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AN EMPIRICAL ASSESSMENT OF THE CONFIGURAL INVARIANCE OF THE BRAND PERSONALITY SCALE: A COMPARISON INVOLVING ETHNIC GROUPS AND BRANDS IN CANADA

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ABSTRACT

AN EMPIRICAL ASSESSMENT OF THE CONFIGURAL INVARIANCE OF THE BRAND PERSONALITY SCALE: A COMPARISON INVOLVING ETHNIC GROUPS AND BRANDS IN CANADA

Guliz Hassan

Brand personality, as one of the major components of brand identity, is a significant determinant of brand equity. This study investigates the configural invariance of a 42-item brand personality scale that was suggested by Aaker (1997) by extending its use from her U.S. sample to Anglophone and Francophone ethnic groups and some popular brands in Canada.

Following a translation of the brand personality scale from English to French and two pilot studies for selecting 30 brands for the study, a stratified area sampling plan was executed to collect data from Anglophones and Francophones in Montreal, Quebec, Canada. 1959 questionnaires were distributed by field workers using area sampling within each selected census tract and 596 usable responses were received by mail. After classifying the respondents into Anglophones or Francophones in terms of their responses to a multi-item scale involving language use and self-identification of ethnicity, confirmatory factor analysis was conducted to assess the configural invariance of the brand personality scale. The results suggest that the factor structure for both ethnic groups are different than the structure suggested by Aaker (1997) for her U.S. study. Exploratory factor analysis of the data for each ethnic group suggests five factors as in Aaker's study. However, the composition of the factors in terms of the items of the scale is different from hers. The orthogonal rotation of the factor pattern matrices to congurence shows that the factor loadings for the two Canadian ethnic groups are very similar.

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INTRODUCTION

Brand personality has been defined as "the set of human characteristics associated with a brand" (Aaker 1997, p.347). A well-managed brand personality can result in increased consumer preference and patronage (Sirgy 1982; Malhotra 1988), higher emotional ties to the brand (Biel 1993), consumer trust and loyalty (Fournier 1994) and closer relationships between the brand and its customers (Olson & Allen 1995; Fournier 1998).

Brand personality is theorized to be a significant determinant of brand equity. Although conceptual definitions of brand equity vary (e.g. Farqhuar 1990; Aaker 1996, p.7; Srivastava and Schocker 1991) most of the research in this area agrees that brand equity is related to the brand associations that consumers form in their memories over time. Strong brand personality contributes to brand equity and therefore increases the value of the brand for a firm (Aaker 1996, p.142; Keller 1998).

Despite the theoretical and managerial significance of the construct, no attempt was made to conceptualize and measure brand personality prior to Aaker (1997). She developed a 42-item scale to identify the major latent dimensions of brand personality. Her survey of a random sample of consumers from a U.S. national panel revealed five significant brand personality dimensions: sincerity, excitement, competence, sophistication and ruggedness and 15 related facets. The same set of dimensions and facets were confirmed in a replication reported in the same study (Aaker 1997).

Considering the potential usefulness of the scale in managing brand identity, Aaker (1997) warned that the developed scale might not be appropriate for measuring brand personality in a cultural context other than the U.S. because culture might have a

significant influence on consumers' brand perceptions and thereby affect the way in which the items of the scale might be used to express those perceptions. Therefore, there is a need to assess how invariant (equivalent) the brand personality scale is across cultures. Measurement invariance in this context refers to whether or not under different conditions of observing the same phenomenon measurement operations yield measures of the same construct (Horn and McArdle 1992).

The concern with measurement invariance of the brand personality scale in this study reflects the recent emphasis on measurement invariance in cross-cultural psychology and cross cultural consumer behavior (Hui and Triandis 1985; Steenkamp and Baumgartner 1998; Caprara, Barbaranelli, Bermudez, Maslach, Ruch 2000; Devins, Beiser, Dion, Pelletier; Edwards 1997; McCrae, Costa, Pilar, Rolland, Parker 1998; Sin, Cheung, Lee 1999; Myers, Calantone, Page, Taylor 2000; Cavusgil, Das 1997; Mullen 1995). Indeed, as noted by Steenkamp and Baumgartner (1997, p. 78), several "... critical reviews of the literature identified a lack of concern for measurement invariance in cross-national consumer research" (Mullen 1995, Netemeyer, Durvasula and Lichtenstein 1991, Parameswaran and Yaprak 1987) although it is clear that the conclusions based on the use of a scale across cultures are at best ambiguous if there is not sufficient evidence regarding the invariance (equivalence) of the same scale. Without invariance (equivalence), it is not possible to assess the generalizability of models of consumer behavior models developed in one country to other countries.

The major objective of this study is to test the configural invariance of the brand personality scale across two subcultures in Canada using some popular Canadian brands as the stimuli of study. As defined by Steenkamp and Baumgartner (1998, p. 80)

"Configural invariance is supported if the specified model with zero holdings on nontarget factors (if any) fits the data well in all countries, all salient factor loadings are significantly and substantially different from zero, and the correlations between the factors (if any) are significantly below unity." In very broad terms, configual invariance examines if the pattern of salient (nonzero) and nonsalient (zero or near zero) loadings observed in Aaker's U.S. study can be replicated in the Francophone and Anglophone samples in Canada. If the factor patterns for the Canadian groups differ from that of the U.S. sample, a secondary objective of the study is to identify and interpret the nature of the differences. Additionally, the similarity of the factor patterns for the Anglophones and Francophones will be examined.

Chapter 1: LITERATURE REVIEW

Brand Personality

Brand personality construct has received considerable attention from researchers during the last five years or so since it is theorized to be a significant source of brand equity (Aaker 1996; Keller 1998; Keller 1993). Researchers typically focused on the effects of brand personality on consumer behavior and concluded that when well managed, personality of a brand can boost consumer preference and patronage (Sirgy 1982; Malhotra 1988), generate elevated emotional ties to the brand (Biel 1993), build consumer trust and loyalty (Fournier 1994) and create closer relationships between the brand and its customers (Olson & Allen 1995; Fournier 1998).

Aaker defined brand personality as "the set of human characteristics associated with a brand" (1997, p.347). Just as people use human personality traits such as *sentimental, imaginative, family-oriented* or characteristics such as *young, good-looking* to describe a person, they may also use them to describe a brand. For example, one may use the word *masculine* to describe Marlboro cigarettes, *rugged* to describe Levi's jeans, *feminine* to describe Chanel No5 Perfumes, and *intelligent* to describe IBM computers.

Practitioners recently started to use brand personality as a strategy to differentiate their brands in a product category as a means of achieving competitive advantage (i.e., Aaker 1997, Halliday 1996, Siguaw, Matilla and Austin 1999). Earlier, managers focused upon functional or utilitarian product benefits in order to differentiate their products from the competition, however, the number of brands claiming the similar benefits rapidly grew in the marketplace because such attributes could easily be copied (Aaker 1997; Aaker 1996 p.96; Siguaw, Matilla and Austin 1999). Distinct brand personality,

however, when it is clearly defined and homogeneously perceived by the consumers, is more difficult to imitate.

Moreover, some consumers do not seem to care too much about functional benefits especially if they believe that the available brands are more or less similar in terms of the subjectively important attributes. Under those circumstances, symbolic or self-expressive benefits offered by certain brands may become more determinant in the brand choice process. Indeed, the importance of symbolic meanings in consumption in relation to functional utilities has long been recognized in consumer research (e.g., Levy 1959; Tucker 1957, p.139; Belk 1988; McCracken 1988; Elliott and Wattanasuwan 1998; Solomon 1983). As a result, marketers differentiate and position their brands based on their symbolic benefits rather than only their functional benefits. A common application of this strategy has been to create meaningful, distinctive and enduring brand personalities in the minds of consumers (Siguaw, Matilla, Austin 1999).

Congruence of self-concept and brand personality

Consciously or unconsciously, consumers prefer products or brands that hold particular symbolic implications (Elliott and Wattanasuwan 1998) because they help consumers express their self-identity where the self-identity can be the subject's actual identity, ideal identity or a social identity (e.g., Malhotra 1988; Belk 1988; Sirgy 1982; Solomon 1983).

According to Aaker (1997) symbolic or self-expressive use of brands is possible because consumers can easily attribute personality traits or human characteristics to them. Consumers can think about and talk of brands as if they were people (Plummer 1985),

especially when they represent meaningful products such as clothes or cars: "Sometimes my computer feels better after I let it rest a while," or "Sometimes I think my car breaks down to irritate me" (Mick and Fournier 1994; Aaker 1996 p.142). They may perceive them as friends (Flint 1988), as people that relate to one's own self (Fournier 1994), as celebrities or historical figures (Rook 1985) or as people with charisma (Smothers 1993).

Because consumers can easily perceive brands as people and can attribute human characteristics and personality traits to them, research suggested that higher the congruity between a consumer's own personality and brand's personality, the greater the preference that would result for the brand (e.g., Sirgy 1982). For example, those who perceive themselves or would like to be perceived as high status people, would be more prone to prefer a brand that has high status characteristics. For example, Malhotra (1988) studied the correspondence of the house choices of the consumers and their self-concept and found that the consumers preferred houses that were congruent with their actual self, ideal self or social self.

Dimensions of Brand Personality

Recognizing the importance of symbolic or self-expressive use of brands by consumers, Aaker (1997) developed a theoretical framework and then conducted an empirical study to determine the number and nature of the dimensions of brand personality.

After developing a comprehensive and representative set of personality traits and human characteristics by identifying the personality traits mentioned in psychology and consumer behavior, she conducted a pilot study with a small sample of consumers (n=16)

and asked the respondents to write down the personality traits that first came to their minds when thinking about two brands in three types of product categories. 295 traits resulting from this research were added to the list of traits identified in the literature to generate a comprehensive list of 309 nonredundant personality traits. She later reduced this list to 114 traits based on the results of a second pilot study (n=25) where the respondents rated how descriptive each of the traits was of brands in general.

In order to determine the brands to be included in her survey, Aaker chose 131 brands in 39 product categories and asked her respondents to rate the chosen brands on familiarity (having an opinion about the brand) and brand personality on the basis of 30 personality traits. A cluster analysis of the brands in terms of the personality traits identified nine distinct clusters. Four brands were selected from each cluster and approximately the same number of brands were included from symbolic (e.g. clothing, cosmetics), utilitarian (e.g. pain relievers, toothpaste), and both symbolic and utilitarian function (e.g. soft drinks, tennis shoes). A total of 37 brands were selected and the brands had high familiarity ratings (more than 50% of the respondents had an opinion about the brand).

Next, the study involved a survey of a random sample of consumers from a U.S. national panel where the respondents were asked to rate the extent to which the previously identified 114 personality traits describe each of the selected 37 brands. A principal component analysis revealed five significant brand personality dimensions that were labeled as sincerity, excitement, competence, sophistication and ruggedness. Table 1 summarizes the results of this principle component analysis and the variance explained by each dimension. The same five dimensions were obtained when principal component

analysis was repeated with sub samples such as males, females, younger respondents, and older respondents. Aaker confirmed the 5-dimension (42-item) scale by using a different set of 20 brands and conducting confirmatory factor analysis on a data set from randomly selected 180 respondents of a national panel. Estimating a five-factor measurement model and allowing for factors to correlate, the fit statistics indicated a relatively good fit. The confirmatory fit index (CFI; Bentler 1990) = 0.98, goodness-of-fit index (GFI) = .91, root mean square residual (RMSR)-0.7, and chi-square=9,216.80 (with 809 degrees of freedom, $p < 0.01$).

Aaker noted that the developed scale is reliable, valid and generalizable to measure the brand personality. She also noted the usefulness of it for both researchers and practitioners such that researchers could measure brand and consumer personality and investigate the symbolic or self-expressive use of brands in a more concrete way while practitioners could identify consumer perceptions of brand personality of their products and use the findings in managing brand identity.

Aaker (1997) however, warned that the current scale might not be appropriate in measuring brand personality in other cultural contexts. The reason accounted for difference in perceptions was the antecedents of brand personality. Because perceptions of brand personality traits are created by a variety of marketing variables, these variables may be perceived or interpreted differently in other cultural contexts (Aaker 1997).

Antecedents of Brand Personality

Perceptions of brand personality are formed by just about everything related to the brand: product attributes, product category, packaging, price, user imagery, sponsorships,

logo/symbol, user age, advertising, country of origin, company image, company CEO, celebrity endorsers, brand name, and etc. (Aaker 1996; Plummer 1985; Batra, Lehmann, and Singh 1993). In other words, consumers will attribute personality traits to the brand depending on how they perceive or interpret the entire marketing mix of the brand from price (high or low, odd or even) to product features (ingredients, benefits, solid/liquid, etc.), from packaging details (color, size, materials, shape) to advertising (symbols used, ad style, endorsers etc.).

Because perceptions of brand personality are affected by a variety of marketing activities and stimuli related to the brand and company, and the same stimuli and market behavior can be interpreted differently by individual in different cultures, brand personality can develop differently in different cultural contexts. In fact, the concept that human perception is culturally influenced and that the same stimulus can appear differently to different people simply because they are the members of different cultures is not new in psychology and anthropology (i.e., Seagal, Campbell and Herskovitz 1966 p. 3; Hallowell 1951 p. 166; Sumner 1906 p. 13). In the next section, we will explore cross-cultural studies on human perceptions.

Influence of Culture on Human Perceptions

Before we proceed with presenting studies on human perceptions and culture it should be noted that the word "perception" is used to refer to a set of processes, such as attaching meaning, sorting, matching, associating, evaluating and interpreting (Seagal, Campbell and Herskovitz 1966, p. 24). It was pointed out earlier that consumers attribute personality traits to the brand depending on how they perceive or interpret the entire

marketing mix of the brand such as product or packaging size, shape, color and etc. Studies in psychology and anthropology in fact have demonstrated that everyday basic elements, for example size, shape, color and so on can be perceived or interpreted differently by people belonging to different cultures. An interesting study for instance, revealed that individuals of different cultures can perceive the same geometrical shapes to have different sizes. Schwitzgebel (1962) compared how people from two different cultures perceived the size of a cross, a square and two parallel lines. He studied Dutch and Zulu adults residing in South Africa in which he asked the two groups to make absolute judgments of the sizes. His experiments concluded significant differences in the two groups' judgments and showed that even perceptions of shape can vary across cultures.

Zebian and Denny (2001) also concluded that culture affects individuals' perception of object size and shape. These authors investigated cognitive styles of Middle Eastern immigrants and native-born Europeans in Canada by looking at their performance on an object-sorting task. Their experiment required individuals to sort wooden insect like objects according to dimensional similarities. The dimensions were head width, body length, wingspan and number of legs. The similarity-sorting pattern of Middle Eastern subjects was found to be significantly different from native-born European subjects. Middle Eastern individuals' perception of object similarity was based on multiple dimensions whereas native-born European individuals' was based on a single dimension.

Besides the shape and size, the color utilized in communicating a brand can also contribute to different perceptions or interpretations across cultures. For example, almost

a century ago, Woodworth (1904) investigated individuals' color perceptions across cultures. He basically investigated how Filipinos, North American Indians, Eskimos, Europeans and Africans perceived various colors. He asked the respondents to match dark shades of several colors with pale tints of the same by handing them colored papers. Matching of certain colored papers were different across cultures suggesting differences in color perception.

Another cross-cultural comparison on consumer color perceptions is by Jacobs, Charles and Reginald (1991), who compared color perceptions of student subjects from four cultures: Peoples' Republic of China, the Republic of Korea, Japan, and the US. Respondents were asked to associate each of eight different colors with 13 words often used to describe consumer products such as "expensive", "happy", "love", and "dependable". The findings show that, while some colors seem to show cross-cultural consistency, other colors, hold different or even opposite meanings in different cultures. For example, all four cultures associated blue with "high quality" and red with "love". However, purple is associated with "expensive" for subjects from Japan, PRC, and South Korea, in contrast, respondents from the United States associate purple with "inexpensive".

Madden, Hewet and Roth, (2000) studied undergraduate students from East Asia, Europe, North America, and South America (Austria, Brazil, Canada, Colombia, Hong Kong, PRC, Taiwan, United States) in order to determine the meanings consumers associate with the ten different colors. The results demonstrated that although colors share similar meaning cross-culturally, they also convey unique meanings in different countries. For example, in all countries, blue, green, and white are strongly associated

with "peaceful," "gentle," and "calming." In some countries, consumers also associated "beautiful" (Brazil, Hong Kong, PRC, United States) and "pleasant" (Austria, Colombia, United States, and to a lesser extent PRC and Taiwan) with blue, green, and white. Black and brown were associated with the words "sad" and "stale" across cultures. Additional meaning associations of "formal" (Brazil, Colombia, PRC, and Taiwan) and "masculine" (Austria, Hong Kong, the United States) with black and blue were evident in some countries, indicating again both universal and unique meanings for these colors across cultures. Across all countries, red was perceived unique and was associated with "active," "hot," and "vibrant". While red was strongly associated with "emotional" and "sharp" in most countries, it was associated with "pleasant" in two of the Asian countries (PRC and Taiwan).

Just like color, country of origin seems to affect consumers' perceptions of brand personality. For example, based on a study of the views of English and French Canadians, Heslop, Papadopoulos and Bourk (1998) demonstrated that consumers' product evaluations can be influenced by cultural factors. The authors investigated the role of country of origin in product evaluations at the subcultural level. They asked both groups to evaluate products originating from England, France, Zimbabwe, Côte d'Ivoire (Ivory Coast), Ontario, Quebec and Canada. The results indicated that, French Canadians perceive products with French origin more positively and rated these products more favorably while English Canadians perceived products with British Origin more positively and rated these products more favorably.

Gurhan-Canli and Maheswaran (2000) also reported perception differences across cultures due to country of origin effects. The authors asked American and Japanese

consumers to evaluate mountain bikes manufactured either in the United States by a U.S. manufacturer or in Japan by a Japanese manufacturer. Subjects evaluated the target product on "negative" versus "positive," "not at all favorable" versus "very favorable," and "bad" versus "good" scales. The results indicated that US consumers' perceptions of US originated mountain bikes were more favorable, in contrast, Japanese consumers perceptions of Japan originated mountain bikes were more favorable.

Another cross-cultural country of origin study is by Parameswaran and Yaprak (1987) who compared Turkish and American respondents' perceptions of cars, cameras and calculators made in Germany, Japan and Italy. Car brands were VW, Honda Civic and Fiat; camera brands were Lecia, Canon and Ferraria; and calculator brands were Royal, Canon and Olivetti. The respondents rated these brands on specific product attributes by using a 5-point likert scale. The findings indicated that perceptions of product attributes for the mentioned brands differed for the Turkish and American respondents.

Besides a brand's country of origin, a brand's advertising can also lead to different perceptions or interpretations of brand personality across cultures. In fact some authors view advertising or marketing communication as one of the most potent sources of brand personality (Grunert 1986; Lannon and Cooper 1983; Mick and Buhl 1992; Sherry 1987). Buttle (1991) argued that a person's social world and cultural background influence his or her perceptions of advertising or marketing communication for products. During the advertising exposure, individuals interact with their social and cultural world such that they talk, cook, do housework, eat, read, play, and walkabout. Hence, they process and interpret the meaning of advertising within their social and cultural contexts:

"Advertising enters to our homes as a raw material which we process and reprocess, potentially endlessly, within the social actions we perform" (Buttle 1991). Therefore, although people may agree on the content of advertising, they may not agree on the interpreted meaning because of the differences in their background (Buttle 1991; Domzal and Kernan 1992).

Domzal and Kernan (1992) tied their interpretation of the cultural differences in processing of the advertising messages to the "texts" in the advertisements. "Texts" convey meaning and consist of signs. Signs have signifiers (sensory representations) and signifieds (what the signifier stands for or implies). For example, a dove can be used to imply peace. However for some cultures dove may not be interpreted as a sign of peace (Domzal and Kernan 1992).

Although earlier advertising messages seemed to consist of simple verbal messages and pictures, recently those seem to have been replaced by complex advertising messages with the use of drama, rhetoric, metaphor, semiotics, myth, pun, etc. They comprise of vivid, imaginative and fantastic images in order to be capture the attention of the viewer and be more persuasive (Phillips 1997). Individuals from different cultures can interpret such complex advertising messages differently. If an ad does not make literal sense, consumers may assume that figurative ideas are being used, and process the advertising message according to learned cultural conventions (Phillips 1997).

Another source of brand personality is considered to be the product category. Domzal and Kernan (1992) argued that consumer perceptions of brand personality can depend on the product category as the consumers belonging to certain cultures can have a deeper understanding of the certain product categories (Domzal and Kernan 1992). This

phenomenon has been also expressed by McCracken (1986) who argued that consumer goods have a significance that goes beyond their utilitarian character and commercial value simply because they carry and communicate cultural meanings. For example turkey is associated with thanksgiving in many western countries but not in Middle East or Asia. More abstract categories tend to incorporate a wider range of meanings (Applbaum and Jordt 1996). Indeed, an empirical research by Applbaum and Jordt (1996) demonstrated that individuals attach meanings to products or services based on the category they belong and meaning attachment patterns vary as a result of cultural orientation. The authors examined how dating service has been able to appeal to Japanese consumers because the service is associated with marriage.

A recent study by Kim and Han (2000) examined the relationship between culture and brand image. Kim and Han's (2000) findings suggest that the perceived images of retail stores and brands differ among Blacks, Asians and Whites in the United States. The authors' study measured the social class perceptions of five retail stores (JCPenney, Wal-Mart, Dillards, Nordstrom, and Macy`s) and the brand image perceptions of three well-known clothing bands (Polo, Calvin Klein and Levi's). Responses to social class related question revealed that Whites and Asians perceived JCPenney as more lower-middle class than Blacks. Asians perceived Dillards, Nordstrom, and Macy's social class lower than their two counterparts. As for the Brand image perceptions, Polo was perceived as more sexy by Blacks than by Asians, more contemporary by Blacks than by Whites or Asians, more mature by Whites than by Blacks, more formal by Asians than by Blacks and Whites, more intelligent by Whites and Asians than by Blacks. Calvin Klein was perceived as more mature by Blacks than by Asians. Levi's was perceived as more sexy

by whites than by Blacks, more contemporary by Blacks than by Asians, more formal by Asians than by Blacks and Whites, and more intelligent by Whites than by Blacks and Asians.

The above literature review is admittedly limited and can be expanded easily. However, even the limited body of literature presented here clearly suggests that culture shapes consumer perceptions. Therefore, brand personality can be affected by cultural variations.

English and French Canadian Ethnic Groups

There seems to be no definition of culture that is universally agreed on. For the purposes of this research, culture is defined as "the totality of equivalent and complementary learned meanings maintained by a human population, or by identifiable segments of population, and transmitted from one generation to the next" (Rohner 1984). As the subsets of large cultural groups, subcultures can also be defined in a similar way (Calantone, Morris and Johar 1985, Padmanabhan 1988, Zgolli 1999). English and French Canadian subcultures represent Canada's two dominant European founding ethnic groups (Heslop, Papadapoulos, & Bourk 1998).

Scholars who studied English and French Canadians demonstrated that the two ethnic groups differ significantly in their attitudes, consumptions and lifestyle patterns as a result of their cultural differences (e.g. Tigert 1973, Mallen 1973; Schaninger, Bourgeois & Buss 1985; Bergier 1986; Laroche, Kim & Clarke 1997; Heslop, Papadopoulos, Bourk 1998).

For example, French, English, and Bilingual-speaking families had different food, beverage and store patronage, major appliance and brand and type of automobile ownership (Schaninger, Bourgeois & Buss 1985). French Canadian female was more family oriented and was more concerned about personal and home cleanliness than English Canadian female (Tigert 1973). French Canadian female was also more fashion and personal appearance conscious; more religious; more positive towards television and less positive towards newspapers. She was also more price conscious and more concerned about a number of social, political and consumer issues, including youth, liquor, drugs, big government, big business and value of advertising than English Canadian female (Tigert 1973). The English and French Canadian ethnic groups differed in terms of deal interests (Laroche, Kim and Clarke 1997) and in their product evaluations (Heslop, Papadopoulos, Bourk 1998).

Studying brand personality perceptions across two ethnic groups in this study requires a reliable and valid measure of ethnicity so that the respondents can be classified into relatively homogeneous groups that can be labeled French versus English speaking Canadians. Several studies that have dealt either directly or indirectly with the psychometric properties of such a measure of ethnicity to identify the French and English speaking ethnic groups in Canada guided the indicators to be included in this study (Hui, Kim, Laroche, Joy 1997, Laroche, Kim, Hui, Joy 1996, Laroche, Kim, Tomiuk 1998, Laroche, Kim, Hui, Tomiuk 1997, Hui, Laroche, Kim 1998). These studies focus on the socio-cultural and psychological boundaries between ethnic groups and how the interaction between different cultural systems change the social norms and values of the groups as a result of direct contact with each other. Calling such a change

"acculturation", it is argued that acculturation may lead to modifications in both the dominant and the minority groups (Hui, Kim, Laroche, Joy 1997, p. 16).

Ethnic boundaries are affected by social interaction but they are basically cognitive in nature (Gordon 1964, Weber 1961, Woon 1985). They are defined by a feeling of belonging to the same group and self-identification with that group. Thus, it is argued that both objective measures that focus on the nature and degree of social interaction and subjective measures that relate to self-identification with an ethnic group are needed to measure ethnicity (Hui, Kim, Laroche, and Joy 1997).

Within this conceptual framework, multiple facets that tap on both the subjective and objective indicators of ethnicity are suggested. After reviewing the relevant literature, Hui, Kim, Laroche, Joy 1997 argue that the facets of ethnicity include (1) *language use* in interpersonal contexts (when shopping, at school, at work, when talking to spouse, children, relative and friends) and language use when following the mass-media, (2) *social interactions* (such as contacts with close friends, links to neighbors, networks and memberships at ethnic associations and institutions), (3) *religion*, (4) *upbringing and background*, (5) ethnic identification of spouse. Self identification of an individual with an ethnic group is suggested as yet another important subjective indicator of ethnicity.

Hui, Kim, Laroche, Joy (1997) study the psychometric properties of a measure of ethnicity in a series of studies using multiple indicators. The 1997 study shows that the averages of the indicators for each of the five facets mentioned above are highly correlated with each other except for the correlations of "spouse's ethnic identity" with the remaining four facets. Excluding "spouse's ethnic identity, the correlation coefficients ranged between 0.742 and 0.928. A confirmatory factor analysis concluded that there was

a major underlying latent variable. While religion had the lowest loading (standardized loading value of 0.602), the highest loading was for language use (standardized loading value of 0.993). The authors argued that their findings corroborated the findings reported by previous studies (e.g. Driedger 1975) that language use is a crucial indicator of ethnicity. Since self-identification of ethnicity correlated very highly (0.898) with language use and since the standardized loading for this indicator was 0.934), Hui, Laroche, Kim and Joy (1997 p. 20) concluded that self identification was a close second to language use in terms of its relation to the latent variable of ethnicity. Following the arguments by Olmedo (1979) and Yinger (1985), they concluded (p. 20) that "... self-identification and language use may actually represent two principal indicators of ethnicity." When averages of indicators of the above mentioned facets were used, self-identification and language use loaded on the same factor (Laroche, Kim, Hui, Joy 1996, p. 121).

Chapter 2: METHODOLOGY

Two pilot studies preceded a consumer survey involving a self-administered questionnaire. First a French translation of the items in the personality scale into French was required. Then, a set of well-known brands in Canada had to be determined.

Pilot Study 1: Translation of 42 personality Traits into French

Aaker's brand personality scale consists of 42 brand personality traits. A translation of these traits is required for data collection from French speaking respondents. For this purpose, four marketing professors at Concordia University, Montreal, Canada who are bilingual and also native French speakers were requested to translate each of the 42 traits from English to French (please see page 69, Appendix A for an example of this translation request). The majority of these items were translated with showing no discrepancies across the translators. A few of the items however, demonstrated inconsistencies because either they seemed to have different meanings in different contexts and the translators differed in their opinions about the most appropriate French translation (please see the translation results on page 71, Appendix A). These specific items and their varying translations were then presented to 12 bilingual M.Sc students mostly from the Department of Marketing, John Molson School of Business, Concordia University. The graduate students were requested to select the most appropriate French translation given the purposes of the study (please see page 76, Appendix A for an example of how the traits and French translations were presented to M.Sc students). The most frequently selected French phrases were considered as the final set. Two traits, "glamorous" and "rugged", did not generate consistent selection since

there was no apparent direct translation. The most frequently selected French translations of "glamorous" were "splendide" and "fascinante" which means "splendid" and "fascinating" respectively. Whereas the most frequently selected French translations of "rugged" were "robuste" and "rude" which means robust and rough respectively. Hence, we decided to use both phrases to represent the scale items "glamorous" and "rugged".

The next stage was a back translation to ensure the equivalence. A convenience sample of 20 bilingual individuals were requested to translate each of the 42 items from French to English (please see the page 78, Appendix A for an example of this translation request). The results were satisfactory. In order to verify the translation results, we needed expert opinion. For this purpose, two faculty members from Études Françaises of Concordia University were contacted. Both members suggested a change for only one item, "glamorous", and it was translated as "qui a du glamour". The rest of the items remained constant since both experts found the results fitting.

Pilot Study 2: Selecting the Brands for the Study

Three criteria which were suggested by Aaker (1997, p. 349) to guide the selection of a comprehensive and representative set of brands were used in this study also. First, salient and well-known brands (i.e. those brands that a larger percentage of the consumers have an opinion about) had to be chosen so that they would be relevant to Canadian respondents. Second, judgmentally a variety of brands that are likely to tap various "personality types" were required. Third, a range of brands that reflect a wide spectrum of product categories had to be selected to include both the symbolic, utilitarian, and symbolic-utilitarian (Katz 1960) products so that various facets of the

brand personality scale would be related to at least one or two brands included in the study.

A questionnaire with three sections was designed to help determine a set of leading, well-known brands in Canada. Section one was an unaided brand recall test, which asked the respondents to write down any brand names that they could recall. Section two was an aided recall test that asked the respondents to write down the brand/ brands that they could recall for various product categories. We utilized three (3) sources in order to come up a variety of product categories for this section: Product categories that pertained to brands in Aaker's work (1997), product categories that pertained to brands in EquiTrend (1992), and product categories declared in Statistics Canada's Family Expenditure in Canada (1996). The final product categories to be included in the pilot study were based on a judgmental decision by the researchers attempting to cover on the symbolic-utilitarian spectrum (Katz 1960). The final set of 41 product categories reflected a wide variety and served multiple functions.

Section three of the questionnaire was also an aided recall test which provided the respondents a set of brands and asked them to identify the ones that invoked a clear image in their minds. Five sources were utilized in order to come up with extensive range of brands known to Canadian consumers: (1) Brands in Aaker's (1997) study, (2) EquiTrend (1992), (3) Directory of Public Companies in Canada (1992/93), (4) Financial Post Magazine (1996), and (5) The Blue Book of Canadian Business (1999). The initial 186 brands were then judgmentally reduced to 113. The final list comprised brands from a wide spectrum of product categories that included symbolic, utilitarian, and symbolic-utilitarian (Katz 1960) products.

The list of 113 brands was reduced to 30 brands by conducting another pilot study. 40 English and 40 French versions of the questionnaires were distributed to a convenience sample in Montreal, Quebec, Canada. Convenience sample consisted of employees, university members and students of a major university in Canada, the researchers' friends and neighbors and work colleagues. The 78 final respondents were from different age groups, cultural backgrounds and education levels. Each respondent filled out one of the versions of the questionnaire. Both the English and French versions of the questionnaire contained 6 pages including the cover letter and were made up of three sections. The first section was an unaided recall test which asked the respondents to write down any brand names that they could recall. The second section was also an unaided recall test which requested from the respondents to write down the brand or brands that they recalled for each product category for a total of 41 product categories. The third section was an aided recall test which asked the respondents to put a check mark next to each brand that brought to their mind a clear image about the brand for a total of 113 brands. Please refer to pages from 80 to 91, Appendix A for a copy of both English and French versions of the questionnaire.

30 frequently mentioned brands were selected taking into account brands that (i) reflected the product categories in Aaker's study, (ii) were mentioned by a large percentage of the respondents, (iii) tapped various "personality types" as identified by Aaker's (1997) U.S. study, (iv) covered a wide spectrum of product categories that included both the symbolic, utilitarian, and symbolic-utilitarian (Katz 1960) products. In the final selection, a higher priority was given to the brands that were mentioned more often in the unaided recall section of the questionnaire since unaided recall can be regarded as a stronger

measure of brand familiarity than aided recall. Presenting a table of the survey results was not possible within this thesis document since a total of 909 brands were mentioned that would fit to 47 pages in MS Excel spreadsheet. Please see Table 2 for the brands that were identified for the final study.

Research Instrument

Using the brands that were identified, English and French versions of a questionnaire were prepared for data collection. Since each subject rated a brand on 41 items of the brand personality scale and also completed a set of other questions to measure ethnic identity, only six of the 30 brands were included in a given questionnaire in order to avoid response fatigue and boredom which could lead to response bias and low response rate. Therefore, five different versions of the questionnaires were constructed involving five different sets of brands as presented in Table 3. Each version of the questionnaire differed only in the six brands to be measured keeping all other components of the questionnaire the same. A pretest was conducted with eight respondents and some minor flaws were corrected. Time required to complete the questionnaire was improved to approximately 15 minutes instead of 20 minutes. Two questions regarding respondents' education and income level were removed as the majority did not answer to these sensitive questions. Although the original study by Aaker (1997) suggested 42 attributes, "corporate" attribute was eliminated since a large percentage of the subjects in pretests had difficulty in interpreting this item as a meaningful personality trait.

Both the English and French versions of the questionnaire (p.92 and p.101, Appendix A) contained nine pages including the cover letter. Each questionnaire was made up of two major sections. After an introductory section that explains what brand personality is and gives examples about how the rating scales in the survey are to be used, the first section asks the respondents to rate six brands along the attributes that Aaker (1997) suggested. For each brand, the subjects were asked to rate the extent to which each of the 41 remaining personality traits was descriptive of each of six brands on a five point scale that ranged from 1 (not at all descriptive) to 5 (extremely descriptive).

The second major section of the questionnaire was intended to classify respondents into English and French speaking subgroups. For this purpose, a set of items that were developed and tested in previous research (Hui, Kim, Laroche and Joy 1997; Laroche, Saad, Kim, Browne 2000; Laroche, Kim, Clarke 1997; Laroche, Kim, Hui, Tomiuk 1997; Laroche, Kim, Hui, Joy 1996) were included in the final section of the questionnaire to identify ethnic identity. Given the reviewed empirical evidence that language use and self-identification are two crucial indicators of ethnicity and these indicators are highly correlated with the remaining three facets of ethnicity, the indicators that were included in this study focused on those two facets. The questions included 11 items where each respondent was asked to indicate the percentage of times (s)he used French, English, or "Other Languages" in social interactions and when following the mass media. The questions related to 11 domains and various activities and the respondent expressed how much (s)he relied on French, English or "Other" languages when listening to radio, reading a newspaper, reading magazines or books, watching television, when shopping, at school, at work, communication with spouse, with children,

with relatives, and with friends. For each of the 11 items, the respondents divided a total of 100 points among French, English and "Other Languages" when they engaged in that particular activity. Next, the respondents expressed their own ethnic identity by expressing their degree of agreement or disagreement with the statements "I consider myself Anglophone", and "I consider myself Francophone" on a seven point likert scale. The questionnaire finally asked the respondents their gender and age. (Please see the last page of the questionnaire presented in Appendix p.100). In order to keep the response rate high no questions were included about income or education level. It was hoped that these demographic variables would be captured to a certain extent by the stratified area sampling discussed below.

Data Collection

Area Sampling

The population for this study consisted of English and French Canadians adults living in the city of Montreal, Quebec, Canada. A single major geographic area was sampled in order to be able to compare the two sub-cultures objectively. It has been suggested that studies comparing geographically distant English and French sub-cultures might not achieve objective results because the respondents might have been exposed to products, brands, advertisements etc. differently in different geographical areas (Mallen 1973, Heslop, Papadopoulos & Bourk 1998). Similarly, Schaninger, Bourgeois, & Buss (1985) stated that studies employing a procedure of sampling French and English Canadians in the same geographic area would be superior to studies comparing these sub-populations employing a procedure of sampling in different geographical regions.

12 census tracts within the city of Montreal were selected for data collection using two stratification variables: (1) Dominantly English Speaking versus Dominantly French Speaking, and (2) Low, Medium or High Annual Household Income (less than or equal to 33rd percentile, between 33rd and 67th percentile and greater than 67th percentile). As for the first stratification basis, the census tracts with more than 60 percent of the residents who identified themselves as French or English speaking in terms of the "language spoken at home" variable (Profile of census tracts in Montreal, 1996) were selected as dominantly French or English speaking census areas. Given the multicultural character of the population in the city of Montreal, data collection needed to be restricted to those census tracts that exhibited a large percentage of English or French residents. The stratification based on "annual household income" variable (Profile of census tracts in Montreal, 1996) was necessary to select census tracts that represent the low, average and high income Canadians in order to enhance the heterogeneity of the sample and thus to enhance the generalizability of the results. The two stratification bases resulted in six types of census tracts

1. High income, mostly French speakers
2. Average income, mostly French speakers
3. Low income, mostly French speakers
4. High income, mostly English speakers
5. Average income, mostly English speakers
6. Low income, mostly English speakers

Table 4 summarizes the distribution of the census tracts in terms of the two stratification variables:

Table 4

DISTRIBUTION OF THE TOTAL NUMBER OF CENSUS TRACTS IN MONTREAL IN TERMS OF ANNUAL HOUSEHOLD INCOME AND LANGUAGE SPOKEN AT HOME

Annual Household Income	*Language Spoken at Home*	
	*English**	*French**
Low Income**	2	173
Moderate Income**	3	258
High Income**	38	155

**Census tracts with more than 60 percent of the residents who identified themselves as French or English speaking in terms of the "language spoken at home" variable*
*** Census tracts with residents that had Annual Household Income below $33,535, b/w $33,535 & $47,262 and over $47,262*

Each stratum that included more than one census tract in Table 4 above further stratified into two income groups by dividing the bracket for each income group into approximately equal two intervals. Further stratification was done to better enhance the heterogeneity of the sample. A census tract was then randomly selected from each stratum that involved more than one census by using a simple random procedure from each of the 12 groups of census tracts. If the stratum included only one census tract, it was included directly in the study.

Sampling of Houses and Data Collection

Respondents in the selected census tracts of the Greater Montreal area were surveyed using a self-administered questionnaire. Each questionnaire was personally delivered to each selected house and then returned by the respondent by mail.

In each census tract, houses were selected using a "grid technique": Using a large map of Montreal, a 10 by 10 grid was superimposed on the map of each census tract and

the cells of the grid were labeled 1 (top left square) though 100 (right bottom square). Then, five streets within each census tract were selected randomly by selecting five cells on the grid that corresponded to the first five random numbers less than or equal to 100. The street that was closest to the top left corner of the selected cell of the grid was included in the study. Data collection began at that point towards the longer end (in the east-west or north-south direction). 32 questionnaires were distributed on each street. If the street ended before distributing the quota of 32 questionnaires then the data collection continued on the opposite side of the street going the in opposite direction. The sampling plan attempted to imitate the sampling plan used for the long version of the 1996 Canadian census study for Statistics Canada by delivering a questionnaire to every fifth house. Approximately 32 questionnaires were delivered on each street.

Given five different versions of questionnaire that related to five different sets of brands, the different versions were delivered consecutively, delivering the first, second, third, fourth and then the fifth version in a row, and then starting with the first version etc. Questionnaires that could not be delivered due to the absence of the homeowner were distributed in the same street randomly after the quota of approximately 32 questionnaires for the particular street was completed.

After the contact, respondents were given a brief introduction about the objectives of the study and then requested to participate in the survey. Those who agreed to participate in the study were asked whether they would prefer the English or the French version of the questionnaire. After leaving a copy of the questionnaire in the preferred language and also a prepaid return envelope, the respondents were encouraged to respond

as soon as possible. The field worker then left after thanking the respondent for his/her participation in the study.

The field work and data collection took place from August 4 to October 27, 2000. Selection of the houses and the delivery of the questionnaires took place early in the evenings and on the weekends when the respondents were more likely to be available at home. A total of 1959 questionnaires (996 in French and 963 in English) were distributed, approximately 160 questionnaires in each census tract.

Table 5

NUMBER OF QUESTIONNAIRES THAT WERE DELIVERED AND RETURNED IN EACH CENSUS TRACT

Census Tract ID No	*Number of Questionnaires Delivered*		*Number of Questionnaires Returned*		*Not Usable*	
	English	*French*	*English*	*French*	*English*	*French*
94.01 and 95	282	65	61	24	1	0
351	151	18	45	7	1	1
99	131	35	39	15	0	1
381	170	4	59	3	0	0
831.01	2	152	1	54	0	2
89	29	130	8	37	0	4
270	19	140	7	46	0	4
367	16	145	5	56	1	3
453.01	158	23	46	11	3	0
619	2	144	1	50	0	2
590.01	3	140	2	46	0	4
Total	963	996	274	349	6	21

As presented in Table 6 below, 268 English and 328 French usable questionnaires were returned making the response rate 0.278 and 0.329 for the ethnic groups, respectively. The questionnaires where the subjects did not rate more than one brand or ignored several pages of the questionnaire were excluded from study. The distribution of number of returns across the five versions of the questionnaire is summarized in Table 7.

Table 6

RATE OF RETURN FOR ENGLISH AND FRENCH SPEAKING SAMPLES

	English	*French*	*Total*
Number of questionnaires distributed	963	996	1959
Number of questionnaires received	274	349	623
Number of questionnaires received (usable)	268	328	596
Response Rate (usable)	27.8%	32.9%	30.4%
Percent of total sample (usable)	45.0%	55.0%	100%

Table 7

NUMBER OF RETURNS FOR EACH QUESTIONNAIRE VERSION

Versions	*No. of returns*	*% of returns*
Version 1: BMW...Molson	114	28.50
Version 2: Coca cola...Levi's	128	32.00
Version 3: IBM...VW	121	30.25
Version 4: Kodak...Sony	111	27.75
Version 5: Labatt... Aspirin	122	30.50

Data Arrays and Handling of Missing Data:

As it was done in Aaker's study (1997) and as it is common in perceptual mapping of multiattribute ratings in marketing (Dillon, Frederick and Tangpanichdee 1985), the brand personality ratings were "stacked" to form a data array with 3576 rows (596 subjects x 6 brands per subject) with 41 columns (41 brand personality items). The variables related to ethnic identity form a data array with 596 rows.

Imputation of the missing value for an item was based on the average value for that item in each of the 12 census areas. Rather than using the averages computed across the whole sample as it is conveniently done in many empirical studies, this study identifies which of the 12 census tracts a given respondent is from, and then replaces a missing value by the corresponding average computed across that census tract only.

Therefore, the imputed values indirectly take into account the stratification bases that were used to define the census tracts, namely, the annual average household income and whether the respondent is sampled from a dominantly English or French speaking census tract.

Chapter 3: STATISTICAL ANALYSES & RESULTS

In this chapter, statistical analyses of the collected data and the findings of the study will be presented. First, some statistics describing the nature and breakdown of the sample in terms of the stratification variables and age are discussed. Next, a principal component analysis is summarized where the objective is to obtain a latent measure of ethnic identity to classify the sample into Anglophone and Francophone groups. Finally, the results of a confirmatory factor analysis (CFA) using structural equation modeling (Bollen 1989, Jöreskog and Sörbom (1979, 1989), Kaplan 2000) are presented. The objective of this CFA is to test if the factor structure implied by Aaker's (1997) findings are observed in the Anglophone and Francophone groups. Finally, the results of an exploratory factor analysis (EFA) that examines the factor congruency for Anglophones and Francophones are discussed.

Descriptive Statistics: Summarizing the Characteristics of the Sample

(1) Summary Statistics Regarding Sample Breakdown

Table 8

ABSOLUTE AND RELATIVE FREQUENCY OF SAMPLE BREAKDOWN

		Frequency	Percentage
Gender	Male Female	219 376	36.8 63.2
Questionnaire language	English	269 327	45.1 54.9
	French		
Census Tract	Anglophone	303 293	50.8 49.2
	Francophone		
Income level	Low	174 208	29.2 34.9
	Moderate	214	35.9
	High		

The sample consisted of more female respondents (63.2%) than male (36.8%) as observed in Table 8. While 54.9 % of the sample completed and returned the French version of the questionnaire the corresponding figure for the English version was 45.1% 50.8% of the sample resided in Census tracts where Anglophones were concentrated and 49.2% resided where Francophones were concentrated. In terms of income, 29.2 % of the sample had low, 34.9% had moderate, and 35.9% had high income.

(2) Age

Average age of the respondents was 45.1 with minimum and maximum ages 17 and 84, respectively. A histogram summarizing the observed age distribution of the respondents is given in Figure 1

(3) Various Cross-Tabulations

Cross-tabulations summarizing the breakdown of the sample in term of stratification variables can be seen in tables 9 and 10. Table 9 displays the breakdown of the sample according to income and dominant language in the census tract. As discussed in the section on research methodology (Chapter 2, p.30), census tract language represented census tracts where the majority of the residents' (60% or higher) home language is either English (1) or French (2). Income represents the census tracts with low (1), average (2) and high (3) income. The first two cells, with values 83 (98.8%) and 1 (1.2%), represent response rates from low-income Anglophone concentrated census tracts. As described in the previous chapter, low-income Anglophone group was consisted of only two census tracts and the group required no further stratification based on income 2 criterion. Questionnaires hence, received from these two census tracts were coded "1" for inco2 variable which explains the irregular figures of 83 and 1. The highest rate of return came

from the average income residents of Anglophone concentrated census tracts (38%) followed by the high income residents living in Francophone concentrated census tracts (37.5%). Lowest response rate came from low-income Anglophone concentrated census areas.

Table 10 shows cross tabulation of sample incidence in terms of gender and census tract language. Female response rate was higher than male response rate in both Anglophone and Francophone concentrated census tracts.

Classifying the Sample into Anglophones and Francophones:

The respondents of the survey were classified as Anglophone or Francophone based on scores obtained from principal component analysis of the indicators of ethnicity representing language use and self-identification (Please see Section 2 of the questionnaire, p.32). Before moving on to a discussion of the results of principal component analysis, a unique feature of the observed data values for the 11-language use related items need to be highlighted.

The 11 indicators associated with language use in various social contexts and when following the mass media required the respondents to express the degree to which they relied on English, French or other languages when they engaged in each of the 11 activities. For this purpose, each subject divided a total score of 100 among the three response categories (English, French, Other Language) to reflect how much each language was used. Since these ratings sum to 100, the value for any one of the languages can be predicted perfectly if the values for the two other two languages are given. For this reason, the data for one of the response categories, say "Other Languages", is redundant

and therefore can be ignored. Also, again because of the constant sum nature of the scale that was used, the remaining scores for the other two languages (English and French) are expected to be highly negatively correlated. Furthermore, the data for these indicators are highly skewed as can be seen in Figure 2 which displays as an example a histogram for one of the items related to ethnicity: Reading English language magazines or books.

Because of the skewed nature of the language use related data, a principal component analysis (PCA) rather that a confirmatory factor analysis (CFA) was conducted because the commonly used maximum likelihood estimation of model parameters in CFA assumes a multivariate normal distribution. Although an alternative to maximum likelihood approach is to use an asymptotically distribution free (ADF) method (Browne 1984) and this method is already available in commercial structural equation modeling software, principal components analysis was preferred here because of its relative simplicity and widespread familiarity of potential readers with it.

PCA involved a total of 24 indicators: 11 language use contexts for English and French use, and two indicators regarding the self-assessment of ethnic identity. Since the language use and self-assessment of identity had different ranges for response, the variables were standardized before PCA and the correlation matrix of the 24 indicators were used as input.

PCA clearly suggests only one latent variable underlying the indicators as presented in Table 11. The eigenvalue for the first component is 20.056 and then drops sharply to 0.762 for the second component (please see Figure 3 for the associated scree plot). The first component extracts 83.6 percent of the total variance in the data. As

reported also by Hui, Kim, Laroche, and Joy (1997) indicators of language use and self-identification of ethnicity load on the same latent variable.

The loadings of all the indicators are rather high ranging between 0.836 and 0.960 as presented in Table 12. Most of the loadings exceed 0.90. As expected, the loadings for English versus French scores are very close in absolute value and of different signs consistently across all 11 items related to language use.

The findings of the PCA were used to categorize the respondents of the survey into Francophone and Anglophone groups. For this purpose, component scores were computed across the sample for a single component solution and a histogram of the scores was obtained as given in Figure 4. Since the loadings for the higher use of French are positive and the corresponding loadings for English use are negative, the respondent on the right hand side of this bimodal histogram are Francophones whereas the ones on the left hand side are Anglophones. The respondents in the middle are those who are bilingual and use both languages in various domains and identify themselves neither as Francophone nor Anglophone. In order to be able to study the differences between the two ethnic groups, a decision was made to exclude this middle group from further study.

With an ad-hoc decision, 56 respondents with factor scores between -0.75 and 0.6 (9.4% of the sample) were removed. This resulted in two relatively distinct groups, 228 Anglophones and 312 Francophones, across which brand personality scale can be compared (please see Table 13).

ASSESSING THE MEASUREMENT INVARIANCE OF BRAND PERSONALITY SCALE BY CONFIRMATORY FACTOR ANALYSES

This section presents the results of two confirmatory factor analyses (see e.g. Bollen 1989, Joreskog and Sorbom 1989, Kaplan 2000, p.63-65) that were used to test the configural invariance of the brand personality scale. As discussed in the literature review section, measurement invariance is of utmost importance in research on cross-cultural consumer behavior since it is not possible to consider the applicability of theories in different cultural contexts without first establishing measurement invariance (Steenkamp and Baumgartner 1998; Mullen 1995; Cavusgil and Das 1997; Myers, Calantone, Page and Taylor 2000; Douglas and Craig 1983, Mullen 1995). Different "levels" of invariance can be tested by imposing increasingly restrictive constraints on structural equation models as discussed by Meredith (1993) and Steenkamp and Baumgartner (1997). Such sequential tests in-group comparisons are also discussed by Sorbom (1974), Joreskog and Sorbom (1989, p. 227), and Kaplan (2000).

The following discussion follows the procedure for testing configural invariance suggested and the terminology used by Steenkamp and Baumgartner (1998, See Figure 1 on p. 83). The two CFA reported below were conducted using Lisrel 8. The parameter estimates that are presented are all maximum likelihood estimates.

In the measurement model of CFA, the observed response x_i to an item i (i= 1,..., p) is represented as a linear function of a latent construct ξ_j (j= 1,..., m), an intercept τ_i, and a stochastic error term δ_i, such that (Steenkamp and Baumgartner 1998):

$$x_i = \tau_i + \lambda_{ij}\xi_j + \delta_i$$

where λ_{ij} is the slope of the regression of x_i on ξ_j. The slope coefficient λ_{ij}, or factor loading, defines the metric of measurement, as it shows the amount of change in x_i due to a unit change in ξ_j. The intercept τ_i, in contrast, indicates the expected value of x_i when ξ_j=0 (cf. Sörbom 1974). In our case, we are not interested in intercept τ_i therefore eliminated τ_i. Assuming *p* items and *m* latent variables, the measurement model can be presented in matrix form as

$$x = \Lambda \xi + \delta$$

where x is a *(p x 1)* vector of observed indicators of ξ, ξ is an *(m x 1)* vector of latent variables, Λ is a *(p x m)* matrix of coefficients relating x to ξ, and δ is a *(p x 1)* vector of measurement errors for x.

The usual assumptions are made (see, for example Bollen 1989, p. 20):

$$E(\xi) = 0$$

$$E(\delta) = 0, \text{ and}$$

$$\delta \text{ uncorrelated with } \xi.$$

The covariance matrix of the measurement errors is denoted as Θ_δ and the covariance matrix of the latent variables is denoted as Φ.

Specifying the same factor structure for each group *g* (*g* = 1,..., G), we obtain the following measurement model in the multiple group context:

$$x_g = \Lambda_g \xi_g + \delta_g$$

where x_g is as pxl (41x1) vector of observed variables in group g, ξ_g is an mx1 (5x1) vector of latent variables, δ_g is a px1 (41x1) vector of errors of measurement, and Λ_g is a pxm (41x5) matrix of factor loadings. CFA is typically conducted by setting the factor loading of one item per factor to 1.0 to fix the measurement scale to a constant. The indicators for which the loadings are fixed at unity are referred to as marker (or reference) items. The same item(s) should be used as marker item(s) in each group in multiple group studies (Steenkamp and Baugartner 1998, p. 79).

A. Testing for Configural Invariance: Comparisons of Aaker's (1997) U.S. Results with Anglophone and Francophone Canadians

The first test attempts to meet one of the major objectives of this study by checking the fit of the structural equation model implied by Aaker's (1997) findings for the U.S. sample to the Anglophone and Francophone samples in Canada. Unfortunately, the estimated model parameters are not presented in Aaker's article (1997). Therefore, model specification had to rely on the discussion of the findings in the article. Following the discussion, the λ coefficients for indicators which were reported to load on each of the five factors recovered by Aaker (1997) were set as free parameters to be estimated whereas the remaining λ coefficients were set to zero. Furthermore, five latent variables were specified and they were allowed to covary by setting the elements of the covariance matrix of the latent variables, Φ, as free parameters to be estimated. A Lisrel analysis was run for each of the two groups.

Using a maximum likelihood solution, the chi-square statistic for Anglophone group was calculated to be 11,833 with degrees of freedom (d.f.) 769, Root Mean Square

Error of Approximation (RMSEA)= 0.0899, Comparative Fit Index (CFI)= 0.732. Values 0.9 and above for the CFI and values of 0.05 and below for RMSEA are regarded to be acceptable in the literature. Aaker's model did not fit the data of Anglophones as indicated especially by a low value of CFI =0.732. Chi-square test for Francophone group was calculated to be 12,593 with d.f. 769, RMSEA= 0.0928, CFI= 0.704[1]. Again, a poor fit is indicated both by RMSEA and CFI suggesting that Aaker's model did not fit the data for Francophones, either.

As discussed before, Steenkamp and Baumgartner (1998) argue that "Configural invariance is supported if the specified model with zero loadings on nontarget factors (if any) fits the data well in all countries, all salient factor loadings are significantly and substantially different from zero, and the correlations between the factors (if any) are significantly below unity." The test of configural invariance as reported above fails the first requirement on the basis of CFI and RMSEA, and therefore it is concluded that the relationship of the indicators to the latent variables assuming five latent variables are different in the two Canadian samples than in the U.S. findings reported by Aaker (1997). Thus, neither the Anglophone and nor Francophone samples in Montreal exhibited the same factor structure implied by Aaker's findings (1997). Given this finding, data analysis shifted its focus to a comparison of the Anglophone and the Francophone samples.

B. Comparing Factor Patterns for Anglophones and Francophones:

Having concluded that the factorial structure suggested by Aaker(1997) based on her U.S. data does not fit the data for either the Anglophone or the Francophone samples

[1] Please see Bentler (1990) for a discussion of these popular model fit indices in structural equation modeling.

in Montreal, exploratory factor analyses were conducted to examine and compare the factor structure of the brand personality scale for the two groups. Since the hypothesis that the factor structure reported by Aaker (1997) was rejected, there was no a-priori theory regarding what the factor structure might be for the Canadian samples. For this reason, an exploratory factor analysis was conducted on both samples to provide guidance for later studies that may want to test specific hypotheses regarding measurement invarince of the brand personality scale across the two ethnic groups using confirmatory factor analysis.

The following exploratory factor analyses use the variance-covariance matrices for the related groups as input to avoid a potential problem in comparing factor similarity across the two ethnic groups. The derivation of the factors from correlation instead of variance-covariance matrices violates the principle that the analyses must be in the same measurement unit for the individual factor loadings to be compared (Mulaik 1972, p.356). Using the correlation matrix as the input for each group forces the variables to have unit variances in each population, thereby creating a different metric for each population (Mulaik 1972). However, variance-covariance matrices retain the measurement unit of the original items.

Factor analysis of the related covariance matrices for each of the two groups was preceded by the calculation of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Small values of this measure for all of the indicators *collectively* indicate that factor analysis is not appropriate for the items as a set. Values above 0.90 are suggested as marvelous in the literature. The calculated KMO values were 0.955 and 0.948 for Anglophone and Francophone groups, respectively. Values of KMO for individual items

ranged between 0.930 and 0.975. KMO values, collectively for all items and for each of the items, indicate that all of the variables can be can be retained in factor analysis.

An examination of the eigenvalues associated with the variance-covariance matrices of the two groups suggested that five dimensions may adequately represent the variability in the data as in Aaker's (1997) original study. The eigenvalues, and the percentage of variance and cumulative variance accounted by the first 15 factors are given in Tables 14 and 15 for Anglophones and Francophones respectively. When correlations are used to derive the factors, one of the heuristics to use to decide on the number of dimensions to retain is the "eigenvalue-less-than-one" rule which is based on the reasoning that a factor that is retained should capture at least as much variance as a standardized variable. Since covariance matrices are used as input in our analyses, the average variance of the items (around 1.8) was used to decide on the number of factors to retain. For both groups, five dimensions were retained accounting for a total of 58.3 and 57.7 percent of the variance. It should be noted, however, that the evidence in favor of five factors is not very clear since the scree plots for neither of the groups show the *noticeable drop* in eigenvalues that is suggested in the literature. Instead, the scree plots for both groups shows a trailing set of close eigenvalues as the number of dimensions increases[2].

[2] A confirmatory factor analysis of each group by fixing the loadings that were below 0.20 in EFA to zero suggests that five factors adequately capture the covariance structure in the data. The root mean square error of approximation (RMSEA) and the comparative fit index (CFI) were 0.058 and .901, respectively or the Anglophones. The corresponding fit indices were 0.056 and .903 for the Franchophones. The chi-square values were statistically significant but were ignored because of the large degrees of freedom.

Tables 16 and 17 present the factor pattern matrices (loadings) for Anglophones and Francophones, respectively. First, the pattern matrix for the Anglophones was obtained following a VARIMAX rotation, and then the pattern matrix for the Francophones was *orthogonally rotated to congruence* to the pattern matrix for the Anglophones by following the rotation method suggested by Cliff (1966). Let A_1 be the nxr matrix of factor loadings for group 1 (Anglophones) and B be the nxr matrix of loadings for group 2 (Francophones). One of these loading matrices can be taken as the target, say A_1, and then B can be orthogonally rotated to maximum congruence to A_1. For this purpose, singular value decomposition of the matrix product $A_1^T B$ is needed:

$$A_1^T B = U \Lambda V^T$$

where the matrix Λ is diagonal with ordered positive entries. The square matrix Λ^2 contains the eigenvalues of $A_1^T B B^T A_1$, and U and V are each orthonormal matrices. Let $T = VU^T$. Then, the loadings matrix B can be rotated to maximum congruence to A_1 to obtain $BT = A_2$ which is as similar as possible to A_1. Thus, the loadings matrices A_1 and A_2 represents the two loadings for two groups where A_1 was taken as a target, and B was rotated to maximum congruence to A_1 to obtain A_2.

After orthogonal rotation to congruence, Tucker's (1951, p.43) (referenced in Harman 1976, p. 343) coefficient of congruence was computed for all possible pairs of factors to assess the degree of agreement between factors for two different ethnic groups as discussed by Harman (1976, p. 153) and Mulaik (1972, p.355). The coefficient of congruence is

$$\varphi_{pq} = \frac{\sum_{j=1}^{n} a_{1jp} a_{2jp}}{\sqrt{\left(\sum_{j=1}^{n} a_{1jp}\right)^2 \left(\sum_{j=1}^{n} a_{2jq}\right)^2}}$$

where a_{ijp} indicates the factor loading in i th group ($i=1,2$), for j th variable on p th factor. Thus, the numerator of φ_{pq} is equal to the product of the corresponding factor loadings on factor p in the pattern matrix A_1 for group 1 and factor q in the pattern matrix A_2 for group 2. The denominator is simply the square root of the product of the sum of squares of the loadings that appear in the numerator. The coefficient of congruence φ_{pq} can range in value from +1 for perfect agreement to -1 for perfect inverse agreement with 0 indicating no agreement whatsoever. There is no statistical test associated with this index. However, a common practice is to accept the factors as equivalent (invariant) if the index of factor congruence is 0.90 or greater for corresponding factors (Mulaik 1972).

The congruence coefficients for all pairs of factors (matching a factor from each ethnic group) are presented in Table 18. The entries on the diagonal of this table present the congruence coefficients for the corresponding factors in the two groups. The smallest φ_{pq} value is 0.974 suggesting *very high degree of similarity* in the factor patterns for the two ethnic groups. This result that the factor patterns underlying the brand personality scale are highly similar across Anglophones and Francophones is one of the main findings of the study. Since the factor pattern for both groups were found to be different than the pattern suggested by Aaker's (1997) findings, it is important to interpret the factor pattern for the two groups and note how they differ from the one in Aaker's (1997) study. Since the factor patterns for the two groups were found to be highly similar, the

following discussion attempts to interpret the factor pattern for the Anglophones only. Similar conclusions are drawn with respect to the Francophones.

For ease of comparison, the factor pattern matrix for Anglophones in Table 16 is presented in exactly the same format as the one presented by Aaker (1997, p. 354, Appendix A) for her U.S. sample. The rows of the pattern matrix in this table are separated to correspond to the factors and their facets mentioned by Aaker (1997). Furthermore, the two columns of the table on the far right present the factor names and the associated facets that Aaker (1997) used. Also, the loadings less than 0.35 are suppressed to detect the major correlations between the original items in the scale and the extracted factors. Table 17 presents a similar format for the Francophone sample.

A careful examination of the factor pattern matrix for the Anglophones in Table 16 reveals that the composition of the factors is different than the factor structure reported by Aaker (1997) for her U.S. sample. Let us examine the rows of the table and note how the factors for the current study differ from the ones that Aaker (1997) suggested. The items down-to-earth to friendly in the top portion of Table 16 correspond to the factor that Aaker (1997) labeled SINCERITY. Although the majority of the items in this set load on the same factor (Factor 2), cheerful and sentimental load highly on Factor 4. Note also that sincere and wholesome have high loadings on Factor 4 as well.

The items daring through contemporary in Table 16 constitute a factor that Aaker (1997) calls excitement. Although trendy, cool, young and contemporary have high loadings on Factor 5 it is important to note that six of these 11 items (daring, exciting, imaginative, unique, up-to-date, and independent) have higher loadings on Factor 1 for Anglophones in this study.

Another factor in Aaker's (1997) study is competence with indicators reliable through confident in Table 16. Similar to the case mentioned just above, two subsets of this set of items, too, load on different factors: while reliable through intelligent load on Factor 2, technical through confident have higher loadings on Factor 1. Reliable, hardworking and secure have relatively high loadings on Factor 1 as well.

The set of indicators, upper class through smooth, that constitute the factor that is labeled sophistication in Aaker's (1997) study load on two separate factors also. While charming, and feminine load highly on Factor 4, upper class, glamorous, and good looking load highly on Factor 1. Good looking and glamorous have relatively high loadings on Factor 4 also.

Items outdoorsy through rugged load highly on a common factor in Aaker's (1997) and the associated factor is labeled ruggedness. In this study, too, these items load highly on the same factor, Factor 3. In fact, this set of items is the only one out of five that load on the same factor as indicated by Aaker (1997).

In summary, only five items of the brand personality scale associated with the factor labeled ruggedness in Aaker's (1997) study load on the same factor. Each of the remaining four sets of items associated with the factors that are labeled sincerity, excitement, competence, and sophistication loads on more than one factor. Therefore, the factor structure for the Anglophone sample is different than the one discussed by Aaker (1997). Similar conclusions can be made for the Francophone sample as well.

Examining the columns of the pattern matrix in Table 16 helps in the interpretation and labeling of the factors. As far as Factor 1 is concerned, items such as daring, exciting, unique, technical, successful, leader, confident, upper class, glamorous,

and good looking have loadings greater than or equal to 0.50. These items in general correspond to facets that Aaker (1997) called daring, spirited, imaginative, successful and upper class. As such, the factor represents a general dimension of innovativeness, uniqueness and desirability.

The items with loadings greater than 0.50 on Factor 2 are down-to-earth, family-oriented, honest, sincere, wholesome, reliable, hard working, secure and intelligent. They represent the facets that Aaker (1997) called down-to-earth, honest, wholesome, reliable, and intelligent. We retain Aaker's (1997) label for this factor and call it sincerity but underline the fact that the factor recovered in this study involves reliability, hard working, secure, and intelligent.

Factor 3 mainly involves outdoorsy, masculine, western, tough, rugged, and correspond to what Aaker (1997) called ruggedness. The same label is retained in this study as well.

Factor 4 involves mainly the items charming, feminine, cheerful, and sentimental with loadings greater than or equal to 0.50. Thus, it combines the facets that Aaker (1997) called charming and cheerful. Note that while Factor 3 is masculine, Factor 4 is more feminine.

Finally, Factor 5 involves items such as trendy, young, and contemporary with loadings greater than or equal to 0.48. Other items with relatively high loadings are cool, and up-to-date. Hence, the factor can be labeled modern (or current).

Table 19 summarizes the variance accounted by each of the retained five factors for the Anglophones and Francophones. The variance accounted by the factors for Anglophone group range between 4.497 to 11.818 with a total of 38.243 for all five

factors. Thus, five factors extract 52.56 percent of the total variance. For the Francophone group, the variance accounted by the factors range between 4.611 and 10.699 with a total of 36.943 and accounting for 51.79 percent of the total variance.

Table 20 presents the communality estimates for each variable for the Anglophone and Francophone groups. The majority of the communality estimates are note very impressive and range between 0.50 and 0.65. For two variables, smooth and western, however, the communalites are relatively poor with values less than or equal to 0.40. These are the items that some respondents expressed concerned in pilot studies and were also difficult to translate to French. Since the factor patterns and the item variances are very similar across the two groups, it is not surprising that the communalities for the items and the total variance extracted by each of the factors are also very similar.

In summary, the findings suggest that five factors underlie the items in the brand personality scale for the Anglophone and Francophone groups. The factor patterns for the two groups are highly similar as measured by the coefficient of congruence. A comparison of the individual loadings also confirms this finding. The extracted factors account for about 51 percent of the total variance of the data for each group. Furthermore, communality estimates for the individual items of the personality scale are very similar across the two groups. However, the composition of the factors are different than the factors reported by Aaker (1997). Except for the factor that was labeled ruggedness by Aaker (1997), the set of items that load on a single factor were generally broken into two groups loading on two different factors. Therefore, the final composition of the factors for the Anglophone and Francophone groups were different than the set of items reported by Aaker (1997). In both groups, the first factor was a general factor that seemed to

reflect innovativeness, uniqueness and desirability. The second factor is labeled sincerity as in Aaker's study (1997) but reflects also traits like involves reliability, hard-working, secure, and intelligent. The third factor is ruggedness and reflects masculinity. The fourth factor is charm and cheerfulness (with a feminine aspect). Finally, the fifth factor is modernity (being current).

Chapter 4: CONCLUSION

The purpose of this study was to examine the invariance of Aaker's 5-factor Brand Personality scale across English and French Canadians. Confirmatory factor analyses of the Anglophone and Francophone data using LISREL VIII indicate that the factor model suggested by Aaker (1997) for her U.S. data does not fit the data for either Canadian group. Exploratory factor analyses of the data for each group and the estimated coefficients of congruence for pairs of factors following an orthogonal rotation of the two factor pattern matrices to congruence suggest high degree of factor similarity for the two ethnic groups. When the factor loadings for the groups are examined, it is clear that the composition of the factors in terms of indicators are different for the Canadian samples than in the U.S. study reported by Aaker (1997) except for one of the five factors. Many of the indicators that load highly on one factor in Aaker's study (1997) are split into two factors in for both of the Canadian ethnic groups.

The observed differences in the factor structure in the U.S. and Canadian samples may be due to cultural differences. Another possible explanation could be the differences in the brands that were rated by the subjects of this study that included only 13 of the 37 brands that originally appeared in Aaker's (1997) study.

The finding that the Anglophone and Francophone samples from Montreal were similar but both groups were different than the U.S. group in terms of the factor structure is rather interesting in the light of the long list of perceptual and behavioral differences that were reported in the literature in comparisons of Anglophone and Francophone consumers. A possible explanation for the observed similarity of the factor structure underlying consumer ratings of various brands is the impact of media in building brand

identity. The Anglophone and Francophone consumers may have been exposed to the same brand building efforts the firms in a relatively small geographical market leading to similar brand associations in long term memory.

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APPENDIX A

Dear Dr. _____

I plan to study the generalizability of Jennifer Aaker's brand personality scale which was published in the Journal of Marketing Research in 1997 as a part of my M.Sc. thesis research. Since I need a translation of the anchor phrases of the scale to French, I am requesting the bilingual members of some faculty members to help me in the translation. Could you translate each of the following anchor words to French by entering your translation in the column on the right. You can enter more than one word or phrase as your translation.

Anchor Word in Aaker's Brand Personality Scale	***Your Translation of the Anchor Word to French***
1. Down-to-earth	
2. Family-oriented	
3. Small-town	
4. Honest	
5. Sincere	
6. Real	
7. Wholesome	
8. Original	
9. Cheerful	
10. Sentimental	
11. Friendly	
12. Daring	
13. Trendy	
14. Exciting	
15. Spirited	
16. Cool	

17. Young	
18. Imaginative	
19. Unique	
20. Up-to-date	
21. Independent	
22. Contemporary	
23. Reliable	
24. Hardworking	
25. Secure	
26. Intelligent	
27. Technical	
28. Corporate	
29. Successful	
30. Leader	
31. Confident	
32. Upper class	
33. Glamorous	
34. Good looking	
35. Charming	
36. Feminine	
37. Smooth	
38. Outdoorsy	
39. Masculine	
40. Western	
41. Tough	
42. Rugged	

Down-to-earth	Terre à terre Terre à terre Terre à terre Terre à terre
Family-oriented	Qui a le sens de la famille Orienté(e) vers la famille Attaché(e) à sa famille Tourné(e) vers sa famille
Small-town	Provincial(e) Provincial(e) D'une petite ville Régional(e) Méntalité petit village
Honest	Honnête Honnête Honnête Honnête
Sincere	Sincère Sincère Sincère Sincère
Real	Réel(le) Réel(le) Vrai(e) Vrai(e) Franc(e) Veritable Authentique
Wholesome	Sain(e) Sain(e) Sain(e) Sain (e)
Original	Original(e) Original(e) Original(e) Original(e)
Cheerful	Joyeux (euse) Jovial(e) Gai(e) Bon vivant
Sentimental	Sentimental(e) Sentimental(e) Sentimental(e) Sentimental(e)

Friendly	Sympathique Amical(e) Amical(e) Amical(e) Amical(e)
Daring	Fonceur Courageux Audacieux(euse) Audacieux(euse) Osé
Trendy	À la mode Dans le vent À la mode À la mode À la mode Branché(e)
Exciting	Excitant(e) Excitant(e) Excitant(e) Excitant(e) Émouvant(e)
Spirited	Fougeux(euse) Fougeux(euse) Fougeux(euse) Fougeux(euse)
Cool	Génial(e) Super Calm(e) Calm(e) Dans le vent «Cool»
Young	Jeune Jeune Jeune Jeune
Imaginative	plein d'imagination Imaginatif(ve) Imaginatif(ve) Imaginatif(ve)
Unique	Unique Unique Unique Unique

Up-to-date	Au parfum À la page Au courant À jour À la page
Independent	Indépendant(e) Indépendant(e) Indépendant(e) Indépendant(e)
Contemporary	Contemporain(e) Contemporain(e) Contemporain(e) Contemporain(e)
Reliable	Fiable Fiable Fiable Fiable Fidéle
Hardworking	Travailleur(euse) Travailleur(euse) Assidur Travailleur(euse) Travailleur(euse)
Secure	Sûr(e) Sûr(e) Sûr(e) Sans inquiétude Sûr(e)
Intelligent	Intelligent(e) Intelligent(e) Intelligent(e) Intelligent(e)
Technical	Technique Technique Technique Technique
Corporate	Patron Corporatif (ve) Corporatif (ve)
Successful	réussi Succès Qui a du succès Qui a du succès Qui a du succès

Leader	Leader Leader Leader Leader
Confident	Confiant en lui-même Confiant Sûr de soi Assuré
Upper class	D'un class aisée Classe-supérieure Classe-supérieure Classe-supérieure Aristocratique
Glamorous	Splendid (e) Prestigieux (euse) Fascinant (e) Séduisant (e) Élégant (e)
Good-looking	Beau (belle) Qui a une belle apparance Qui a une belle apparance Belle apparance
Charming	Charmant(e) Charmant(e) Charmant(e) Charmant(e)
Feminine	Feminin(e) Feminin(e) Feminin(e) Feminin(e)
Smooth	Doux (ce) Suave Beau Parleur Souple Doucereux (euse)
Outdoorsy	Qui aime le plein air Qui aime la vie au grand air Plein air Sportif
Masculine	Masculin(e) Masculin(e) Masculin(e) Masculin(e)
Western	Cowboy Cowboy «Western » «Western »

Tough	Dur(e) Dur(e) Dur(e) Dur(e)
Rugged	Sauvage Rude Rustre Borru(e) Robuste

Dear _____

The following represents a pilot study as part of my M.Sc. thesis research. I would appreciate if you could circle the most appropriate French translation for each of the following English phrases. Phrases represent human personality traits, therefore please keep in mind that the anchor French words should also be appropriate to represent human personality traits

1.Family-oriented:

Qui a le sens de la famille
Orienté(e) vers sa famille
Attaché(e)a sa famille
Tourné(e) vers sa famille

2.Small-town:

Provincial(e)
Régional(e)
D'une petite ville
Mentalité petit village

3.Real:

Réel(le)
Vrai(e)
Franc(e)
Véritable
Authentique

4.Cheerful:

Joyeux(euse)
Jovial(e)
Gai(e)
Bon vivant

5.Daring:

Fonceur
Courageux(euse)
Audacieux(euse)
Osé

6.Cool:

Génial(e)

Super
Calm(e)
Dans le vent
«Cool»

7.Up-to-date :

Au parfum
À la page
Au courant
À jour

8.Confident :

Confiant en lui-même
Confiant
Sûr de soi
Assuré

9.Glamorous :

Splendid(e)
Prestigieux(euse)
Fascinant(e)
Séduisant(e)
Élégant(e)

10.Smooth:

Doux(ce)
Suave
Beau parleur
Souple
Doucereux(se)

11.Outdoorsy:

Qui aime le plein air
Qui aime la vie au grand air
Plein air
Sportif

12.Western:

«Western»
Cowboy

13.Rugged:

Robuste
Sauvage
Rude
Rustre
Borru(e)

Dear Madam/Sir,

I am a master's student at Concordia University and the following study is part of my M.Sc. thesis research. I would appreciate it if you could translate each of the following anchor word or phrase to English by entering your translation in the column on the right. You can enter more than one word or phrase as your translation. Each word or phrase defines a human personality characteristic.

Anchor Word in French	*Your Translation of the Anchor Word to English*
1. Terre à terre	
2. Qui a le sens de la famille	
3. D'une petite ville	
4. Honnête	
5. Sincère	
6. Réelle	
7. Saine	
8. Originale	
9. Gaie	
10. Sentimentale	
11. Amicale	
12. Audacieuse	
13. À la mode	
14. Excitante	
15. Fougueuse	
16. «Cool»	
17. Jeune	
18. Imaginative	
19. Unique	
20. À la page	

21. Indépendante	
22. Contemporaine	
23. Fiable	
24. Travailleuse	
25. Sûre	
26. Intelligente	
27. Technique	
28. Corporative	
29. Qui a du succès	
30. Leader	
31. Sûre de soi	
32. Classe-supérieure	
33. Splendide, fascinante	
34. Qui a une belle apparance	
35. Charmante	
36. Féminine	
37. Douce	
38. Qui aime le plein air	
39. Masculine	
40. «Western»	
41. Dure	
42. Rude, robuste	

Dear Madam/Sir,

This questionnaire is part of my master's thesis research and it explores consumers' recall of brands in Canada.

I would greatly appreciate it if you could take a few minutes of your time to fill out this simple questionnaire. Your responses will be kept strictly anonymous and confidential. As you will note, no information regarding your identity is requested.

Thank you very much in advance for your time and effort.

Guliz Hassan
Master of Science in Administration Student
Marketing Department
Concordia University

Please write down any brand names that you can recall.

1.	*16.*
2.	*17.*
3.	*18.*
4.	*19.*
5.	*20.*
6.	*21.*
7.	*22.*
8.	*23.*
9.	*24.*
10.	*25.*
11.	*26.*
12.	*27.*
13.	*28.*
14.	*29.*
15.	*30.*

Please write down the brand/ brands that you recall for each product category.

PRODUCT CATEGORY	BRAND (S) THAT YOU RECALL
Soup	
Cereal	
Soda beverage	
Beer	
Candy bar	
Coffee	
Toothpaste	
Shampoo	
Soap	
Shaving products	
Laundry detergent	
All-purpose cleaning product	
Pain reliever	
Battery	
Athletic footwear	
Jeans	
Perfume/Cologne	
Designer clothing	
Children's toys	
Luggage	
Cigarettes	
Wristwatch	
Credit card	
Magazine	
Facial moisturizer/Lotion	
Cosmetics	
Ski equipment	
Photographic film	
Automobile tire	
Power tools	
T.V.	
Compact disc (CD) player	
Personal computer	
Automobile	
Washer/Dryer	
Refrigerator	
TV channel	
Telephone service	
Fast-food restaurant	
Hotel chain	
Department store	
Airline company	

Please put a check mark (✓) next to each brand that brings to your mind a clear image about the brand. For example, Marlboro Cigarettes, Mercedes Automobiles and Sony TV may bring certain clear and strong images to your mind while Beko TV and Dogan Automobiles may not.

BRANDS	✓
Adidas Athletic Footwear	
Advil Pain Reliever	
Air Canada	
Apple Macintosh Computers	
Aspirin Pain Reliever	
Bank of Montreal	
Bay Department Stores	
Bell Telephone Service	
Black & Decker Power Tools	
BMW Automobiles	
Cadillac Automobiles	
Calvin Klein Jeans	
Campbell's Soup	
Canadian Tire Stores	
Cartier Jewellery	
Casino de Montréal	
Channel No 5 Perfume	
Chapters Book Stores	
Cheerios Cereal	
Christian Dior Women's Clothing	
Clinique Facial Care Products	
Club Med Resorts	
CNN Network	
Cosmopolitan Magazine	
Coca-Cola Soft Drinks	
Colgate Toothpaste	
Crest Toothpaste	
Discovery Channel	
Disney World	
Dove Soap	
Du Maurier Cigarettes	
Duracell Batteries	
Energizer Batteries	
Estée-Lauder Cosmetics	
Fisher-Price Toys	
Folgers Coffee	
Ford Automobiles	
Future Shop Stores	

GAP Clothing
G.E. major Appliances
Gillette Shaving Products
Giorgio Armani Men's Clothing
Goodyear Automobile Tires
Hallmark Cards
Harley Davidson Motorcycles
Harvey's Restaurants
Head & Shoulders Shampoo
Hertel All Purpose Cleaner
Holt Renfrew Stores
IBM Computers
IKEA Furniture Stores
Infinity Automobiles
Ivory Soap
Jeep Grand Cherokee Vehicle
Kellogg's Cereal
Kleenex Facial Tissues
Kodak Photographic Film
Labatt Blue Dry Beer
Lego Toys
Levi`s Jeans
L'Oréal Cosmetics
M&M's Candies
Maclean's Magazines
Makita Power Tools
MasterCard Credit Card
Marlboro Cigarettes
Maxwell House Coffee
McDonald's Restaurants
Mercedes-Benz Automobiles
Michelin Automobile Tires
Microsoft Software
Molson Dry Beer
Mr. Clean All Purpose Cleaner
National Geographic Magazine
Nescafé Instant Coffee
Nike Athletic Footwear
Oasis Orange Juice
Oil of Olay Facial Lotion
Pantene Shampoo
Panasonic Compact Disc (CD) Player
Pepsi Cola Soft Drinks
Pert Plus Shampoo
Perrier Carbonated Mineral Water

Philadelphia Cream Cheese
Players Cigarettes
Pringles Potato Chip
Ralph Lauren Men's Clothing
Réno-Dépôt Hardware Stores
Roots Clothing
Rolex Wristwatch
Rossignol Ski Equipment
Royal Bank
Salomon Ski Equipment
Samsonite Luggage
Saturn Automobiles
Sensodyne Toothpaste
Sony TV
Sony Compact Disc (CD) Player
Sprint Canada Long Distance Call Service
Swatch Wristwatch
Tide Laundry Detergent
Time Magazine
Timberland Shoes
Timex Wristwatch
Tommy Hilfiger Clothing
Tropicana Orange Juice
Tylenol Pain Reliever
Visa Credit Card
Volkswagen New Beetle Automobiles
Volvo Automobiles
Wal-Mart Department Stores
Zellers Department Stores
Ziploc Bags

Thank you very much for your time and effort

Madame/Monsieur,

Ce questionnaire fait partie de mon mémoire de maîtrise qui traite de la connaissance des marques par les consommateurs canadiens.

Vous m'aideriez beaucoup si vous pouviez consacrer quelques minutes de votre temps à remplir ce simple questionnaire. Vos réponses seront tenues anonymes et confidentielles. Comme vous le remarquerez, votre identité n'est pas exigée.

Je vous remercie à l'avance pour le temps que vous voudrez bien passer à répondre à ce questionnaire.

Guliz Hassan
Étudiant en Maîtrise
Département de Marketing
Université Concordia

S.V.P., veuillez inscrire ci-dessous les marques de produits dont vous pouvez vous rappeler.

1.	*16.*
2.	*17.*
3.	*18.*
4.	*19.*
5.	*20.*
6.	*21.*
7.	*22.*
8.	*23.*
9.	*24.*
10.	*25.*
11.	*26.*
12.	*27.*
13.	*28.*
14.	*29.*
15.	*30.*

S.V.P., veuillez inscrire ci-dessous la (les) marque(s) de produits dont vous vous rappelez pour chacune des catégories de produits suivants:

CATÉGORIES DE PRODUITS	MARQUE(S) DE PRODUITS
Soupe	
Céréales	
Boissons gazeuses	
Bière	
Chocolat	
Café	
Dentifrice	
Shampooing	
Savon	
Produits de rasage	
Lessive en poudre	
Nettoyant tout usage	
Anti-douleur	
Piles	
Chaussures de sport	
Jeans	
Parfum	
Vêtements de marque	
Jouets	
Bagages	
Cigarettes	
Montre	
Carte de crédit	
Revues/Magazines	
Lotion hydratante pour le visage	
Produits de beauté	
Équipement de ski	
Pellicules photos	
Pneus automobiles	
Outils electriques	
Télévision	
Lecteur de disques compact «CD player »	
Ordinateur	
Automobile	
Laveuse/Sécheuse	
Réfrigérateur	
Chaîne de télévision	
Service téléphonique	
«Restaurant fast-food»	
Chaîne d'hôtels	
Chaînes de grands magasins	
Compagnie aérienne	

S.V.P., veuillez cocher (✓) chaque marque qui évoque pour vous une image pertinente du produit. Par exemple, les cigarettes Marlboro, les voitures Mercedes ou les téléviseurs Sony pourraient évoquer chez le consommateur certaines images précises. Ce n'est pas nécessairement le cas avec les téléviseurs Beko ou les voitures Dogan.

MARQUES	✓
Chaussures de Sport Adidas	
Anti-Douleur Advil	
Air Canada	
Ordinateurs Apple Macintosh	
Anti-Douleur Aspirin	
Banque de Montréal	
Grand Magasins La Baie	
Service de Telephonie Bell	
Outils Électrique Black & Decker	
Automobiles BMW	
Automobiles Cadillac	
Jeans Calvin Klein	
Soupe Campbell's	
Magasins Canadian Tire	
Bijouterie Cartier	
Casino de Montréal	
Parfum Channel No 5	
Libraries Chapters	
Céréales Cheerios	
Vêtements pour Femmes Christian Dior	
Produits Soins du Visage Clinique	
Village de vacances Club Med	
CNN (Chaîne de Télé)	
Revues Cosmopolitan	
Boissons Gazeuses Coca-Cola	
Dentifrice Colgate	
Dentifrice Crest	
Discovery (Chaîne de Télé)	
Disney World	
Savon Dove	
Cigarettes Du Maurier	
Piles Duracell	
Piles Energizer	
Produits de Beauté Estée-Lauder	
Jouets Fisher-Price	
Café Folgers	
Automobiles Ford	
Magasins Future Shop	

Vêtements GAP
Electroménager General Electric (G.E.)
Produits à Raser Gillette
Vêtements pour Hommes Giorgio Armani
Pneus Automobiles Goodyear
Cartes Hallmark
Moto Harley Davidson
Restaurants Harvey's
Shampooing Head & Shoulders
Nettoyant Tout Usage Hertel
Magasins Holt Renfrew
Ordinateurs IBM
Magasins IKEA
Automobiles Infinity
Savon Ivory
Vehicules Jeep Grand Cherokee
Céréales Kellogg's
Mouchoirs Kleenex
Pellicules Photos Kodak
Bières Labatt Blue Dry
Jouets Lego
Jeans Levi`s
Produits de Beauté L'Oréal
Bonbons M&M's
Revues Maclean's
Outils Électrique Makita
Carte de Crédit Mastercard
Cigarettes Marlboro
Café Maxwell House
Restaurants McDonald
Automobiles Mercédes-Benz
Pneus Automobiles Michelin
Logiciel Microsoft
Bières Molson Dry
Nettoyant Tout Usage M. Net
Revues National Geographic
Café Instantané Nescafé
Chaussures de Sport Nike
Jus d' Orange Oasis
Lotion pour le visage Oil of Olay
Shampooing Pantène
Lecteur de CD Panasonic
Boissons Gazeuses Pepsi Cola
Shampooing Prêt Plus
Eau Minérale Gazeuse Perrier

Fromage Crème Philadelphia
Cigarettes Players
Croustilles Pringles
Vêtements pour Hommes Ralph Lauren
Magasins Réno-Dépôt
Vêtements Roots
Montres Rolex
Équipement de Ski Rossignol
Banque Royal
Équipement de Ski Salomon
Bagages Samsonite
Automobiles Saturn
Dentifrice Sensodyne
Téléviseurs Sony
Lecteur de CD Sony
Service Interurbain Sprint Canada
Montres Swatch
Lessive en Poudre Tide
Revues Time
Chaussures Timberland
Montres Timex
Vêtements Tommy Hilfiger
Jus d'orange Tropicana
Anti-Douleur Tylenol
Carte de Crédit Visa
Automobiles Volkswagen La Coccinelle
Automobiles Volvo
Grand Magasins Wal-Mart
Grand Magasins Zellers
Sacs Ziploc

Je vous remercie pour votre gentillesse et votre compréhension.

Dear Madam/Sir,

As a part of the requirements of my Masters degree, I am currently conducting a survey regarding certain popular brands in Quebec. The objective of the survey is to identify consumer opinions about these brands.

I would greatly appreciate it if an adult in your family who is responsible for household purchases participates in this survey. This should take approximately 15 minutes. Please be assured that all responses will remain anonymous and confidential.

Please return the completed questionnaire in the pre-paid envelope enclosed as soon as you can.

I thank you very much for your participation.

Sincerely,

Guliz Hassan
M.Sc. Student
Department of Marketing
Faculty of Commerce & Administration
Concordia University

Prof. Dr. K. Buyukkurt
Thesis Supervisor
Department of Marketing
Faculty of Commerce & Administration
Concordia University
Tel: (514) 848 2947

A SURVEY OF CONSUMER OPINIONS REGARDING CERTAIN POPULAR BRANDS

Section 1

In this section, you are presented with six brands that are popular in Quebec.

Please think of each brand as if it were a person. Even though this may sound unusual, try to imagine each brand as a real human being. For each brand you are given a number of words. We often use these words to describe people such as sincere, friendly, intelligent, cheerful, tough, charming and hardworking.

Please decide how much a given word describes the brand. Simply circle a number between 1 and 5, where **1** means **"not at all descriptive"** and **5** means **"extremely descriptive".**

Example: If Marlboro cigarettes were a person, you may think of this person as masculine, *western,* but not too charming. Then, your response could be:

MARLBORO CIGARETTES					
	Not at all descriptive				**Extremely descriptive**
Masculine	1	2	3	4	5
Western	1	2	3	4	5
Charming	1	2	3	4	5

Please turn the page and think about each brand on the following pages. There are no correct or wrong answers, simply indicate what you think.

COCA-COLA SOFT DRINKS

	Not at all descriptive				Extremely descriptive
Unique	1	2	3	4	5
Upper-class	1	2	3	4	5
Friendly	1	2	3	4	5
Up-to-date	1	2	3	4	5
Smooth	1	2	3	4	5
Leader	1	2	3	4	5
Exciting	1	2	3	4	5
Glamorous	1	2	3	4	5
Sincere	1	2	3	4	5
Independent	1	2	3	4	5
Rugged	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimental	1	2	3	4	5
Reliable	1	2	3	4	5
Good-looking	1	2	3	4	5
Daring	1	2	3	4	5
Contemporary	1	2	3	4	5
Real	1	2	3	4	5
Cheerful	1	2	3	4	5
Charming	1	2	3	4	5
Honest	1	2	3	4	5
Technical	1	2	3	4	5
Outdoorsy	1	2	3	4	5
Confident	1	2	3	4	5
Trendy	1	2	3	4	5
Tough	1	2	3	4	5
Original	1	2	3	4	5
Young	1	2	3	4	5
Feminine	1	2	3	4	5
Successful	1	2	3	4	5
Down-to-earth	1	2	3	4	5
Hardworking	1	2	3	4	5
Small-town	1	2	3	4	5
Secure	1	2	3	4	5
Wholesome	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Family-oriented	1	2	3	4	5
Intelligent	1	2	3	4	5
Spirited	1	2	3	4	5

HALLMARK CARDS

	Not at all descriptive				Extremely descriptive
Unique	1	2	3	4	5
Upper-class	1	2	3	4	5
Friendly	1	2	3	4	5
Up-to-date	1	2	3	4	5
Smooth	1	2	3	4	5
Leader	1	2	3	4	5
Exciting	1	2	3	4	5
Glamorous	1	2	3	4	5
Sincere	1	2	3	4	5
Independent	1	2	3	4	5
Rugged	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimental	1	2	3	4	5
Reliable	1	2	3	4	5
Good-looking	1	2	3	4	5
Daring	1	2	3	4	5
Contemporary	1	2	3	4	5
Real	1	2	3	4	5
Cheerful	1	2	3	4	5
Charming	1	2	3	4	5
Honest	1	2	3	4	5
Technical	1	2	3	4	5
Outdoorsy	1	2	3	4	5
Confident	1	2	3	4	5
Trendy	1	2	3	4	5
Tough	1	2	3	4	5
Original	1	2	3	4	5
Young	1	2	3	4	5
Feminine	1	2	3	4	5
Successful	1	2	3	4	5
Down-to-earth	1	2	3	4	5
Hardworking	1	2	3	4	5
Small-town	1	2	3	4	5
Secure	1	2	3	4	5
Wholesome	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Family-oriented	1	2	3	4	5
Intelligent	1	2	3	4	5
Spirited	1	2	3	4	5

GILLETTE SHAVING PRODUCTS

	Not at all descriptive				Extremely descriptive
Unique	1	2	3	4	5
Upper-class	1	2	3	4	5
Friendly	1	2	3	4	5
Up-to-date	1	2	3	4	5
Smooth	1	2	3	4	5
Leader	1	2	3	4	5
Exciting	1	2	3	4	5
Glamorous	1	2	3	4	5
Sincere	1	2	3	4	5
Independent	1	2	3	4	5
Rugged	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimental	1	2	3	4	5
Reliable	1	2	3	4	5
Good-looking	1	2	3	4	5
Daring	1	2	3	4	5
Contemporary	1	2	3	4	5
Real	1	2	3	4	5
Cheerful	1	2	3	4	5
Charming	1	2	3	4	5
Honest	1	2	3	4	5
Technical	1	2	3	4	5
Outdoorsy	1	2	3	4	5
Confident	1	2	3	4	5
Trendy	1	2	3	4	5
Tough	1	2	3	4	5
Original	1	2	3	4	5
Young	1	2	3	4	5
Feminine	1	2	3	4	5
Successful	1	2	3	4	5
Down-to-earth	1	2	3	4	5
Hardworking	1	2	3	4	5
Small-town	1	2	3	4	5
Secure	1	2	3	4	5
Wholesome	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Family-oriented	1	2	3	4	5
Intelligent	1	2	3	4	5
Spirited	1	2	3	4	5

MERCEDES-BENZ AUTOMOBILES

	Not at all descriptive				Extremely descriptive
Unique	1	2	3	4	5
Upper-class	1	2	3	4	5
Friendly	1	2	3	4	5
Up-to-date	1	2	3	4	5
Smooth	1	2	3	4	5
Leader	1	2	3	4	5
Exciting	1	2	3	4	5
Glamorous	1	2	3	4	5
Sincere	1	2	3	4	5
Independent	1	2	3	4	5
Rugged	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimental	1	2	3	4	5
Reliable	1	2	3	4	5
Good-looking	1	2	3	4	5
Daring	1	2	3	4	5
Contemporary	1	2	3	4	5
Real	1	2	3	4	5
Cheerful	1	2	3	4	5
Charming	1	2	3	4	5
Honest	1	2	3	4	5
Technical	1	2	3	4	5
Outdoorsy	1	2	3	4	5
Confident	1	2	3	4	5
Trendy	1	2	3	4	5
Tough	1	2	3	4	5
Original	1	2	3	4	5
Young	1	2	3	4	5
Feminine	1	2	3	4	5
Successful	1	2	3	4	5
Down-to-earth	1	2	3	4	5
Hardworking	1	2	3	4	5
Small-town	1	2	3	4	5
Secure	1	2	3	4	5
Wholesome	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Family-oriented	1	2	3	4	5
Intelligent	1	2	3	4	5
Spirited	1	2	3	4	5

ZELLERS STORES

	Not at all descriptive				Extremely descriptive
Unique	1	2	3	4	5
Upper-class	1	2	3	4	5
Friendly	1	2	3	4	5
Up-to-date	1	2	3	4	5
Smooth	1	2	3	4	5
Leader	1	2	3	4	5
Exciting	1	2	3	4	5
Glamorous	1	2	3	4	5
Sincere	1	2	3	4	5
Independent	1	2	3	4	5
Rugged	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimental	1	2	3	4	5
Reliable	1	2	3	4	5
Good-looking	1	2	3	4	5
Daring	1	2	3	4	5
Contemporary	1	2	3	4	5
Real	1	2	3	4	5
Cheerful	1	2	3	4	5
Charming	1	2	3	4	5
Honest	1	2	3	4	5
Technical	1	2	3	4	5
Outdoorsy	1	2	3	4	5
Confident	1	2	3	4	5
Trendy	1	2	3	4	5
Tough	1	2	3	4	5
Original	1	2	3	4	5
Young	1	2	3	4	5
Feminine	1	2	3	4	5
Successful	1	2	3	4	5
Down-to-earth	1	2	3	4	5
Hardworking	1	2	3	4	5
Small-town	1	2	3	4	5
Secure	1	2	3	4	5
Wholesome	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Family-oriented	1	2	3	4	5
Intelligent	1	2	3	4	5
Spirited	1	2	3	4	5

LEVI'S JEANS

	Not at all descriptive				Extremely descriptive
Unique	1	2	3	4	5
Upper-class	1	2	3	4	5
Friendly	1	2	3	4	5
Up-to-date	1	2	3	4	5
Smooth	1	2	3	4	5
Leader	1	2	3	4	5
Exciting	1	2	3	4	5
Glamorous	1	2	3	4	5
Sincere	1	2	3	4	5
Independent	1	2	3	4	5
Rugged	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimental	1	2	3	4	5
Reliable	1	2	3	4	5
Good-looking	1	2	3	4	5
Daring	1	2	3	4	5
Contemporary	1	2	3	4	5
Real	1	2	3	4	5
Cheerful	1	2	3	4	5
Charming	1	2	3	4	5
Honest	1	2	3	4	5
Technical	1	2	3	4	5
Outdoorsy	1	2	3	4	5
Confident	1	2	3	4	5
Trendy	1	2	3	4	5
Tough	1	2	3	4	5
Original	1	2	3	4	5
Young	1	2	3	4	5
Feminine	1	2	3	4	5
Successful	1	2	3	4	5
Down-to-earth	1	2	3	4	5
Hardworking	1	2	3	4	5
Small-town	1	2	3	4	5
Secure	1	2	3	4	5
Wholesome	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Family-oriented	1	2	3	4	5
Intelligent	1	2	3	4	5
Spirited	1	2	3	4	5

Section 2

In this section, we would like to know how much you use English, French or other languages in your daily activities. Please divide 100 points among English, French and other languages, where **0** means **"Never"** and **100** means **"all the time".**
Please note that the total of points for each activity should be 100.

> **Example:** When watching television if you tune to French programs about 80% of the time and English programs about 20% of the time, your response would look like:
>
> | | French | | English | | Other | | Total |
> |---|---|---|---|---|---|---|---|
> | Watching television | _____% | + | _____% | + | _____% | = | 100% |

	French		English		Other		Total
Listening to radio	_____%	+	_____%	+	_____%	=	100%
Reading a newspaper	_____%	+	_____%	+	_____%	=	100%
Reading magazines or books	_____%	+	_____%	+	_____%	=	100%
Watching television	_____%	+	_____%	+	_____%	=	100%
Shopping	_____%	+	_____%	+	_____%	=	100%
When you went to school	_____%	+	_____%	+	_____%	=	100%
At work (if applicable)	_____%	+	_____%	+	_____%	=	100%
With spouse (if applicable)	_____%	+	_____%	+	_____%	=	100%
With children (if applicable)	_____%	+	_____%	+	_____%	=	100%
With relatives	_____%	+	_____%	+	_____%	=	100%
With friends	_____%	+	_____%	+	_____%	=	100%

Please indicate your degree of agreement or disagreement with the following statements. Circle a number between 1 and 7, where **1** means **"Strongly disagree"** and **7** means **"Strongly agree".**

	Strongly disagree						Strongly agree
I consider myself Anglophone	1	2	3	4	5	6	7
I consider myself Francophone	1	2	3	4	5	6	7

You are: Male ☐ Female ☐

Your age: ____

Thank you very much for your participation.

Madame/ Monsieur,

L'objectif de ma thèse de maîtrise est d'identifier les opinions des consommateurs concernant certaines marques de produits populaires au Québec.

Cette enquête constitue une partie essentielle de ma thèse de maîtrise. J'apprécierais beaucoup la participation d'un adulte de votre famille responsable des achats domestiques. Ceci prendra approximativement 15 minutes. Soyez assuré que toutes les réponses resteront anonymes et confidentielles.

S'il vous plaît, veuillez retourner le questionnaire rempli le plus tôt possible dans l'enveloppe pré-affranchie ci-jointe.

Je vous remercie de votre collaboration et je vous prie de croire Madame/ Monsieur à mes sentiments les meilleurs.

Guliz Hassan
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ENQUÊTE SUR L'OPINION DES CONSOMMATEURS CONCERNANT CERTAINES MARQUES DE PRODUITS POPULAIRES

Section 1

Dans cette section, six marques de produits populaires au Québec vous seront présentées.

S.V.P. Pensez à chacune des marques comme s'il s'agissait d'une personne. Ceci peut paraître inhabituel, mais essayez d'imaginer chaque marque comme un être humain réel. Pour chaque marque, il vous sera donné un nombre de mots. Nous utilisons souvent ces mots pour décrire les personnes comme étant sincère, amicale, intelligente, gaie, dure, charmante, travailleuse.

S.V.P veuillez décider combien un mot donné décrit la marque. Simplement encerclez un numéro de 1 à 5, où **1** signifie **"ne décrit pas du tout"** et **5** signifie **"décrit très bien".**

Par Exemple: Si les cigarettes Marlboro étaient une personne, vous pourriez penser à cette personne comme étant masculine, *western*, mais pas trop charmante. Dans ce cas, votre réponse serait :

CIGARETTES **MARLBORO**					
	Ne décrit pas du tout				**Décrit très bien**
Masculine	1	2	3	4	5
Western	1	2	3	4	5
Charmante	1	2	3	4	5

S.V.P veuillez tourner la page et pensez à chacune des marques qui vous seront présentées. Il n`y a pas de bonnes ou de mauvaises réponses. Seule votre opinion compte.

BOISSONS GAZEUSES COCA-COLA

	Ne décrit pas du tout				Décrit très bien
Unique	1	2	3	4	5
Classe-supérieure	1	2	3	4	5
Amicale	1	2	3	4	5
À la page	1	2	3	4	5
Douce	1	2	3	4	5
Leader	1	2	3	4	5
Excitante	1	2	3	4	5
Qui a du *glamour*	1	2	3	4	5
Sincère	1	2	3	4	5
Indépendante	1	2	3	4	5
Robuste, rude	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimentale	1	2	3	4	5
Fiable	1	2	3	4	5
Qui a une belle apparence	1	2	3	4	5
Audacieuse	1	2	3	4	5
Contemporaine	1	2	3	4	5
Réelle	1	2	3	4	5
Gaie	1	2	3	4	5
Charmante	1	2	3	4	5
Honnête	1	2	3	4	5
Technique	1	2	3	4	5
Qui aime le plein air	1	2	3	4	5
Sûre de soi	1	2	3	4	5
À la mode	1	2	3	4	5
Dure	1	2	3	4	5
Originale	1	2	3	4	5
Jeune	1	2	3	4	5
Féminine	1	2	3	4	5
Qui a du succès	1	2	3	4	5
Terre-à-terre	1	2	3	4	5
Travailleuse	1	2	3	4	5
D'une petite ville	1	2	3	4	5
Sûre	1	2	3	4	5
Saine	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Qui a le sens de la famille	1	2	3	4	5
Intelligente	1	2	3	4	5
Fougueuse	1	2	3	4	5

CARTES HALLMARK

	Ne décrit pas du tout				Décrit très bien
Unique	1	2	3	4	5
Classe-supérieure	1	2	3	4	5
Amicale	1	2	3	4	5
À la page	1	2	3	4	5
Douce	1	2	3	4	5
Leader	1	2	3	4	5
Excitante	1	2	3	4	5
Qui a du *glamour*	1	2	3	4	5
Sincère	1	2	3	4	5
Indépendante	1	2	3	4	5
Robuste, rude	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimentale	1	2	3	4	5
Fiable	1	2	3	4	5
Qui a une belle apparence	1	2	3	4	5
Audacieuse	1	2	3	4	5
Contemporaine	1	2	3	4	5
Réelle	1	2	3	4	5
Gaie	1	2	3	4	5
Charmante	1	2	3	4	5
Honnête	1	2	3	4	5
Technique	1	2	3	4	5
Qui aime le plein air	1	2	3	4	5
Sûre de soi	1	2	3	4	5
À la mode	1	2	3	4	5
Dure	1	2	3	4	5
Originale	1	2	3	4	5
Jeune	1	2	3	4	5
Féminine	1	2	3	4	5
Qui a du succès	1	2	3	4	5
Terre-à-terre	1	2	3	4	5
Travailleuse	1	2	3	4	5
D'une petite ville	1	2	3	4	5
Sûre	1	2	3	4	5
Saine	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Qui a le sens de la famille	1	2	3	4	5
Intelligente	1	2	3	4	5
Fougueuse	1	2	3	4	5

PRODUITS À RASER GILLETTE

	Ne décrit pas du tout				Décrit très bien
Unique	1	2	3	4	5
Classe-supérieure	1	2	3	4	5
Amicale	1	2	3	4	5
À la page	1	2	3	4	5
Douce	1	2	3	4	5
Leader	1	2	3	4	5
Excitante	1	2	3	4	5
Qui a du *glamour*	1	2	3	4	5
Sincère	1	2	3	4	5
Indépendante	1	2	3	4	5
Robuste, rude	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimentale	1	2	3	4	5
Fiable	1	2	3	4	5
Qui a une belle apparence	1	2	3	4	5
Audacieuse	1	2	3	4	5
Contemporaine	1	2	3	4	5
Réelle	1	2	3	4	5
Gaie	1	2	3	4	5
Charmante	1	2	3	4	5
Honnête	1	2	3	4	5
Technique	1	2	3	4	5
Qui aime le plein air	1	2	3	4	5
Sûre de soi	1	2	3	4	5
À la mode	1	2	3	4	5
Dure	1	2	3	4	5
Originale	1	2	3	4	5
Jeune	1	2	3	4	5
Féminine	1	2	3	4	5
Qui a du succès	1	2	3	4	5
Terre-à-terre	1	2	3	4	5
Travailleuse	1	2	3	4	5
D'une petite ville	1	2	3	4	5
Sûre	1	2	3	4	5
Saine	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Qui a le sens de la famille	1	2	3	4	5
Intelligente	1	2	3	4	5
Fougueuse	1	2	3	4	5

AUTOMOBILES MERCEDES-BENZ

	Ne décrit pas du tout				Décrit très bien
Unique	1	2	3	4	5
Classe-supérieure	1	2	3	4	5
Amicale	1	2	3	4	5
À la page	1	2	3	4	5
Douce	1	2	3	4	5
Leader	1	2	3	4	5
Excitante	1	2	3	4	5
Qui a du *glamour*	1	2	3	4	5
Sincère	1	2	3	4	5
Indépendante	1	2	3	4	5
Robuste, rude	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimentale	1	2	3	4	5
Fiable	1	2	3	4	5
Qui a une belle apparence	1	2	3	4	5
Audacieuse	1	2	3	4	5
Contemporaine	1	2	3	4	5
Réelle	1	2	3	4	5
Gaie	1	2	3	4	5
Charmante	1	2	3	4	5
Honnête	1	2	3	4	5
Technique	1	2	3	4	5
Qui aime le plein air	1	2	3	4	5
Sûre de soi	1	2	3	4	5
À la mode	1	2	3	4	5
Dure	1	2	3	4	5
Originale	1	2	3	4	5
Jeune	1	2	3	4	5
Féminine	1	2	3	4	5
Qui a du succès	1	2	3	4	5
Terre-à-terre	1	2	3	4	5
Travailleuse	1	2	3	4	5
D'une petite ville	1	2	3	4	5
Sûre	1	2	3	4	5
Saine	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Qui a le sens de la famille	1	2	3	4	5
Intelligente	1	2	3	4	5
Fougueuse	1	2	3	4	5

MAGASINS ZELLERS

	Ne décrit pas du tout				Décrit très bien
Unique	1	2	3	4	5
Classe-supérieure	1	2	3	4	5
Amicale	1	2	3	4	5
À la page	1	2	3	4	5
Douce	1	2	3	4	5
Leader	1	2	3	4	5
Excitante	1	2	3	4	5
Qui a du *glamour*	1	2	3	4	5
Sincère	1	2	3	4	5
Indépendante	1	2	3	4	5
Robuste, rude	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimentale	1	2	3	4	5
Fiable	1	2	3	4	5
Qui a une belle apparence	1	2	3	4	5
Audacieuse	1	2	3	4	5
Contemporaine	1	2	3	4	5
Réelle	1	2	3	4	5
Gaie	1	2	3	4	5
Charmante	1	2	3	4	5
Honnête	1	2	3	4	5
Technique	1	2	3	4	5
Qui aime le plein air	1	2	3	4	5
Sûre de soi	1	2	3	4	5
À la mode	1	2	3	4	5
Dure	1	2	3	4	5
Originale	1	2	3	4	5
Jeune	1	2	3	4	5
Féminine	1	2	3	4	5
Qui a du succès	1	2	3	4	5
Terre-à-terre	1	2	3	4	5
Travailleuse	1	2	3	4	5
D'une petite ville	1	2	3	4	5
Sûre	1	2	3	4	5
Saine	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Qui a le sens de la famille	1	2	3	4	5
Intelligente	1	2	3	4	5
Fougueuse	1	2	3	4	5

JEANS LEVI'S

	Ne décrit pas du tout				Décrit très bien
Unique	1	2	3	4	5
Classe-supérieure	1	2	3	4	5
Amicale	1	2	3	4	5
À la page	1	2	3	4	5
Douce	1	2	3	4	5
Leader	1	2	3	4	5
Excitante	1	2	3	4	5
Qui a du *glamour*	1	2	3	4	5
Sincère	1	2	3	4	5
Indépendante	1	2	3	4	5
Robuste, rude	1	2	3	4	5
Cool!	1	2	3	4	5
Sentimentale	1	2	3	4	5
Fiable	1	2	3	4	5
Qui a une belle apparence	1	2	3	4	5
Audacieuse	1	2	3	4	5
Contemporaine	1	2	3	4	5
Réelle	1	2	3	4	5
Gaie	1	2	3	4	5
Charmante	1	2	3	4	5
Honnête	1	2	3	4	5
Technique	1	2	3	4	5
Qui aime le plein air	1	2	3	4	5
Sûre de soi	1	2	3	4	5
À la mode	1	2	3	4	5
Dure	1	2	3	4	5
Originale	1	2	3	4	5
Jeune	1	2	3	4	5
Féminine	1	2	3	4	5
Qui a du succès	1	2	3	4	5
Terre-à-terre	1	2	3	4	5
Travailleuse	1	2	3	4	5
D'une petite ville	1	2	3	4	5
Sûre	1	2	3	4	5
Saine	1	2	3	4	5
Masculine	1	2	3	4	5
Imaginative	1	2	3	4	5
Western	1	2	3	4	5
Qui a le sens de la famille	1	2	3	4	5
Intelligente	1	2	3	4	5
Fougueuse	1	2	3	4	5

Section 2

Dans cette section, nous aimerions connaître l'étendue de votre utilisation du français, de l'anglais ou d'une autre langue dans vos activités quotidiennes. S.V.P. veuillez distribuer 100 points entre le français, l'anglais et l'autre langue, où **0** signifie **"jamais"** et **100** signifie **"tout le temps"**.
S.V.P veuillez noter que la somme des points pour chaque activité devrait totaliser 100 points.

Par exemple: Lorsque vous regardez la télévision et que vous sélectionnez les postes francophones à 80% du temps et les postes anglophones à 20% du temps, votre résponse ressemblerait à ceci :

	Français		Anglais		Autre		Total
Regarder la télévision	_____%	+	_____%	+	_____%	=	100%

	Français		Anglais		Autre		Total
Écouter la radio	_____%	+	_____%	+	_____%	=	100%
Lire les journaux	_____%	+	_____%	+	_____%	=	100%
Lire les revues ou les livres	_____%	+	_____%	+	_____%	=	100%
Regarder la télévision	_____%	+	_____%	+	_____%	=	100%
Magasiner	_____%	+	_____%	+	_____%	=	100%
Quand vous êtiez à l'école	_____%	+	_____%	+	_____%	=	100%
Au travail (si appl.)	_____%	+	_____%	+	_____%	=	100%
Avec votre époux/ épouse (si appl.)	_____%	+	_____%	+	_____%	=	100%
Avec vos enfants (si appl.)	_____%	+	_____%	+	_____%	=	100%
Avec vos parents	_____%	+	_____%	+	_____%	=	100%
Avec vos amis	_____%	+	_____%	+	_____%	=	100%

S.V.P veuillez indiquer vorte degré d'accord ou de désaccord avec les énoncés suivants. Encerclez un numéro de 1 à 7, où **1** signifie **"fortement en désaccord"** et *7* signifie **"fortement en accord".**

	Fortement en désaccord						Fortement en accord
Je me considère anglophone	1	2	3	4	5	6	7
Je me considère francophone	1	2	3	4	5	6	7

Vous êtes: Homme ☐ Femme ☐

Votre âge: ____

Merci beaucoup pour votre participation.

APPENDIX B

Table 1

AAKER'S (1997) FIVE DIMENSIONS OF BRAND PERSONALITY

Name	Dimension	Variance Explained	Eigenvalue	Traits
Sincerity	1	26.5%	31.4	Down-to-earth, Family-oriented, Small-town, Honest Sincere, Real, Wholesome Original, Cheerful, Sentimental, Friendly
Excitement	2	25.1%	27.9	Daring, Trendy, Exciting Spirited, Cool, Young Imaginative, Unique Update, Independent Contemporary
Competence	3	17.5%	14.2	Reliable, Hardworking Secure, Intelligent, Technical, Corporate, Successful, Leader, Confident
Sophistication	4	11.9%	9.2	Upper-class, Glamorous Good-looking, Charming Feminine, Smooth
Ruggedness	5	8.8%	6.7	Outdoorsy, Masculine Western, Tough, Rugged

Table 2

30 BRANDS IDENTIFIED IN PILOT STUDY

Brands
Coca- Cola Soft Drinks
Hallmark Cards
Gillette Shaving Products
Mercedes-Benz Automobiles
Zellers Stores
Levi's Jeans
Kodak Photographic films
American Express Credit Cards
Bell Telephone Service
Harley Davidson Motorcycles
Kellogg Cereals
Sony Televisions
Labatt Blue Beer
McDonald's Restaurants
Ivory Soap
Jeep Grand Cherokee Vehicles
Canadian Tire Stores
Aspirin Pain Reliever
IBM Computers
Harvey's Restaurants
Campbell's Soup
Chanel No5 Perfume
Visa Credit Cards
Volkswagen Beetle Automobiles
BMW Automobiles
Oil of Olay Lotion
Nike Athletic Shoes
Sprint Long Distance Phone Service
Michelin Automobile Tires
Molson Dry Beer

Table 3

BRANDS INCLUDED IN FIVE DIFFERENT VERSIONS OF QUESTIONNAIRE

Versions	*Brands*
Version 1:	Coca-Cola Soft Drinks
	Hallmark Cards
	Gillette Shaving Products
	Mercedes-Benz Automobiles
	Zellers Stores
	Levi's Jeans
Version 2:	Kodak Photographic films
	American Express Credit Cards
	Bell Telephone Service
	Harley Davidson Motorcycles
	Kellogg Cereals
	Sony Televisions
Version 3:	Labatt Blue Beer
	McDonald's Restaurants
	Ivory Soap
	Jeep Grand Cherokee Vehicles
	Canadian Tire Stores
	Aspirin Pain Reliever
Version 4:	IBM Computers
	Harvey's Restaurants
	Campbell's Soup
	Chanel No5 Perfume
	Visa Credit Cards
	Volkswagen Beetle Automobiles
Version 5:	BMW Automobiles
	Oil of Olay Lotion
	Nike Athletic Shoes
	Sprint Long Distance Phone Service
	Michelin Automobile Tires
	Molson Dry Beer

Table 9

CROSS TABULATION OF CENSUS TRACTS STRATIFIED BASED ON LANGUAGE AND INCOME

CTLANG[a]				INCO2[c] Low	INCO2[c] High	Total
English	INCO1[b]	Low	Frequency	83	1	84
			% within INCO1	98.8%	1.2%	100.0%
			% within INCO2	41.5%	1.0%	27.7%
			% of Total	27.4%	.3%	27.7%
		Average	Frequency	63	52	115
			% within INCO1	54.8%	45.2%	100.0%
			% within INCO2	31.5%	50.5%	38.0%
			% of Total	20.8%	17.2%	38.0%
		High	Frequency	54	50	104
			% within INCO1	51.9%	48.1%	100.0%
			% within INCO2	27.0%	48.5%	34.3%
			% of Total	17.8%	16.5%	34.3%
	Total		Frequency	200	103	303
			% within INCO1	66.0%	34.0%	100.0%
			% within INCO2	100.0%	100.0%	100.0%
			% of Total	66.0%	34.0%	100.0%
French	INCO1[b]	Low	Frequency	48	42	90
			% within INCO1	53.3%	46.7%	100.0%
			% within INCO2	32.0%	29.4%	30.7%
			% of Total	16.4%	14.3%	30.7%
		Average	Frequency	49	44	93
			% within INCO1	52.7%	47.3%	100.0%
			% within INCO2	32.7%	30.8%	31.7%
			% of Total	16.7%	15.0%	31.7%
		High	Frequency	53	57	110
			% within INCO1	48.2%	51.8%	100.0%
			% within INCO2	35.3%	39.9%	37.5%
			% of Total	18.1%	19.5%	37.5%
	Total		Frequency	150	143	293
			% within INCO1	51.2%	48.8%	100.0%
			% within INCO2	100.0%	100.0%	100.0%
			% of Total	51.2%	48.8%	100.0%

a. CTLANG represents census tracts where the majority of the residents' (60% or higher) home language is either English or French

b. INCO1 represents low, average and high income census tracts

c. INCO2 represents low and high income census tracts within each of the low, average and high income census stratum

Table 10

CROSS TABULATION OF GENDER AND CENSUS TRACT LANGUAGE

			GENDER		
			Male	Female	Total
CTLANG[a]	English	Frequency	114	188	303
		% within CTLANG	37.6%	62.0%	100.0%
		% within GENDER	52.1%	50.0%	50.8%
		% of Total	19.1%	31.5%	50.8%
	French	Frequency	105	188	293
		% within CTLANG	35.8%	64.2%	100.0%
		% within GENDER	47.9%	50.0%	49.2%
		% of Total	17.6%	31.5%	49.2%
Total		Frequency	219	376	596
		% within CTLANG	36.7%	63.1%	100.0%
		% within GENDER	100.0%	100.0%	100.0%
		% of Total	36.7%	63.1%	100.0%

a. CTLANG represents census tracts where the majority of the residents' (60% or higher) home language is either English or French

Table 11

TOTAL VARIANCE EXPLAINED BY PCA

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	20.056	83.565	83.565
2	.762	3.175	86.740
3	.551	2.298	89.037
4	.432	1.799	90.837
5	.414	1.723	92.560
6	.339	1.412	93.972
7	.253	1.056	95.028
8	.250	1.040	96.067
9	.192	.798	96.866
10	.165	.688	97.554
11	.155	.645	98.200
12	.128	.535	98.735
13	.105	.439	99.173
14	7.70E-02	.321	99.494
15	4.12E-02	.172	99.666
16	2.75E-02	.115	99.781
17	1.76E-02	7.32E-02	99.854
18	1.01E-02	4.20E-02	99.896
19	8.10E-03	3.38E-02	99.930
20	6.72E-03	2.80E-02	99.958
21	4.94E-03	2.06E-02	99.979
22	2.30E-03	9.58E-03	99.988
23	1.86E-03	7.74E-03	99.996
24	9.91E-04	4.13E-03	100.000

Table 12

PRINCIPAL COMPONENT ANALYSIS RESULTS: COMPONENT LOADINGS OF ETHNICITY (SELF IDENTIFICATION AND LANGUAGE USE) ITEMS FOR THE FIRST COMPONENT

	Component
	1
I consider myself Anglophone	-.907
I consider myself Francophone	.916
French with children	.948
English with children	-.955
French with friends	.957
English with friends	-.954
French when reading magazines or books	.921
English when reading magazines or books	-.916
French when reading a newspaper	.959
English when reading a newspaper	-.960
French when listening to radio	.900
English when listening to radio	-.898
French with relatives	.915
I speak English with my relatives	-.912
French when at school	.914
English when at school	-.897
French when shopping	.882
English when shopping	-.886
French with spouse	.929
English with spouse	-.919
French when watching television	.904
English when watching television	-.899
French at work	.836
English at work	-.840

Table 13

CROSS TABULATION OF ETHNICITY AND INCOME

			INCO1[a]			
			Low	Average	High	Total
ETHNICITY	Anglophone	Frequency	67	79	82	228
		% within ETHN	29.4%	34.6%	36.0%	100.0%
		% within INCO1	38.5%	38.0%	38.3%	38.3%
		% of Total	11.2%	13.3%	13.8%	38.3%
	Francophone	Frequency	93	105	114	312
		% within ETHN	29.8%	33.7%	36.5%	100.0%
		% within INCO1	53.4%	50.5%	53.3%	52.3%
		% of Total	15.6%	17.6%	19.1%	52.3%
	Bilingual	Frequency	14	24	18	56
		% within ETHN	25.0%	42.9%	32.1%	100.0%
		% within INCO1	8.0%	11.5%	8.4%	9.4%
		% of Total	2.3%	4.0%	3.0%	9.4%
Total		Frequency	174	208	214	596
		% within ETHN	29.2%	34.9%	35.9%	100.0%
		% within INCO1	100.0%	100.0%	100.0%	100.0%
		% of Total	29.2%	34.9%	35.9%	100.0%

a. INCO1 represents low, average and high income census tracts

Table 14

PRINCIPAL COMPONENT ANALYSIS OF DATA FOR ANGLOPHONES

Factors	*Eigenvalue*	*Proportion*	*Cumulative*
1	25.066	0.344	0.344
2	6.218	0.085	0.430
3	5.441	0.074	0.504
4	3.553	0.048	0.553
5	2.152	0.029	0.583
6	1.820	0.025	0.608
7	1.738	0.023	0.632
8	1.647	0.022	0.654
9	1.487	0.020	0.675
10	1.285	0.017	0.692
11	1.216	0.016	0.709
12	1.187	0.016	0.725
13	1.133	0.015	0.741
14	1.089	0.015	0.756
15	1.045	0.014	0.770

Table 15

PRINCIPAL COMPONENT ANALYSIS OF DATA FOR FRANCOPHONES

Factors	*Eigenvalue*	*Proportion*	*Cumulative*
1	22.268	0.312	0.312
2	7.053	0.098	0.411
3	5.230	0.073	0.484
4	4.180	0.058	0.543
5	2.423	0.034	0.577
6	1.712	0.024	0.601
7	1.555	0.021	0.622
8	1.464	0.020	0.643
9	1.414	0.019	0.663
10	1.398	0.019	0.682
11	1.287	0.018	0.700
12	1.139	0.016	0.716
13	1.108	0.015	0.732
14	1.068	0.015	0.747
15	1.013	0.014	0.761

Table 16

FACTOR PATTERN (LOADINGS) FOR ANGLOPHONES[1]

	Factor 1	*Factor 2*	*Factor 3*	*Factor 4*	*Factor 5*	Aaker's Results[2]	
						Facet Name	*Factor Name*
Down-to-earth	0.008	0.567	0.394	0.115	0.035	Down-to-earth	Sincerity
Family-oriented	0.105	0.625	0.075	0.183	0.097		
Small-town	0.252	0.398	0.407	0.208	0.003		
Honest	0.218	0.697	0.054	0.245	0.061	Honest	
Sincere	0.232	0.601	0.073	0.431	0.037		
Real	0.207	0.567	0.116	0.150	0.231		
Wholesome	0.182	0.585	0.162	0.355	0.043	Wholesome	
Original	0.434	0.213	0.148	0.289	0.342		
Cheerful	0.052	0.428	0.163	0.520	0.327	Cheerful	
Sentimental	0.156	0.305	0.069	0.680	0.019		
Friendly	0.076	0.488	0.136	0.339	0.299		
Daring	0.563	0.138	0.312	0.221	0.269	Daring	Excitement
Trendy	0.439	0.064	0.191	0.146	0.597		
Exciting	0.626	0.049	0.252	0.287	0.329		
Spirited	0.377	0.249	0.304	0.195	0.369	Spirited	
Cool	0.409	0.034	0.414	0.212	0.490		

[1] Orthogonally rotated to congruence with the factor pattern matrix for the Anglophones (see Cliff, 1966)
[2] Aaker (1997, p.354)

Young	0.121	0.075	0.358	0.267	0.556		
Imaginative	0.362	0.318	0.152	0.330	0.332	Imaginative	
Unique	0.584	0.063	0.081	0.294	0.136		
Up-to-date	0.479	0.236	0.123	0.073	0.441	Up-to-date	
Independent	0.468	0.344	0.236	0.209	0.145		
Contemporary	0.375	0.245	0.066	0.088	0.480		
Reliable	0.472	0.525	0.069	0.021	0.057	Reliable	Competence
Hardworking	0.181	0.646	0.397	0.021	0.083		
Secure	0.471	0.535	0.141	0.046	0.044		
Intelligent	0.408	0.577	0.002	0.154	0.158	Intelligent	
Technical	0.523	0.272	0.191	0.216	0.078		
Successful	0.525	0.316	0.035	0.052	0.340	Successful	
Leader	0.625	0.228	0.179	0.027	0.249		
Confident	0.544	0.381	0.262	0.054	0.212		
Upper-class	0.790	0.005	0.055	0.144	0.018	Upper-class	Sophistication
Glamorous	0.683	0.056	0.101	0.408	0.139		
Good-looking	0.615	0.133	0.134	0.371	0.167		
Charming	0.247	0.304	0.014	0.688	0.178	Charming	
Feminine	0.103	0.127	-0.060	0.602	0.137		
Smooth	0.285	0.208	0.097	0.378	0.081		
Outdoorsy	0.183	0.154	0.629	0.065	0.263	Outdoorsy	Ruggedness
Masculine	0.291	0.085	0.607	0.072	0.092		
Western	0.053	0.133	0.586	0.115	0.085		
Tough	0.345	0.176	0.658	0.128	0.103	Tough	
Rugged	0.367	0.120	0.693	0.086	0.098		

Table 17

FACTOR PATTERN (LOADINGS) FOR FRANCOPHONES[1]

	Factor 1	*Factor 2*	*Factor 3*	*Factor 4*	*Factor 5*	Aaker's Results[2]	
						Facet Name	*Factor Name*
Down-to-earth	0.056	0.626	0.296	0.067	0.002	Down-to-earth	Sincerity
Family-oriented	0.157	0.615	0.011	0.116	0.129		
Small-town	0.274	0.323	0.396	0.277	0.075		
Honest	0.163	0.710	0.058	0.239	0.019	Honest	
Sincere	0.146	0.639	0.120	0.392	0.037		
Real	0.238	0.556	0.153	0.129	0.130		
Wholesome	0.112	0.563	0.077	0.360	0.025	Wholesome	
Original	0.393	0.258	0.167	0.296	0.279		
Cheerful	0.008	0.373	0.169	0.512	0.448	Cheerful	
Sentimental	0.173	0.271	0.009	0.663	0.011		
Friendly	0.028	0.513	0.084	0.351	0.352		
Daring	0.582	0.059	0.369	0.174	0.334	Daring	Excitement
Trendy	0.466	0.027	0.156	0.116	0.552		
Exciting	0.568	0.041	0.339	0.298	0.370		
Spirited	0.422	0.193	0.409	0.213	0.400	Spirited	
Cool	0.377	0.088	0.396	0.266	0.458		

[1] Orthogonally rotated to congruence with the factor pattern matrix for the Francophones (see Cliff, 1966)
[2] Aaker (1997, p.354)

Young	0.111	0.072	0.295	0.333	0.539		
Imaginative	0.372	0.325	0.121	0.221	0.442	Imaginative	
Unique	0.585	0.067	0.106	0.262	0.067		
Up-to-date	0.459	0.211	0.044	0.089	0.485	Up-to-date	
Independent	0.447	0.365	0.350	0.173	0.069		
Contemporary	0.409	0.226	0.065	0.058	0.417		
Reliable	0.438	0.535	0.057	0.014	0.045	Reliable	Competence
Hardworking	0.177	0.662	0.313	0.014	0.108		
Secure	0.443	0.567	0.060	0.010	0.037		
Intelligent	0.404	0.590	0.002	0.127	0.168	Intelligent	
Technical	0.485	0.237	0.194	0.228	0.122		
Successful	0.463	0.345	0.056	0.011	0.296	Successful	
Leader	0.594	0.225	0.046	0.027	0.210		
Confident	0.481	0.461	0.274	0.031	0.171		
Upper-class	0.765	0.034	0.026	0.150	0.024	Upper-class	Sophistication
Glamorous	0.671	0.149	0.119	0.364	0.181		
Good-looking	0.572	0.078	0.122	0.404	0.227		
Charming	0.259	0.263	0.042	0.697	0.227	Charming	
Feminine	0.134	0.161	0.098	0.602	0.042		
Smooth	0.160	0.239	0.010	0.553	0.075		
Outdoorsy	0.152	0.099	0.603	0.165	0.190	Outdoorsy	Ruggedness
Masculine	0.187	0.079	0.644	0.093	0.122		
Western	-0.020	0.073	0.623	0.062	0.087		
Tough	0.330	0.107	0.657	0.119	0.069	Tough	
Rugged	0.376	0.047	0.694	0.126	0.070		

Table 18

CONGRUGENCE COEFFICIENTS

		ANGLOPHONES				
		Factor 1	*Factor 2*	*Factor 3*	*Factor 4*	*Factor 5*
FRANCOPHONES	*Factor 1*	0.994	0.507	0.524	0.492	0.716
	Factor 2	0.482	0.990	0.439	0.541	0.455
	Factor 3	0.500	0.441	0.977	0.273	0.551
	Factor 4	0.465	0.538	0.270	0.986	0.548
	Factor 5	0.680	0.455	0.548	0.550	0.974

Table 19

VARIANCE EXPLAINED BY EACH FACTOR

Variable	*Anglophones*	*Francophones*
Factor 1	11.818	10.699
Factor 2	9.111	9.122
Factor 3	6.834	6.549
Factor 4	5.983	5.962
Factor 5	4.497	4.611
Total Variance Explained	38.243	36.943
Total Variance in the Data	72.757	71.327
Total Variance Explained as a Percentage of Total Variance	.5256	.5179

Table 20

FINAL COMMUNALITY ESTIMATES

Variable	*Anglophones*	*Francophones*
Down-to-earth	0.491	0.487
Family-oriented	0.450	0.433
Small-town	0.431	0.418
Honest	0.600	0.592
Sincere	0.607	0.599
Real	0.453	0.423
Wholesome	0.529	0.465
Original	0.456	0.414
Cheerful	0.589	0.631
Sentimental	0.585	0.544
Friendly	0.467	0.518
Daring	0.554	0.620
Trendy	0.612	0.561
Exciting	0.648	0.665
Spirited	0.471	0.588
Cool	0.625	0.587
Young	0.529	0.505
Imaginative	0.474	0.503
Unique	0.456	0.431
Up-to-date	0.500	0.500
Independent	0.458	0.490
Contemporary	0.444	0.399
Reliable	0.507	0.483
Hardworking	0.616	0.579
Secure	0.532	0.523
Intelligent	0.546	0.556
Technical	0.437	0.395
Successful	0.494	0.424
Leader	0.537	0.450
Confident	0.559	0.549
Upper-class	0.648	0.610
Glamorous	0.665	0.652
Good-looking	0.580	0.563
Charming	0.659	0.676
Feminine	0.412	0.417
Smooth	0.283	0.394
Outdoorsy	0.528	0.460
Masculine	0.475	0.479
Western	0.385	0.406
Tough	0.609	0.571
Rugged	0.646	0.645

Figure 1

BAR CHART OF AGE

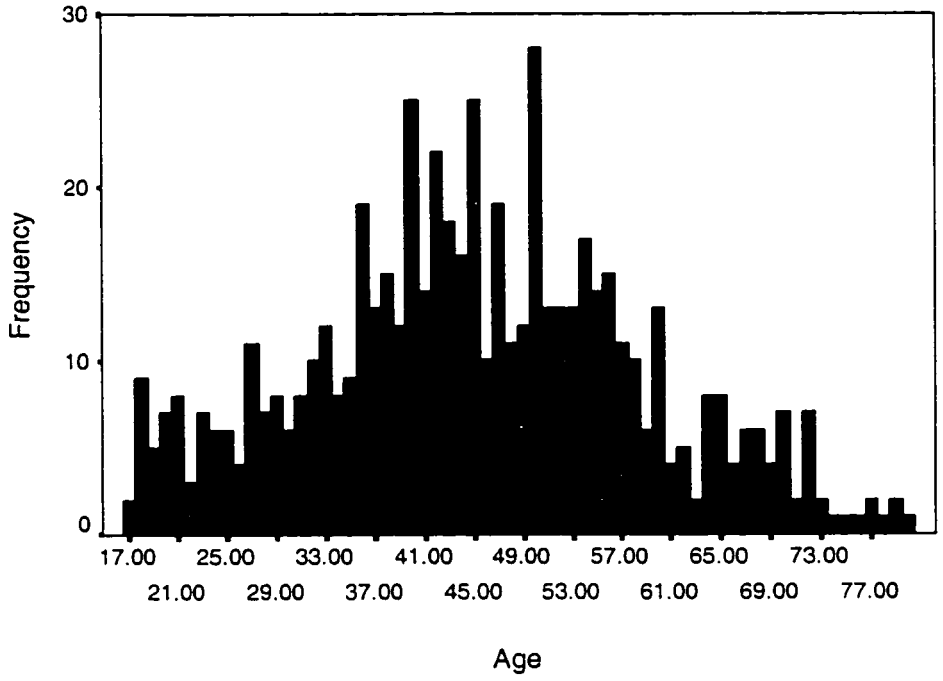

Figure 2

HISTOGRAM OF ONE OF THE ENGLISH LANGUAGE INDICATORS

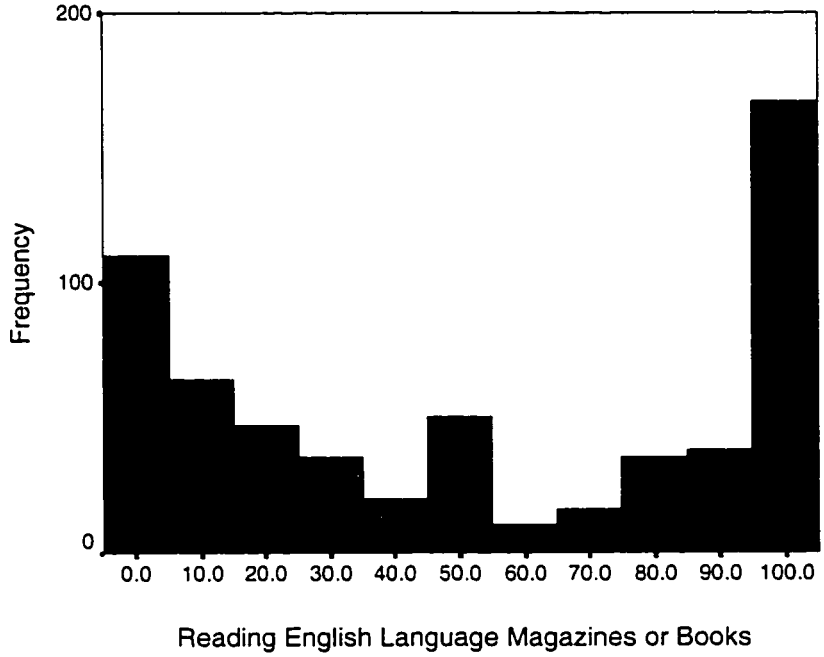

Figure 3

SCREE PLOT OF FACTOR SCORES ASSOCIATED WITH ETHNICITY DIMENSION

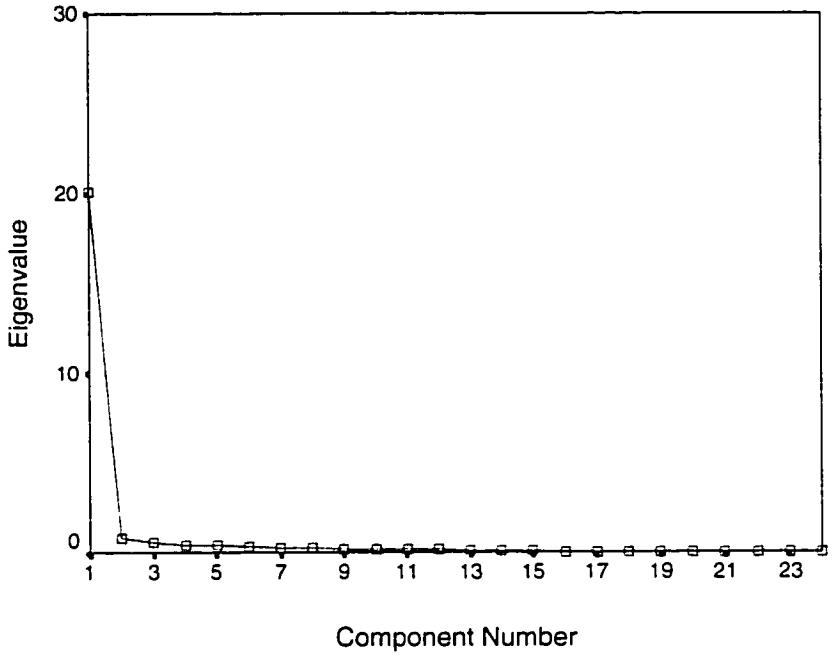

Figure 4

HISTOGRAM OF THE STANDARDIZED FACTOR SCORES OF ETHNICITY (SELF IDENTIFICATION AND LANGUAGE USE) RELATED ITEMS