"An Empirical Investigation of the Product's Package as an Antecedent of Brand Personality"

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An Empirical Investigation of the Product's Package as an Antecedent of Brand Personality

Gaëlle Pantin-Sohier, Alain Decrop, Joël Brée

Abstract

Although many studies have been carried out on the measure of brand personality, only a few have focused on marketers' communication efforts to convey particular personality traits to their brands and on the complex process of brand personality creation. David Aaker (1996) and Jennifer Aaker (1997) proposed the idea of interdependence between the physical attributes of the brand and its personality. Developing further this idea, we conducted a series of experiments to test the influence of color and shape on the perception of brand personality traits. The findings suggest that both visual characteristics influence the formation of brand personality traits especially for a new product.

Key words: brand personality, physical attribute, inferences, perception process, color, shape.

Introduction

Aaker (1997, p. 347) defines brand personality as "the set of human characteristics associated with a brand." The term "personality" is not used strictly but as a metaphor. Although brands are not human persons, they can be personified. Bauer, Mäder and Keller (2000) underlined the metaphoric character of brand personality. A brand can be perceived as feminine, robust, audacious and clever. In contrast with brand image, which is considered by practitioners and researchers as "the embodiment of the abstract reality that people buy products and brands for something other than their physical attributes and functions" (Dobni and Zinckan, 1990, p.110), brand personality is a concept which tends to materialize the abstract aspect of brand image by using words which are more often used for human beings. The brand first develops from a physical appearance, i.e., a whole set of objective and salient characteristics. This physical appearance contributes to the "identity card" of the product and works towards reinforcing the product's personality. Otherwise, the formation of brand personality traits remains complex. Even whether it is common to use human traits to qualify a brand, it is difficult to isolate the characteristics of the brand defining a particular trait.

In this article, we choose to analyze this problem in a perceptual sensory perspective and to focus on visual characteristics of the product package, based on the assumption that they can influence the formation of the brand personality traits for a new product. In fact, there is an extensive literature dealing with colors, scents or music in the field of consumer behavior. The first part of this paper investigates how brand personality is created based on former studies about the origin of the concept, its formation and the perception of the brand personality traits. Next, this paper reviews two physical attributes of the product, i.e., color and shape. Their symbolic dimension is highlighted in order to define their role in the formation of the brand personality traits. A third part is dedicated to the study's experimental methods and findings. We conclude this article by discussing its implications, limitations and some avenues for future research.

How is Brand personality created?

The origin of the concept: the influence of communication

Plummer (1984) was the first to focus on brand personality as executive vice president and director of research services at Young and Rubicam USA. According to him (1984), any brand can be described in terms of physical, functional or symbolic attributes. Brand personality is concerned by this third symbolic level. According to Keller (1993), brand personality can play a symbolic function or a self-expressive role for consumers. Considering a brand as old-fashioned, mod-

ern or exotic may result from advertising communications and consumers choose to use these brands only when they reflect their own personality. Plummer (1984) underlines the existence of two dimensions of brand personality. The first is the brand personality statement, which is created by communication agencies, and the second is the brand personality profile, which pertains to the consumer's perceptions and feelings of the brand. There may be a problem when there is discrepancy between these two dimensions, i.e., when brand image is too far away from brand identity because consumers do not understand the values conveyed by the brand.

The formation of brand personality: a complex process

According to Aaker (1997, p. 348), "personality traits come to be associated with a brand in a direct way by the people associated with a brand such as the brand's user imagery […] or in an indirect way through product-related attributes, product category associations, brand name, symbol or logo, advertising style, price and distribution channel (Batra, Lehmann and Singh, 1993)." In her Brand Personality Inventory, Aaker (1997) describes the brand by referring to terms that are normally used for human beings. The final version of the Brand Personality Inventory is composed of 42 traits, 15 facets, and 5 dimensions: sincerity, excitement, competence, sophistication and ruggedness (Figure 1).
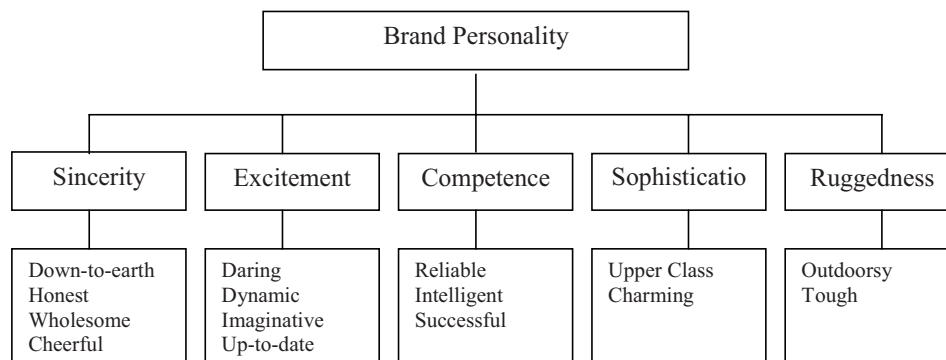

Fig. 1. Brand Personality Inventory (Aaker, 1997)

Aaker's scale has been replicated in different cultural contexts (France: Koebel and Ladwein, 1999; Ferrandi, Fine-Falcy and Valette-Florence, 1999; Germany: Huber, Hermann and Braunstein, 2000; Switzerland: Czellar, 1999; Japan and Spain: Aaker, Benet-Martinez and Garolera, 2001; Russia: Supphelen and Gronhaug, 2003) and appears to be the most reliable tool to measure brand personality.

In this study, we focus on product-related attributes and, more particularly, two physical attributes, namely color and shape. These two aspects may have physiological, psychological, and/or symbolic meanings and may be used to communicate the values of the firm, the product and the brand. For example, the physical structure of an object may entail psychological loads such as calm, serenity, grace, and kindness and convey these loads to the brand. In other words, the physical appearance may convey personality characteristics to the product. Therefore, we suggest that the visual identity of the product defined by its color and shape can influence the perception of a few brand personality traits.

The perception of the brand personality traits: from categorization to inference

Many authors have identified color and shape as antecedents of brand personality but none has investigated the role of these two variables in the formation of brand personality traits. The physical aspects of the product may be useful variables for the company to convey particular personality traits to their brands, which is in line with previous studies (Aaker, 1996; Aaker, 1997; Ogilvy, 1985; Plummer, 1984). The aim of this research is to isolate some elements of the product's package which are likely to affect the formation of brand personality traits. More precisely, we will test the consequences of a variation of color and shape (and their interaction) on the attribution of personality traits to a brand.

According to Bruner (1957, p. 123), "perception involves an act of categorization. Put in terms of the antecedent and subsequent conditions from which we make our inferences, we stimulate an organism with some appropriate input and he responds by referring the input to some class of things or events." In other words, the input is placed in a category through some of its attributes that serve as signals or indices for the category. Moreover, the perception process entails three stages: exposition to information, attention and decoding (information processing). As to this last stage, the consumer can decode intuitively the language of attributes (such as for visuals elements) using "implicit product theories" (Pinson, 1988). The author refers to a selective survey to explain this process. A lot of car manufacturers are using odor (e.g., "new car smell") or noises (e.g., banging the door of the car) to create conscious or subconscious feelings of "newness" or quality. The color of a product may influence expectations about the characteristics of the product. For example, a tranquilizer package could not be red, because red is known to have arousing and exciting effects on behavior, but blue because this color is associated with peacefulness and calm. The shape can also influence the perceived volume or weight of products (Holmberg, 1983). Mitchell and Olson (1981) also discovered the very important role played by inferences in the formation process of attitudes. In their experiments, subjects seemed to use visual information that was not directly related to the product to make inference about the product's characteristics. In fact, "at a descriptive level [results] suggest that subjects, apparently by some inferential process, develop beliefs about brand attributes based on minimal brand-specific information" (Mitchell and Olson, 1981, p. 329).

Although many studies have been carried out on the measure of brand personality, only a few have focused on marketers' communication efforts to convey particular personality traits to their brands. Actually, the perception of brand personality traits can be influenced both by the direct and indirect experiences the consumer has with the brand (Dichter, 1985; Lindquist, 1974-1975; Plummer, 1984).

A large number of variables have been mentioned in the literature as influencing brand personality: brand name, brand symbol or logo, celebrity endorser, color, shape, country of origin, price, music, packaging, sales promotions, etc. (Aaker, 1996; Aaker, 1997; Batra, Lehmann and Singh, 1993; Keller, 1993; Mc Cracken, 1989; Ogilvy, 1985; Plummer, 1984). In this study, we focus on two visual aspects of the product, namely shape and color.

The physical attributes: a main role in the perception of the product

The influence of a sensorial modality: eye-sight

Eye-sight is for sure the more solicited sense of consumers, especially in their ordinary environment. The choice of color or shape in the conception of a new product influences consumers who are sensible to these signals. In fact, color and shape can be interpreted by consumers and can also convey means and values to the brand and the product. For example, color is a factor of identification. In the sector of soft-drinks, green refers to *Seven-up*, red to *Coca-Cola* and blue to *Pepsi-Cola*. In the car-rental industry, yellow is associated with *Hertz* whereas red is associated with *Avis*. Color is a differentiation element for products whose technical characteristics become standardized and banal/trivial. According to Berkowitz (1987, p. 281), "shape in itself, was not of any interest to consumers in terms of its aesthetics appeal" but "shape served as a cue to identify and place the test items in familiar categories." So, identifiable cues like color, shape, price or brand may be used in order to assist with the categorization and evaluation of the product.

The visual, tactile or sonorous perceptions constitute the sensorial profile of the product and allow distinguishing consumers according to their perception preferences. These preferences determine the attribution of the brand personality traits. Consequently, we assume that visual elements of the product may influence the formation of personality traits. This study deals with color and shape as visual elements which are detailed in the following paragraphs.

The perception process of the color

Although most people are not aware of the effects colors may have on them, three aspects in the perception process of colors need to be underlined: the activation level related to the color's

exposition, the ability of colors to attract attention and their ability to generate perceptive illusions. The activation level depends on the optimal level of stimulation, which is the ideal point of arousal to which the individual aspires, and which s/he will try to maintain or restore through his/her behavior. The physiological and psychological responses to colors have been investigated many times (Warden et Flynn, 1926; Nakshian, 1964; Wilson, 1966). For example, Nakshian (1964) showed that red was more stimulating on the organism than green as measured by blood pressure, the heart rate or the rhythm of breathing. According to Wilson (1966), red is a more "arousing" color than green and this effect is even more obvious when considering the Galvanic Skin Response (p< .002). According to Dooley and Harkins (1970), colored ads are able to provoke emotions. Bellizi and Hite (1992) tested the effects of red and blue in a shopping-related context. They found that "more positive retail outcomes occurred in blue rather than red environments. More stimulated purchase postponements and a stringer inclination to shop and browse were found in blue retail environments. [...] The results indicate that the affective perception of color rather than the arousal dimension of color may be responsible for the outcome" (Bellizzi and Hite, 1992, p. 347). Moreover, the presence of colored stimuli would involve a more frequent activation of the emotional register within the brain.

The capacity of colors to draw attention is a very relevant question in marketing, especially for the advertising industry and in product development (i.e., developing packages and the visual identity of the brand). Favre and November (1979) carried out an experiment in order to know which colors were catched by the eyes the most easily. So, they showed a surface in various colors for a fraction of a second by means of a tachistoscope and people were asked to indicate the first color they perceived. The results read as follows: orange (21,4%) and red (18,6%) attract attention best of all. They note the high position of blue (17%) and the lower position of yellow (12%). These results could explain the frequent use of red in advertising and product design (*Marlboro*, *Ferrari*, *Coca-Cola*). Moreover, through their meanings, symbolism and personality, colors may influence/explain consumer behavior. For example, red is a dynamic and exciting color whereas blue is considered as calm, relaxing, and even soporific. However the meanings associated with colors are related to cultures and may vary from country to country. For example, "soft drinks labels are strongly viewed as red in the U.S., less strongly viewed as yellow in Japan and South Korea, and only moderately identified with brown in China. Most U.S. respondents perceived a cigarette pack to be black, while Chinese view it as gray" (Jacobs and al., 1991). Finally, Gorn and al. (2004) have found that a computer screen's background color influences the perception of how fast a web page might be downloaded. They suggest that colors that induce more relaxed feelings lead to the perception that downloading will go faster.

Finally, a color can generate perceptive illusions. The evaluation of a colored surface may vary according to its hue and value: a blue area will look smaller than the same yellow area. In the same way, the volume of a room or an object may seem more or less tall depending on whether it is bright or dark (Kwalleck, 1996). According to Kwalleck (1996), the white office was flavored in terms of several environmental characteristics and also preferred over many colors as an appropriate office color. According to the author, subjects did this choice because white or off-white offices appear to be accepted as a norm and are ubiquitous even if subject's work performance was less efficient in a white office as compared to other subject's performance in a red or green office (Kwalleck and Lewis, 1990). Color can also modify the perception of the size and the weight of objects (Warden and Flynn, 1926; Bevan and Dukes, 1953). For example, Bevan and Dukes (1953, p.288) found that "statistical evaluation of ratios of judged area to actual area reveals reliable errors of overestimation, comparable in magnitude, for the red and yellow cards, no error for blue or green".

The role of the shape

The shape can be defined as any visual element with an outline (Alluisi, 1960; Attneave and Arnoult, 1956). Shape or figure is central in Gestalt theory since it lies at the origin of the perceptual process (i.e., perception is possible only when a figure dissociates from a ground).

Even though the shape is a major element in designing products, there are very few studies on its influence on consumer behavior (Berkowitz, 1987; Vihma, 1987; Bloch, 1995, 2003). Prior studies focused on perceptual categorization and on the psychological meanings of the shape.

In fact, it is easy for a consumer to identify bottles of *Heinz Ketchup*, *Coca-Cola*, *Chanel Number 5* or *Jean-Paul Gaultier* perfume even when brand labels are removed. These shapes allow us to categorize these product and differentiate them from their competitors. In an empirical study, Berkowitz (1987) discussed the role of product shape in innovation strategies for food. He showed that the more natural shape product (i.e., a corn on the cob) was preferred to the trimmed squared-off shape (whereas this commercial version has functional benefits in terms of ease of preparation and cleaning up, handling and convenience in cooking). In another study, Dichter (1971, p. 16a) showed that "people associate sweetness with roundness, bitterness with non-round, particularly triangular shapes." The shape may also induce emotions, attitudes and spontaneous consumer behaviors but also perceptive illusion. Krider, Raghubir and Krishna (2001, p. 421) showed that "the manner in which information is presented affects the relative salience of dimensions used to judge areas, and can influence the price consumers are willing to pay". Their paper highlights biases in area comparison judgments as a function of area shape and size. Moss (1995) studies the differences in the design aesthetic of men and women and their implications for product branding. Works in the area of constructions, drawings and paintings have distinguished differences between males and females. Moss (1995) looks at male versus female consumers reactions. Her findings showed clearly that there is a tendency for males to rate the work of males more highly than females do and vice versa for women. Moss (1995) stressed on the importance of these findings for product branding and maintains that a company with a largely female market would do well to concentrate on employing female designers in order to convey the product to success (for example the Cacharel Anaïs Anaïs bottle designed by a female designer is a Britain best-selling perfume).

Finally, "the consumer's relationship with packaging is not passive; packaging establishes the personality of the brand" (Lancaster, 1988, p. 29). In fact, we have seen that color and shape may influence consumers' attention and emotions. The physical structure of the object is supposed to have a psychological load, which may affect brand personality traits.

Experiment

As discussed previously, the variation of the color and the shape of a product can alter brand personality. We suggest that color and shape can (both separately and in combination) modify the perceived personality of the brand (on each dimension). So, we propose the following hypotheses:

H1: Changing the color of a product package modifies the brand personality

H2: Changing the shape of a product package modifies the brand personality

Subjects and design

Two experiments have been carried out on 638 subjects in order to test these hypotheses for two products (i.e., a bottle of mineral water and a coffee tin). 361 undergraduate students from the University of Maine participated in experiment 1 and 277 from the University of Caen in experiment 2. We used a between subject design with four experimental conditions (Table 1 and Table 2). Subjects were randomly assigned to one of these experimental conditions.

We chose two products that allow all kinds of combinations of color and shape, i.e., a bottle mineral water and a coffee tin. For mineral water, an English brand (called Ty Nant) was selected. It is unknown in France by students because this water is very expensive and its distribution channels are very selective. We did not choose the color of the bottle because it already exists in three colors (blue, yellow and red); so we selected blue and red because these are opposite colors in the chromatic circle and we manipulated the shape. For the coffee tin, a German brand (Jacob's Krönung) was chosen. We tested subjects' familiarity with this brand to make sure that they did not know it before. Blue and red were not used for this second product because these colors have strong connotations as far as coffee is concerned. Coffee in a blue tin refers to decaffeinated whereas coffee in a red tin is believed to be very strong. That's why we chose more neutral colors, i.e., yellow and violet.

Table 1

Experiment 1 (Bottle of mineral water)

		Color	
		Blue	Red
Shape	Tall and Tight	Bottle n°1 n=88	Bottle n°3 n=80
	Small and Wide	Bottle n°2 n=115	Bottle n°4 n=78

Table 2

Experiment 2 (Coffee Tin)

		Color	
		Yellow	Violet
Shape	Rectangular	Coffee Tin n°1 n=67	Coffee Tin n°3 n=75
	Cylindrical	Coffee Tin n°2 n=70	Coffee Tin n°4 n=65

Procedure

Subjects were told that they would be exposed to a new product package (presented as a picture projected on a screen) and would be asked some questions about it. We did not use product prototypes because of their cost. Two computer graphics artists created new packages on the basis of two existing products. They changed the color and shape of the product to match the experimental conditions described in Tables 1 and 2. The new package was shown to groups of about 20 students in a classroom. Subjects were then asked a few questions about the brand's personality.

Dependent variable: brand personality

Brand personality was measured through Aaker's (1997) 42-item scale (each item being measured on a 5-point Likert scale). This scale has been translated into French using the back-translation technique (Douglas and Craig, 1983; Usunier, 2000) and has been pretested twice (with 220 students for the bottle of mineral water and two brands: Evian and Perrier and with 149 students for the coffee and two brands: Carte Noire and Grand-Mère). The procedure outlined by Churchill (1979) has been followed in the scale purification stage. The final structure contains the same dimensions as in Aaker's (1997) Brand Personality Inventory but not exactly the same number of items. A 14-item scale has finally been preferred after several factor analyses because it yielded more stable results (Tables 3 and 4).

Table 3

Factor solution for the brand personality scale (bottle of mineral water)

Item	λ Total	Λ Bootstrap	SD	t-statistic	Jöreskog's ρ	Cronbach's α
Excitement					**0,70**	**0,78**
Trendy (EXC2)	0,739	0,742	0,042	17,67		
Dynamic (EXC4)	0,638	0,633	0,046	13,76		
Cool (EXC5)	0,741	0,743	0,040	18,57		
Young (EXC6)	0,619	0,616	0,048	12,83		
Sophistication					**0,60**	**0,69**
Good looking (SOP3)	0,677	0,667	0,049	13,61		
Charming (SOP4)	0,786	0,790	0,047	16,81		

Table 3 (continuous)

Item	λ Total	Λ Bootstrap	SD	t-statistic	Jöreskog's ρ	Cronbach's α
Competence					**0,65**	**0,68**
Intelligent (COM4)	0,662	0,665	0,047	14,15		
Corporate (COM6)	0,619	0,619	0,054	11,46		
Confident (COM9)	0,662	0,658	0,050	13,16		
Sincerity					**0,58**	**0,61**
Honest (SIN4)	0,538	0,539	0,067	8,04		
Sincere (SIN5)	0,658	0,655	0,063	10,4		
Real (SIN6)	0,575	0,579	0,068	8,51		
Ruggedness					**0,60**	**0,62**
Tough (RUG4)	0,617	0,600	0,085	7,06		
Rugged (RUG5)	0,728	0,741	0,092	8,05		
Goodness of fit indicators						
GFI	0,927					
AGFI	0,893					
RMSEA Confidence Interval	0,068 [0,057 ; 0,080]					

Table 4

Factor solution for the brand Personality Scale (coffee tin)

Item	λ Total	Λ Bootstrap	SD	t-statistic	Jöreskog's ρ	Cronbach's α
Sincerity					**0,59**	**0,62**
Sincere (SIN5)	0,580	0,572	0,077	7,43		
Real (SIN6)	0,573	0,560	0,082	6,83		
Wholesome (SIN7)	0,644	0,647	0,079	8,19		
Excitement					**0,70**	**0,72**
Trendy (EXC2)	0,660	0,660	0,059	11,19		
Dynamic (EXC4)	0,612	0,615	0,061	10,08		
Cool (EXC5)	0,689	0,685	0,057	12,02		
Young (EXC6)	0,543	0,540	0,061	8,85		
Sophistication					**0,77**	**0,81**
Glamorous (SOP2)	0,690	0,690	0,047	14,68		
Good looking (SOP3)	0,811	0,812	0,035	23,2		
Charming (SOP4)	0,804	0,803	0,034	23,62		
Competence					**0,49**	**0,51**
Intelligent (COM4)	0,584	0,594	0,106	5,6		
Corporate (COM6)	0,580	0,587	0,102	5,75		
Ruggedness					**0,51**	**0,33**
Tough (RUG4)	0,208	0,206	0,068	3,03		
Rugged (RUG5)	0,976	0,976	0,002	488		
Goodness of fit indicators						
GFI	0,913					
AGFI	0,875					
RMSEA Confidence Interval	0,072 [0,059 ; 0,074]					

These items were then used in the final questionnaire on 5-point Likert scales.

Results

A series of multivariate analyses of variance (MANOVA's) were run with color and shape as the independent factors and brand personality traits as the dependent variables.

Bottle of mineral water

On the one hand, findings reveal that the shape of the bottle has a significant effect (at the .10 level) on two dimensions of brand personality: sophistication and excitement (Table 5).The tall and tight bottle looks more sophisticated and less exciting than the small and wide bottle. On the other hand, color affects three dimensions of brand personality: competence, sophistication and excitement. The red bottle is perceived as more competent, crude and exciting than the blue bottle. These results support H11 and H12.

Table 5

Cell means for brand personality (bottle of mineral water)

Independent Variable	Dependent Variable	Mean level 1*	Mean level 2**	F-statistic	p-value
Shape	Sincerity	5,0663	5,0687	0,021	0,885
	Competence	5,6126	5,6531	0,103	0,748
	Ruggedness	3,6615	3,7826	2,194	0,139
	Sophistication	4,8685	4,4054	6,114	0,014
	Excitement	7,4731	7,8574	3,521	0,061
Color	Sincerity	5,0770	5,0553	0,039	0,843
	Competence	5,4989	5,8081	2,943	0,087
	Ruggedness	3,6506	3,8235	1,855	0,174
	Sophistication	4,4540	4,8354	4,083	0,044
	Excitement	7,1749	8,3257	17,521	0,000
Color∗shape	Sincerity	-	-	1,445	0,230
	Competence	-	-	0,037	0,847
	Ruggedness	-	-	9,709	0,002
	Sophistication	-	-	1,363	0,244
	Excitement	-	-	2,536	0,112

* shape: tight and tall; color: blue ** shape: small and wide, color: red

Moreover there appears to be a significant interaction effect between color and shape for the ruggedness dimension. The red bottle is perceived as more rugged when it is small and wide than when it is tall and tight (Figure 2).
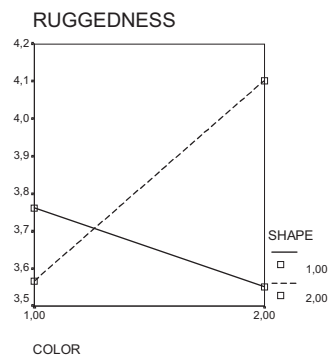

Fig. 2. Interaction effect between color and shape on ruggedness (bottle of mineral water)

Coffee tin

Results show that color influences three dimensions of brand personality: excitement, sophistication and competence (Table 6). The violet coffee tin is seen as more exciting, sophisticated and competent than the yellow one. In contrast, the shape only affects the ruggedness. The rectan-

gular coffee tin is perceived as cruder than the cylindrical tin. Finally, there is an interaction effect between color and shape for the excitation dimension. The yellow coffee tin is more exciting when it is rectangular whereas the violet tin looks more exciting when it is cylindrical. Again these results are in line with hypotheses H1 and H2.

Table 6

Cell means for brand personality (Coffee tin)

Independent Variable	Dependent Variable	Mean Level 1*	Mean level 2**	F-statistic	p-value
Color	Sincerity	5,1499	4,9216	1,946	0,164
	Excitement	5,6278	6,8528	23,250	0,000
	Sophistication	5,5042	6,5607	15,176	0,000
	Competence	3,0070	3,2165	2,853	0,092
	Ruggedness	3,1192	3,0135	0,945	0,332
Shape	Sincerity	5,0495	5,0187	0,062	0,804
	Excitement	6,1816	6,3156	0,522	0,471
	Sophistication	6,0064	6,0717	0,170	0,680
	Competence	3,1433	3,0809	0,184	0,668
	Ruggedness	3,2183	2,9053	6,354	0,012
Shape ∗Color	Sincerity	-	-	0,084	0,772
	Excitement	-	-	4,560	0,034
	Sophistication	-	-	0,609	0,436
	Competence	-	-	0,301	0,584
	Ruggedness	-	-	0,435	0,510

* shape: rectangular; color: yellow ** shape: cylindrical; color: violet

An interaction effect appears between color and shape concerning the excitement dimension. When the color of the coffee tin is yellow, the rectangular shape reinforces the exciting character of the coffee. Moreover, the cylindrical shape is perceived as more exciting than the rectangular one when the coffee tin is violet (Figure 3).
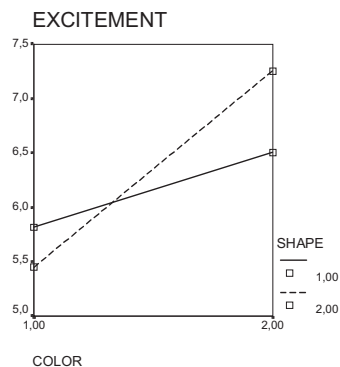

Fig. 3. Interaction effect between color and shape on excitement dimension (Coffee tin)

General Discussion

This article examined the effects of color and shape on perceived brand personality. We hypothesized that these two visual characteristics of the product package may contribute to the attribution of personality traits. There is a growing body of empirical evidence that color and shape

are two antecedents of brand personality. Our hypotheses got empirical support from two experiments in which these two visual characteristics of two products (i.e., a bottle of mineral water and a coffee tin) were manipulated. We also found some significant interaction effects between color and shape on some dimensions of brand personality (ruggedness in the case of mineral bottle of water and excitement in the case of coffee tin). Aaker (1997, p. 354) said that "the brand personality framework and scale developed in [her] research also can be used to gain theoretical and practical insight into the antecedents and consequences of brand personality, which have received a significant amount of attention but little empirical testing". These findings have theoretical value because they determine how two physical variables (color and shape) influence independently and interdependently brand personality. They show the power of packaging in the perception process. Empirical results confirm the contribution of color and shape to the development of brand personality, both separately (main effects are significant) and in combination (significant interaction effects).

As to the managerial implications of this study, findings suggest that color and shape could be used by brand managers and designers in order to develop positioning strategies and to communicate appropriate messages through the brand personality they help to create. We learned from this experiment which color or shape have to be used in order to convey traits such as trendy, dynamic or good looking. We know that it's possible to combine the effects of color and shape to reinforce such brand personality traits. For example, the physical characteristics of the Perrier Fluo, which now comes in 3 colors (blue, yellow and pink) help to express the extravert and out of line personality of the brand. Perrier create a new generation of drinks for young people with a hedonist character and an anti-conventional lifestyle.

There are still many challenges left in the field of visual characteristics and brand personality. First, this research considered only two physical variables of the product. The effect of other marketing variables (user imagery, brand logo, brand name, celebrity endorsers) on brand personality could be investigated as well. Second, stimuli were presented in two dimensions. It would be more appropriate to develop actual 3-D prototypes in order to create a real sensorial effect. Actually, few studies have dealt with a material implying touch as another sense. Finally, this research could be extended to other types of products such as cosmetics. For example, Fructis shampoo (Garnier) was the first to use bright and fluorescent apple-green color. This color conveys values to the brand such as strength and vitality without evoking plastic and artificial aspects. Shape can also help to sell products to men when they were previously dedicated to women. It's the case with *Jean-Paul Gaultier* make-up for men. All his make-up packages for men are black, with angles and soft rubber. It's now a success because these items refer to masculinity and strength and differentiate themselves from packages make-up for women even if they use the same make-up (compact bronzing powder, lipstick and day cream). This research could be replicated with other media such as newspaper ads, television spots or internet pages. Finally, this study could be conducted with other samples such as kids for whom color and shape of the product may be major attributes (toys or fruits syrups for example).

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