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Exploration of Apparel Brand Knowledge

Brand Awareness, Brand Association, and Brand Category Structure

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Abstract

Four phases of research were conducted to explore female college consumers' apparel brand knowledge using students from a Southeastern university. First, results from a survey revealed a positive correlation between apparel brands' recall and recognition performances (Phase 1). In Phase 2, through a brand-sorting task, four major apparel brand categories commonly perceived by female college consumers were identified. An online survey with a random sample of students (Phase 3) discovered that brands with higher levels of brand awareness were not necessarily linked to more favorable brand associations. Finally, an online experiment revealed that consumers' cognitive structures of brand-category memberships were significantly affected by the model of categorization they were asked to use by the researchers (Phase 4). This study provided insight into the constructs of brand awareness, brand associations, and the three models of categorization which may aid consumers when identifying and classifying apparel brands in the market.

Keywords

awareness, association, brand, categorization, sorting

Introduction

Branding has become a quintessential element in production, distribution, and consumption (Davies & Ward, 2005). Consumers look to branded products as a point of reference when making purchasing decisions (Sirgy, 1982). Today, there are very few products that remain unbranded, and firms make efforts to associate their brand name with specific and clear values and characteristics that are unique from the competition (Davies & Ward, 2005). Researchers have investigated the value of a brand that stems from consumers' brand knowledge. Keller (1993) conceptualized brand knowledge as a combination of brand awareness, or "likelihood that a brand name will come to mind and the ease to which it does so," and brand image, or "perceptions about a brand as reflected by the brand associations held in consumer memory" (p. 3).

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To assess the level of consumers' awareness of a brand, both researchers and practitioners have used a brand's recall (how well consumers evoke the brand name or logo in memory as a response to a third cue) and recognition (how well consumers identify the brand name or logo as seen or heard previously) performance measures (Aaker, 1991). However, the marketing implication of these brand awareness performances has been controversial. One of the issues about which practitioners have been uncertain but academic researchers have failed to provide an answer was the relationship between how well a brand is recalled and recognized in the market. Thus, the first objective of this study is to examine whether apparel brands recalled by more consumers are also recognized by more consumers.

Brand image, another component of brand knowledge, is shaped by the associations formed by consumers (Keller, 1993). Brand associations help the consumer process, organize, and retrieve information in memory to aid product choice (Aaker, 1991). Brand associations seen as favorable by consumers provide added value to the brand by facilitating the formation of strong, positive attitudes and emotions toward the brand (Aaker, 1991). Researchers have speculated an intimate relationship between brand awareness and brand associations because brand awareness must precede brand associations. In other words, a consumer should remember (i.e., be aware of) the brand name, logo, or symbol to develop any associations with it (Keller, 1993; Washburn & Plank, 2002). However, few academic studies have examined the relationship between how well consumers are aware of the brand and how favorable the brand's associations are. The relationship between brand familiarity and brand association favorability has been more frequently examined. Baker, Hutchinson, Moore, and Nedungadi (1986) argued that brand familiarity might directly influence brand favorability by generating a positive affective response when consumers are exposed to the brand. Awareness and familiarity are not identical. For example, a consumer may just have heard the brand name, or have purchased the brand once, or have frequently purchased and used it. Although this consumer may be "aware" of the brand name equally in any of these cases, how "familiar" he or she feels about the brand would differ. However, brand awareness and familiarity are correlated because consumers must first be aware of the brand name to feel familiar with it. Thus, given the relationship between brand familiarity and brand favorability, it is plausible that a relationship exists between brand awareness and brand association favorability. That is, a brand recalled and recognized by more consumers may be more favored in the market. Therefore, the second objective of this study is to explore the direct relationship between brand awareness and association favorability of apparel brands in a selected market.

Understanding how consumers organize brands in memory is an important topic in branding research. Categorization is a process in which people mentally group similar objects together based on their commonalities (Braisby, 2005; Posavac, Sanbonmatsu, Cronley, & Kardes, 2001). Three models have been suggested in the literature as mechanisms by which people categorize objects (Barsalou, 1992). Consumers may classify a brand based on (a) how similar it is to the best exemplar of each brand category existing in memory (prototype model), (b) its comparison to multiple members of each category that have similar characteristics (exemplar model), or (c) the common descriptors the brand has with the category rather than with specific exemplars of the category (classical model; Barsalou, 1992). These three models of categorization aid our understanding of different processes consumers may use to organize many brands in their minds, which may result in varying brand category structures. Therefore, the last objective of this research is to explore how the use of three mental models of categorization may produce different brand-category membership structures in the consumer's minds.

The aforementioned objectives were met in this study by answering three research questions:

RQ1. Are consumers' apparel brand recall and recognition performances related?
RQ2. Do brands that have higher awareness among consumers have more favorable brand associations?

RQ3. Do different categorization processes (i.e. prototype model, exemplar model, classical model) cause consumers to perceive different category structures of apparel brands?

A four-phase study was designed to address the three research questions. Phase 1 of this study explored consumers' levels of awareness for apparel brands to answer RQ1 (research question 1). Phase 2 was used to explore possible apparel brand categories and criteria (i.e., descriptors of the categories) that consumers use to classify apparel brands. In Phase 3, a brand association scale was developed using Phase 2 results and a survey was conducted to validate the scale and answer RQ2 (research question 2). Finally, based on the results from the previous phases, Phase 4 experiment was designed to answer RQ3 (research question 3).

Literature Review

Brand Awareness: Brand Recall and Brand Recognition

Brand awareness reflects the strength of a brand's presence in a consumer's mind (Pappu, Quester, & Cooksey, 2005) and is related to the strength of the brand node or trace in memory (Rossiter & Percy, 1987). Brand awareness can be demonstrated in the forms of brand recall and brand recognition (Keller, 1993). Brand recall occurs when the brand name is evoked by memory given a cue such as a product category name (e.g., When you think of clothing, what brands come to mind?; Hutchinson & Raman, 1994). Brand recognition refers to the consumer's ability to verify previous exposure to the brand when the brand is given as a cue (Hutchinson & Raman, 1994; Keller, 1993). With regard to an individual consumer's recall and recognition of a brand, researchers have considered recall as a higher level of memory performance than recognition (Aaker, 1991; Washburn & Plank, 2002). In other words, if a consumer is able to recall a brand outside a store when given the product category as a cue, then the consumer can surely recognize the brand when exposed to it in a store (Keller, 1993). However, it is unclear whether this relationship between recall and recognition remains at the market level. That is, the question of whether the brands recalled by more consumers are also recognized by more consumers has not been addressed in the literature. This study addressed this gap by examining the relationship between a group of apparel brands' recall and recognition performances in a selected market.

Brand Awareness and Favorability of Brand Associations

Brand image has been conceptualized as perceptions about a brand as reflected by the brand associations, or anything linked to the brand in a consumer's memory (Aaker, 1991; Keller, 1993). Brand associations contain meanings about a brand for the consumer (Keller, 1993). A brand's image results from the favorability, strength, and uniqueness of brand associations that are held by the consumer (Keller, 1993). Positive and unique brand associations that are strongly held by consumers lead to strong, favorable attitudes and emotions toward a brand (Aaker, 1991).

Branding literature has considered brand awareness and brand associations separate, yet highly correlated entities (Aaker, 1991; Keller, 1993; Washburn & Plank, 2002). For a consumer to form associations about a brand, first, a brand node (e.g., brand name, logo, or sign) must exist in the consumer's memory and should be retrieved when a cue is given (i.e., the consumer is "aware" of the brand; Washburn & Plank, 2002). However, little research has examined the effect of brand awareness on the favorability of brand associations. That is, whether brands with higher awareness in the market are associated with more positive attributes has not been directly addressed in research. Some indirect evidence for this speculation has been found in a few studies that examined the relationship between brand associations and brand familiarity. Baker et al. (1986) argue that the amount of time spent by a consumer to process information about a brand positively influences the consumer's response to the

brand. Positive associations about the brand may be formed as a result of increased familiarity with the brand. Consumers' brand awareness is achieved when they become familiar with the brand through repeated direct or indirect experiences with it. Therefore, a positive relationship may also exist between brand awareness and favorability of brand associations, which was examined in this study.

Categorization Research in Branding

A person develops natural mental categories over time along with a multitude of memories for their exemplars (Barsalou, 1992). These categories are used to help people distinguish similarities and differences among objects (Braisby, 2005). Researchers have proposed three psychological models to explain the mechanisms people use to categorize objects. They include the prototype, exemplar, and classical models.

The prototype model explains categories with prototypes which can be defined as a "single, centralized, category representation" (Barsalou, 1992, p. 28) or the ideal or best example of a given category (Kellogg, 1995). The prototype model assumes that to categorize a new object, the first step is to evaluate the new object's properties by comparing them to those of the prototype associated with each likely category (Barsalou, 1992). Once the prototype with the most similar properties is found, the new object will be assigned to the prototype's category (Barsalou, 1992). Basically, an object falls within the category if it achieves a precise criterion of similarity to the prototype (Braisby, 2005). One criticism about this model is that it fails to use information regarding specific exemplars that are not the prototype (Barsalou, 1992). The prototype alone may not provide a full account of category knowledge (Barsalou, 1992).

However, the exemplar model argues that people do not compare an object to the best exemplar alone but to many exemplars that have similar characteristics to determine the best category in which to classify the object. This view assumes that people do not abstract generalizations from example memories to form knowledge of a prototype member of the category (Barsalou, 1992). The exemplar model posits that by comparing the structural description of an unfamiliar entity to all exemplar memories across all categories simultaneously, the cognitive system is able to pair a category with the unknown entity based on which category has the most similar exemplar memories (Barsalou, 1992). According to this model, exemplars are used as aids in the categorization process because they are more accessible than summary information in the consumer's mind (Smith & Medin, 1981). The exemplar model has been criticized for its assumption that the cognitive system stores immense amounts of idiosyncratic exemplar information for categories (Barsalou, 1992). This is problematic because the human memory may not be capable of remembering so much information. In addition, this model does not explain the use of summary information such as category descriptors (Levitin, 2002; Medin & Schaffer, 1978).

Finally, the classical model is based on the idea that rules underlie categorization. The ideal rule dictates that certain properties must be individually necessary and mutually sufficient for category membership (Barsalou, 1992; Smith & Medin, 1981). In other words, an object must perfectly match the properties/characteristics required in a category to become a member of the category (Braisby, 2005). Based on this concept, all entities in a category are assumed to be equal in membership because they all strictly satisfy the definitional rule of the category (Barsalou, 1992). The classical model has raised many doubts as to its viability as an account of human categorization. A disadvantage to this model is that there can be several categories with only one member, causing many useless categories and uncertainty for classifying a new object. It is also possible that some exemplars from a category may be very similar, others may be moderately similar, and some others may be dissimilar to the category's prototype, although all the exemplars may perfectly satisfy the given category rule (Barsalou, 1992).

Researchers have explored various methods to analyze consumers' perceptual maps of brands in a product market, and one method that has been favored in such research is the brand-sorting technique (Solomon & Ashmore, 1992; Sujan & Bettman, 1989). Sorting is a "process of arranging objects in various sequences and/or in different sets" (Sorting, n.d.). Sorting may involve two components: (a) ordering, which refers to arranging items of the same kind, class, and nature in some ordered sequence, and (b) categorizing, which is defined as grouping and labeling items with similar properties together (by sorts) (Sorting, 2007). Researchers have analyzed ordering data (e.g., level of similarity among brands) or category data (e.g., brand category labels) to understand consumers' brand categorization. However, no agreement has been reached as to the process by which consumers' brand categorization occurs. For example, consumers may classify a brand into a category because it is (a) perceived to satisfy a certain set of rules to be a member of the category in their minds (classical model), (b) similar to many other members in the category (exemplar model), or (c) similar in its properties to the single best exemplar brand of the category (prototype model). Nevertheless, many researchers have conducted research with a sorting task and instructions that could produce one of the three models of categorization without considering how the three models may have differential influences on the brand-category structures in their participants' responses. Therefore, in this study, we assume that all three models of categorization are valid accounts of consumers' brand categorization processes and that the consumer's decision of which model to use is dependent on the experimental design that induces one of the three models. Based on these assumptions, we explored how different models of categorization manipulated by participant instructions affected participants' mental categories of apparel brands.

Phase 1

Phase 1 of this study explored consumers' recall and recognition for selected apparel brands and examined the relationship between these two brand awareness performances.

Method

A convenience sample of 57 college women from an undergraduate consumer behavior class participated in a survey using a self-administered questionnaire. First, to address brand recall, respondents were asked to write down all clothing brands marketed to college-aged consumers that came to mind. Then, the respondents were given a list of 192 clothing brands and were asked to put a check beside those they had seen or heard of to indicate their recognition of the brands. The apparel brands used in this section were identified through a pretest with 27 female students who recalled these brands as being marketed to them as well as a series of market research of offline and online stores and fashion magazines. The final section of the questionnaire asked respondents' gender, age, race, class standing, and college/school of their major. The survey was conducted in a classroom on a voluntary basis.

Analysis and Results

A total of 105 brands were recalled, among which 42 were brands that were not included in the recognition section. Gap was the most frequently recalled brand, recalled by 37 participants, and 46 brands were recalled by only one respondent. On the other hand, 21 (e.g., Abercrombie and Fitch, American Eagle, Banana Republic, Bebe, Calvin Klein, Ralph Lauren) of the 192 brands given by the researchers were recognized by all respondents, while 2 brands were not recognized by any of the participants.

To answer RQ1, the association between recall and recognition ranks of the 190 brands excluding the 2 nonrecognized brands was tested using Spearman's rank correlation. The results revealed a

significant positive correlation between the brands' recall and recognition performances ($\rho = .604$, $p < .001$). This result indicates that there is a moderate, positive relationship between a brand's recall and recognition performance ranks in the market. In addition, Pearson product correlation between the brand recall and recognition frequencies also illustrated a positive relationship between the brands' recall and recognition performances ($r = .391$, $p < .001$).

Phase 2

In this phase, mental categories and criteria (i.e., descriptors of the categories) that female college consumers used to classify apparel brands were explored.

Method

A convenience sample of 65 female undergraduate students from a consumer behavior class participated in a survey using a self-administered questionnaire. The survey started with a brand-sorting task. A list of 30 brands selected from those identified in Phase 1 as having varying levels of brand awareness was provided, and respondents sorted the 30 brands into three categories using whatever criteria they deemed appropriate. Respondents were restricted to use only three categories and were asked to use all three categories for the brand-sorting task to be consistent with the number of categories that would be used in the experiment in Phase 4. No restrictions were placed on the number of brands each category could have. After completing the brand-sorting task, the respondents labeled each category using words or phrases that best described the categories, and then further explained the categories using any descriptive characteristics other than those already used for the category labels. The respondents then selected a clothing brand from each category that they felt best represented the category. The questionnaire ended with the same demographic items as those used in Phase 1.

Analysis and Results

A total of 744 words/phrases, among which 287 were nonrepetitive, were collected from the category label and description data. Through a preliminary analysis of the verbal data, the researchers developed a coding frame consisting of 12 themes for a content analysis. Two graduate students independently coded the 287 nonrepetitive words/phrases using the 12 themes. The initial intercoder reliability between the two coders was 74%. According to the final coding results after negotiation between the two coders, the theme with the highest frequency of comments was fashionable/trendy (16%), followed by casual style (13%), pricey (11%), affordable (11%), level of quality (9%), social class (8%), sporty/outdoors (8%), unique design points (7%), user demographic (5%), purchase options and availability (5%), classic/basic style (5%), and other (2%).

Next, multidimensional scaling (MDS) was conducted on the brand-sorting data to explore participants' brand category patterns. For this analysis, the frequency by which each pair from the 30 brands was classified into the same category was counted and used to create a brand similarity matrix. A total of four brand categories were identified through the MDS (see Figure 1). The first category included Columbia, New Balance, North Face, and Reef, and was labeled as Sporty/Outdoorsy because respondents frequently used words such as "sporty" and "outdoor" to label brands in this category. The second category, labeled as Casual/Moderately Priced, consisted of brands such as Abercrombie and Fitch, American Eagle, Hollister, Co., Limited, Old Navy, J Crew, Gap, and Express, and was most frequently associated with labels such as "casual," "comfortable," "moderately priced," and "reasonably priced." The third category included brands such as Forever21, H&M, Delia's, and Zara, and was named Trendy/Affordable based on respondents' comments such as

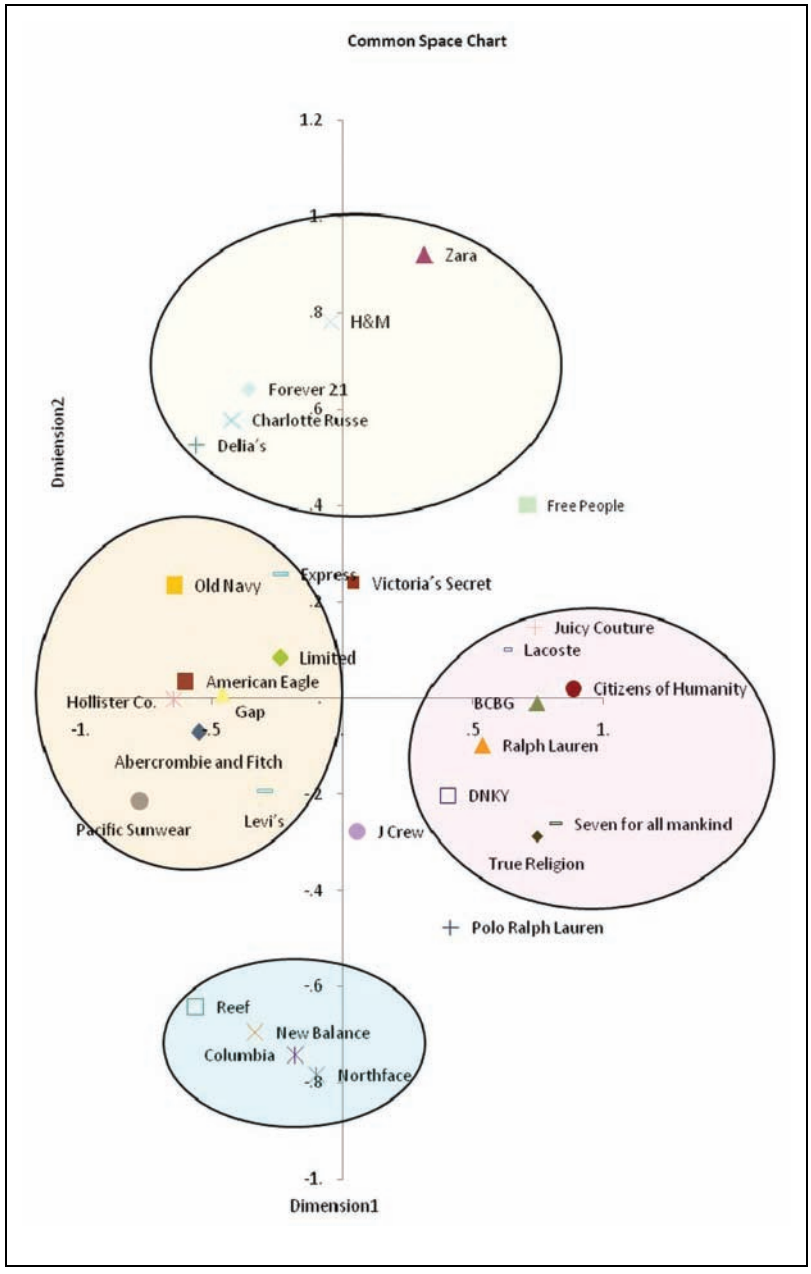

Figure 1. Common space graph from multidimensional scaling (MDS) analysis

"stylish," "fashionable," "affordable," and "inexpensive," which were most frequently used to describe these brands. Finally, brands such as BCBG, Citizens of Humanity, DKNY, Juicy Couture, Ralph Lauren, and Seven for All Mankind constituted the last category, labeled as Pricey/Upscale according to the most commonly associated words/phrases for these brands including "high price," "designer," and "high class."

Phase 3

Based on the content analysis of words/phrases used to label and describe the brand categories in Phase 2, scale items that captured apparel brands' associations were constructed. A brand association scale was then developed in Phase 3 by refining these items through validity and reliability checks. The finalized scale was used to examine how favorably consumers viewed each association included in this scale and how strongly consumers perceived these associations to describe a set of selected apparel brands. These data were used to answer RQ2 combined with the brand awareness data from Phase 1.

Method

An online survey was conducted with a random sample of 196 undergraduate students enrolled at a Southeastern university. The potential participants were contacted via e-mail containing the purpose of the study, an explanation about the online survey procedure, a link to the assigned survey, and a privacy and confidentiality statement. Students who decided to participate clicked on the link to the survey Web site and completed the questionnaire. A total of three e-mails (the initial invitation and two follow-ups) were used to encourage participation. To ensure the consistency between phases, data from only female respondents ($n = 137$) were used for analysis.

The online questionnaire contained three sections: (a) favorability of brand associations, (b) brands' association ratings, and (c) demographic items. The first section measured how favorable or unfavorable it was for a brand to possess certain brand associations. To construct the brand association scale items, the researchers chose the meaningful words/phrases with high frequencies from each theme identified through the content analysis in Phase 2, resulting in a total of 33 association words/phrases (e.g., trendy). Finally, the 33 brand association words/phrases were rephrased in a statement form (e.g., A brand is trendy). Instructions were provided to the respondents that they were to rate how favorable or unfavorable it was for a brand to possess each of the 33 brand associations using a 5-point scale ($-2 =$ *very unfavorable*, $-1 =$ *unfavorable*, $0 =$ *neither favorable nor unfavorable*, $+1 =$ *favorable*, $+2 =$ *very favorable*).

In the second section of the questionnaire, 15 apparel brands selected from Phase 1 as representing varying levels of brand awareness were rated in terms of how strongly the respondent believed the brands possessed the characteristics described by each brand association item using a 5-point Likert scale ($1 =$ *strongly disagree*, $5 =$ *strongly agree*). For this section, the brand association items were put in statement form using brand names (e.g., Gap is trendy, Ralph Lauren is trendy). Three versions were used for this section of the questionnaire, each containing a subset of the 15 brands. Three brands (Gap, Ralph Lauren, and Pacific Sunwear) were repeatedly included in all the three versions, and the remaining 12 brands were randomly divided into three subgroups of 4 brands, each of which was included in one of the three versions of the questionnaire. Therefore, each respondent rated only seven brands' associations. In doing so, the researchers assured a sufficient sample size from the three common brands to run exploratory factor analysis for exploring the dimensionality of the brand association rating responses while reducing respondents' tedium. A total of 51 respondents completed Version 1, 44 respondents completed Version 2, and 42 respondents completed Version three. The final section of the questionnaire consisted of the same demographic items that were used in Phases 1 and 2.

Analysis and Results

Section 2 data from the three versions of the questionnaire were merged for each of the three brands (Gap, Ralph Lauren, and Pacific Sunwear) commonly included in all three versions of the

questionnaire. The analysis of principal components with varimax rotation was conducted for each of the three brands' data. Of the 33 brand association items, only 31 were used for this analysis because two associations were determined to be neither favorable nor unfavorable (i.e., neutral) in their valence as a result of the 1-sample *t*-test (H_o: $\mu = 0$) of the association favorability data from section 1.

The initial exploratory factor analysis (EFA) results revealed a possibility of seven common factors. Based on the initial EFA results, nine items were further eliminated because their loadings were similar for multiple factors. After a second EFA with the remaining 22 items for a seven factor solution, 1 more item was eliminated because of its unclear meaning, resulting in the final set of 21 items constituting seven factors. The final seven factors included quality, price, fashion, uniqueness, casual, traditional, and outdoorsy (see Table 1). All seven factors maintained a Cronbach's α that was above .70 for all the three brands except for only one incident (Gap's Outdoors items had an α of .68), indicating an acceptable reliability of the scale.

Based on the final seven factor, 21-item model of brand associations, each brand's association favorability score (A_j) was calculated following three steps: (a) calculating the brand's association factor scores (B_i) averaging the brand's association ratings from each factor, (b) calculating each brand association factor's favorability score (C_i) by averaging the favorability scores of the associations from each factor, and (c) summing the products of B_i and C_i for each brand. Thus, the formula used to calculate a brand's association favorability score was

$$A_j = \sum B_{ij}C_i, \text{ where } i = \text{brand association factor and } j = \text{brand.}$$

All of the 15 brands' association favorability scores were calculated using this formula. H&M ($M = 30.4$) showed the highest brand favorability mean score, followed by Polo Ralph Lauren ($M = 29.1$), Columbia ($M = 28.0$), J Crew ($M = 27.9$), Limited ($M = 27.0$), Ralph Lauren ($M = 26.5$), Victoria's Secret ($M = 26.4$), Gap ($M = 25.5$), North Face ($M = 25.5$), Old Navy ($M = 24.7$), BCBG ($M = 24.6$), whereas Express ($M = 24.1$), True Religion ($M = 24.1$), Pacific Sunwear ($M = 23.4$), and Seven for All Mankind ($M = 23.2$) showed the lowest brand association favorability means.

Finally, to answer RQ2, which addressed the association between apparel brands' awareness performance and association favorability, Kendall's τ and Spearman ρ rank-order correlations were calculated for the 15 brands' rank orders according to their recall and recognition performances from Phase 1 (according to the number of respondents who recalled and recognized the brands, respectively) and the brands' rank orders according to their association favorability scores calculated in Phase 3 (brands with the highest to the lowest brand association favorability mean scores). Results from both Kendall's and Spearman rank-order correlations indicated nonsignificant relationships between the brands' association favorability and recall performance ($T = -.14$, $p = .49$; $\rho = -.17$, $p = .54$) and between association favorability and recognition performance ($T = .09$, $p = .65$; $\rho = .14$, $p = .63$). Therefore, no evidence was found that brands with higher levels of brand awareness had more favorable brand associations.

Phase 4

Finally, in Phase 4, an experiment was conducted to explore how consumers classified apparel brands using the three different cognitive models of categorization and answer RQ3.

Method

Phase 4 used an online experiment with a one-factor between-subjects design with a cognitive model of categorization as the independent variable with three levels. A set of 26 brands were selected for the

Table 1. Brand Association Scale Principal Components Analysis Results

Component	Items	Component Loadings		
		Gap	Ralph Lauren	Pacific Sunwear
Quality	[Brand] is well made	.924	.891	.811
	[Brand] has reliable clothing	.911	.835	.850
	[Brand] is durable	.900	.860	.874
	Eigenvalue	5.11	6.69	6.70
	Variance	24.3%	31.9%	32.1%
	Cronbach's α	.958	.938	.957
Price	[Brand] is reasonably priced	.842	.811	.840
	[Brand] is affordable	.836	.648	.858
	[Brand] is expensive	−.791	−.648	−.701
	[Brand] is inexpensive	.636	.766	.814
	Eigenvalue	3.72	2.21	3.60
	Variance	17.7%	10.5%	17.0%
	Cronbach's α	.825	.723	.839
Fashion	[Brand] is stylish	.839	.821	.802
	[Brand] is fashionable	.832	.839	.835
	[Brand] is trendy	.734	.870	.789
	Eigenvalue	2.12	1.20	1.60
	Variance	10.1%	5.9%	7.8%
	Cronbach's α	.833	.876	.851
Uniqueness	[Brand] is different from other brands	.820	.880	.803
	[Brand] is unique	.798	.862	.848
	[Brand] has a variety of assortment	.683	.679	.765
	Eigenvalue	1.59	1.49	1.20
	Variance	7.6%	7.1%	5.8%
	Cronbach's α	.740	.827	.847
Casual	[Brand] is simple	.788	.785	.653
	[Brand] is comfortable	.718	.563	.750
	[Brand] is casual	.570	.624	.772
	Eigenvalue	1.44	2.70	1.10
	Variance	6.9%	12.9%	5.2%
	Cronbach's α	.726	.737	.727
Traditional	[Brand] is preppie	.845	.535	.814
	[Brand] is classic	.703	.726	.883
	[Brand] is traditional	.617	.763	.916
	Eigenvalue	1.09	2.70	2.10
	Variance	5.2%	12.9%	10.0%
	Cronbach's α	.715	.824	.879
Outdoorsy	[Brand] is outdoorsy	.851	.868	.824
	[Brand] is sporty	.793	.849	.853
	Eigenvalue	.92	.95	.94
	Variance	4.4%	4.5%	4.5%
	Cronbach's α	.675	.734	.765

experiment. These brands included those with various levels of awareness and association favorability according to the results of Phases 1 and 3.

Experimental manipulations. On the experiment Web site, participants were first asked to sort given brands using three categories. The three categories used in the experiment were three of the four categories identified in Phase 2 (Casual/Moderated Priced, Trendy/Affordable, and Pricey/Upscale). The other category, Sporty/Outdoorsy was not used because it contained only a few brands. The participant instructions for the brand-sorting task varied according to the experimental condition to which the participant was assigned.

First, for the prototype model condition, to induce participants to engage in the prototype model of categorization during their brand-sorting task, the researchers provided a prototype brand to represent each of the three categories. The brands most frequently selected to represent the three categories by Phase 2 participants were used as the prototype brands. They include *American Eagle* for the Casual/Moderately Priced category, *Forever 21* for the Trendy/Affordable category, and *BCBG* for the Pricey/Upscale category. Using these three prototype brands, respondents were asked to indicate which of the three categories each of the remaining 23 brands fit the best. Neither the category labels nor other exemplar brands for the categories were given to the respondents in the prototype model condition.

For the exemplar model condition, two exemplar brand names were provided for each of the three categories. The exemplar brands were selected among the brands determined to fit to the categories well but were not most commonly selected as prototypes of the categories in Phase 2. *Abercrombie & Fitch* and *Gap* were the exemplar brands provided for the Casual/Moderately Priced category, *Charlotte Russe* and *H&M* for the Trendy/Affordable category, and *Juicy Couture* and *Ralph Lauren* for the Pricey/Upscale category. Using the 6 brands given as exemplars, the participants were asked to group each of the remaining 20 brands into the category they saw fit. The exemplar model group was not provided with information about the category labels or prototype brands.

The third experimental group was given instructions constructed based on the classical model of categorization. The respondents were given the three categories' labels (i.e., Casual/Moderately Priced, Trendy/Affordable, Pricey/Upscale), with no brand exemplar information for the categories. Based on these category labels, respondents were asked to check which category each of the 26 brands fit the best.

In all three conditions, the names of the brands to be sorted were listed in a random order. After the brand-sorting task, participants were asked three manipulation check questions that assessed their level of involvement with the three models of categorization during the brand-sorting task. For example, the prototype model group respondents were asked how often they compared the brand to (a) the three representative brands provided in the instructions (prototype model), (b) several brand examples already classified into the categories (exemplar model), and (c) characteristics they felt described the brand categories (classical model). For the other two groups, the manipulation check questions were modified so that they similarly addressed the three categorization models although fitting the unique situation of the corresponding experimental condition. We predicted that participants would be more likely to acknowledge that they used the model of categorization assigned to them than the other two models. The manipulation check questions were answered using a 5-point Likert-type scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *very often*, 5 = *always*).

Dependent variable. The dependent variable in this experiment was the brand-category membership resulting from the respondents' brand-sorting task. For each pair of brands, the sorting results were recorded in terms of the number of respondents from each condition who classified them into the same category.

Sampling and data collection. A sample of 3600 undergraduate students from a Southeastern university selected through a systematic random sampling procedure was invited via e-mail to participate in the experiment. The e-mail contained a universal resource locator (URL) that would lead them to one of the three experimental conditions randomly assigned to them. With two reminder e-mails after the

initial invitation e-mail, 308 students responded and provided usable data. To assure consistency with the brands used in the experiment, only female participants ($n = 205$) were considered for the analysis (74 in the prototype model group, 73 in the exemplar model group, and 58 in the classical model group). Demographic characteristics of the three groups of participants were similar, consisting mainly of Caucasian (86.0%) females with the average age of 20 years ($SD = 1.5$), distributed across all undergraduate class standings.

Analysis and Results

Manipulation check. To check the success of the manipulation (i.e., if the respondents in fact used their assigned model of categorization for the brand-sorting task more than the other two models of categorization), a series of 1-way analyses of variance (ANOVAs) were run to compare responses to each of the manipulation check questions among the three conditions. For the prototype model manipulation check question, the prototype condition participants had a significantly higher score than those from the other two conditions, whereas the exemplar condition participants showed a significantly higher score on the exemplar model question than the other two condition participants. These results confirmed the successful manipulation of the prototype and exemplar conditions. In addition, results from a series of repeated measure ANOVAs to compare data from the three questions within each condition revealed that participants in the prototype model and exemplar model conditions scored higher on their corresponding model question than the other two questions, again confirming the success of the manipulation of these two conditions.

However, the classical model manipulation check question results revealed that the classical condition participants ($M = 3.4$) actually scored significantly lower than the prototype condition participants ($M = 4.0$). Furthermore, the classical model condition participants' scores on the classical question were higher than those on the exemplar question ($M = 3.1$), but not significantly different from those on the prototype question ($M = 3.3$), indicating that the classical model condition participants used both classical and prototype models of categorization to similar extents during their brand-sorting tasks. These unexpected manipulation check results from the classical model condition indicate that although the classical model group was only given information about characteristics of the three brand categories with no exemplar brand names, they naturally came up with a prototype brand for each category on their own based on the given category descriptions and used them as a basis for the other brands' category membership decisions. These results appear to provide support for the criticism about the classical model and the superiority of the prototype model as a viable account for natural human categorization (Barsalou, 1992). Furthermore, the classical model group seems to have used the given category descriptors less frequently than the prototype model group used category characteristics that they came up with on their own based on the properties of the prototype brands. That is, attributes and benefits associated with one brand (i.e., prototype brand) in a consumer's mind in fact provided richer ideas of a brand category than the couple of category descriptors that summarized the most common characteristics of the brands in the category. Therefore, although the classical model manipulation check questions did not yield the intended results, it is not clear whether it was because the manipulation failed to induce the classical model of categorization or because the classical model is naturally not a good theory to explain human beings' cognitive process of categorization. Thus, the researchers decided to continue including the classical model condition in further analysis to explore differences among results from all three experimental conditions.

Brand-category membership structures. To address possible differences among brand-category membership structures created from the three models of categorization, a series of chi-square tests were conducted for the association between the independent variable (the categorization models) and the frequency with which each pair of brands were grouped together in the same category. The results

from the chi-square tests indicated that out of the 326 brand pairs, sorting results of 121 pairs (37%) were significantly affected ($p < .05$ from the chi-square test) by the categorization models that the respondents were induced to use. In other words, whether these pairs of brands were grouped in the same category was significantly associated with the experimental condition to which the participants were assigned. Even after excluding results from the pairs that involved the six brands used as the category exemplar brands because their sorting results were predetermined in the exemplar model condition, 106 (34%) of the remaining 311 pairs still yielded significant chi-square test results. These results appear to reveal the significant impact of the different brand-sorting instruction (i.e., different models of categorization induced) on the participants' brand-sorting outcome.

To explore which of the three conditions produced the most difference, separate chi-square tests were conducted for each pair of the three conditions. Between the prototype and exemplar model groups, the categorization model significantly affected the likelihood of the brand pairs being put in a same category for 101 (31%) of the 326 brand pairs. The comparable number for the prototype and classical condition comparison was 151 pairs (46%), while that for the exemplar and classical condition comparison was 116 (36%) pairs. These results indicate that consumers' brand category structures produced by the prototype and exemplar models were more similar to each other than to results from the classical model. However, because a significantly large number of inconsistent brand groupings were produced between every pair of conditions, it can be concluded that all categorization models (not only the classical model) can cause different brand categorization results.

Discussion

A brand's awareness performance can be assessed at different levels such as recognition and recall, but the relationship between these two brand awareness constructs at the market level remains unknown. RQ1 addressed this gap by exploring college consumers' brand awareness levels for selected apparel brands in the current market and found a moderate positive correlation between apparel brands' recall and recognition frequencies as well as between the orders in which apparel brands were ranked according to their recall and recognition frequencies among these consumers. Despite the statistically significant correlation, it should be noted that the correlation coefficient was only moderately high, ranging between .39 and .60 depending on the statistical tests used. This result suggests that more frequently recognized brands were not always more frequently recalled by the same group of consumers, although the two awareness performances are somewhat correlated. Some brand marketing activities may increase consumers' awareness of the brand at the recognition level but not at the recall level. Therefore, brand managers need to understand their brands' awareness performances and their meanings in both levels. More academic research is needed to provide insight into how these two awareness performances work together at the market level. For example, future research could address the comparative characteristics and marketing practices of brands with high recognition only versus brands with high recall as well as recognition performances.

Built on the literature that links brand familiarity to favorable brand responses, RQ2 addressed a possible relationship between a brand's awareness level and its association favorability. Results from this study revealed no significant support for the idea that brands with higher levels of brand awareness are associated with more favorable brand associations. Past research indicates that consumers must first be aware of the brand to be able to develop associations about the brand (Washburn & Plank, 2002). However, this study showed that being aware of the brand (i.e., being able to recognize or recall the brand name) is not enough to make a consumer develop favorable brand associations. Given the significant relationship between brand familiarity and favorability suggested in the literature and the nonsignificant relationship between brand awareness and favorability found in this study, we can conclude that it takes more than mere awareness for consumers to develop favorable associations with the brand. That is, as consumers become more familiar with a brand beyond the mere

awareness level through diverse direct and indirect experiences, their associations with the brand can become richer and possibly more favorable if the experiences have been positive. Brand marketing activities are sometimes focused on enhancing a brand's awareness level, rather than building brand associations. The finding from this study implies that brand managers need to pay particular attention to developing positive associations and ensuring that they are linked with their brand node in the consumer's memory. By doing so, they could create more favorable associations of their brand in the consumers' minds as well as enhancing the brand's awareness in the market.

Brand-sorting tasks have been a tool frequently used by marketing researchers to understand consumers' mental structures of the market. However, there has been controversy among researchers regarding how to frame participant instructions for a brand-sorting task, because the instructions may inadvertently induce participants to use one of the three models of categorization during their sorting tasks. Marketing researchers have often assumed one of the three models of categorization in their brand-sorting research without examining how they may differently influence the consumer's cognitive structures of brand categories. Therefore, RQ3 of this study addressed this issue by examining how consumers classified apparel brands under the different models of categorization through an experimental approach. Findings from this study provided a valuable insight into the potential impact of using different models of categorization during brand-sorting tasks, contributing to the methodological advance of research in marketing and other fields that use sorting techniques.

Specifically, this study revealed that the model of categorization the respondents were instructed to use had a direct effect on their cognitive structure of brand-category memberships. Especially, the classical model of categorization resulted in many brand pairs sorted differently than they were when the prototype or exemplar models were used. This result seems to support the literature arguing that the classical model is too restrictive and thus may not be the most practical model of categorization for human categorization (Barsalou, 1992). Participants in the classical model condition were not given any brand names as prototypes or exemplars for the brand categories and were instructed to use only given brand category descriptors for their brand-sorting task. However, the two descriptors given for each category did not seem to provide as rich information as one or two example brand names for the category would have, despite the fact that they were descriptive of the characteristics most frequently associated with the categories. Furthermore, according to the manipulation check results, the classical model participants appeared to have developed the concept of prototype or exemplar brands on their own and used them for their sorting tasks. This finding indicates that marketing researchers need to be knowledgeable about different effects the varying models of categorization can have on a sorting task result and use caution in choosing appropriate participant directions when they design marketing research incorporating sorting tasks.

In addition, the findings from this experiment also provide significant implications for marketers related to the use of comparative advertising. Considering that the prototype and exemplar models seemed to be more effective in making consumers link a brand to a brand category, comparative advertising (juxtaposing a target brand with its competitors) may sometimes provide richer content for consumers. This type of advisement may allow the consumer to process the brand's information in relation to the category of brands it belongs to rather than portraying characteristics of the brand in a descriptive manner. The comparative strategy could especially be beneficial for establishing a new brand in a market by enhancing the possibility of consumers assimilating the new brand with other existing brands that represent a desirable brand category in the consumers' minds.

However, if a marketer intends to set their brand apart from the competition and promote its uniqueness, emphasizing only the target brand's unique characteristics without comparing it to those of other competitors may work better because comparative advertising could inadvertently make consumers notice their similarities rather than differences. Furthermore, the findings from this study suggest that marketers need to pay attention to other brands that may naturally come to the consumer's mind when choosing an advertising message for their target brand. This is because when exposed to

descriptors that are very common to a group of brands, consumers appear to have a natural ability to come up with a prototype brand or a few exemplar brands to which the target brand could be compared.

This study has a few limitations that should be taken into consideration when the findings are examined. First, this study has a sample size limitation in terms of the number of brands included in the Phase 3 survey. Phase 3 used only 15 apparel brands. Because of this limitation, only nonparametric statistics were used to examine the research question. If more brands could be tested and assessed for their brand awareness as well as brand association favorability, there would have been more of a basis on which to test the relationship between brand favorability and brand awareness.

The use of convenience samples in this study also restricts the generalizability of the findings. The sample consisted of only female college consumers from one university. Therefore, the findings may not be applied to other consumer segments. Future research is recommended to examine the brand awareness, brand association, and brand categorization issues addressed in this study with other consumer segments.

In spite of the aforementioned limitations regarding the generalizability of the findings, this study contributes to the apparel branding literature by providing an answer to the long-standing questions of the relationship between brand recall and recognition and the relationship between brand awareness and brand favorability. This study also addressed important theoretical and methodological issues related to the mental processes by which consumers categorize brands in their minds. By finding that different mental processes produce varying brand categorization results, this study provided researchers and practitioners with insights into designing sorting tasks in branding research and creating advertising messages appropriate for the developmental stage of the brand and the advertisement goal.

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References

Aaker, D. A. (1991). *Managing brand equity: Capitalizing on the value of a brand name.* New York: Free Press.

Baker, W. H., Hutchinson, J. W., Moore, D., & Nedungadi, P. (1986). Brand familiarity and advertising: Effects on the evoked set and brand preferences. In R. Lutz (Ed.), *Advances in consumer research* (Vol. 13, pp. 637-642). Provo: Association for Consumer Research.

Barsalou, L. W. (1992). *Cognitive psychology: An overview for cognitive scientists. Tutorial essays in cognitive science.* Hillsdale, NJ: Lawrence Erlbaum.

Braisby, N. (2005). Introduction. In N. Braisby & A. Gellatly (Eds.), *Cognitive psychology* (pp. 158, 167-175). UK: Oxford University Press.

Davies, B. J., & Ward, P. (2005). Exploring the connections between merchandising and retail branding: An application of facet theory. *International Journal of Retail & Distribution Management*, *33*, 505-513.

Hutchinson, J. W., & Raman, K. (1994). Finding choice alternatives in memory: probability models of brand name recall. *Journal of Research Marketing*, *31*, 441-461.

Keller, K. L. (1993). Conceptualizing, measuring, and managing consumer based brand equity. *Journal of Marketing*, *57*, 1-22.

Kellogg, R. T. (1995). Cognitive psychology. In L. E. Bourne Jr. (Series Ed.), *Advanced psychology texts* (pp. 56-58, 167). Thousand Oaks, CA: Sage.

Levitin, D. J. (2002). *Foundations of cognitive psychology.* Cambridge, MA: MIT Press.

Medin, D. L., & Schaffer, M. M. (1978). Context theory of classification. *Psychological Review*, *85*, 207-238.

Pappu, R., Quester, P. G., & Cooksey, R. W. (2005). Consumer based brand equity: Improving the measurement—empirical evidence. *Journal of Product and Brand Management*, *14*, 143-154.

Posavac, S. S., Sanbonmatsu, D. M., Cronley, M. L., & Kardes, F. R. (2001). The effects of strengthening category-brand associations on consideration set composition and purchase intent in memory based choice. In M. Gilly & J. Meyers-Levy (Eds.), *Advances in consumer research* (Vol. 28, pp. 186-189). Valdosta: Association for Consumer Research.

Rossiter, J. R., & Percy, L. (1987). *Advertising and promotion management.* New York: McGraw Hill.

Sirgy, J. (1982). Self-concept in consumer behavior: A critical review. *Journal of Consumer Research*, *9*, 287-300.

Smith, E. E., & Medin, D. L. (1981). The exemplar view. In D. J. Levitin (Ed.), *Foundations of cognitive psychology* (pp. 277-283). Cambridge, MA: MIT Press.

Solomon, M. R., & Ashmore, R. D. (1992). The beauty match-up hypothesis: Congruence between types of beauty and product images in advertising. *Journal of Advertising*, *21*, 23-34.

Sorting. (n.d.). Retrieved January 20, 2007, from http://en.wikipedia.org/wiki/Sorting

Sujan, S., & Bettman, J. R. (1989). The effects of brand positioning strategies, on consumers' brand and category perceptions: Some insights from schema research. *Journal of Marketing Research*, *26*, 454-467.

Washburn, J. H., & Plank, R. E. (2002). Measuring brand equity: An evaluation of a consumer based-brand equity scale. *Journal of Marketing Theory and Practice*, *10*, 46-61.

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