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FOREIGN BRANDING AND ITS EFFECTS ON PRODUCT PERCEPTIONS AND ATTITUDES: A REASSESSMENT

Barney Pacheco

A Thesis
In
The Faculty
of
Commerce and Administration

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Montreal, Quebec, Canada

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ABSTRACT

Foreign Branding and its Effects on Product Perceptions and Attitudes: A Reassessment

by

Barney Pacheco

Considerable effort has been expended by researchers in ascertaining whether country of origin affects product evaluations. The majority of studies indicate that COO does indeed affect the way consumers perceive and evaluate products. One of the recent contributions to research in this area is the study conducted by Leclerc, Schmitt and Dubé (1994) which focused on the effects of foreign branding - the strategy of spelling or pronouncing a brand name in a foreign language. The major conclusion of the Leclerc et al. (1994) study was that foreign branding can be an effective means of influencing consumers' perceptions and attitudes. The present research is the first attempt to replicate and extend those findings.

Experimental stimuli similar to that used in the Leclerc et al. (1994) study were administered to subjects to examine their reactions to products with English, French or Italian brand names originating from four different geographic regions. Only partial support was found for the findings of Leclerc, Schmitt and Dubé (1994). The results revealed a significant gender effect with females liking French names more than males. Foreign branding also appeared to increase levels of perceived product hedonism among males but to have the reverse effect on females. The findings also seemed to suggest that foreign branding was more effective than COO information in influencing product evaluations.

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INTRODUCTION

Consumers in modern capitalist societies are constantly bombarded with images ranging from fast-paced TV advertisements to loud 30 second soundbites on the radio. Inevitably, the existence of images leads to the stereotyping of objects. Stereotyping is one of the techniques which people use as a means of coping with the world around them. Stereotyping begins in the form of generalizations abstracted from a limited number of observations; and if the number and scope of observations about the object (ie. familiarity with it) increases, the stereotype is likely to move closer to "objective reality" (Papadopoulos, 1993).

Evidence presented by Hong and Wyer (1989; 1990) suggests that consumers have well developed stereotypical beliefs about products that originate from other countries. This is what is referred to as the country-of-origin (COO) effect. The majority of studies that have investigated the country-of-origin effect over the past 30 years indicate that COO does indeed affect the way consumers perceive and evaluate products. This holds for products in general (Bannister and Saunders, 1978; Nagashima, 1970); for classes of products (Gaedeke, 1973; Reierson, 1966) and for specific brands (Yaprak, 1978). Proof that practitioners believe in the COO effect is found in a recent interview with Bernard Amault, Chairman of Louis Vuitton Moët Hennessey, the world's biggest luxury group and producers of such upscale products as Dior perfume and Christian Lacroix clothing. In discussing the company's decision to build a new factory in France to cater to the

booming Asian market he stated: "We don't produce in China, we sell there. In our sector you need a European identity and that means producing [in Europe]" (Arnault, 1995, p. 116).

Research that has examined the effect of country-of-origin when it is the only cue presented to subjects have not surprisingly found a significant COO effect. On the other hand, the findings of COO research that has examined the effect of COO information in a multi-cue setting can best be described as equivocal. Tse and Gorn (1993) for instance, found that contrary to popular thinking, country-of-origin was an equally salient and more enduring factor than a well known brand name. Additionally, a conjoint analysis of consumers' decision behaviour conducted by Ettenson (1993) in three East European countries revealed significant differences in the use of COO information. Akaah and Yaprak (1993), however, demonstrated that the influence of country-of-origin on product evaluations was relatively weak when examined in the context of multiattribute modelling.

One of the recent contributions to research in the area of country-of-origin (COO) effects is the study conducted by Leclerc, Schmitt and Dubé (1994). In that study, the authors focused on foreign branding - the strategy of spelling or pronouncing a brand name in a foreign language - both as a single cue and in conjunction with COO information and examined its impact on the little researched dependent variable of product hedonism. So far, however, no study has replicated the basic findings of Leclerc et al. (1994) that "foreign branding can be an effective means of influencing consumers' perceptions and

As Leone and Schultz (1980) have pointed out, replication studies are important, because the ability to generalize research is based on the finding of supportive evidence in replicative work. Replication and extension research helps to determine which results are valid, which are reliable and which do or do not generalize (Campbell and Jackson, 1979). Rosenthal and Rosnow (1984) have further suggested that a minimum of 15 studies are necessary to demonstrate that a single statistically significant result is tolerant of unpublished null results on the same relationship. Despite the stated importance of replication, however, in practice the issue appears to be taken far more seriously in the physical sciences than in the social sciences. Proof of this can be found in a study conducted by Hubbard and Armstrong (1994) who examined 1,120 papers culled from three major marketing journals, but were unable to find a single replication. This lack of published replications prompted the authors to conclude that "replication is rare in marketing" (p. 233). The present study is thus an attempt to contribute to a body of replication in the social sciences. In addition we also seek to extend the Leclerc et al. (1994) study and test the generalizability of their research findings.

Leclerc et al. (1994) concluded their paper by calling for further research into the effects of foreign branding on product perceptions and suggested several directions in which such research could go. The current study provides a response to that call and also extends their study in several other ways. First, in the present study Italian brand names are

introduced in response to the call by Leclerc et al. (1994) to use other languages with the same cultural dimensions as French in operationalizing foreign branding. Second, the various brand names are tested for a greater number of geographic regions than had been previously used. Furthermore, the present study looks not only at evaluations of products from several countries but also examines consumers' reaction to products originating from a region within a country. This partitioning of COO information allows us to investigate whether subjects' perceptions of products vary based on whether the product originates from a manufacturer at the regional or national level.

Additionally, the Leclerc et al. (1994) study is replicated in a more cosmopolitan setting in the present research, using subjects who have been greatly exposed to foreign languages and cultures. This is in contrast to the Leclerc et al. (1994) study which used undergraduate students from a university on the east coast of America. These subjects arguably had significantly less exposure to foreign cultures than the ones in the present study. One might speculate that this degree of insularity may have contributed to the stark differences in perceptions of French versus English brand names.

Another extension of the Leclerc et al. (1994) study is the use of gender-neutral and country-neutral products to test the effect of foreign branding when COO information is not provided. Both the hedonic and hybrid products used in the Leclerc et al. (1994) study were personal care products that the French have a strong reputation for producing. The particular products chosen were also skewed towards usage by women (fragrance,

nail polish, shampoo and deodorant). The current study avoids this gender and country bias by using other products taken from the Leclerc et al. (1994) study, specifically, sunglasses and a stuffed toy.

A further contribution that this study seeks to make is its investigation into how foreign branding functions when other product information is available. Previous research has shown that the COO cue may serve as a proxy variable when other information is lacking, but is perceived as simply another product attribute when intrinsic attribute information is available (Hong and Wyer, 1990; Huber and McCann, 1982). As an extension of the findings by Leclerc et al. (1994) that brand name and COO function similarly when they are the single cues, we investigate whether the effect of foreign branding is sustained when information about additional product attributes is made available.

Another way in which we extend the Leclerc et al. (1994) study is our investigation of gender differences in evaluating brand name and product hedonism. Previous authors have highlighted differences between the genders in the way they process information and form judgements (Holbrook, 1986; Meyers-Levy and Sternthal, 1991). Harris, Garner-Earl, Sprick and Carroll (1994) also found that females, more than males, tended to show a preference for French brand names over English names. To our knowledge, however, this is the first attempt to examine the interaction of gender with foreign branding as an explanation for the formation of hedonic product evaluations.

Finally, a scale for measuring country hedonism is developed, validated and used in the present study. According to the framework advanced by Leclerc et al. (1994) the cultural stereotype associated with a particular country is the basis for the foreign branding effect. The authors argued that products associated with a country that has a hedonic image would be perceived as more hedonic than products associated with a country that did not have such an image. Leclerc et al. (1994) did not, however, actually measure the hedonic image of the countries used in their study, but selected countries that are commonly thought to possess a hedonic image or not. In the current study the country hedonism scale was used to measure subjects' perceptions of the various countries included in the study. The country hedonism scale developed in this study may prove to be of some use to researchers investigating the effect of foreign branding in the future.

The objectives of this study are thus three-fold:

- 1. to replicate the Leclerc et al. (1994) study and determine the generalizability of their findings to different populations and geographical areas.
- 2. to extend the Leclerc et al. (1994) framework by investigating the previously untested influence of gender on the efficacy of foreign branding.
- 3. to investigate whether foreign branding significantly influences product perceptions when other product attributes are made available.

In the section that follows we review the theoretical literature relevant to the issues outlined above. We then present several hypotheses and propose a methodology for

testing them. The paper concludes with a discussion of findings and their implications as well as directions for future research.

LITERATURE REVIEW

Perceived Hedonism

The empirical investigation of hedonic response in consumption is a recent phenomenon, with most relevant research dating from the early 1980's (Hirschman and Holbrook, 1982; Holbrook, 1980). The importance of studying the role of affect and emotions in consumer behaviour arose from the flurry of activity and heated debates surrounding the rise of post-positivist research during this period. Interest in this area has been stimulated by the pioneering work of Holbrook and his colleagues who proposed a "hedonic" or "experiential" perspective of consumer behaviour as opposed to the traditional notion of instrumental or utilitarian performance whereby the product is seen only as performing a useful function.

The theoretical origins of the hedonic perspective can be traced to the literature on symbolic consumer behaviour (Levy, 1959), motivation research (Dichter, 1960) and experimental aesthetics (Berlyne, 1971). The hedonic perspective emphasizes the study of consumption phenomena and the hedonic responses of consumers during consumption and usage experiences. Under the hedonic consumption framework products are viewed not as objective entities but rather as subjective symbols. Product image, not strict reality, is a central focus; consumer emotive response, rather than just semantic learning, is a key criterion (Hirschman and Holbrook, 1982).

The hedonic/utilitarian (H/U) approach suggests that consumer attitudes towards product categories are inherently bidimensional. The hedonic component is related to sensory attributes, while the utilitarian component is related to functional and non-sensory attributes. Batra and Ahtola (1990) proposed an operational approach to product evaluation based on the utilitarian and hedonic view. In their article the authors presented three studies designed to establish the reliability and validity of measurement scales for the two constructs. Based on the results of these three studies, Batra and Ahtola (1990) suggested a number of bipolar semantic differential descriptors that "can be used to measure the hedonic and utilitarian components reliably and validly" (p.169). The items selected to measure the utilitarian component of brand attitudes were useful/useless, valuable/worthless, beneficial/harmful and wise/foolish; the hedonic component of brand attitudes was measured by the items pleasant/unpleasant, nice/awful, happy/sad and agreeable/disagreeable.

A study attempting to examine the properties of Batra and Ahtola's (1990) scales with regard to product categories was conducted by Crowley et al. (1992). The authors provided supporting evidence that the H/U dimensions of consumer attitudes are separate and measurable, but reported great difficulty in applying the Batra and Ahtola (1990) scales to product categories as opposed to specific brands. Indeed, the majority of product categories examined ranked above the scale mean on both the hedonic and utilitarian dimensions. The findings of this study also indicated that for several product categories the H/U scales represented a single construct rather than separate and distinct

components. Perhaps the most interesting finding of the study, however, was the apparent interaction between involvement and H/U ratings. This interaction effect prompted the authors to conclude their paper with a call for further research into this relationship.

The H/U construct has also been incorporated into a model of the post-consumption experience by Mano and Oliver (1993). Using undergraduate students as subjects, the authors were able to show that the two primary dimensions of product evaluation - utilitarian and hedonic judgement- were causally antecedent to two dimensions of affect - pleasantness and arousal- and to product satisfaction. The study's findings were somewhat inconsistent with past research on the dimensionality of evaluation. Specifically, while the utilitarian scales were highly correlated with both satisfaction and the hedonic scales, they were not related to affect. The authors argued that their findings lend support to the idea that hedonic evaluation is mostly affective, while utilitarian evaluation is mostly cognitive.

In a recent study Leclerc, Schmitt and Dubé-Rioux (1989) looked at two product classes they called hedonistic and utilitarian. As defined in the article, hedonistic products are described in terms of the pleasure associated with their use, while utilitarian products are described in terms of the functional benefits they provide. Leclerc et al. (1989) went on to demonstrate that a French pronunciation of a brand name was liked better for hedonistic products, while an English pronunciation was liked better for utilitarian products. They were also able to show that for hybrid products (i.e., those containing

both hedonic and utilitarian properties), a French pronunciation highlighted the hedonistic aspects of the product while an English pronunciation highlighted the utilitarian dimension of the product. As Harris et al. (1994) have pointed out, however, Leclerc et al. (1989) confounded product class with gender, in that the hedonistic products were all heavily skewed toward women. Also, the language of pronunciation was not clearly identified as a country of origin (i.e., the researchers assumed that respondents would infer that products with a particular brand name were made in the countries associated with that brand name but there was no check to see if this association was actually made). Finally, Leclerc et al. (1994) admitted that the within-subject design used in their previous (1989) study may have accentuated the brand name effect.

The Influence of Brand Names

A brand can be a name, a symbol, a design or any combination that serves to identify the firm's product or service (Shipley et al., 1988). Kotler (1986, p. 302) defines the brand name as "that part of a brand which can be vocalized - the utterable" or more specifically, the language components of the brand name in the context of international business (Chan, 1990).

Choosing a brand name for a product, however, is a difficult task and may have serious commercial repercussions, ranging from the disastrous to the bonanza (Harris et al., 1994). In the context of international business, branding is further complicated by problems including language, nationalism and cultural differences (Jain, 1987). Cravens et al.

(1987) also noted that, because communication is central to marketing, language differences are critically important in the international environment.

Some suggestions to aid companies in selecting a brand name can be found in the academic literature. Collins (1977) proposed that a brand name should be unique, short, suggestive of the product, distinctive and pronounceable in several languages. Others have pointed out that a new product name should be easy to pronounce, potentially memorable and it should maximize product positioning (Feakins, 1980). This literature has been criticized by some authors for being based upon intuitive rules-of-thumb that lack a strong theoretical foundation (Leclerc, Schmitt and Dubé-Rioux, 1989).

Pavia and Costa (1993) recently conducted research on the effect of alpha-numeric brand names - a name that contains numbers either in digit or written form. The authors collected data via a survey questionnaire that was mailed to 1000 randomly selected households in the western United States. Their findings indicated that alpha-numeric brand names are considered appropriate for products that do things and with which one is active. They are more appropriate for serious, not sensual, products and for modern, not traditional, products. Products that were deemed inappropriate for being called by alpha-numerics included home furnishings, luxury products, baby products and foods such as meat or ice cream.

In their classic paper, Gardner and Levy (1955) pointed out that the long-term success of

a brand depends very much on marketers' abilities to select a brand meaning before the market entry, operationalize the meaning in the form of a brand image and maintain the image over time. Kinnear and Taylor (1973) have shown that image is related to the brand in at least two ways. First, the brand name contributes to the image; and second, it is through the brand name that image is projected. Robertson (1987), for instance, examined the effect of high versus low imagery brand names and found that high imagery brand names were easier to recall across a variety of product categories.

An image variable could also have a direct influence on attitudes as well. For example, Erickson, Johansson and Chao (1984) suggested that a brand name may provoke an emotional reaction which carries over to attitude toward the brand. Additionally, Zinkhan and Martin (1987) examined consumer attitudes toward hypothetical brand names for ice cream and cameras. They found that products with brand names that were typical of their product category were perceived more positively than products with atypical names. The implication drawn from that study is that based on a product name alone, customers form instant, non-neutral attitudes about the product that can prove difficult to change through the use of subsequent communications (Zinkhan and Martin, 1987).

Peterson and Ross (1972) tested whether consumers would associate certain words and sounds with particular product categories. They presented their respondents with a screened, computer-generated list of nonsense words and asked them to rate the appropriateness of the words for breakfast cereals and detergents. Respondents reported

that some words sounded like cereal while others sounded like detergent. For example, "Dics and Whumies" were associated with breakfast cereal while "Dehax and Nemlads" were not. The authors argued that consumers have a preconceived notion of how brands should be named in a given product class and they seem to respond positively when there is congruence between brand name and product class.

A related argument has been advanced by Mehrabian and De Wetter (1987), who proposed that products convey a wide range of connotations to consumers and that product appeal can be enhanced by selecting a name that conveys a desirable subset of these connotations. They found that discrepancies between the emotional connotations for the product and the connotations implied by the product's brand name could aid in predicting product preferences.

Country-of-Origin

The challenge confronting marketers in the country-of-origin area is not unlike the situation with branding (Papodoupolos, 1993): some buyers will insist on buying Kellogg's cornflakes while others will purchase any cereal that is carried by their local supermarket or is on sale. Similarly, certain consumers refuse to buy anything but French wines while others do not care where the wine comes from as long as it is cheap and tastes good. The influence of such origin identifiers on consumer product evaluations and purchase decisions is what is commonly referred to as the country-of-origin effect.

As markets become more globalized and the concept of the world as a "global village" gains in popularity, the debate has increasingly focused on how governments can successfully market their country image to derive a competitive advantage. In the past, origin-based brand names and advertising themes were selected to reflect the actual origin of the product. An increasingly common trend in today's global markets, however, is the borrowing of strong origin images (brand names in particular) to enhance or distinguish the image of brands which have little or no relation with the origin in real terms (Papadopoulos, 1993). Prime examples of this include Alpenweiss wine (produced in Canada), Haågen Dazs ice cream (manufactured in the U.S.A.) and the Mazda "Miata" and Honda "Del Sol" automobiles, both made in Japan.

Judging from published empirical results, however, certain consumers are unaware of the country of origin while others search for such information (Hampton, 1977; Reierson, 1966). Some critics have argued that consumers care more about the product quality, price, design and value than about where the product was made (Ohmae, 1989, p.144). Others point out that labels are often hard to locate and read and more often than not go unnoticed.

In defending COO research against these attacks, Papadopoulos (1993) argues that much of the criticism stems from misunderstandings concerning what the phrase "Made in 'label'" means. The failure to recognize the impact of country cues is attributed to critics' prevailing tendency to focus on the narrow issue of whether consumers notice product

labels or not. The author points out that such an approach fails to appreciate the wider significance of country images and their relationship with products. A brief overview of the research conducted on the COO effect is contained in the following pages.

The first published piece of research on the COO phenomenon was conducted by Robert Schooler (1965). Schooler found that Guatemalan students gave lower evaluations to products made in El Salvador and Costa Rica than to domestic and Mexican products. Subjects' evaluations were also found to be correlated with a general negative attitude toward people from those countries. Later studies by Nagashima (1970, 1977) indicated that different countries have acquired distinctive images in consumers' minds in specific product categories. Nagashima (1977) found that Japanese respondents perceived Germany to be particularly good in the manufacture of luxury cars, France in cosmetics and the US in large computers and airplanes.

In their review of COO studies, Bilkey and Nes (1982) voiced the criticism that many of the studies conducted up to that time had been single-cue works in which COO was the only cue provided to subjects. The authors argued that such studies were very susceptible to demand effects, which may have exaggerated the COO effects that were found. Spurred on by that criticism there has been a welcome trend towards multi-cue studies which investigate how other cues, such as brand name, impact on product evaluations.

An examination of the impact of COO information under different presentation formats

was recently reported by Lim, Darley and Summers (1994). The authors presented evidence that COO information has its maximum effect when it is the only product cue available. When the COO information was unobtrusively presented along with other product information, the COO effect was markedly reduced. These findings were consistent with those of Hong and Wyer (1990) who found that when COO and intrinsic product cues were presented together, subjects perceived COO as simply another product attribute to be used in evaluating the product. However, Liefeld's (1993) meta-analysis of the results of existing COO experiments failed to show statistically significant differences in COO effect size between single and multiple cue studies.

In examining the effects of product promotion, Reierson (1966) noted that American consumers' attitude towards products made in countries other than those of North America can be made positive if the products are associated with a quality brand image and high levels of service. Nes (1981), on the other hand, found that the negative evaluation of products made in less developed countries was not overcome by a well known brand name. Additionally, Han and Terpstra (1988) investigated source country versus brand name effects for bi-national and uni-national products (Korean, U.S., German and Japanese televisions and automobiles). They concluded that sourcing country stimuli had a more powerful effect than brand name on consumer evaluations of bi-national products.

Research on the Japanese auto successes overseas has shown that the country effect completely dominates the brand effect (Hanssens and Johansson, 1988). Toyota, for

example insists on using Japanese-sounding brand names instead of easier-to-pronounce Western names in its North American markets to ensure their products are identifiably Japanese. Only when the company deems that the Japanese connotation is no longer beneficial will it switch to a more Western sounding name such as the Lexus (Sakiya, 1982). The company obviously believes that the Japanese image is an important contributor to their products' sales.

In a recent study Okechuku (1994) manipulated several well known brands and the various countries that the brands originated from and noted the effect on consumers' preference ratings. Contrary to the above findings, the results of that study indicated that the order of preferences for the various countries was reflected in consumers' preferences for the various brands. Consumers who preferred televisions made in the US, for instance, also preferred the US brand for televisions. Brand names and COO therefore appeared to operate in a similar fashion in consumer preference formation.

Among those multi-cue studies which incorporate both COO and brand name information, however, the dependent variables of interest have typically been perceived quality and purchase intent (Ettenson, Wagner and Gaeth, 1988; Heslop, Liefeld and Wall, 1987). A further limitation of such studies is that brand name has almost exclusively been operationalized in terms of familiar versus new or unfamiliar brand names.

Additionally, origin identifiers have typically been examined at the country level. They

need not, however, be restricted to country images but can be related to cities, regions, states or provinces (Papadopoulos, 1993). As far as we are able to determine, however, there has only been one study which has studied interregional image perceptions (Elbeik, 1985). While place origins have not been used as extensively as countries to date, this may change as competition intensifies both within and among countries.

Gender Differences

It has been shown that the genders differ in the characteristics they consider important in evaluating products (Holbrook, 1986), and that both genders are more easily persuaded when message content is relevant to the opposite gender's social role than to their own gender's role (Sistrunk and McDavid, 1971).

On the basis of their extensive review of the literature pertaining to the genders' responsiveness to various sensory modalities, McGuinness and Pribram (1979) concluded that "females are more sensitive to all modalities at threshold, with the possible exception of smell." Wood (1966) and Nowaczyk (1982) observed that women responded to nonverbal stimuli by evoking more associative, imagery-laced interpretations and more elaborate descriptions than did their male counterparts.

The results of a study conducted by Meyers-Levy and Sternthal (1991) also indicated that the genders differ in how they make judgements. The study's findings suggested that in comparison with men, women often have a lower threshold for elaborating on message

cues and thus make greater use of such cues in judging products. These differences were eliminated when message cues prompted attention that was either above or below both genders' threshold for elaboration.

Studies attempting to relate the sex of the consumer to their responses to origin stimuli have often produced mixed results. These studies have shown that males and females may respond differently to origin cues as a function of the particular source countries, products and attributes under study (Baughn and Yaprak, 1993). While Wall and Heslop (1986) found females to provide generally more positive ratings of foreign countries' products than did males, females were also more likely to favour purchase of domestic products.

Hong and Toner (1989) tested men's and women's judgements about a male, female and neutral product with countries of origin previously identified as negative or positive. The authors failed to find any significant difference between evaluations for males and females and suggested that knowledgeability, rather than sex, was probably the crucial factor in accounting for men's greater use of the COO information in evaluating the female product (sanitary pads) and women's greater use of it when evaluating the male product (cars). One of the criticisms of this study voiced by Harris et al. (1994) is that there was product knowledge asymmetry in that men had no use and probably no knowledge of the female product (sanitary pad), while women had much use and significant knowledge of the male product (automobile).

In an empirical examination of the effect of COO using a multi-attribute model, Johansson, Douglas and Nonaka (1985) found that respondent's sex appeared to have influenced product evaluations. They noted that male respondents tended to give more negative ratings overall to American cars than did female respondents and, conversely, rated Japanese cars more positively. There was relatively little difference between the two sexes in terms of their ratings of German cars. Despite these differences, however, the authors cautioned that there were no consistent trends for cars of different national origins or specific attributes.

HYPOTHESES

For many product categories it can be argued that consumers are not motivated to seek out COO information since other summary indicators of quality, such as brand name, are more readily available (Harris et al., 1994). Furthermore, for many product categories, consumers associate well known brand names with specific countries of origin. For example, an IBM computer is "American," a Toyota automobile is "Japanese," etc., regardless of where they have actually been manufactured. With the increasing trend for multi-nationals to locate manufacturing operations in several countries, consumers' traditional brand-COO associations no longer hold for many product categories. If consumers do not notice or seek out the COO information at the time of purchase, then the effect of COO on product evaluations will be weaker than studies suggest (Okechuku, 1994).

In two related articles, Leclerc, Schmitt and Dubé (1989; 1994) were able to separate the brand name and COO cues and analyze their individual and interactive effects. They showed that foreign branding (i.e., the strategy of pronouncing or spelling a brand name in a foreign language) can have a powerful effect on consumer perceptions and attitudes towards the brand.

In their most recent study (Leclerc et al., 1994) the authors reported findings which seemed to support the conclusions derived from their earlier (1989) study. In their first

experiment an ANOVA analysis of the data revealed that products were perceived as significantly more hedonic when the brand name was pronounced in French versus English. There was also a significant interaction of pronunciation and product type on attitudes towards both the brand and brand name. In particular, for hedonic products, French brand names created a more positive attitude toward the brand than their English counterparts.

What is noteworthy is that this effect was confined to hedonic products, since no significant effects of pronunciation were found for hybrid or utilitarian products. This interaction effect raises some problems since we observe that the hedonic products used (fragrance and nail polish) are products for which France has a strong manufacturing reputation. The particular products chosen for the study may thus have biased the results towards the French names and led to the results found by the authors. The question then arises: is the effect on brand attitude due solely to the pronunciation of the brand name or did the particular products chosen for the study accentuate the effects? Two issues to be resolved, therefore, are: (1) will we get the same effect of French pronunciation on brand attitudes if we replicate the study using hedonic products which do not have strong a priori associations with France; and (2) can the effect attributed to French brand names be extended to other languages? Our first hypotheses are therefore:

H1a: Products with French brand names will be perceived as more hedonic than products with English brand names.

H1b: Products with Italian brand names will be perceived as more hedonic than products with English brand names.

One of the surprising findings of the Leclerc et al. (1994) study was that congruency between the COO and brand name did not significantly increase perceptions of product hedonism. According to Keller (1993), incongruent brand associations result in less cohesive and more diffuse brand images. Congruence between the brand name and "made in" label should thus produce more positive attitude towards the brand name. Incongruent associations should have the opposite effect.

Additional evidence to support this view can be found in the literature. Thorelli, Lim and Ye (1988), for instance, argued that the consistency of information available for the purchase decision could influence the effect of the COO cue. As prior research has shown, if several extrinsic cues provide a consistent indication of quality information, consumers may have more confidence in those cues. When the extrinsic cues provide conflicting information, however, credibility could decrease and consumers may discount the information (Kelley, 1987; Weinberger, Allen and Dillon, 1981).

Further, we can borrow from the work done on inference formation to gain insight into the effect of foreign branding. One way in which inference processing can distort test results is outlined by Huber and McCann (1982). The mechanism through which distortion may occur is the discounting of attributes whose levels conflict with prior

ecological expectations. Thus, when the two attributes are conflicting the consumer may effectively downgrade his evaluation by discounting both variables. Incongruent COO and brand name cues may thus result in lower evaluations than consistent cues. The greater the discrepancy between the two cues, the greater should be the degree of discounting engaged in by consumers. The above discussion leads to our second set of hypotheses:

H2a: Subjects will like brand names more when there is congruence between the brand name image and the COO image than when there is a mismatch between the two cues.

H2b: Subjects will find brand names more suitable when there is congruence between the brand name image and the COO image than when there is a mismatch between the two cues.

Several inconsistencies not mentioned by Leclerc et al. (1994) can also be observed in the reported results. First, products made in the US with an English name did not differ significantly from French branded products made in France in terms of perceived hedonism. Second, products with French names made in the US were perceived to be less hedonic than products with English names made in the US. Although the differences between the mean scores were not significant, the direction of the values seems to contradict the posited effect of French branding.

Additionally, Leclerc et al. (1994) argue that the results of their study suggest that foreign branding and COO act similarly when they are the single cues. The argument used to support the COO effect is that products from a country with a "culture of hedonism" should be perceived as being more hedonistic than those from a country which is not perceived as having this type of culture. Before accepting such a statement however, one needs to test whether it is actually the culture of the foreign country that is affecting consumers' perceptions of hedonism, or whether consumers perceive foreign countries, in general to be more exotic and/or exciting than their home country and thus rate products from other countries as more hedonistic than local products. Based on the framework proposed by Leclerc et al. (1994), there should be a significant relationship between country hedonism and product hedonism. If we fail to replicate this finding, however, it would make the conclusions reached by Leclerc et al. very questionable and cast doubt on the value of national culture as an explanatory variable.

To test this argument we hypothesize:

H3: Products from countries (regions) with hedonic cultures will be perceived as more hedonic than products from countries that do not have a hedonic culture.

and also

H4: Foreign products will always be perceived as more hedonic than domestic products.

Gender Effect

In a recent study Kellaris and Rice (1993) demonstrated the impact of gender on subject's hedonic responses to music. They found that females reacted adversely to louder music whereas males did not. One of the explanations offered for this effect is that gender differences may stem from socially ascribed sex roles. The louder music may have been perceived as less congruent with traditional notions of femininity and thus judged less positively by females (Kellaris and Rice, 1993). According to Landon (1974), people tend to respond more positively to objects that are congruent with their self concept. Meyers-Levy (1988) theorized that "gender differences in judgements will occur in response to sex role-consistent or inconsistent appeals" (p. 522) in messages.

Harris et al. (1994) also noted an interaction between gender and brand name. In their study subjects were asked to evaluate ads for six U.S, six French and six German products. The results indicated that females, more than males, tended to show a preference for French brand names over English names. This finding appears to lend support for the proposed effect of sex roles as outlined above. One limitation of the Harris et al. (1994) study, however, is that the authors failed to isolate the effect of brand name and COO information on product evaluations. Additionally, neither of these studies explicitly tested whether subjects' perceptions of product hedonism differed among genders. We do so in the present study by hypothesizing:

H5: Foreign brand names will be liked more by females than males.

METHODOLOGY

Subjects and Design

The subjects involved in the second study were 289 undergraduate students (146 males, 120 females; 13 missing values) enrolled in business courses at an English speaking university in the province of Quebec. Students were sampled from eight classes in several disparate disciplines to enhance the generalizability of the results. Participation was rewarded with a cash payment awarded on the basis of a lottery.

The hypotheses were tested using a fractional factorial design. This design made possible a replication of the Leclerc et al. (1994) study, while greatly reducing the size of the sample needed to test the additional hypotheses advanced in this study. Treatment conditions, as shown below, consisted of eight carefully selected subsets of a 5 (COO - France, Canada, Quebec, Italy, No COO) x 3 (brand name - English, French, Italian) x 3 (product - hedonic/utilitarian/hybrid) factorial design. COO and brand name are between-subjects variables with product type as a within-subjects variable.

	Canada	France	Italy	Ouebec	No COO
English	(1)			(4)	(7)
French		(2)		(5)	(8)
Italian			(3)	(6)	

Procedure

Subjects were told that this study was part of research being conducted to examine how consumers integrate product information in order to simplify the decision making process. The researcher began each experimental session by describing what was meant by a hedonic/utilitarian product and giving examples of such products. A brief paragraph containing a definition of utilitarian and hedonistic products was also provided to subjects. The definition was borrowed from the Leclerc et al. (1989) study and read: "some products are usually described in terms of the functional benefits they provide or uses they serve. These products are called utilitarian. Other products are usually described in terms of the pleasure associated with their use. These products are called hedonistic." These instructions were provided to ensure that subjects understood the concept and could apply it to the experimental stimuli.

In two of the treatment conditions COO information was not provided, i.e., brand name was the only extrinsic cue available to respondents. Subjects in these treatment conditions were presented with a short questionnaire that contained product profiles for each of the three products, followed by the relevant scales. Each profile consisted of the product and its brand name followed by three product features taken from product descriptions in Consumer Reports magazine. The product stimuli used were similar to the ones used in the Leclerc et al. (1994) study. They consisted of a calculator as the utilitarian product, stuffed animal toys as the hedonic product and sunglasses as the hybrid. The use of identical products allowed us to eliminate the lengthy pretesting engaged in by Leclerc

et al. (1994), as well as more closely replicate their design.

In an attempt to closely replicate the treatments used in the Leclerc et al. (1994) study, subjects first listened to a tape recording of either the French or English pronunciation of the fictitious brand name for each product. The names used in this study were identical to those used in the Leclerc et al. study and had already been pretested by those authors to ascertain their French or English associations. The names used in the experiment in their English/French versions were Dapon/Dapône, Nortic/Nortique and Rimor/Rimoré. All names on the tape recording were pronounced by a bilingual person. The brand name for each product was repeated three times before subjects were asked to rate the product on five scales intended to capture the various dependent variables. This is consistent with the methodology employed by Leclerc et al. (1994) who pointed out that it was necessary to repeat the name three times so that subjects could have a chance to adequately process the information (Krugman, 1972).

Products were evaluated in a sequential manner so that after completing their evaluation of the first product, respondents listened to the recording of the second brand name and gave their evaluations before moving on to the third product. Subjects were allowed 2 minutes between pronunciation of brand names to read the product profile and respond to the accompanying questions. A copy of the questionnaires used for these two experimental conditions is provided in Appendix 1A.

Subjects within each of the other six experimental cell conditions were provided with product profiles which included both brand name and country-of-origin information. Depending on the treatment condition, brand names were presented in either the French, English or Italian version. The French and English brand names were the same as those used in the treatment conditions where COO information was not provided. In addition, the Italian names (Dapognio, Nortucci and Rimoretti) were chosen in order to ensure face validity as being perceptibly Italian. Country of origin was manipulated by including the statement "Product of ..." in each product profile. Approximately 36 subjects were assigned randomly to each treatment group and were instructed not to talk while filling out the questionnaire. The entire procedure took about 20 minutes to complete. A copy of the questionnaires used in the six experimental conditions is included in Appendix 1B.

Dependent Variables

After each product profile was presented subjects were asked to provide evaluations of product hedonism, the degree to which they liked the brand name and their perceptions of brand name suitability on seven point scales. Consistent with the measures utilised by Leclerc et al. (1994), utilitarianism/hedonism was treated as a unidimensional scale (1=utilitarian; 7=hedonistic). Subjects' perceptions regarding the suitability of the brand names were captured by a seven point scale with the end points (1=not suitable; 7=highly suitable).

Unlike the Leclerc et al. (1994) study, attitude towards the brand name was included as

a dependent variable in the present study. The rationale for its exclusion in the Leclerc et al. (1994) study was the fear that the cover story may have drawn attention to the brand name and caused demand effects. To avoid this problem, the cover story was changed and subjects were told that the study sought to investigate the way consumers processed information during the decision making process. This change allowed us to investigate liking for the brand name without exposing our study to demand effects. Brand name liking was measured on a scale with the endpoints (1=strongly like; 7=strongly dislike). A final item was included to record subjects' gender.

At the end of the experiment, in the six conditions where COO was manipulated, subjects' perceptions of the countries that had been used in the study were measured. Country hedonism was measured by five seven point scales that were averaged to derive an overall hedonic evaluation (Cronbach alpha = 0.85). An attempt was made to utilise scale items that had been used in previous research although no scale specifically designed to specifically capture country hedonism was found. One of the items was borrowed from a country image scale developed by Papodoupolos, Heslop and Bamossy (1990). Two other items were adapted from the scale developed by Peabody (1985) to differentiate between countries described as tight and loose. The remaining two items were selected from a pool developed for the purposes of this study and were thought to possess adequate face validity in discussion with expert judges. The scale also performed well in a prior test conducted using Italy and England as the stimulus countries (Cronbach alpha = 0.87).

RESULTS

Since our study involves multiple dependent variables that are correlated (Table 4), MANOVA is ideally suited for data analysis purposes. The hypothesised effects were therefore tested by means of a series of one-way MANOVAs conducted for each of the levels of country-of-origin and brand name.

To test H1a we first carried out a MANOVA on the treatment condition where COO was not provided. Although evaluations of perceived hedonism for French branded products were slightly higher than the English branded products (M=4.33 vs. M=4.03) this difference did not reach significance (p>.05). As an additional test of H1a, a MANOVA was conducted on products made in Quebec. Once again, products with French brand names were perceived as more hedonic than products with English names (M=4.07 vs. M=3.93) but the difference was not significant (p>.05).

A MANOVA conducted on the data collected from subjects who were not provided with COO information did, however, reveal a substantial brand by gender interaction effect on ratings of calculator hedonism (Wilks lambda=.858, p<.01). Females as opposed to males perceived the calculator to be more hedonic when it had an English name (M=3.64 vs. M=2.59). The converse was true for French branding with males perceiving the calculator as more hedonic than females (M=4.50 vs. M=3.00). The means found in Table 1 also illustrate that there was a substantial increase in perceived product hedonism among males

when a French brand name was used as opposed to an English name (M=2.59 vs. M=4.50). These results provide evidence that Hypothesis la is supported among the male population of our sample. In the case of females however, giving the product a French name instead of an English name resulted in a decrease in the reported levels of product hedonism (M=3.64 vs. M=3.00). A similar trend was noted for both the sunglasses (Males: English=3.81, French=4.25; Females: English=4.21, French=3.30) and the stuffed toy (Males: English=5.27, French=5.63; Females: English=5.08, French=4.50). These results seem to suggest that foreign branding has a positive impact on product hedonism for males but a detrimental effect for females. The fact that the results were in the same direction for all three products adds to the robustness of this conclusion. Hypothesis la is therefore only partly supported by the results.

In order to test Hypothesis 1b a MANOVA was conducted on subjects' evaluations of products made in Quebec. An examination of the means for products with English and Italian names (M=3.93 vs. M=3.92) revealed virtually no difference between the two brands. P-values for all three products did not reach significance (p>.05). There was therefore no evidence to support H1b.

The MANOVA conducted on products made in Quebec was also used to test Hypotheses 2a and 2b. Contrasts between the three brand names (French, English and Italian) revealed a significant main effect of brand name on brand name liking for the calculator (Wilks lambda=.91, p<.05). There were no significant differences in subjects' evaluations

of brand name suitability for any of the three products. An examination of the treatment means showed that English names were liked much more than Italian names for the calculator (M=3.63 vs. M=2.47). No significant differences in how well brand names are liked were observed between French and Italian names or between English and French names. These findings therefore provided partial support for H2a which predicted that cue congruence would result in greater liking of the brand name. There was no evidence, however, to support Hypothesis 2b.

A MANOVA was then conducted on products with French brand names. There was a significant main effect of COO on perceived hedonism, brand name liking and brand name suitability for the calculator (Wilks lambda=.71, p<.001). A contrast between Quebec and France revealed a main effect of COO on calculator name suitability. Rather surprisingly, however, subjects considered French branding to be significantly more suitable for calculators made in Quebec than for calculators made in France (M=3.65 vs. M=2.95). This finding was not expected given the fact that Quebec was perceived as less hedonic than France on the country hedonism scale. The hypothesized effect of cue congruence on ratings of brand name suitability (H2b) is therefore not borne out by these findings.

To test Hypothesis three we conducted three oneway MANOVAs on English, French and Italian brand names. For English branded products, the MANOVA did not reveal any significant differences in perceived hedonism between products from Canada and Quebec.

An examination of the mean ratings showed that both the calculator (M=2.55 vs. M=2.32) and stuffed toy (M=5.69 vs. M=5.06) described as made in Quebec were perceived to be marginally more hedonic than those described as made in Canada. The sunglasses, on the other hand, was perceived to be much more hedonic when described as made in Canada rather than Quebec (M=4.42 vs. M=3.55). There was, however, a significant COO effect on subject's liking of the brand name for the hybrid product of sunglasses (Wilks lambda=.88, p<.05). This significant main effect of COO was further explored by three subsequent orthogonal contrasts. Contrasts between products from Canada and Quebec and between those from Ouebec versus the condition when COO information was not available revealed no significant differences between the treatment conditions. Finally, a contrast between products made in Canada and those in the no COO information condition revealed the source of the main COO effect. Respondent's indicated that they liked the brand name for sunglasses more when the product was identified as made in Canada as opposed to when COO information was not provided (M=5.0 vs. M=4.1). A MANOVA conducted on products with Italian brand names revealed no significant differences between products made in Italy and those made in Quebec.

The MANOVA conducted on products with French brand names revealed a significant main effect of COO on perceived hedonism. A contrast carried out on products from France and Quebec did not, however, reveal any significant differences between the two countries in terms of perceived product hedonism. French branded products from Quebec were, however, generally perceived to be more hedonic than similar products from France

(M=4.07 vs. M=3.73). The evidence did not, therefore, support our third hypothesis.

In order to identify the source of the significant COO effect for French branded products we carried out a number of additional contrasts. Comparing French branded products from Quebec with the no COO treatment condition revealed a main effect of COO on perceived hedonism for the calculator (M=3.85 vs. 2.51). Subjects perceived the calculator to be more hedonic when there was no COO information than when they were told the product was made in Quebec. Incongruence between the COO information and brand name thus appeared to dilute the effect of the French brand name.

COO information revealed a main effect of COO for all three dependent variables. Subjects perceived the calculator to be more hedonic when there was no COO information than when they were told the product was made in France (M=3.85 vs. M=2.05). This decrease in perceived hedonism is similar to the effect observed with products from Quebec and supports the robustness of the effect. Additionally, subjects reported that they liked the brand name more when told the calculator was made in France than when no COO information was provided (M=3.43 vs. 2.74). Finally, French brand names were considered more suitable for calculators when no COO was provided rather than when the product was identified as being made in France (M=3.85 vs. 2.95). Once again, including the COO information resulted in a lowering of subjects' evaluations of the brand name.

Another finding of interest revealed by the MANOVA was a significant interaction of COO and gender on brand name suitability for the sunglasses (Wilks lambda=.88, p<.05). For both Quebec and France, males more than females considered French branding to be more suitable for the sunglasses (M=4.48 vs.M=3.56 and M=4.73 vs. M=4.23 respectively). A strong effect in the opposite direction was observed when COO information was not provided. An examination of cell means revealed that when COO was not identified females more than males thought French branding to be more suitable for the sunglasses (M=4.20 vs. M=3.19).

The effect of gender on subject's perceptions of hedonism for the stuffed toy also approached significance at the .05 level (Wilks lambda=.92, p=.06). A comparison of mean ratings showed that male evaluations of the toy when it had a French name were considerably higher than female evaluations (M=5.81 vs M=5.25). This finding is consistent with the above results which indicated that males considered French brand names more suitable for the sunglasses.

Hypothesis 4 was examined by conducting oneway MANOVAs on evaluations of products with French and Italian names. A comparison of French branded products made in Quebec and France revealed no significant differences in perceived product hedonism as predicted by our fourth hypothesis. An examination of mean evaluations showed, however, that products made in Quebec were perceived to be more hedonic than products made in France although these differences were not significant (p>.05). This directional

effect was true for the calculator (M=2.51 vs. M=2.05), the sunglasses (M=3.89 vs. M=3.62) and the stuffed toy (5.81 vs. 5.51). The MANOVA conducted on products with Italian brand names also revealed a directional effect for evaluations of products made in Italy and those made in Quebec which was not significant (p>.05). The means for all three products identified as made in Italy were marginally higher than those described as made in Quebec, which is consistent with the direction of the hypothesized effect in H4 (calculator: M=2.54 vs. M=2.41; sunglasses: M=4.11 vs. M=3.97; toy: M=5.39 vs. M=5.34). Despite this directional effect, however, the evidence does not support Hypothesis 4.

Our final hypothesis (H5) was tested by conducting a MANOVA on product evaluations in the no COO condition. The results revealed a significant main effect of gender on liking of the brand name for sunglasses (Wilks lambda=.898, p<.05). An examination of the mean ratings showed that females liked both English and French brand names much more than males (M=4.59 versus M=3.48). To further pinpoint the source of this effect we looked at the effect of gender for each brand name. The means in Table 1 indicated that the impact of gender was most manifest in subject's reactions to French branding. Females indicated significantly greater liking of French names for sunglasses as opposed to males (M=4.70 vs. M=3.25, p<.01). This result therefore provides evidence to support Hypothesis 5 which predicted that females would like foreign brand names more than males. For the calculator and stuffed toy on the other hand, males liked the French brand name slightly more than females (M=2.81 vs. M=2.30) and (M=2.94 vs. M=2.10

respectively). However, these mean differences were not significant. Our results therefore provide partial support for Hypothesis 5. An overview of the hypothesis tests is provided in Table 3.

SUMMARY AND CONCLUSIONS

Discussion

This study sought to replicate earlier work done by Leclerc, Schmitt and Dubé (1994) which investigated the effect of foreign branding on product perceptions and attitudes towards the brand name. It also extended the Leclerc et al. (1994) study by examining the role of gender as a moderating factor on the effectiveness of foreign branding. The present research also investigated whether COO and foreign branding would influence subjects' product perceptions and attitudes in a multi-cue setting and among a different population.

The results obtained in this study were very product specific. Perhaps the most surprising finding was that unlike the Leclerc et al. (1994) study, there were no differences across brands and countries for our hedonic product, the stuffed toy. One of the factors that may have contributed to this lack of significance is the possible low level of involvement among our student sample with this particular product. They may thus have paid minimal attention to the information provided and not processed the brand and country information that was provided.

The attempt to generalize the effects of French branding as demonstrated by Leclerc et al. (1994) to Italian brand names met with limited success. An Italian branded calculator made in Quebec was liked more than a calculator with an English name but there were

no significant differences in product hedonism between the two names. There were also no significant differences between a product indicated as "made in Italy" and products originating from the other regions. This seems to suggest that the results obtained by Leclerc et al. (1994) may not be readily generalizable to other populations or other countries when they are used as stimuli.

In this study we were able to only partially replicate the findings of Leclerc et al. (1994). French branding caused an increase in perceived hedonism for one of the products but only among the male population. This result highlights the important moderating effect of gender and suggests that the overall effect of foreign branding found in the Leclerc et al. (1994) study should actually be examined along gender lines. The detrimental effect of foreign branding on product perceptions among women cannot be adequately explained by our data and needs to be examined in future research.

Gender differences were not only evident in subjects' perceptions of product hedonism but was also apparent in their attitude towards the brand names. The finding that females liked French branding more than males for sunglasses has, however, to be interpreted with some caution. The results reported here are very product specific in that they apply only to sunglasses. One may argue that this type of product is very fashion oriented and females might therefore be more familiar and/or involved with this product category. This finding is consistent with the results reported by Harris et al. (1994) who found that females liked French brand names more than males. One can also interpret this finding

as further evidence that females are more sensitive to stimuli and have a lower threshold for elaborating on message cues (Meyers-Levy and Sternthal, 1991). They may therefore tend to respond more strongly to foreign brand names than males.

The results of this study also provide little evidence of stereotyping based on country of origin. Although subjects had distinctly different images of the countries used in the study, as measured by the country hedonism scale, the results clearly showed that these country images were not transferred to products originating from those countries. The results did not support the hypothesis that foreign products would be perceived as more hedonic than domestic products.

Additionally, Hypothesis 3 was not supported, since products from regions considered to have a hedonic lifestyle were not perceived as more hedonic than products from regions that were less hedonic. Although the country images of Canada and Italy were perceived as being significantly more hedonic than Quebec, products from these countries were not perceived as being more hedonic than products "made in Quebec". This corroborates the results of Leclerc et al. (1994) who found that products identified as "made in France" were not rated as more hedonic than products "made in the U.S.A.". These results seem to suggest that COO information is not as effective as foreign brand names in influencing perceptions of product hedonism. This research therefore further supports the Leclerc et al. (1994) argument that in comparison to foreign branding, COO information may be a less differentiated cue for hedonic perceptions. An alternative explanation is that the

relatively limited influence of COO in the Leclerc et al. and the current research might be a result of the product stimuli used. Cordell (1991) demonstrated in an experimental setting that country of origin was more important for upscale products within a class. Country differences may therefore be more important for big ticket items rather than the relatively inexpensive products used in this study.

The lack of significant differences between French and English brand names for products made in Quebec may possibly be due to the fact that most of the people in Montreal are bilingual and many of the products are labelled in both languages. The effectiveness of foreign branding may thus be heavily dependent on cultural differences between the local and foreign country of origins. The results of our study, which was conducted in a multicultural setting, seems to provide evidence in support of this argument. Additionally, since much of the world outside the U.S. (and possibly the U.K.) is arguably bi- or multilingual due to the dominance of English as the language of international business, it may prove extremely difficult to generalize the Leclerc et al. (1994) findings to those populations.

Unlike the Leclerc et al. (1994) study, not only did congruence between cues not increase perceptions of product hedonism but it proved to be a definite disadvantage. A calculator with both French brand names and "made in France" was rated as significantly less hedonic than a product with a French brand name alone. Providing subjects with COO information therefore appeared to have a negative effect on perceived hedonism. One

reason for this may be that there are no French calculators currently on the market. As Roth and Romeo (1992) have pointed out, consumers are more willing to buy products made in countries with good reputations in those categories. As an extension of that finding we can argue that product perceptions may be similarly affected by the manufacturing ability of the COO. Another plausible explanation for the negative effect of congruence might be that, unlike the product profiles used in our experiments, advertisements typically do not contain information about both COO and brand name of the product. The negative effect may therefore be due to the low perceived mundane realism of the product profiles used in the present research. This points to the existence of a larger problem with COO research, much of which uses the same methodology employed in the current research.

A review of the means in Table 2 for products with French brand names also indicated that males tended to rate the brand name as more suitable when the product's COO was provided as opposed to when it was absent. The evaluations for females, on the other hand, did not differ appreciably across treatment conditions. This result might be interpreted as suggesting that unlike females, males' attitudes toward brand names might be more easily influenced by identifying the brand's COO. Alternatively, one may argue that males place more emphasis on the intrinsic product attributes when brand name is the only extrinsic cue provided. Reinforcement of the brand name by the COO cue is therefore necessary to significantly change the perceptions of males. Females, on the other hand, may process both types of cues in an averaging fashion. This would account

for the more stable evaluations across treatments.

No interaction between COO and brand name was significant, indicating that the two types of information contributed independently to product evaluations. This lack of interaction therefore suggests that the low perceived hedonism of a product associated with a particular source country could not be compensated for by using a hedonic brand name.

In the present research we were able to show that foreign branding is effective even in a multicue setting. The failure of some of our results to reach significance may, however, have been due to the greater attention paid to intrinsic product attributes. As Johansson, Douglas and Nonaka (1985) have shown in the area of COO research, subjects pay more attention to intrinsic cues when they are available and rely on extrinsic cues such as COO information when they are not provided. A similar discounting effect appears to occur in the case of foreign brand names.

The way respondents perceived the various countries as measured by the country hedonism scale is an interesting finding. There seems to be an unfavourable domestic bias in that subjects perceived Quebec as the least hedonic region. There was also a sharp difference between Canada and Quebec which suggests the possibility that Canada is perceived to be very different from Quebec and judged in the same way as the other foreign countries. The ranking of Canada as the best place to live in the world by the

U.N may also have contributed to subjects perception of Canada as a highly hedonic country. Further, the lingering recession in Quebec, coupled with reports of the prosperity in provinces such as British Columbia, may have coloured subjects' perceptions of Quebec vis-a-vis the rest of Canada.

Although subjects considered French branding to be more suitable for a calculator made in Quebec as opposed to one made in France, our findings provide little other evidence of an overall domestic bias on the part of subjects. For example, there were no significant differences between evaluations of products made in Italy and Quebec or between Canada and Quebec for that matter. Not only does this reinforce the point that the COO effect may have been exaggerated in earlier research but it fails to support research that has documented a tendency for consumers to prefer their own country's products (Hooley, Shipley and Krieger, 1988; Johansson, Douglas and Nonaka, 1985).

The present study was not able to fully replicate or genaralize the earlier findings of Leclerc et al. (1994). The significant interaction between brand name and gender observed in the current research has also not previously been examined by researchers. Our findings therefore suggest that more research on the phenomenon of foreign branding is needed. Some directions for such research are highlighted in the following section.

Limitations and Directions for Future Research

A potential limiting factor in this study is that the respondents used were undergraduate students in a bilingual city, which may limit the generalizability of the results. As the focus of this study was on exploring the main and interaction effects of two product cues, the selection of a student sample should not substantially affect the results. Students are also relatively representative of the target market for the products used in this study.

Second, the product stimuli used in the Leclerc et al. (1994) study as well as the present replication consisted of a mixture of low to medium involvement products. In future investigations it may be productive to investigate the impact of foreign branding on high involvement products such as automobiles or consumer durables. Further, the model tested here assumes high involvement information processing on the part of subjects. In reality, consumers may employ a more "peripheral route" of information processing, (Petty, Cacioppo and Schumann, 1983), and not focus as much attention on the brand or country of origin information. More research is therefore needed before definitive statements can be made about the effect of foreign branding.

The data in this study is collected from subjects residing in a cosmopolitan city within a region that differs from the rest of Canada. It is also likely that respondents have been exposed to foreign cultures more than average Canadian consumers. In the future it might be worthwhile to replicate this study using a sample drawn from outside the province of

Quebec. This would allow researchers to test the generalizability of this study's findings as well as examine the impact that respondents' familiarity with foreign cultures has on their product perceptions.

Finally, research investigating the hedonic/utilitarian typology have focused exclusively on attitudes towards products. An avenue for future study is to broaden the research efforts to include an investigation of services. Researchers could examine the effectiveness of foreign branding in altering subjects' perceptions of services with a primarily hedonic or utilitarian content (tropical cruises vs. courier services, for example). Such research could provide further insight into the scope and pervasiveness of the foreign branding effect.

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Table 1 - Significant Main Effects

English Branding								
Dependent Variable - Brand Name Liking	Quebec	Canada	No COO					
Calculator	3.62	3.55	3.27					
Sunglasses *	4.41	5.00	4.10					
Stuffed Toy	2.59	2.90	3.04					
French Brand	ing							
Dependent Variable - Product Hedonism	Quebec	France	No COO					
Calculator **	2.51	2.05	3.85					
Sunglasses	3.89	3.62	3.88					
Stuffed Toy	5.81	5.51	5.19					
French Branding								
Dependent Variable - Brand Name Liking								
Calculator **	2.97	3.43	2.74					
Sunglasses	4.05	4.62	3.81					
Stuffed Toy	2.97	3.22	2.62					
French Brand	ing							
Dependent Variable - Brand Name Suitability								
Calculator **	3.65	2.95	3.85					
Sunglasses	4.08	4.43	3.58					
Stuffed Toy	3.27	3.27	3.31					

* Significant at .05 ** Significant at .01

Table 2 - Significant Interaction Effects

Perceived Product Hedonism - Calculator										
	English Branding	French Branding	Grand Mean							
Male	2.59	4.50	3.54							
Female	3.64	3.00	3.32							
Grand Mean	3.12	3.75								
Perce	ved Product Hedonis	sm - Sunglasses								
	English Branding	French Branding	Grand Mean							
Male	3.82	4.25	4.04							
Female	4.22	3.30	3.76							
Grand Mean	4.02	3.78								
Perceived Product Hedonism - Stuffed Toy										
	English Branding	French Branding	Grand Mean							
Male	5.27	5.63	5.45							
Female	5.08	4.50	4.79							
Grand Mean	5.18	5.07								
E	Brand Name Liking - Calculator									
	English Branding	French Branding	Grand Mean							
Male	3.32	2.81	3.07							
Female	3.36	2.30	2.83							
Grand Mean	3.34	2.56								
В	rand Name Liking -	Sunglasses								
	English Branding	French Branding	Grand Mean							
Male	3.70	3.25	3.48							
Female	4.48	4.70	4.59							
Grand Mean	4.09	3.98								
Bı	rand Name Liking - S	Stuffed Toy								
	English Branding	French Branding	Grand Mean							
Male	2.97	2.94	2.96							
Female	3.04	2.10	2.57							
Grand Mean	3.01	2.52								

Table 3 - Overview of Results

Hypotheses	Results	Support
1a. French brand names will be perceived as more hedonic than English names.	Supported for one product - calculator (p<.05) when COO not provided.	Partially Supported
1b. Italian brand names will be perceived as more hedonic than English names.	No significant differences observed.	Not Supported
2a. Congruence between COO and Brand will result in greater liking for the brand name.	English brand name for calculator made in Quebec is liked more than the Italian name (p<.01)	Partially Supported
2b. Congruence between COO and Brand will result in higher levels of brand name suitability.	No significant differences observed.	Not Supported
3. Products from countries with hedonic cultures would be perceived as more hedonic than products from countries that are not perceived as having a hedonic culture.	Italy and Canada were perceived to be significantly more hedonic than Quebec (p=.002, p=.001 respectively) but there were no differences in product hedonism.	Not Supported
4. Foreign products will always be more hedonic than local products.	No significant differences observed.	Not Supported
5.Females will like foreign brand names more than males	Females liked sunglasses with French branding significantly more than males (p<.05) when COO not indicated.	Partially Supported

Table 4

Correlation Matrix for Dependent Variables

	၁	ပ	ပ	s	s	S	1	1	1
	æ	a	æ	7	Ħ	n	0	0	0
	_	_	_	n	п	n	y	Y	>
	-		s	h	п	S	q	а	s
	o	63	n	ခ	8	=	Ð	æ	=
	p	Ħ	- 444	p	田		p	日	·=
		e	t		e	ţ		ə	t
calculator hedonism (calhed)	1.00	ns	ns	ns	13 *	ns	13*	su	.13*
calculator name liking (calname)	ns	1.00	.18**	ns	Su	su	su	**41	.14*
calculator name suitability (calsuit)	su	.18**	1.00	ns	su	**91	Su	su	.24**
sunglasses hedonism (sunhed)	ns	ns	ns	1.00	S.O.	su	su	su	su
sunglasses name liking (sunname)	13*	ns	ns	ns	1.00	.24**	.17	su	.14*
sunglasses name suitability (sunsuit)	ns	ns	.16*	ns	.24**	1.00	su	su	ns
toy hedonism (toyhed)	13*	ns	ns	ns	.17**	ns	1.00	15*	.16**
toy name liking (toyname)	ns	.17**	ns	ns	ns	ns	15*	1.00	.20**
toy name suitability (toysuit)	.13*	.14*	.24**	ns	.14*	ns	16**	.20**	1.00
* Significant at .05 ** Significant at .01	nt at .01								

APPENDIX 1A

PRODUCT USE PERCEPTION STUDY

The purpose of this study is to investigate how consumers integrate product information in order to simplify the decision making process. We also wish to ascertain the role that product use perceptions play in the decision making process. The following questionnaire is designed to provide insight into these processes and should take no more than 15 minutes to complete. Thank you for participating in this study!

TRIAL QUESTIONS

Hedonic products are considered to be those that provide pleasure, e.g., perfume. Utilitarian products are those that perform some useful function, e.g, a dishwasher.

For instance, the results of a previous survey produced these average responses for the following products:

Necklace	Definitely utilitarian	1	2	3	4	5	6	7	Definitely hedonic
Snow shovel	Definitely utilitarian	1	2	3	4	5	6	7	Definitely hedonic

That is, the necklace was considered on average to be almost definitely hedonic, and the snow shovel to be almost definitely utilitarian.

Please check your responses against the answers provided before moving on to the rest of the questionnaire. If you feel it necessary, please re-read the definition of hedonic and utilitarian products before moving on to the rest of the questionnaire.

For classification purposes, please indicate your gender by marking an x next to the following:	Male	Female
---	------	--------

DAPÔNE/DAPON SCIENTIFIC CALCULATOR

- •Automatic Power-Off
- •10 Digit Display
- •256 Scientific Functions

Based on the above information, please respond to the following questions by circling the number that best represents the way you feel. There are no right or wrong answers: we are only interested in your honest opinions.

1. This product appears to be:	Definitely utilitarian	ı	2	3	4	5	6	7	Definitely hedonic
2. How much do you like the brand name for this product:	Strongly like	l	2	3	4	5	6	7	Strongly distike
3. How suitable do you think the brand name is for this product:	Not suitable	j	2	3	4	5	6	7	Highly suitable

PLEASE DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO

NORTIQUE/NORTIC SUNGLASSES

- •Stainless Steel Frame
- •100% UV Protection
- •Scratch Resistant Lens

Based on the above information, please respond to the following questions by circling the number that best represents the way you feel. There are no right or wrong answers: we are only interested in your honest opinions.

1. This product appears to be:	Definitely utilitarian	l	2	3	4	5	6	7	Definitely hedonic
2. How much do you like the brand name for this product:	Strongly like	i	2	3	4	5	6	7	Strongly dislike
3. How suitable do you think the brand name is for this product:	Not suitable	1	2	3	4	5	6	7	Highly suitable

PLEASE DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO

RIMORÉ/RIMOR STUFFED ANIMAL TOY

- •Hand Painted Porcelain Eyes
- •Hypoallergenic Filling
- •Bright Fade-Resistant Colours

Based on the above information, please respond to the following questions by circling the number that best represents the way you feel. There are no right or wrong answers: we are only interested in your honest opinions.

1. This product appears to be:	Definitely utilitarian	1	2	3	4	5	6	7	Definitely hedonic
2. How much do you like the brand name for this product:	Strongly like	1	2	3	4	5	6	7	Strongly dislike
3. How suitable do you think the brand name is for this product:	Not suitable	I	2	3	4	5	6	7	Highly suitable

PLEASE DO NOT TURN THE PAGE UNTIL INSTRUCTED TO DO SO

APPENDIX 1B

PRODUCT USE PERCEPTION STUDY

The purpose of this study is to investigate how consumers integrate product information in order to simplify the decision making process. We also wish to ascertain the role that product use perceptions play in the decision making process. The following questionnaire is designed to provide insight into these processes and should take no more than 15 minutes to complete. Thank you for participating in this study!

TRIAL QUESTIONS

Hedonic products are considered to be those that provide pleasure, e.g., perfume. Utilirarian products are those that perform some useful function, e.g., a dishwasher.

For instance, the results of a previous survey produced these average responses for the following products:

Necklace	Definitely utilitarian	1	2	3	4	5	6	7	Definitely hedonic
Snow shovel	Definitely utilitarian	1	<u>.</u>	3	4	5	6	7	Definitely hedonic

That is, the necklace was considered on average to be almost definitely hedonic, and the snow shovel to be almost definitely utilitarian.

Please check your responses against the answers provided before moving on to the rest of the questionnaire. If you feel it necessary, please re-read the definition of hedonic and utilitarian products before moving on to the rest of the questionnaire.

For classification purposes, please indicate your gender by marking an x next to the following:

Male_____ Female____

DAPÔNE/DAPON/DAPOGNIO SCIENTIFIC CALCULATOR

- •Product of Quebec/France/Canada/Italy
- •Automatic Power-Off
- •10 Digit Display
- •256 Scientific Functions

Based on the above information, please respond to the following questions by circling the number that best represents the way you feel. There are no right or wrong answers: we are only interested in your honest opinions.

1. This product appears to be:	Definitely utilitarian	1	2	3	4	5	6	7	Definitely hedonic
2. How much do you like the brand name for this product:	Strongly like	1	2	3	4	5	6	7	Strongly dislike
3. How suitable do you think the brand name is for this product:	Not suitable	ı	2	3	4	5	6	7	Highly suitable

NORTIQUE/NORTIC/NORTUCCI SUNGLASSES

 Product of 	Quebec/France/0	Canada/Italy
--------------------------------	-----------------	--------------

- •Stainless Steel Frame
- •100% UV Protection
- •Scratch Resistant Lens

Based on the above information, please respond to the following questions by circling the number that best represents the way you feel. There are no right or wrong answers: we are only interested in your honest opinions.

1. This product appears to be:	Definitely utilitarian	1	2	3	4	5	6	7	Definitely hedonic
2. How much do you like the brand name for this product:	Strongly like	1	2	3	4	5	6	7	Strongly dislike
3. How suitable do you think the brand name is for this product:	Not suitable	1	2	3	4	5	6	7	Highly suitable

RIMORÉ/RIMOR/RIMORETTI STUFFED ANIMAL TOY

- Product of Quebec/France/Canada/Italy
- •Hand Painted Porcelain Eyes
- •Hypoallergenic Filling
- •Bright Fade-Resistant Colours

Based on the above information, please respond to the following questions by circling the number that best represents the way you feel. There are no right or wrong answers: we are only interested in your honest opinions.

1. This product ap	pears to be:	Definitely utilitarian	l	2	3	4	5	6	7	Definitely hedonic
2. How much do product:	you like the brand name for this	Strongly like	l	2	3	4	5	6	7	Strongly dislike
3. How suitable d	o you think the brand name is for	Not suitable	1	2	3	4	5	6	7	Highly suitable

To what extent do you agree/disagree with the following statements:

	Strongly Disagree						Strongly Agree
The French have mastered the art of living well	ï	2	3	4	5	6	7
2. The French enjoy each day	1	2	3	4	5	6	7
3. The French appreciate the finer things in life	1	2	3	4	5	6	7
4. The French have refined tastes	1	2	3	4	5	6	7
5. The French know how to live the good life	ŧ	2	3	4	5	6	7

To what extent do you agree/disagree with the following statements:

	Strongly Disagree						Singly Agent
1. Quebecers have mastered the art of living well	i	2	3	4	5	6	7
2. Quebecers enjoy each day	1	2	3	4	5	6	7
3. Quebecers appreciate the finer things in life	l	2	3	4	5	6	7
4. Quebecers have refined tastes	i	2	3	4	5	6	7
5. Quebecers know how to live the good life	i	2	3	4	5	6	7

To what extent do you agree/disagree with the following statements:

	Strongly Disagree						Strongly Agree
1. Italians have mastered the art of living well	1	2	3	4	5	6	7
2. Italians enjoy each day	t	2	3	4	5	6	7
3. Italians appreciate the finer things in life	ŧ	2	3	4	5	6	7
4. Italians have refined tastes	1	2	3	4	5	6	7
5. Italians know how to live the good life	1	2	3	4	5	6	7

To what extent do you agree/disagree with the following statements:

	Strongly Disagree						Strongly Agree
t. Canadians have mastered the art of living well		1	2	3	4	5	6 7
2. Canadians enjoy each day	1	2	3	4	5	6	7
3. Canadians appreciate the finer things in life	l	2	3	4	5	6	7
4. Canadians have refined tastes	1	2	3	4	5	6	7
5. Canadians know how to live the good life	ı	2	3	4	5	6	7

APPENDIX 2

- - Description of Subpopulations - -

Summaries of EVALN
By levels of COO country image

Variable	Value Label	Mean	Std Dev	Cases
For Entire	Population	4.3663	1.1177	190
C00 C00 C00	1 Quebec 2 France 3 Italy 4 Canada	4.0758 4.4486 4.6963 4.8710	1.1826 1.0702 .7910 .9668	95 37 27 31

Total Cases - 289 Missing Cases - 99 or 34.3 Pct

- - Description of Subpopulations - -

Summaries of By levels of **EVALN** country image C00

Variable	Value Label	Mean	Std Dev	Cases
For Entire B	opulation (4.3663	1.1177	190
C00 C00	1 Quebec 2 France	4.0758	1.1826	95
C00	3 Italy	4.4486 4.6963	1.0702 .7910	37 27
C00	4 Canada	4.8710	.9668	31

Total Cases - 289 Missing Cases - 99 or 34.3 Pct

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* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * * Combined Observed Means for BRAND BY COO Variable .. CALHED BRAND English French Italian C00 Quebec WGT. 2.41379 2.55172 2.51351 UNWGT. 2.54762 2.48958 2.46324 France WGT. 2.05405 UNWGT. 2.00303 2.53571 Italy WGT. UNWGT. 2.53125 WGT. Canada 2.32258 UNWGT. 2.33750 No COO WGT. 3.03390 3.92308 UNWGT. 3.11412 3.75000 Variable .. CALNAME BRAND English French Italian C00 Quebec WGT. 3.62069 2.97297 2.51724 UNWGT. 3.62857 2.98363 2.56373 France WGT. 3.43243 . UNWGT. 3.39545 Italy WGT. 3.32143 UNWGT. 3.29167 3.54839 Canada WGT. UNWGT. 3.53958 2.61538 No COO WGT. 3.33898 UNWGT. 3.34176 2.55625 Variable .. CALSUIT BRAND English French Italian C00 WGI. Quebec 3.31034 3.64865 3.44828 UNWGT. 3.32381 3.62351 3.50490 WGT. France 2.94595 UNWGT. 2.88030 Italy WGT. 3.64286 UNWGT. 3.60417 Canada WGT. 3.80645 UNWGT. 3.80000

3.92308

3.95625

WGT.

UNWGT.

3.66102

3.63176

No COO

* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * * Combined Observed Means for BRAND BY GENDER

Variable CAL	HED			
	BRAND	English	French	Italian
GENDER				
Male	WGT.	2.43077	2.96154	2.31034
	UNWGT.	2.37663	2.96667	2.33824
Female	WGT.	3.09259	2.43750	2.64286
	UNWGT.	2.95619	2.52841	2.65625
Variable CAL				
	BRAND	English	French	Italian
GENDER				
Male	WGT.	3.46154	2.96154	2.62069
	UNWGT.	3.51201	2.97242	2.68873
Female	WGT.	3.46296	3.14583	3.21429
	UNWGT.	3.49460	2.98447	3.16667
Variable CAL				
	BRAND	English	French	Italian
GENDER				
Male	WGT.	3.66154	3.44231	3.24138
	UNWGT.	3.58562	3.38512	3.25490
Female	WGI.	3.55556	3.47917	3.85714
	UNWGT.	3.58476	3.58826	3.85417

Combined Observed Means for BRAND BY COO BY GENDER

Variable .. CALHED

ible CALRED				
GENDER	COO	BRAND		
Male	Quebec	English	WGT.	2.66667
			UNWGT.	2.66667
Male	Quebec	French	WGT.	2.66667
			UNWGT.	2.66667
Male	Quebec	Italian	WGT.	2.17647
			UNWGT.	2.17647
Male	France	English	WGT.	•
			UNWGT.	
Male	France	French	WGT.	1.73333
			UNWGT.	1.73333
Male	France	Italian	WGT.	
			UNWGT.	
Male	Italy	English	WGT.	
			UNWGT.	
Male	Italy	French	WGT.	
			UNWGT.	•
Male	Italy	Italian	WGT.	2.50000
			UNWGT.	2.50000
Male	Canada	English	WGT.	1.87500
			UNWGT.	1.87500

* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Combined Observed Means for BRAND BY COO BY GENDER (Cont.) Variable .. CALHED (Cont.)

ble	CALHED	(Cont.)			
	Male	Canada	French	WGT.	•
				UNWGT.	•
	Male	Canada	Italian	WGT.	•
				UNWGT.	•
	Male	No COO	English	WGT.	2.58824
				UNWGT.	2.58824
	Male	No COO	French	WGT.	4.50000
				UNWGT.	4.50000
	Male	No COO	Italian	WGT.	•
				UNWGT.	•
F€	emale	Quebec	English	WGT.	2.42857
				UNWGT.	2.42857
Fe	emale	Quebec	French	WGT.	2.31250
				UNWGT.	2.31250
Fe	male	Quebec	Italian	WGT.	2.75000
				UNWGT.	2.75000
Fe	male	France	English	WGT.	
				UNWGT.	•
Fe	male	France	French	WGT.	2.27273
				UNWGT.	2.27273
Fe	male	France	Italian	WGT.	•
				UNWGT.	
Fe	male	Italy	English	WGT.	
				UNWGT.	•
Fe	male	Italy	French	WGT.	•
	_			UNWGT.	
Fe	male	Italy	Italian	WGT.	2.56250
				UNWGT.	2.56250
Fe	male	Canada	English	WGT.	2.80000
	_			UNWGT.	2.80000
Fe	male	Canada	French	WGT.	•
	_			UNWGT.	•
Fe	male	Canada	Italian	WGT.	•
_				UNWGT.	•
Fe	male	No COO	English	WGT.	3.64000
_				UNWGT.	3.64000
Fe	male	No COO	French	WGI.	3.00000
_				UNWGT.	3.00000
ŀе	male	No COO	Italian	WGT.	•
				UNWGT.	•

* * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable CALN	IAME			
GENDER	COO	BRAND		
Male	Quebec	English	WGT.	3.40000
	Agence	ungilan	UNWGT.	3.40000
Male	Quebec	French	WGT.	2.90476
	Adopee	e i chon	UNWGT.	2.90476
Male	Quebec	Italian	WGT.	2.29412
dIC	Quenec	Italian	UNWGT.	2.29412
Male	France	English	WGT.	2.29412
	rrance	English	UNWGT.	•
Male	France	French	WGT.	3.20000
	LIGHTOC	rrench	UNWGT.	3.20000
Male	France	Italian	WGT.	3.20000
	LLance	Italian	UNWGT.	•
Male	Italy	English	WGT.	•
1.410	reary	cagitan	UNWGT.	•
Male	Italy	French	WGT.	•
	reary	French	UNWGT.	•
Male	Italy	Italian	WGT.	2 00222
nate	icary	Italian	UNWGT.	3.08333 3.08333
Male	Canada	English	WGT.	
Hate	Canada	English	UNWGT.	3.81250 3.81250
Male	Canada	French	WGT.	3.81230
Harc	Canada	rrench	UNWGT.	•
Male	Canada	Italian	WGT.	•
	canada	icalian	UNWGT.	•
Male	No COO	English	WGT.	3.32353
		Cilgitali	UNWGT.	3.32353
Male	No COO	French	WGT.	2.81250
		rrenon	UNWGT.	2.81250
Male	No COO	Italian	WGT.	2.01230
		10011011	UNWGT.	•
Female	Quebec	English	WGT.	3.85714
··· 	4-0-00	C.1911011	UNWGT.	3.85714
Female	Quebec	French	WGT.	3.06250
	•		UNWGT.	3.06250
Female	Quebec	Italian	WGT.	2.83333
			UNWGT.	2.83333
Female	France	English	WGT.	
		49225	UNWGT.	•
Female	France	French	WGT.	3.59091
			UNWGT.	3.59091
Female	France	Italian	WGT.	3.33031
			UNWGT.	•
Female	Italy	English	WGT.	•
		,	UNWGT.	•
Female	Italy	French	WGT.	•
			UNWGT.	•
Female	Italy	Italian	WGT.	3.50000
	4	 	UNWGT.	3.50000
			,	

* * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable CALN	AME (Cont.)			
Female	Canada	English	WGT.	3.26667	
Female	Canada	French	UNWGT. WGT.	3.26667	
LCMALC	Canada	rrenen	UNWGT.	•	
Female	Canada	Italian	WGT.	•	
Female	N- G00	D11-5	UNWGT.		
remate	No COO	English	WGT. UNWGT.	3.36000 3.36000	
Female	No COO	French	WGT.	2.30000	
			UNWGT.	2.30000	
Female	No C00	Italian	WGT.	•	
			unwgt.	•	
Variable CALS					
GENDER	C00	BRAND			
Male	Quebec	English	WGT.	2.93333	
			UNWGT.	2.93333	
Male	Quebec	French	WGT.	3.80952	
Male	Quebec	Italian	unwgt. Wgt.	3.80952 3.17647	
Huic	gachec	rcarran	UNWGT.	3.17647	
Male	France	English	WGT.	•	
	_		UNWGT.		
Male	France	French	WGT.	2.53333	
Male	France	Italian	UNWGT. WGT.	2.53333	
		10011011	UNWGT.	•	
Male	Italy	English	WGT.		
			UNWGT.	•	
Male	Italy	French	WGT. UNWGT.	•	
Male	Italy	Italian	WGT.	3.33333	
			UNWGT.	3.33333	
Male	Canada	English	WGT.	4.00000	
Male	Canada	French	UNWGT.	4.00000	
Male	Canada	French	WGT. UNWGT.	•	
Male	Canada	Italian	WGT.	•	
			UNWGT.		
Male	No COO	English	WGT.	3.82353	
Male	No COO	French	UNWGT. WGT.	3.82353 3.81250	
Marc		rrenen	UNWGT.	3.81250	
Male	No COO	Italian	WGT.	•	
m1	0		UNWGT.		
Female	Quebec	English	WGT. UNWGT.	3.71429 3.71429	
Female	Quebec	French	WGT.	3.43750	
-	-		UNWGT.	3.43750	

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* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable CALSU	JIT (Cont.))		
Female	Quebec	Italian	WGT.	3.83333
			UNWGT.	3.83333
Female	France	English	WGT.	
		•	UNWGT.	•
Female	France	French	WGT.	3.22727
			UNWGT.	3.22727
Female	France	Italian	WGT.	•
			UNWGT.	
Female	Italy	English	WGT.	•
	•	-	UNWGT.	
Female	Italy	French	WGT.	•
	•		UNWGT.	•
Female	Italy	Italian	WGT.	3.87500
	•		UNWGT.	3.87500
Female	Canada	English	WGT.	3.60000
		•	UNWGT.	3.60000
Female	Canada	French	WGT.	
			UNWGT.	
Female	Canada	Italian	WGT.	
			UNWGT.	
Female	No COO	English	WGT.	3.44000
		-	UNWGT.	3.44000
Female	No COO	French	WGT.	4.10000
			UNWGT.	4.10000
Female	No COO	Italian	WGT.	•
			UNWGT.	•

Redundancies in Design Matrix Column Effect

28

29 30

10 BRAND BY COO 11 (SAME) (SAME) 12 13 (SAME) 14 (SAME) 15 (SAME) 16 (SAME) BRAND BY COO BY GENDER 24 (SAME) 25 (SAME) 26 27 (SAME)

(SAME) (SAME) (SAME)

V

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* * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

	IED	Paul Lab		Th=1/
coo	BRAND	English	French	Italian
Quebec	SIC TI	2 55172	3 00100	3 06553
Quebec	WGT. UNWGT.	3.55172 3.54286	3.89189	3.96552
France			3.91220	4.05637
France	WGT. UNWGT.	•	3.62162	•
Italy	WGT.	•	3.66061	
Italy	UNWGT.	•	•	4.10714
Canada	WGT.		•	4.11458
Callada		4.41935	•	•
No. 000	UNWGT.	4.41667	3.00463	•
No COO	WGT.	3.98214	3.88462	•
	UNWGT.	4.01779	3.77500	•
				• • • • • • • • • • •
/ariable SUNN	BRAND	English	French	Italian
coo	DIVINIO	English	French	Italian
Quebec	WGT.	4.41379	4.05405	4.06897
Quebec	UNWGT.	4.42143	4.04762	4.08333
France	WGT.	4.42143	4.62162	4.08333
riance	UNWGT.	•	4.62879	•
Italy	WGT.	•	4.020/9	4 14396
reary	UNWGT.	•	•	4.14286 4.10417
Canada	WGT.	5.00000	•	4.10417
Canada	UNWGT.	5.01458	•	•
No COO	WGT.	3.96429	2 90760	•
NO COO	UNWGT.		3.80769	•
	UNWGI.	4.02240	3.97500	•
ariable . SUNS				• • • • • • • • • • •
dilubic Jone	BRAND	English	French	Italian
COO	2	Cilgitali	LLCIICII	Icarran
Quebec	WGT.	4.20690	4.08108	4.13793
***************************************	UNWGT.	4.20952	4.01935	4.10539
France	WGT.	4.20332	4.43243	
	UNWGT.	•	4.48030	•
Italy	WGT.	•	4.40000	4.50000
1	UNWGT.	•	•	4.42708
Canada	WGT.	4.41935	•	7.72/00
	UNWGT.	4.41458	•	•
No COO	WGT.	3.94643	3.57692	•
.,,	WG 1 .	3.37073	3.3/032	•

* * * * * * A N A	LYSIS	OF VAF	RIANCE-	- DESIGN	1 • • • •
Combined Observe		BRAND BY GEN	IDER		
	BRAND	English	French	Italian	
GENDER			• • • • • • • • • • • • • • • • • • • •		
Male	WGT.	3.98438	3.94231	3.79310	
	UNWGT.	4.03939	3.95952	3.84804	
Female	WGT.	4.00000	3.62500	4.28571	
remate	UNWGT.	3.94548	3.60568	4.32292	
Variable SUNN	IAME				
	BRAND	English	French	Italian	
GENDER					
Male	WGT.	4.03125	4.00000	3.93103	
	UNWGT.	4.15316	4.00397	3.91667	
Female	WGT.	4.75000	4.41667	4.28571	
r cind r c	UNWGT.	4.81912	4.43030	4.27083	
Variable SUNS	TIUE				
	BRAND	English	French	Italian	
GENDER					
Male	WGT.	4.03125	4.15385	4.13793	
	UNWGT.	4.14104	4.13234	4.10539	
Female	WGT.	4.26923	4.00000	4.50000	
	UNWGT.	4.27108	3.99659	4.42708	
		.			
Combined Observe Variable SUNH		BRAND BY COC	BY GENDER		
GENDER	C00	BRAND			
Male	Quebec	English	WGT.	3.80000	
Male	Quenec	Endition			
14-1-	O h	D L	UNWGT.	3.80000	
Male	Quebec	French	WGT.	3.76190	
			UNWGT.	3.76190	
Male	Quebec	Italian	WGT.	3.52941	
			UNWGT.	3.52941	
Male	France	English	WGT.	•	
			UNWGT.		
Male	France	French	WGT.	3.86667	
			UNWGT.	3.86667	
Male	France	Italian	WGT.		
			UNWGT.	•	
Male	Italy	English	WGT.	•	
FIGLE	1	2119114311	UNWGT.	•	
Male	Thale	Franch		•	
мате	Italy	French	WGT.	•	
34 - 3	** - 1 -	Th. 11	UNWGT.		
Male	Italy	Italian	WGT.	4.16667	
		<u> </u>	UNWGT.	4.16667	
Male	Canada	English	WGT.	4.50000	
			UNWGT.	4.50000	

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* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

	Observed N	deans for Bl (Cont.)	RAND BY COO	BY GENDER	(Cont.)
variable	Male	Canada	French	WGT.	
				UNWGT.	
	Male	Canada	Italian	WGT.	
				UNWGT.	
	Male	No COO	English	WGT.	3.91818
			•	UNWGT.	3.81818
	Male	No COO	French	WGT.	4.25000
				UNWGT.	4.25000
	Male	No COO	Italian	WGT.	•
				UNWGT.	•
F€	emale	Quebec	English	WGT.	3.28571
				UNWGT.	3.28571
F€	emale	Quebec	French	WGT.	4.06250
				UNWGT.	4.06250
F€	emale	Quebec	Italian	WGT.	4.58333
				UNWGT.	4.58333
F€	emale	France	English	WGT.	•
_		_		UNWGT.	
Fe	emale	France	French	WGT.	3.45455
_		_	.	UNWGT.	3.45455
Fe	emale	France	Italian	WGT.	•
-	,	- 4 - 1	D1/	UNWGT.	•
1.6	emale	Italy	English	WGT.	•
		Th. 1	P	UNWGT.	•
1.6	emale	Italy	French	WGT.	•
г.	emale	Thalu	Italian	UNWGT.	4 06350
	emare	Italy	Italian	WGT. UNWGT.	4.06250
5-	emale	Canada	English	WGT.	4.33333
re	smare	Canada	Eligitali	UNWGT.	4.33333
Fe	emale	Canada	French	WGT.	4.33333
	smare.	Callada	French	UNWGT.	•
Fe	emale	Canada	Italian	WGT.	•
	-marc	Canada	rearran	UNWGT.	•
Fe	emale	No COO	English	WGT.	4.21739
			29222	UNWGT.	4.21739
F€	emale	No COO	French	WGT.	3.30000
				UNWGT.	3.30000
Fe	emale	No COO	Italian	WGT.	
				UNWGT.	

* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable SU	NNAME			
GENDER	C00	BRAND		
Male	Quebec	English	WGT.	4.20000
	430233	,	UNWGT.	4.20000
Male	Quebec	French	WGT.	4.09524
			UNWGT.	4.09524
Male	Quebec	Italian	WGT.	4.00000
	4.0200		UNWGT.	4.00000
Male	France	English	WGT.	•
			UNWGT.	•
Male	France	French	WGT.	4.66667
			UNWGT.	4.66667
Male	France	Italian	WGT.	
			UNWGT.	
Male	Italy	English	WGT.	
		•	UNWGT.	•
Male	Italy	French	WGT.	•
	•		UNWGT.	•
Male	Italy	Italian	WGT.	3.83333
	•		UNWGT.	3.83333
Male	Canada	English	WGT.	4.56250
		·	UNWGT.	4.56250
Male	Canada	French	WGT.	
			UNWGT.	•
Male	Canada	Italian	WGI.	
			UNWGT.	
Male	No COO	English	WGT.	3.69697
			UNWGT.	3.69697
Male	No COO	French	WGT.	3.25000
			UNWGT.	3.25000
Male	No COO	Italian	WGT.	•
			UNWGT.	
Female	Quebec	English	WGT.	4.64286
			UNWGT.	4.64286
Female	Quebec	French	WGT.	4.00000
			UNWGT.	4.00000
Female	Quebec	Italian	WGT.	4.16667
			UNWGT.	4.16667
Female	France	English	WGT.	•
			UNWGT.	
Female	France	French	WGT.	4.59091
	_		UNWGT.	4.59091
Female	France	Italian	WGT.	•
	.	n11-h	UNWGT.	•
Female	Italy	English	WGT.	•
		Dr. a.a.b	UNWGT.	•
Female	Italy	French	WGT. UNWGT.	•
m1	# L = 1	Thelian	WGT.	4.37500
Female	Italy	Italian	UNWGT.	4.37500
			OMMOI.	4.3/300

* * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable SUNN	AME (Cont.)			
Female	Canada	English	WGT.	5.46667
D 1-	0	D	UNWGT.	5.46667
Female	Canada	French	WGT.	•
5 1-	0	Th = 1 /	UNWGT.	•
Female	Canada	Italian	WGT.	•
. .		_ ,,,,	UNWGT.	
Female	No COO	English	WGT.	4.34783
5 1-	N= 000		UNWGT.	4.34783
Female	No COO	French	WGT.	4.70000
5 1	N- 600	V = 1 1	UNWGT.	4.70000
Female	No COO	Italian	WGT.	•
			UNWGT.	•
Vaniable conc				
Variable SUNS GENDER	COO	BRAND		
GENDER Male			ticm.	4 12222
male	Quebec	English	WGT.	4.13333
Male	Quebec	French	UNWGT.	4.13333
wate	Quenec	French	WGT.	4.47619 4.47619
Male	Quebec	Italian	UNWGT.	
Male	Quenec	Italian	WGT. UNWGT.	4.29412 4.29412
Male	France	English	WGT.	
Male	Flance	Enditan		•
Male	Franco	French	UNWGT.	, 72122
Male	France	French	WGT. UNWGT.	4.73333 4.73333
Male	France	Italian	WGT.	4.73333
Male	riance	rcarran	UNWGT.	•
Male	Italy	English	WGT.	•
Hale	reary	Liigitsii	UNWGT.	•
Male	Italy	French	WGT.	•
	,	1 L Citon	UNWGT.	•
Male	Italy	Italian	WGT.	3.91667
	/		UNWGT.	3.91667
Male	Canada	English	WGT.	4.56250
		,	UNWGT.	4.56250
Male	Canada	French	WGT.	•
			UNWGT.	
Male	Canada	Italian	WGT.	•
			UNWGT.	•
Male	No COO	English	WGT.	3.72727
			UNWGT.	3.72727
Male	No C00	French	WGT.	3.18750
			UNWGT.	3.18750
Male	No COO	Italian	WGT.	•
			UNWGT.	•
Female	Quebec	English	WGT.	4.28571
			UNWGT.	4.28571
Female	Quebec	French	WGT.	3.56250
			UNWGT.	3.56250

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* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable SUNSU	JIT (Cont.))		
Female	Quebec	Italian	WGT.	3.91667
			UNWGT.	3.91667
Female	France	English	WGT.	
		•	UNWGT.	
Female	France	French	WGT.	4.22727
			UNWGT.	4.22727
Female	France	Italian	WGT.	•
			UNWGT.	
Female	Italy	English	WGT.	
		-	UNWGT.	
Female	Italy	French	WGT.	
			UNWGT.	
Female	Italy	Italian	WGT.	4.93750
			UNWGT.	4.93750
Female	Canada	English	WGT.	4.26667
			UNWGT.	4.26667
Female	Canada	French	WGT.	
			UNWGT.	
Female	Canada	Italian	WGT.	
			UNWGT.	
Female	No COO	English	WGT.	4.26087
			UNWGT.	4.26087
Female	No COO	French	WGT.	4.20000
			UNWGT.	4.20000
Female	No COO	Italian	WGT.	
			UNWGT.	

Redundancies in Design Matrix Column Effect

10 BRAND BY COO

- (SAME) 11
- 12
- 13 14
- (SAME) (SAME) (SAME) (SAME) (SAME) 15
- 16 (SAME) 24
- BRAND BY COO BY GENDER
- (SAME) 25 (SAME) 26
- 27
- (SAME) 28
- 29 (SAME)
- 30 (SAME)

* * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

* * * * * * A N I	ALYSIS	OF VAI	RIANCE -	- DESIGN	1 * * * * *
Combined Observe	ad Vonna for	DONN BY CO	n		
Variable TOY		BRAND BI CO	,		
valiable lott	BRAND	English	French	Italian	
coo	D	,			
Quebec	WGT.	5.68966	5.81081	5.34483	
•	UNWGT.	5.69762	5.83333	5.28186	
France	WGT.	•	5.51351		
	UNWGT.	•	5.62273	•	
Italy	WGT.	•	•	5.39286	
•	UNWGT.	•		5.41667	
Canada	WGT.	5.06452		•	
	UNWGT.	5.08125	•	•	
No COO	WGI.	5.19298	5.19231	•	
	UNWGT.	5.17803	5.06250	•	
		 -			
Variable TOY	NAME				
	BRAND	English	French	Italian	
C00				2 22222	
Quebec	WGT.	2.58621	2.97297	3.00000	
	UNWGT.	2.58095	2.96131	3.04902	
France	WOT.	•	3.21622	•	
	UNWGT.	•	3.18182	2 20571	
Italy	WGT.	•	•	3.28571 3.28125	
	UNWGT.		•	3.20123	
Canada	WGI.	2.90323	•	•	
	UNWGI.	2.91042	2.61530	•	
No COO	WGT.	3.00000	2.61538 2.51875	•	
	UNWGT.	3.00568	2.510/5	•	
Variable TOY	BRAND	English	French	Italian	
coo	BRAND	chyrran	French	rear ran	
COO Quebec	WGT.	3.37931	3.27027	3.24138	
Quebec	UNWGT.	3.37381	3.21577	3.21814	
France	WGI.	3.3/301	3.27027		
France	UNWGT.	•	3.20606		
Italy	WGI.	•		3.89286	
icaly	UNWGT.	•	•	3.85417	
Canada	WGT.	3.70968	•	•	
Canada	UNWGT.	3.72500		•	
No COO	WGT.	3.70175	3.30769	•	
	UNWGT.	3.69129	3.23125	٠	

		OF VAI			
Combined Observed Variable TOYH		BRAND BY GE	NDER		
	BRAND	English	French	Italian	
GENDER					
Male	WGT.	5.14063	5.80769	5.62069	
	UNWGT.	5.10063	5.83056	5.61520	
Female	WGT.	5.45283	5.25000	5.10714	
	UNWGT.	5.53730	5.18182	5.08333	
Variable TOYN	 AME				
VG1 20010 1011	BRAND	English	French	Italian	
GENDER	2	,			
Male	WGT.	2.84375	3.00000	2.96552	
	UNWGT.	2.79684	2.99504	3.00735	
Female	WGT.	2.90566	2.93750	3.32143	
	UNWGT.	2.86786	2.77955	3.32292	
Variable TOYS	UIT				
	BRAND	English	French	Italian	
GENDER					
Male	WGT.	3.57813	3.38462	3.44828	
	UNWGT.	3.51364	3.34940	3.46814	
Female	WGT.	3.67925	3.16667	3.67857	
Female					
	WGT. UNWGT.	3.67925 3.67976	3.16667 3.08598	3.67857	
Combined Observed	WGT. UNWGT. d Means for	3.67925 3.67976	3.16667 3.08598	3.67857	
Combined Observed Variable TOYH	WGT. UNWGT. d Means for ED	3.67925 3.67976 	3.16667 3.08598	3.67857	
Combined Observed Variable TOYHI	WGT. UNWGT. d Means for ED COO	3.67925 3.67976 	3.16667 3.08598 	3.67857 3.60417	
Combined Observed Variable TOYHI	WGT. UNWGT. d Means for ED	3.67925 3.67976 	3.16667 3.08598 	3.67857 3.60417 5.46667	
Combined Observed Variable TOYHI GENDER Male	WGT. UNWGT. d Means for ED COO Quebec	3.67925 3.67976 	3.16667 3.08598 	3.67857 3.60417 5.46667 5.46667	
Combined Observed Variable TOYHI	WGT. UNWGT. d Means for ED COO	3.67925 3.67976 	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT.	3.67857 3.60417 5.46667 5.46667 5.66667	
Combined Observed Variable TOYHI GENDER Male	WGT. UNWGT. d Means for ED COO Quebec Quebec	3.67925 3.67976 	3.16667 3.08598 D BY GENDER WGT. UNWGT. UNWGT.	3.67857 3.60417 5.46667 5.46667 5.66667 5.66667	-
Combined Observed Variable TOYHI GENDER Male	WGT. UNWGT. d Means for ED COO Quebec	3.67925 3.67976 	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGI.	3.67857 3.60417 	 .
Combined Observed Variable TOYHI GENDER Male Male	WGT. UNWGT. d Means for ED COO Quebec Quebec Quebec	3.67925 3.67976 	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. UNWGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male	WGT. UNWGT. d Means for ED COO Quebec Quebec	3.67925 3.67976 	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGI. UNWGT. WGI.	3.67857 3.60417 	 .
Combined Observed Variable TOYHI GENDER Male Male Male	WGT. UNWGT. d Means for ED COO Quebec Quebec Quebec France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGI. UNWGT. UNWGT.	3.67857 3.60417 	 .
Combined Observed Variable TOYHI GENDER Male Male	WGT. UNWGT. d Means for ED COO Quebec Quebec Quebec	3.67925 3.67976 	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGI. UNWGT. WGI. UNWGT. WGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGI. UNWGT. WGI. UNWGT. UNWGT. UNWGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male Male Male	WGT. UNWGT. d Means for ED COO Quebec Quebec Quebec France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGI. UNWGT. WGI. UNWGT. WGT. UNWGT. WGT. UNWGT. WGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French Italian	3.16667 3.08598 WGT. UNWGT. WGT. UNWGT. WGI. UNWGT. WGT. UNWGT. UNWGT. UNWGT. UNWGT. UNWGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French	3.16667 3.08598 WGT. UNWGT. WGT. UNWGT. WGI. UNWGT. WGT. UNWGT. UNWGT. WGT. UNWGT. WGT. UNWGT. WGT.	3.67857 3.60417 	- • • • • • • • • • • • • • • • • • • •
Combined Observed Variable TOYHI GENDER Male Male Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French Italian English	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGI. UNWGT. WGT. UNWGT. UNWGT. WGT. UNWGT. UNWGT. UNWGT. UNWGT. UNWGT. UNWGT. UNWGT. UNWGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French Italian	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGI. UNWGT. WGT. UNWGT.	3.67857 3.60417 	
Combined Observed Variable TOYHI GENDER Male Male Male Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France France Italy Italy	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French Italian English French	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGT. UNWGT. WGT. UNWGT.	3.67857 3.60417 	• • • • • • • • • • • • • • • • • • •
Combined Observed Variable TOYHI GENDER Male Male Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France France	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French Italian English	3.16667 3.08598 WGT. UNWGT. WGT. UNWGT. WGT. UNWGT. WGT. UNWGT.	3.67857 3.60417 	• • • • • • • • • • • • • • • • • • •
Combined Observed Variable TOYHI GENDER Male Male Male Male Male Male Male Male	WGT. UNWGT. d Means for COO Quebec Quebec Quebec France France France Italy Italy	3.67925 3.67976 BRAND BY COO BRAND English French Italian English French Italian English French	3.16667 3.08598 D BY GENDER WGT. UNWGT. WGT. UNWGT. WGT. UNWGT. WGT. UNWGT.	3.67857 3.60417 	

* * * * * A NALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Combined Observed Variable TOYHED			BY GENDER	(Cont.)
Male	Canada	French	WGT.	•
1,620			UNWGT.	•
Male	Canada	Italian	WGT.	
Hu I C			UNWGT.	•
Male	No COO	English	WGT.	5.27273
na re		,	UNWGT.	5.27273
Male	No COO	French	WGT.	5.62500
1123			UNWGT.	5.62500
Male	No COO	Italian	WGT.	•
			UNWGT.	•
Female	Quebec	English	WGT.	5.92857
t Cinii 10	4	,	UNWGT.	5.92857
Female	Quebec	French	WGT.	6.00000
2011020	•		UNWGT.	6.00000
Female	Quebec	Italian	WGT.	4.91667
	•		UNWGT.	4.91667
Female	France	English	WGT.	
			UNWGT.	•
Female	France	French	WGT.	5.04545
			UNWGT.	5.04545
Female	France	Italian	WGT.	•
			UNWGT.	•
Female	Italy	English	WGT.	•
	•	•	UNWGT.	
Female	Italy	French	WGT.	•
	•		UNWGT.	•
Female	Italy	Italian	WGT.	5.25000
	•		UNWGT.	5.25000
Female	Canada	English	WGT.	5.60000
			UNWGT.	5.60000
Female	Canada	French	WGT.	•
			UNWGT.	•
Female	Canada	Italian	WGT.	•
			UNWGT.	•
Female	No COO	English	WGT.	5.08333
			unwgt .	5.08333
Female	No COO	French	WGT.	4.50000
			UNWGT.	4.50000
Female	No COO	Italian	WGT.	•
			CT NIT-TOTO	

UNWGT.

* * * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable TO	YNAME			
GENDER	COO	BRAND		
Male	Quebec	English	WGT.	2.73333
			UNWGT.	2.73333
Male	Quebec	French	WGT.	3.04762
			UNWGT.	3.04762
Male	Quebec	Italian	WGT.	2.76471
			UNWGT.	2.76471
Male	France	English	WGT.	•
_			UNWGT.	•
Male	France	French	WGT.	3.00000
	_		UNWGT.	3.00000
Male	France	Italian	WGT.	•
			UNWGT.	•
Male	Italy	English	WGT.	•
14-1-	1	_ ,	UNWGT.	•
Male	Italy	French	WGT.	•
14-1-	75 - 1	** 11	UNWGT.	, ,,,,,,,
Male	Italy	Italian	WGT.	3.25000
Male	C	D11-6	UNWGT.	3.25000
Mare	Canada	English	WGT.	2.68750
Male	Canada	French	UNWGT.	2.68750
Mare	Canada	French	WGT. UNWGT.	•
Male	Canada	Italian	WGT.	•
Marc	Canada	rcarran	UNWGT.	•
Male	No COO	English	WGT.	2.96970
		L.1.9 1 1 3 11	UNWGT.	2.96970
Male	No COO	French	WGT.	2.93750
			UNWGT.	2.93750
Male	No COO	Italian	WGT.	
		7	UNWGT.	•
Female	Quebec	English	WGT.	2.42857
	-		UNWGT.	2.42857
Female	Quebec	French	WGT.	2.87500
			UNWGT.	2.87500
Female	Quebec	Italian	WGT.	3.33333
			UNWGT.	3.33333
Female	France	English	WGT.	
			UNWGT.	
Female	France	French	WGT.	3.36364
			UNWGT.	3.36364
Female	France	Italian	WGT.	
			UNWGT.	•
Female	Italy	English	WGT.	•
			UNWGT.	•
Female	Italy	French	WGT.	•
	. . •		UNWGT.	
Female	Italy	Italian	WGT.	3.31250
			UNWGT.	3.31250

* * * * * * A N	ALYSIS	OF VAR	IANCE	DESIGN	1 * * * * * *
Variable TO	YNAME (Cont.)				
Female	Canada	English	WGT.	3.13333	
2 0		,	UNWGT.	3.13333	
Famale	Canada	French	WGT.	3.13333	
FCMarc	Canada	110	UNWGT.	•	
Female	Canada	Italian	WGT.	•	
remare	Canada	Italian	UNWGT.	•	
Female	No COO	English	WGT.	3.04167	
remare	NO COO	English	UNWGT.	3.04167	
Female	No COO	French			
remare	NO COO	French	WGT.	2.10000	
5 1 -	V- 000	***1:	UNWGT.	2.10000	
Female	No COO	Italian	WGT.	•	
			UNWGT.	•	
	<i></i>				
Variable TO					
GENDER	COO	BRAND			
Male	Quebec	English	WGT.	3.53333	
			UNWGT.	3.53333	
Male	Quebec	French	WGT.	3.61905	
			UNWGT.	3.61905	
Male	Quebec	Italian	WGT.	3.35294	
			UNWGT.	3.35294	
Male	France	English	WGT.		
			UNWGT.		
Male	France	French	WGT.	2.86667	
			UNWGT.	2.86667	
Male	France	Italian	WGT.		
			UNWGT.		
Male	Italy	English	WGT.	•	
	_	-	UNWGT.		
Male	Italy	French	WGT.		
	•		UNWGT.		
Male	Italy	Italian	WGT.	3.58333	
	•		UNWGT.	3.58333	
Male	Canada	English	WGT.	3.25000	
		- •	UNWGT.	3.25000	
Male	Canada	French	WGT.		
•			UNWGT.		
Male	Canada	Italian	WGT.		
			UNWGT.		
Male	No COO	English	WGT.	3.75758	
		,	UNWGT.	3.75758	
Male	No COO	French	WGT.	3.56250	
riule	000		UNWGT.	3.56250	
Male	No COO	Italian	WGT.	3.30230	
FIGLE		I Cu I Luii	UNWGT.	•	
Female	Quebec	English	WGT.	3.21429	
t cuare	Agener	rud r rau	UNWGT.	3.21429	
Female	Quebec	French	WGT.	2.81250	
remare	Anenec	French	UNWGT.	2.81250	
			OHMOL.	2.01230	

* * * * * ANALYSIS OF VARIANCE -- DESIGN 1 * * * * *

Variable TOYS	UIT (Cont.))		
Female	Quebec	Italian	WGT.	3.08333
			UNWGT.	3.08333
Female	France	English	WGT.	
		•	UNWGT.	
Female	France	French	WGT.	3.54545
			UNWGT.	3.54545
Female	France	Italian	WGT.	
			UNWGT.	
Female	Italy	English	WGT.	•
	_	_	UNWGT.	
Female	Italy	French	WGT.	
			UNWGT.	
Female	Italy	Italian	WGT.	4.12500
			UNWGT.	4.12500
Female	Canada	English	WGT.	4.20000
			UNWGT.	4.20000
Female	Canada	French	WGT.	
			UNWGT.	
Female	Canada	Italian	WGT.	
			UNWGT.	•
Female	No COO	English	WGT.	3.62500
			UNWGT.	3.62500
Female	No COO	French	WGT.	2.90000
			UNWGT.	2.90000
Female	No COO	Italian	WGT.	
			UNWGT.	•

Redundancies in Design Matrix Column Effect

10	BRAND BY	C00		
11	(SAME)			
12	(SAME)			
13	(SAME)			
14	(SAME)			
15	(SAME)			
16	(SAME)			
24	BRAND BY	C00	BY	GENDER
25	(SAME)			
26	(SAME)			
27	(SAME)			
28	(SAME)			
29	(SAME)			
30	(SAME)			