These goal-derived share measures are, however, less frequently reported than taxonomic share measures (Cooper & Nakanishi, 1993; IRI, 1989).

In spite of these observations, the present research characterizes within-category choice as reflecting consumers’ use of taxonomic categories and across-category choice as reflecting the use of goal-derived

---

868 Felixer et al.
Although this characterization is extreme, it permits a theoretically based analysis of within- and across-category judgments that is informed by prior work on differences in how people think about taxonomic and goal-derived categories. Further, this characterization is consistent with beliefs about the relative frequency with which the two types of categories are instantiated when consumers make choices, and it is consistent with how marketers typically measure relative brand performance (Cooper & Nakanishi, 1993; IRI, 1989). The two studies presented next examine how consumers process information about alternatives in these product categories and how contextual factors influence the construction of choice sets in each type of category.

STUDY 1

Representation of Taxonomic and Goal-Derived Categories

This study examines how the mental representations of taxonomic and goal-derived product categories influence consumer judgments of similarity. As a starting point, consider how people determine membership of an object in any category. Prevailing theories of categorization hold that judgments of similarity of the object to a category determine membership in that category: The more similar an item is judged to be to a typical member of that category, the greater is the likelihood it will be perceived as being a member of that category (Markman & Gentner, 1993a, 1993b; Medin and co-workers, 1978, 1993). Similarity judgments, in turn, are based on the number of common versus distinctive features embodied by the two items; similarity increases as the number of common features increases and as the number of distinctive features decreases (Tversky, 1977).

Taxonomic and goal-derived categories differ in the ease with which common features, either physical or abstract ones, are likely to be accessible (Barsalou, 1983, 1985, 1992). The features that members of a taxonomic category share tend to be relatively well defined and stable across people and situations. These features appear to be context independent in that they are accessed whenever people think of the object, irrespective of the context in which the object occurs (Barsalou, 1982). By contrast, products that may be related by a consumption goal, but belong to different taxonomic categories, share features that are context dependent in that the shared features become salient only when the objects are considered in the relevant consumption context (Barsalou, 1982, 1992).

It follows from these observations that members of taxonomic product categories (e.g., category: fruits; members: grapefruit and orange) are likely to be perceived as being similar independent of the context in which they are considered. By contrast, members of goal-derived cate-
categories (e.g., category: food at a picnic; members: peanut butter sandwich and fried chicken) are more likely to be perceived as being similar when the unifying consumption context is specified (e.g., a picnic). Presumably, the context would instantiate the features shared by these products, such as "conveniently portable" and "kids like them," thereby increasing their perceived similarity (Markman & Gentner, 1993a, 1993b). This hypothesis is tested by varying the presence or absence of a product category label as a way of manipulating the context in which people consider these product alternatives. The following effect is predicted.

**H1:** Similarity judgments of products that belong to goal-derived categories will be enhanced to a greater extent by the presence of a category context than will the similarity judgment of products from taxonomic categories.

Although one distinction between taxonomic and goal-derived categories is whether the features common between members of that category are context independent or context dependent, another distinction between the two categories is the type of features that category members share. Recent research distinguishes between two types of shared features, relational and attributional (Gentner & Clement, 1988; Goldstone et al., 1991; Medin et al., 1993). Attributional features refer to a property of the object itself, whereas relational features refer to a relationship the object might have with other objects. For instance, with respect to the stimuli used in the current study, consider these commonalities between green beans and broccoli. A commonality such as "both are green" is attributional in that it refers to a property of the vegetables, namely, color. By contrast, the (hypothetical) commonality "children hate them both" refers to the relationship between the vegetables and children, and is therefore considered relational in nature. Consistent with previous theorizing, products that belong to a goal-derived category are likely to be perceived as sharing more relational features than attributional ones, whereas taxonomic products would be perceived as sharing fewer relational than attributional features (Goldstone et al., 1991; Markman & Gentner, 1993a, 1993b). To isolate the effect of type of common features from the effect of the number of common features, the ratio of relational to attributional commonalities is examined. Hence, the prediction is as follows.

**H2:** The ratio of relational commonalities to attributional commonalities will be greater for goal-derived products than for taxonomic products.

The type of common features identified for taxonomic and goal-derived products would also be influenced by the presence of a category context. Following research by Gentner and Markman (1993a, 1993b),
the presence of a category context should facilitate the generation of relational commonalities compared to attributional commonalities. This is because relational commonalities, which reflect the relationship between objects and their environment, are better understood in context, whereas attributional commonalities, which reflect physical and self-contained features of the objects, are not as sensitive to the context. These observations suggest the following prediction.

**H3:** The ratio of relational commonalities to attributional commonalities will be greater in the presence of a category context, than in its absence.

This study also examines the possibility that judgments of similarity would be mediated by the type of common features listed, independently of the effect that the number of common features have been found to have on similarity judgments (Tversky, 1977). Specifically, growing research suggests that relational features have a greater impact on similarity judgments than do attributional features, because they tend to be more salient and are perceived to be more diagnostic and relevant for judging similarity (Gentner & Clement, 1988). Hence, the prediction is as follows.

**H4:** Perceived similarity of alternatives increases as the ratio of relational to attributional commonalities increases.

**Consumers’ Generation of Choice Alternatives**

The possibility that features common to members of goal-derived categories are accessed only when the relevant category context is salient has implications for other consumer responses. Consider a situation in which consumers observe two products that they perceive belong to the same category, and wish to retrieve an additional member of that category. Such a situation may arise in retail settings in which only a subset of products are available from a category or in viewing advertisements in which two alternatives from a larger category are compared (Lynch et al., 1988), and consumers may wish to retrieve other members of the category in order to consider a full range of options. If the two products are members of a taxonomic category, people should have little difficulty in suggesting another product from that category because the features that the products share would be quite evident and generating an additional member of that category would be a straightforward task. By contrast, the task of generating an additional exemplar would be more difficult if the two products were perceived to be members of a goal-derived category, because the features that form the basis for categorizing the products into such a category would be less obvious. Moreover, this task would be even more difficult in the absence of the unifying
category context because the two products are likely to appear unrelated. Consequently, an additional exemplar of a goal-derived category is more likely to be generated when the consumption context makes salient the common category goal. These observations suggest the following hypothesis.

**H5:** The generation of an additional exemplar for products that belong to a goal-derived category will be facilitated to a greater extent by the presence of the category context, than will the generation of an additional exemplar for products belonging to taxonomic categories.

In summary, based on extant literature, two distinctions are suggested between the mental representations of products that are classified into taxonomic versus goal-derived categories. Products from taxonomic categories share features that are spontaneously accessed, without the prompt of a category context, whereas products from goal-derived categories share features that become accessible when the category context is made evident. Further, the features that members of taxonomic categories share tend to be primarily attributional, whereas members of goal-derived categories are more likely to share relational features. These distinctions between taxonomic and goal-derived product categories are expected to produce a unique pattern of outcomes on several measures, including similarity judgments, type of features listed, and listing of additional exemplars from the category. A study to test these predictions follows.

**Method**

**Respondents.** Respondents were 64 female administrative staff at a private midwestern university. No faculty or students were included. Their ages ranged from 23 to 61 years, and job titles included a wide range of occupations, including secretary, administrative assistant, librarian, accounts payable clerk, and computer programmer. Respondents were paid $5 for their participation, and their names were entered into a lottery for a chance to win additional prizes.

**Stimulus Material.** The focal stimuli were 24 product pairs presented to respondents in a booklet (see Appendix 1). All of the 24 product pairs were from categories pertaining to consumption items. Twelve of the product pairs were members of taxonomic categories (e.g., fruit: apple—orange), and the remaining 12 product pairs were members of goal-
derived categories (e.g., things to eat as an indulgence: ice cream–Big Mac).²

All respondents saw the entire set of 24 taxonomic and goal-derived product pairs. Half the respondents were presented the product pairs with the associated product category context, and the other half received the product pairs without the category context. Thus, the study used a mixed-factorial design with Category Type (taxonomic or goal-derived) a within-subjects factor, and Category Context (present or absent) a between-subjects factor.

Procedure. Respondents were tested in groups ranging from two to eight. Each respondent was given a prearranged test booklet, corresponding to her randomly assigned experimental condition. Respondents first read instructions informing them that they would be responding to a survey on everyday consumption items. The instructions asked them to answer the questions in the order that they were presented, and not to go back and forth through the booklet. These instructions were followed by several written tasks in the booklet. Respondents were paced through these tasks together. Each task was preceded by a set of instructions and an example illustrating how the task was to be completed. Respondents were told that if they completed a task before the rest of the group, they were to wait for further instructions. When they finished the final task, respondents turned in their booklet to the experimenter, and were debriefed and paid for their participation.

Respondents completed the following tasks. They first rated the similarity of the 24 product pairs on a 7-point Likert-like scale. Following this, respondents completed either an attribute listing task or an exemplar-listing task. In the attribute-listing task, respondents were asked to list all the shared features they could think of between the two products for each of the 24 product pairs. In the exemplar-listing task, respondents were provided each product pair and asked to list an additional product that was similar to the two products.

Results

The various measures were analyzed with the use of a repeated-measures ANOVA on Category Context (present or absent) as a between-subjects factor, and Category Type (taxonomic or goal-derived) as a within-subjects factor. Results for each task are reported separately.

²Seven of the 12 taxonomic product pairs and their associated category contexts were adapted from materials previously used by Barsalou (1983, 1985), whereas the remaining five taxonomic pairs were typical retailer- and manufacturer-defined categories taken from a document listing, by category, all items carried by Safeway. Of the 12 goal-derived product pairs, two pairs were used previously by Barsalou (1982, 1985), and 10 pairs were developed by the experimenters.
Table 1. Results of Study 1.

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Taxonomic Categories</th>
<th>Goal-Derived Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Context</td>
<td>Context Present</td>
</tr>
<tr>
<td>Similarity judgment</td>
<td>Mean 5.28</td>
<td>5.20</td>
</tr>
<tr>
<td></td>
<td>N 32</td>
<td>32</td>
</tr>
<tr>
<td>No. of common features</td>
<td>Mean 3.41</td>
<td>3.21</td>
</tr>
<tr>
<td></td>
<td>N 14</td>
<td>15</td>
</tr>
<tr>
<td>Ratio of relational to attributional features</td>
<td>Mean 0.71</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>N 14</td>
<td>15</td>
</tr>
<tr>
<td>Typicality of third example</td>
<td>Mean 3.93</td>
<td>4.14</td>
</tr>
<tr>
<td></td>
<td>N 17</td>
<td>15</td>
</tr>
</tbody>
</table>

Treatment means and cell sizes for all measures are reported in Table 1.

**Similarity Judgment.** Respondents were asked to judge the similarity between pairs of products that were from a taxonomic or a goal-derived category, in the presence or absence of a category context. Not surprisingly, a main effect of category type was observed such that taxonomically related product pairs were judged to be more similar (Mean = 5.24) than goal-derived category product pairs (Mean = 3.64; F(1,60) = 138.45, p < .0001). More interestingly, as expected (H1), this main effect was qualified by an interaction between category type and category context (F(1,60) = 6.85, p < .01). The judged similarity for goal-derived product pairs was greater when a category context was made available (Mean = 3.96) than when such a context was absent (Mean = 3.32; F(1,60) = 10.86, p < .002). By contrast, for taxonomic product pairs, the presence (Mean = 5.20) or absence (Mean = 5.27) of a category context did not affect similarity judgment (F(1,60) < 1). Finally, the main effect of category context was not significant (p > .25).

**Type of Common Features.** Analysis was also conducted on the type of features that members of taxonomic and goal-derived categories were listed as having in common. The ratio of relational features to attributional features was expected to be greater for goal-derived product pairs than for taxonomic product pairs (H2). Further, the presence of a category context was expected to induce the generation of more relational than attributional features (H3).

Two coders, who were unaware of the research hypotheses, judged whether the features listed as common to the product pair were attrib-
butional or relational in nature. Following Gentner and Clement (1988), all shared features listed by each respondent were coded on two 5-point scales by the two raters. One scale assessed the extent to which the listed common feature was attributional in nature, and the second scale assessed the extent to which the same feature was relational in nature. Gentner and Clement (1988) recommend such a procedure because attributionality and relationality are considered to be independent constructs, and not extremes along a single dimension. For each respondent, an average relationality score and an average attributionality score was calculated, and then a ratio of the relationality score to the attributionality score was computed. The ratios computed for the two coders were correlated at 0.72. Analysis was conducted on the average of the ratio for each coder.

The results supported the hypotheses. Consistent with H2, the ratio of relational to attributional features was significantly higher for goal-derived product pairs ($M = 1.36$) than for taxonomic pairs ($M = 0.82$, $F_{1,27} = 184.38, p < .0001$). Further, in support of H3, the ratio of relationality to attributionality was greater when the category context was present ($M = 1.19$) compared to when the context was absent ($M = 0.98$, $F_{1,27} = 5.08, p < .03$). The interaction between category type and category context was not significant ($F < 1$).

**Effect of Type of Common Features on Similarity Judgment.** Analysis was conducted to assess the mediation effect of the type of common features on judgments of similarity. The multiple-regression procedure prescribed by Baron and Kenny (1986, p. 1177) was used for this analysis, with category type (taxonomic or goal-derived) and category context (present or absent) as the two independent variables, the type of common feature listed as the predicted mediators and similarity judgment as the dependent variable. As before, type of common features was measured in terms of the ratio of relationality to attributionality of the shared features. The results are reported in Figure 1.

Following the Baron and Kenny (1986) procedure, in two separate analyses, the mediator (ratio of relationality to attributionality) and the outcome variable (similarity judgment) were regressed on to the two independent variables (category type and category context). These analyses revealed that the independent variables had a significant effect on the ratio of relationality to attributionality, the mediator—category type: $t(55) = 7.47, p < .0001$; category label: $t(55) = 2.97, p < .004$—as well as on similarity judgment, the outcome variable—category type:

---

3The number of common features listed was also analyzed. Results revealed only a main effect for category type ($F_{1,27} = 37.50, p < .0001$), such that respondents listed more common attributes for taxonomic product pairs ($M = 3.18$) than for goal-derived product pairs ($M = 2.57$). The main effect of category context and the interaction between category type and category context were not significant ($F < 1$).
Figure 1. Mediation analysis of similarity judgment. (Note: (a) Category type was a dummy variable with 0 = goal-derived product pair and 1 = taxonomic product pair; (b) Category label was a dummy variable with 0 = label absent and 1 = label present; (c) Type of shared features was the ratio of relationality to attributionality score; and (d) Similarity judgment was a rating on a 7-point Likert-type scale.)

$t(55) = -6.75, p < .0001$; category label: $t(55) = 3.82, p < .0003$. However, these regression analyses are necessary, though not sufficient, to establish mediation. In the final step of the analysis, the outcome variable was regressed on to the mediator along with the independent variables. For mediation to be implicated, “the mediator must affect the dependent variable” (Baron & Kenny, 1986, p. 1177) in this analysis. Consistent with H4, this was found to be the case (effect of ratio of relationality to attributionality on similarity judgment: $t(55) = 2.15, p < .04$). These observations imply that the type of common features that product pairs shared mediated similarity judgments. Specifically, the findings indicate that similarity judgments were more sensitive to relational than attributional features, because product pairs were judged more similar as the ratio of relationality to attributionality increased.

It should be noted that the present analysis revealed partial mediation of similarity judgment by the ratio of relationality and attributionality. That is, although the type of common features listed did significantly mediate similarity judgment, this mediator does not account for all the variance. This is hardly surprising. Other possible mediators exist, for instance, the number of common features listed for each product pair. Analysis conducted with the number of common features as the mediator confirmed that this factor also mediates similarity judgment. However, including the number of common features in the analysis did not account for all the variance. As Baron and Kenny (1986) note, one reason why partial mediation might be observed is measurement error, particularly error in measuring the mediator. Because the procedure reported here involved the assessment of the relationality and attributionality of the common features by independent judges, this could be a likely source of measurement error. Nevertheless, such measurement error should make it more difficult to observe mediation. The fact that mediation is observed in spite of possible measurement error only strengthens the conclusion that the type (and number) of common features mediates similarity judgment.
Exemplar Listing. To extend the analysis, respondents were asked to list an additional product that could be considered a member of the category represented by a particular product pair. Two coders judged this product for “how good an example” it was of the product category on a 5-point scale. The ratings of the two coders revealed a correlation of 0.78. Analysis was done on the average score for the two coders.

The prediction was that the additional product would be judged as a better exemplar of the category when the original products were from a taxonomic category, or when a category context accompanied products from a goal-derived category (H5). The results supported these expectations. A main effect of category type ($F_{1,30} = 28.49, p < .0001$) revealed respondents listed better examples for taxonomic product pairs ($M = 4.03$) than for goal-derived product pairs ($M = 3.55$). In addition, respondents listed better examples in the presence of a category context ($M = 4.11$) than when such a context was not provided ($M = 3.51$; $F_{1,30} = 17.50, p < .0002$). More important, both these main effects were qualified by the interaction between these factors ($F_{1,30} = 19.95, p < .0001$). Contrast analysis revealed that for goal-derived product pairs, respondents listed better examples in the presence of a category context ($M = 4.07$) than when the context was not available ($M = 3.10$; $F_{1,30} = 66.22, p < .0001$). For products sharing a taxonomic relationship, the effect of the presence ($M = 4.14$) or absence ($M = 3.93$) of a category context on the quality of the additional example did not reach significance ($F_{1,60} = 3.32, p > .08$).

Discussion

The results of the study show that the representation of product information for taxonomic and goal-derived categories differs in two important ways. Members of taxonomic categories appear to share features that are context independent, because these features are readily accessible whether or not a relevant category context is available. In contrast, the features that members of a goal-derived category share are context dependent, in that they become apparent only in the presence of the appropriate category context. Further, taxonomic products are more likely to share features that are attributional in nature, whereas products that are members of goal-derived categories share features that are mostly relational. In addition, the presence of a category context increases the salience of relational, rather than attributional, features, for both taxonomic and goal-derived products. The results also show that two products are judged to be more similar as the ratio of relational to attributional features increases, supporting the view that similarity is a function of the type of shared features. Finally, these differences in the representation of taxonomic and goal-derived categories influence similarity judgments and exemplar generation.
STUDY 2

Although the previous study was designed to examine differences in the representation of taxonomic and goal-derived categories, the next study was intended to examine conditions that would promote the use of these different types of categories in the construction of choice sets. Specifically, this study examined how consumers’ familiarity with consumption situations affects whether the choice set they generate includes products that are drawn from one, or a few, taxonomic categories or from across many different categories.

Prior research suggests that consumers differ in their level of familiarity with consumption situations and such situational familiarity affects how consumers construct choice sets (Alba & Hutchinson, 1987; Bettman & Sujan, 1987; Hutchinson et al., 1994). For instance, situational familiarity influences consumers’ ability to generate products that are appropriate for the consumption situation (Hutchinson et al., 1994), and it enables consumers to screen alternatives quickly and to restrict their processing to the more important information (Alba & Hutchinson, 1987; Brucks, 1985; Russo & LeClerc, 1994).

One explanation for these observations could be that situational familiarity influences goal ambiguity. To understand how familiarity, specifically, lack of familiarity with a situation may manifest itself in goal ambiguity, consider the process by which consumers might generate goals in unfamiliar situations. One possibility is that consumers reason by analogy, borrowing goals from other, more familiar situations. For example, a consumer might be unfamiliar with the situation of returning home late from work and having to eat alone, perhaps because she has not worked outside the home until recently. In this situation, the consumer may recall more familiar situations from her past in order to generate goals. The consumer may recall situations in which her children had come home very hungry from school, and thus call to mind the goals of “quick to prepare” and “appealing to simple tastes.” She might also recall situations in which her family was away and she had a chance to prepare a meal for just herself, and thus call to mind the goals of “novelty” and “personal indulgence.” Not knowing which goals are more relevant to the present unfamiliar situation, the consumer may consider a broad set of alternatives that fulfill these different goals. She might, for example, consider canned Spaghetti O’s because they are quick and simple, but also liver and onions because they are a special treat that she loves but which her family detests. By contrast, a consumer who is more familiar with coming home alone, tired, and hungry may have developed a situation-specific goal (e.g., quick to prepare food that is

5As in Alba and Hutchinson (1987), situational familiarity, which addresses knowledge about the situation-goal relationship, is distinguished from product expertise, which addresses knowledge about the goal–product relationship. The interest in the present research is in the former of these two dimensions of expertise.
appealing to her own tastes), which prompts her to pop a frozen dinner in the microwave oven without much thought. These observations suggest the following hypothesis.

H6: In unfamiliar situations, consumers will consider more consumption goals than in familiar situations.

If consumers consider a number of consumption goals in unfamiliar situations due to goal ambiguity, it would follow that they generate broader, more heterogeneous choice sets consisting of products from diverse taxonomic categories in order to fulfill these diverse goals (Ratneshwar & Shocker, 1994). In contrast, as situational familiarity increases, consumers would be more likely to produce narrower choice sets consisting of items from one, or a few, taxonomic categories. Hence, the prediction is as follows.

H7: In unfamiliar situations, consumers are more likely to generate choice sets that contain across-category items than in familiar situations.

In addition to influencing the number of goals considered and the content of the choice set, differences in situational familiarity should influence the time and effort required to think about and generate the goals and choice options. In particular, consumers in unfamiliar situations should spend more effort thinking about the problem in order to clarify the consumption goals presented by the situation and reduce goal ambiguity, and spend more effort on generating alternatives that accomplish diverse goals. By contrast, consumers in familiar settings would readily recognize the problem, extract the relevant goal, and generate quick solutions, possibly simply retrieving a solution from memory. Thus, the prediction is as follows.

H8: In unfamiliar situations, consumers will elaborate more when constructing a choice set, producing a longer protocol in terms of time spent and number of words spoken, than in familiar situations.

Method

Respondents, Stimuli, and Procedure. Respondents were 66 female administrative staff who were recruited in the same manner as in Study 1. They participated individually. Each respondent was instructed that she would be presented a series of hypothetical situations and that she should talk about how she would respond to these situations, for example, having to feed guests on short notice. All responses were tape-recorded.

Six scenarios, which were adapted from Belk (1974, 1975), were pre-
sented to each respondent (see Appendix 2). Scenarios differed in level of familiarity to respondents, with the first two scenarios described in Appendix 2 being the most familiar to respondents, the next two scenarios being somewhat less familiar, and the last two scenarios being the least familiar. Familiarity with the situation was thus a within-responder variable. Order of presentation of scenarios was randomized across respondents.

At the completion of the verbal protocol task, respondents were asked to rate the familiarity of each of the scenarios on a 6-point scale. Familiarity was defined as “how often you find yourself in the situation, or how much you identify with it.” Respondents also filled out a brief questionnaire on demographic information. Additional dependent measures were generated from the verbal protocol itself. Specifically, the number of goals mentioned by respondents was recorded, for example, to reward oneself, to accommodate others, or to prepare something easily and quickly. Further, the products mentioned in the consideration set for each situation were examined to determine the categories to which these products belonged. Finally, the length of the protocol elicited in response to each scenario was measured in terms of the number of words in the protocol and the length of time for which the respondent spoke.

Results

A manipulation check was performed for level of familiarity with each situation. A single-factor ANOVA was used with scenario type as the independent variable (three types: high familiarity, scenarios 1 and 2; moderate familiarity, scenarios 3 and 4; and low familiarity, scenarios 5 and 6) and respondents’ familiarity rating as the dependent variable. A main effect of situational familiarity was observed ($F_{2,192} = 48.98$, $p < .0001$; see Table 2). As intended, respondents rated the high-familiarity scenarios as the most familiar ($M = 4.92$), the moderate-familiarity scenarios as somewhat less familiar ($M = 4.20$), and the low-familiarity scenarios as the least familiar to them ($M = 2.73$). Follow-up contrasts revealed that all three means were significantly different from each other (all $p < .002$). Accordingly, the rest of the analyses were conducted by averaging respondents’ responses for each pair of scenarios at the same level of familiarity.

Number of Consumption Goals. Consistent with the prediction (H6) that consumers in unfamiliar situations would generate a greater number of consumption goals than respondents in familiar situations, presumably because of ambiguity regarding appropriate goals for the consumption situation, a main effect of situational familiarity was observed ($F_{2,192} = 3.59, p < .05$). Respondents mentioned more consumption goals when the scenario was least familiar ($M = 1.58$), compared to when the

---

880 FELCHER ET AL.
Table 2. Results of Study 2.

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Situational Familiarity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Familiarity rating</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Protocol time (sec)</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>No. of words in protocol</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>No. of words/sec</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>No. of goals considered</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>No. of cross-category options</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>

The scenario was moderately familiar ($M = 1.23; F_{1,192} = 4.13, p < .04$) or highly familiar ($M = 1.15; F_{1,192} = 6.36, p < .01$). The number of consumption goals in the moderately and highly familiar situations did not differ ($F < 1$).

**Number of Across-Category Items.** Respondents’ protocols were analyzed for the number of across-category products mentioned in their response to each scenario. The prediction was that in unfamiliar situations respondents would mention more across-category products than in familiar situations (H7), presumably because no specific category would appear to be the obvious way to satisfy the consumption goal. A main effect of situational familiarity approached significance ($F_{2,190} = 2.64, p < .07$). Respondents mentioned more across-category products when the scenario was less familiar ($M = 1.26$), compared to when the scenario was moderately ($M = 0.77; F_{1,190} = 4.46, p < .04$) or highly familiar ($M = 0.85; F_{1,190} = 3.31, p < .07$). The number of across-category items in the moderately and highly familiar situations did not differ ($F < 1$).

**Length of Protocol.** Respondents in unfamiliar situations were predicted to elaborate more and thereby produce longer verbal protocols than respondents in familiar situations (H8). Contrary to this prediction, no effect of familiarity was observed on time taken to respond to each scenario ($F < 1$). One explanation for this result could be that experimental demand induced respondents to keep talking for a socially acceptable or expected length of time, thus attenuating any treatment differences. Accordingly, the length of the protocol in terms of the number of words spoken per second was examined, because respondents in unfamiliar situations would be expected to say more during the time they spoke than respondents in familiar situations. Results for this mea-
sure supported the hypothesis. Specifically, a main effect of situational familiarity ($F_{1,184} = 2.78, p < .06$) revealed that more words were listed per second when respondents’ familiarity with the scenario was low ($M = 2.45$), compared to when it was moderate ($M = 2.11; F_{1,184} = 5.54, p < .02$) or high ($M = 2.30; p > .25$).

Discussion

The use of taxonomic or goal-derived categories in constructing choice sets appears to be influenced by consumers’ familiarity with the consumption situation. Results support the hypothesis that consumers are more likely to generate choice sets composed of across-category items when the consumption situation is unfamiliar. As familiarity increases, consumers tend to generate narrower choice sets composed of within-category items. This outcome may be due to consumers’ ambiguity regarding which goal to adopt in unfamiliar situations. As familiarity increases, consumers appear to focus on fewer goals and limit their search process to fewer products, spending less time and effort elaborating on their consumption goal and identifying items suited to fulfilling these goals.

GENERAL DISCUSSION

Results of Study 1 revealed important differences in processing of taxonomic and goal-derived product categories. Findings from this study thus extend research in cognitive psychology on differences in the construction and composition of these two types of categories to a marketing context. Further, results of this study demonstrate differences in the use of these two types of categories on consumer behaviors of particular relevance to marketers, such as generation of choice alternatives and the nature of attributes used to represent alternatives.

Although this research contributes to the literature by exploring differences in the representation of taxonomic and goal-derived product categories, it is limited in that it does not provide answers to other issues related to choice processes. One issue of importance and worthy of further research is suggested by the finding regarding the relationship between similarity judgment and the type of shared features. Consistent with recent research in cognitive psychology (Goldstone et al., 1991; Markman & Gentner, 1993a, 1993b), the type of features that products share was found to influence the perceived similarity of the products. Specifically, relational features had greater influence in judgments of similarity than attributional features. It might be useful to examine the influence of relational versus attributional features on comparison processes for different consumers. For instance, it might be that experts are more facile in considering relational features, whereas novices may be more at ease with attributional features, because comprehending re-
The main finding of the second study, that people generate broader (i.e., across-category) choice sets in less-familiar situations, apparently because they are uncertain about the goals that should be adopted in the situation, has several marketing implications. One implication is that opportunities to reposition products to compete across categories may vary among groups of customers. If customers are very familiar with a situation and, as a result, use narrow taxonomic categories in making choices, it would be quite difficult for a marketer who sells a product from another taxonomic category to compete in this market. By contrast, the marketer might find it easier to persuade consumers who are less familiar with a particular consumption situation to consider the product because these consumers are unlikely to have well-established solutions to their consumption goals. For example, first-time home buyers may be more willing to consider a luxury condominium as an alternative to a single-family home than more experienced home buyers.

The findings of this research also have implications for marketing communication. In particular, the results reported here suggest that the nature and familiarity of consumption goals influence consumer choice. This implies that marketers might be able to influence choice by highlighting certain consumption goals and explaining to target customers which goal to adopt in unfamiliar situations. This implication is particularly relevant today because the pace of social and technological changes is continuously increasing and consumers are quite likely to face unfamiliar situations, choice options, and consumption goals. In such an environment, marketers may benefit by assuming two communication objectives: Not only should they attempt to influence customer perceptions about the quality of their product, but they should also clarify the relevance of new products and categories to specific consumption goals and situations. Thus, educating consumers about how new products and services relate to current consumption goals should be an important marketing communication task.

APPENDIX 1

Study 1: Stimulus Pairs

**Goal-Derived Pairs with Context Labels**

- Things to serve to dinner guests with kids: Macaroni & Cheese–hamburgers
Things to eat as an indulgence

Ice cream–Big Mac

Things to eat when staying home to watch a movie with someone

Pizza Hut pizza–Chinese food

Things that can be a pet

Fish–dog

Things to eat when you want something healthy

Pasta with red sauce–vegetable stir fry

Things to take on a family picnic

Peanut butter sandwich–Kentucky fried chicken

Things to use as a hobby

Bicycle–camera

Things not to eat on a diet

Chocolate candy–potato chips

Things to have at a celebration dinner

Rib eye steak–lobster

Things to take to the beach

Hat–book

Things to eat when alone and tired

Frozen dinner–cold cereal

Things to eat with neighbor for lunch

Leftover cheese casserole–tuna fish salad

Taxonomic Pairs with Context Labels

Kitchen utensils

Fork–spoon

Furniture

Sofa–desk

Beverages

Juice–soda pop

Vegetables

Broccoli–green beans

Clothing

Pants–shirt

Bakery goods

Bread–rolls

Nuts

Cashews–peanuts

Poultry

Chicken–turkey

Vehicles

Car–truck

Condiments

Ketchup–mustard

Fruit

Apple–orange

Dairy Products

Milk–butter

APPENDIX 2

Study 2: Scenarios

Practice Scenario. It is a weekday afternoon. You are at work, trying to decide what to have for dinner tonight. You have to be somewhere by 7 p.m., which will not leave you much time to eat.

Experimental Scenarios

1. It is a weekday afternoon. You are at work, trying to decide what to have for dinner tonight. Work has been particularly hectic today, and you are really tired. (High familiarity)

2. It is a weekend morning. You are home, planning what you will
eat for dinner tonight. You decide you want to keep it simple, and plan to stay home and watch a movie. (High familiarity)

3. It is a weekend afternoon. You are at home, planning what you will eat for dinner tonight. You have made plans to get together with friends, and you are supposed to call them soon with a suggestion. (Moderate familiarity)

4. It is a weekend afternoon. You are at home. You have been doing errands all morning, and realize that it is time for lunch. You have gotten through a particularly tough week, and want to reward yourself by eating something you really enjoy. (Moderate familiarity)

5. It is a weekend, late morning. You are at home. Your aunt calls to say that two of your cousins from out-of-town just arrived unexpectedly at her house. She knows you would like to see them, and suggests that you all get together for dinner that evening. (Low familiarity)

6. It is a weekend at noon. You are at home. Your neighbor came over to visit and you have been chatting for close to an hour. You discover it is lunchtime and you are both hungry. (Low familiarity)

REFERENCES


Correspondence regarding this article should be sent to: Prashant Malaviya, INSEAD, Boulevard de Constance, 77305 Fontainebleau Cedex, France (Prashant.Malaviya@Insead.Fr).