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**THE INFLUENCE OF CULTURE ON PRO-ENVIRONMENTAL ACTIVITIES:
COMPARING ENGLISH, FRENCH AND ITALIAN CANADIANS**

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A Thesis
in
the John Molson School of Business

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ABSTRACT

The Influence of Culture on Pro-environmental Activities: Comparing English, French and Italian Canadians

Zhonglian (Cindy) Qian

This study was primarily concerned with examining the behaviors of English, French and Italian Canadians towards the environment. Given the bi-cultural environment of Montreal, Italian Canadians in our sample were divided into three groups: strong Italians, Italians acculturated toward the English culture, and Italians acculturated toward the French culture. In order to achieve the goal of our study, the three ethnic groups (studied in two separate groups, English/English Italians/strong Italians and French/French Italians/strong Italians) were compared on several variables, namely, attitudes, behaviors, environmental knowledge, values, individualism/collectivism and demographics. The results indicated that although the English Canadians held more positive environmental attitudes and had higher level of environmental knowledge than Italian Canadians, they did not exhibit any environmental friendly behaviors except they purchased less environmentally unfriendly products. Similar patterns were found for French Canadians and the opposite result was found for Italian Canadians. When we look at acculturation, English Italians and French Italians were found acculturated toward the two dominant cultures on most of the variables studied. Strong Italians in our sample were found to be the most collectivists. It was also found that French Canadians in our sample were more individualists than English Canadians. In line with this finding, much higher percentage of French Canadians placed less importance on terminal and instrumental values, which are more likely to be held by a collectivist person. Limitations and implications were provided.

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In the past few decades, there has been a growing realization around the world that humans are harming the natural environment. According to a National Opinion Polls survey for the Department of Environment, thirty percent of respondents in 1989 spontaneously mentioned environmental or pollution issues among the most important issues the Government should be dealing with, while only eight percent in 1986 did so (Davies et al., 1995). Consequently, companies are devoting increasing attention to this topic and using claims such as recyclable, recycled, etc. as a tool, among others to differentiate and promote their products and brands, and to build a competitive advantage for the companies. The introduction of new “green” and “environmentally friendly” products has grown by more than 100% per year since 1985 (Green Introductions, 1990). Accompanied by the growing concern on environmental issues, many researches have been done to study the characteristics of the people who are more pro-environmental than their counterparts so that they can be reached efficiently via appropriate marketing plans.

LITERATURE REVIEW

Concern over the environment has evolved through several distinct phases. From the 1960s ecology movement focusing on pollution and energy conservation, to the recent use of environmental issues as a source of competitive advantage in business and politics. Initial effort was expressed in 1970s and the second wave of concern was expressed by researches in mid 1980s in light of increased environmental concern. The initial effort on this topic typically focused on traditional demographic (age, income, education, etc.) and psychographics (attitudes, values, etc.) segmentation variables. A

recent poll by J. Walter Thompson found that persons classified as most green tended to be “better educated older females with high incomes and liberal orientation,” whereas those least green tended to be “younger, apolitical, less well-educated males” (Levin 1990, p.74). Schwartz and Miller (1991) suggested that the greenest category have a higher proportion of white-collar workers, a higher proportion of women, and a higher level of education. Among this stream of researches, majority found little or no relationship between demographic characteristics and environmental attitudes and behaviours. In the cases that did find a relationship between demographic characteristics and environmental attitudes and behaviours, the relationship is less powerful than the relationship explained by psychographics variables (Shrum, McCarty and Lowrey, 1995). A brief review on early studies follows.

EARLY STUDIES

In his study of the effect of ecologically relevant information on detergent sales, Henion (1972) found that even when the ecologically relevant information was presented as a passive stimulus, that is a simple tag on a shelf showing the percentage of phosphate content in each brand, without promotion or advertising, the detergent buyers did shift their preferences from high phosphate content to those with low-phosphate content. This happened in both stores that serve medium and high-income families and those that serve low-income families, except for the brand with low phosphate content in low-income family, which explained by the author is caused by the limited choice of brands. At the end of his study, Henion (1972) raised the question whether greater modification would have occurred had the cues been actively promoted. In order to answer this question and to differentiate the more environmental conscious consumers from the mass consumer

group; it is necessary to study the characteristics of those environmentally conscious consumers, and personality variables and demographic variables are among the variables that had been widely studied ever since then.

Anderson and Cummingham (1972) studied the characteristics of the high vs. low social responsible consumers based on demographic variables (occupation, income, education, family socio-economic status, age, stage of family life cycle) and socio-psychological variables (alienation, dogmatism, status consciousness, cosmopolitanism, personal competence). The general results showed that within demographic variables, socio-economic status, occupation and age of the household head could provide significant explanation when differentiating the high socially responsible consumers from the low socially responsible consumers. In general, the study found that socio-psychological variables are more effective in differentiating the high socially responsible consumers from the low socially responsible consumers than the demographic variables. To be more specific, they found that the characteristics of the socially conscious consumer, “a consumer who takes into account the public consequences of his or her private consumption or who attempts to use his or her purchasing power to bring about social change” (Webster, 1975, pp 188), tends to be “pre-middle age adult of relatively high occupational attainment and socio-economic status. He is typical more cosmopolitan, less dogmatic, less conservative, less status conscious, less alienated, and less personally competent than his less socially conscious counterpart” (Anderson and Cummingham, 1972, p.130).

Webster (1975) further studied the characteristics of the socially conscious consumers. He found that female respondents tend to be more socially conscious than

their male counterparts. He concludes that the socially conscious consumer “is he, or more likely she, who is willing to engage in purchase behaviour that may not be popularly accepted but is nonetheless consistent with her own standard; they are less ready to judge the values and actions of others; she tends to think business has too much power and she tends to have higher household income than her less socially conscious counterpart” (Webster, 1975, p195). Similar findings were observed by Ottman (1995) in a more recent study where environmentally-conscious consumer is “educated, affluent and mainstream... she is educated... and politically liberal. She is likely to be between the ages of 30-49, has children six years and older...” (Davies, Titterington & Cochrane, 1995, pp.17). Titterington, Davies & Cochrane (1996) also confirmed this finding in their study conducted in Northern Ireland that women are more likely to be green consumers; women are more likely to pay extra; the presence of children is likely to be significant with a somewhat greater distinction between the purchasing patterns of these households and those without children; personal disposable income is an important predictor, as there appear to be some correlation between spending power and environmental issues, except that the age is different from the previous studies. Titterington, Davies & Cochrane (1996) found that younger people are more interested in environmental issues and pay greater lip service to green purchasing, however they will only purchase them if they can afford them.

Claiming that the measures used by Anderson and Cunningham (1972) and Webster (1975) to measure personality are inappropriate and of being confounded by interactive, Brooker (1976) decided to use a more general concept of personality in his research by borrowing Maslow’s (1968, 1970) hierarchy of needs to determine the characteristics of

the socially conscious consumers. Maslow's theory states that human beings face a hierarchy of needs, which range from lower-order physiological needs to higher-order self-actualization needs. According to the theory, the closer one comes to being self-actualized, the more likely that the individual takes actions that will satisfy the needs of his own and others at the same time. A self-actualizing consumer is thought to be likely to purchase products, which will benefit society as a whole as well as the user himself/herself. His study showed that more self-actualized individual would appear more often among socially conscious consumers than would those whose self-actualization level were lower. The respondents that rated higher on self-actualization were found willing to forgo immediate benefit, such as lower cost or cleaner clothes for the long-term survival of a healthy environment. His study in most part confirmed the conclusion of Webster's (1975) study, except that this study found socio-economic status was not significant, while Webster (1975) found it to be one of the significant factors that explain the characteristics of social conscious consumers.

RECENT STUDIES

The 1990s have been labelled the "decade of the environment" (Menon et al., 1999) as social and environmental concerns have assumed a greater level of importance in customers' product choice and supplier selection decisions. Environmentalism is enjoying its second wave of interest and renewal as a topic of vital concern, as much more attention has been devoted to this topic on various academic journals, e.g. *Journal of Public Policy and Marketing* used the entire Fall 1991 issue to the environment, and *Psychology and Marketing* and *the Journal of Advertising* also put on some special issues

on this topic (Banerjee & McKeage, 1994). More recent research on environmental topic goes beyond the personality variables and demographic variables, for example, little of the early literature examined environmental advertising, which becomes one of the focuses of recent studies. Jackson, Olsen, Granzin & Burns (1993) pointed out that although demographics can be useful variables for segmentation studies, the specific findings may quickly become obsolete and furthermore, as environmental concern spread quickly to new segments of the population, the correlation of demographics will be effectively diluted. Researchers start to learn more about pro-environmental consumption via its relationship with some other variables, such as attitude, values, recycling, culture and race differences, product claims, action vs. behaviour, and some other factors that are thought to affect purchase behaviour. Detailed literature review will follow on each of the previously mentioned factors, however more effort will be devoted to cultural and race difference, as this is the key interest of this paper.

Attitudes

In order to create a clearer picture of the green consumer, Shrum, McCarty and Lowrey (1995) focused their study on trait and attitudinal variables, which they argued are more specific than the broad demographic and psychographics variables that differentiate more green consumers from less green consumers. Using secondary data, the 1993 DDB Needham Life Style Study data, as the source of their investigation, Shrum, McCarty and Lowrey (1995) yielded some interesting information about the consumer who is interested in buying green. They suggested that particular consumer attitudes are related to propensity to buy green, but the relations are qualified somewhat by gender and by the nature of the green buying behavior. They found that a person who makes a

special effort to buy green has “an interest in new products, is an information seeker, and talks to others about products. Additionally, green consumers consider themselves opinion leaders, and hence may provide word-of-mouth information that other consumers respect. The green consumer is also a careful shopper, not prone to impulse buying, and pays attention to price” (Shrum, McCarty and Lowrey, 1995, pp. 80). Gender differences are also found in this study. It is observed for green female buyers, the more they are sceptical of advertising; the more they agreed strongly that advertising insults their intelligence and they would not buy a product whose advertising they disliked; however this difference does not exist when comparing more green male buyers and less green male buyers. The study also tentatively suggested that green consumers are more interested in magazines than television advertising.

In a study conducted by Schlegelmilch, Bohlen & Diamantopoulos (1996), the authors pointed that both socio-demographics measures (such as sex, age, education and social class), and personality measures (such as locus of control, alienation, conservatism and dogmatism), are not powerful variables for profiling environmentally-conscious consumers in UK, as environmental concerns are becoming the socially accepted norms and high levels of green purchasing behaviour would not only be observed in certain social-demographic sectors of the consumer base. Meantime, though personality variables have been found to have somewhat higher linkages to individuals’ environmental consciousness, however it does not produce consistent result for specific pro-environmental behaviours, such as green purchasing decisions and it only explains a small portion of the total variability of the green behaviours measured (Schlegelmilch, Bohlen & Diamantopoulos, 1996). They proposed to use variables specific to

environmental consciousness, that is a knowledge scale, an attitude scale, a recycling behaviour scale & a political action scale, to predict green-purchasing decisions based on the rationale that consumers have traditionally been shown to express their environmental consciousness through the products they purchase. Their sample consists of a convenience sample of 160 undergraduates attending a second-year marketing course at a UK university and 113 out of 600 members of a general public throughout the UK who returned the mail questionnaire. The results indicated that consumers' overall environmental consciousness has a positive impact on pro-environmental purchasing behaviour, however the strength of the relationship is dependent on three factors: first, the results vary between sample types and more variance in pro-environmental purchasing behaviour is explained for the general public sample; second, the strength of the relationships varies according to the dimension of purchasing behaviour at issue, specifically, much more variation is explained for the general purchasing behaviour scale than for the specific purchasing items, particularly for the general public sample. Finally, results are inconsistent across the specific purchasing items, particularly for the general public sample, which can be explained by the performance, ease of use or availability constraints. With regard to the independent variables, the results show that environmental attitude scales are the most consistent explanatory variable for both samples, while the others vary considerably in terms of their explanatory power. A few years later, Volsky, Ozanne & Fontenot (1999) examined the relationships between intrinsic environmental motivations and the willingness-to-pay a premium for environmentally certified wood products and found that there was a positive relationship between willingness-to-pay and environmental consciousness.

Despite the existence of some evidence to link attitude and environmentally friendly behavior, extant literature provides very little information regarding the determinants of intention to buy environmentally friendly products. Studies that tried to link attitudes and pro-environmental behaviour have yielded low correspondence between them (e.g., Alwitt and Berger, 1993; Berger and Corbin, 1992). Alwitt and Berger (1993) found that students' general attitude towards the environment was not significantly related to purchase intent toward single-serve aseptic packages of juices, fruit and puddings. Tang & Chan (1998) conducted their study in Hong Kong by choosing seven environment-related product classes (e.g., wood; pesticides; plastic, including packaging; glass, including bottles; aerosols; paper products; and household cleaning agents) and the results showed that although Hong Kong consumers are concerned about environmental problem, this concern is not reflected in their purchasing behavior, which again shows that there lacks high correlations between attitudes and behavior.

Berger and Corbin (1992) suggested that the weak relationship between attitudes and pro-environmental behaviour might due to the variables that moderate the attitude-behaviour relationship. One of such variables that identified is "Perceived Consumer Effectiveness" (PCE), that is only when the consumers are informed about the environmental problems and they believe that it is within their power as individual citizens to have a favourable influence on the problem situation (Webster 1975, Berger and Corbin, 1992). Straughan & Roberts (1999) confirmed that PCE was the most important correlate of ecologically conscious consumer behavior. Thøgersen (1999) also demonstrated that PCE is an important determinant of the development of personal norms, which in turn determines the personal purchasing behaviour in the environmental

field. However, Rice, Wongtada & Leelakulthanit (1996) advised that PCE appears to be ineffective in identify green individuals in Thailand, since Thais all seem to agree that consumers cannot help preserving the environment, though they do consider the negative impact of goods on the environment before purchasing. Tang & Chan (1998) also found that consumers in Hong Kong do not perceive the purchasing behavior of an individual as one potential opportunity to improve environmental conditions. Apart from PCE, “Faith in others” was also identified as a moderating variable in the attitude-behaviour relationship (Berger and Corbin, 1992).

Kalafatis et al. (1999) applied Ajzen’s (1985; 1991) theory of planned behavior in their cross-country (UK vs. Greek) study on the attitude dimensionality/determinants that influence consumers’ intentions towards environmentally friendly products. The theory of planned behaviour is presented in Figure 1 below. The results showed that among the UK samples, subjective norms (SN) was found to be the only determinant associated with a significant direct effect on intention. Among the Greek samples, Perceived control is the only determinant that has a significant direct effect on intention, although both referent and control beliefs were found to have indirect significant effect on intention to purchase environmentally friendly products.

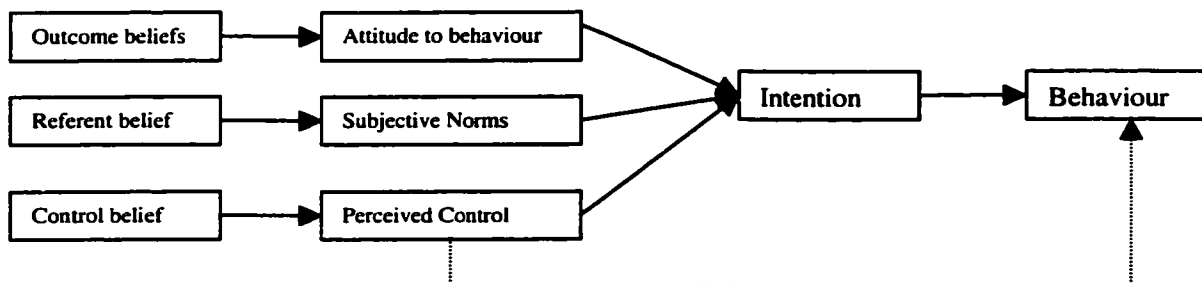


Figure 1: Theory of Planned Behaviour (Ajzen, 1985; 1991)

Value-Attitude-Behaviour

Follows & Jobber (1999) proposed to study the environmentally responsible purchase behavior based on their model that describes a hierarchical relationship from values to product specific attitudes to purchase intention to purchase behavior. The product category involved in this study was baby diapers, which have two product alternatives, disposable diapers and re-usable cloth diapers washed at home or at a Laundromat. The population sampled was primarily young married women, who were new mothers. The result supports the theoretical relationship from abstract cognitions to specific behaviour, a values-attitudes-intentions-behaviour hierarchy. The decision to purchase an environmentally responsible product or a non-responsible product alternative requires a deliberate conscious evaluation of the environmental and individual consequences associated with the product purchase. Intention is formed as the end result of an evaluation or trade-off between the environmental and individual consequences. This explains why some consumers can express high levels of environmental concerns; however do not exhibit pro-environmental behaviours. This finding is consistent with the previous findings on the relationship between inconvenience and recycling behavior (Dahab, Gentry, & Su, 1995). The study also found that self-transcendence, “which includes values reflecting benevolence, a concern for the welfare of people with whom one is in frequent personal contact, and universalism, encompassing a broader concern for all people and nature” (Follows & Jobber, 1999, p. 728), was positively related to environmental attitudes about disposable diapers, that is a concern for the welfare of others indirectly results in an intention to purchase an environmentally responsible product. Contrarily, individuals with self-enhancement values, “which reflects pleasure or

sensuous gratification for oneself' (Follows & Jobber, 1999, pp. 729), were found to be very concerned about how a diaper may impact upon their personal satisfaction. The study also found that the more conservative an individual is, the less likely that she will hold a positive environmental attitude and therefore, the less likely she intends to make an environmentally responsible purchase. On a practical point of view, authors suggested that in order to increase purchase intention of an environmentally responsible product, consumer promotion should address both environmental and individual product consequences, that is to explain the positive environmental consequences of the products, meantime to reduce the negative individual consequences, such as convenience, ease of use, and disposability of an environmentally responsible product.

Li (1997) extends the ecological concern literature, which "refers to the degree of emotionality, the amount of specific factual knowledge, the level of willingness, as well as the extent of actual behaviour on pollution-environment issues" (Li 1997, pp.33), by examining the moderating role of consumer demographic characteristics and product involvement on the value-attitude-behaviour relationship in the context of health food consumption. This study collected its data in Hong Kong and was based on 196 usable questionnaires. It found that effect of collectivist orientation and ecological attitude on ecological commitment depends on the nature of the targeted consumer group. The people who are male, those who have high income, and who have high involvement in the product category, engage in more extensive green-product-related information search, and purchase green products more frequently. The finding on "male" to be more ecologically concerned contradicts previous findings that pro-environmental consumers tend to be "female" in most cases. The study also contradicts studies carried out in the

west that internally oriented values tend to lead to green consumption that serves as a mean to control one's intake and destiny. This study demonstrated that Hong Kong as an Asian society puts emphasis on collectivism that supports green consumption that functions as an external locus of control of adapting to nature and to reach a harmony with nature. Collectivism was found to be the most influential predictor over ecological commitment. Further, the study also found that public-estate residents engage in ecological purchase more often.

Banerjee & McKeage (1994) studied the characteristics of pro-environmental consumers and their counterparts from a different point of view, that is the relationship between environmentalism and materialism. In his paper, an individual with materialistic values places a very high importance on worldly goods (Belk 1984), which can be demonstrated in three principal fields (Richins and Dawson, 1992): acquisition centrality, pursuit of happiness and possession-defined success. So compared with materialists who place possession and consumption as the central value and acquisition of goods brings happiness and defines success, environmentalists' consumption choices are influenced by values and beliefs placing greater emphasis on environmental protection. The study found a negative relationship between materialism and environmentalism, since they are competing values. That is, materialism is generally considered to be pro-consumption value whereas environmentalism is a conservation-oriented, anti-consumption value.

Recycling

Most of the research on environmental responsibility was conducted in the 1970s and 1980s and many of which focused on non-consumption behaviours, e.g., energy conservation. More recent studies on this topic have focused on post-purchase

behaviours, such as recycling and waste separation. Recycling programs are a voluntary environmental protective consumer behavior, which consumers are often encouraged to participate. Jackson, Olsen, Granzin, & Burns (1993) tried to investigate the determinants of recycling consumer behavior and they found that benefits-costs deliberations and importance are key translation constructs for personal and social forces affecting recycling consumer behavior. That is when consumers perceive that the benefit of recycling is greater than the cost of doing that, thus it is important to recycle, the consumer will forego the cost in terms of time and energy and devote more effort to carry on the recycling action. Additionally, the study also found that the external influence on recycling behavior is media expose. The study reveals that social influence is a pervasive influence on recycling behavior, however the authors pointed out that precisely how social influences are communicated to individual is unknown at that time, which deserves future research.

Dahab, Gentry and Su (1995) investigates recycling as a deliberative process using the model of reasoned action (Fishbein and Azjen, 1975) to explain how attitudes and subjective norms affect the intent to engage in recycling activities and whether the motivational component of attitudes and norms is sufficient to energize intentions. In this paper, recycling is defined not only as an act of product disposition but also as a purchase activity. Among the five independent variables, attitude, recycling norm, action orientation, perceived effort and prior recycling behaviour, the study found that prior behaviour and perceived effort explain a majority of the variation in behavioural intentions to participate in all recycling activities, including product disposition, purchase, and reuse. Despite the fact that community subjective norms were found not

significant in explaining recycling intentions, which the authors explained mainly caused by the fact that this study was sampled in a community where there was no visible recycling activity available, the authors did not suggest to ignore the potential role of community subjective norms, which the previous research has found that emphasize recycling as a community contribution or collective endeavour might be successful. Meantime, the study also reported that action-oriented individuals are more likely to report higher social norms and related behavioural intentions, which is contrary to the findings of Bagozzi, Baumgartner, and Yi (1992) that action-oriented individuals placed greater weight on attitudes in determining behavioural intentions, while state-oriented individuals placed more weight on subjective norms in behavioural intentions. The specific characteristics of the sampled community are also thought to explain the contradictory finding in this study.

Still in the topic of recycling, Bei & Simpson (1995) studied consumers' purchase behavior toward 11 recycled products from a different point of view that borrows Thaler's (1983) acquisition-transaction utility theory. According to Thaler (1983), the utility of a purchase was the sum of acquisition utility and transaction utility, while the acquisition utility reflected the economic gain and loss from a purchase that is a function of the utility of the purchased good determined by the inherent need-satisfying properties of the product, and the transaction utility is the perceived merits of the "deal" (Thaler 1985). The findings suggest that when psychological benefit is included as one kind of utility, consumers' purchase behavior of recycled products can be explained well by Thaler's (1983) acquisition-transaction utility theory. To be more specific, consumers' purchase behavior of recycled products can be explained by the psychological benefit

resulting from purchasing, the believed product quality and the expected price of the recycled products. Last, the study also found that different product category provokes different levels of involvement that is related to consumers' purchase probability.

Product Claims

The other topic that attracts attention is consumers' responses to environmentally based product claims. As mentioned earlier in this paper, with the growing concern of how human consumption might affect our environment, marketers have been quick to pick up this environmental concern and use it as a way of positioning their product as environmental-friendly to differentiate them from the others and there is a dramatic increase in the number of "green" product introduced between 1985 and 1990 and there is evidence that more marketers are making environmental claims about their products (Mohr, Eroglu and Ellen, 1998). "Green marketing" describes an organization's efforts at designing, promoting, pricing and distributing products that will not harm the environment. The product claims that the marketers use to label their offerings to be environmentally friendly include the word like recyclable, reusable, biodegradable, ozone friendly, etc. Olney and Bryce (1991) advised that in the process of doing this, some companies do find ways to make their products bear less harmful effect on the environment, however others are just using it in a way that plays up some attributes and minimize other attributes of their products, though both methods seek to arrive at a perception of environmentally friendly companies that offer environmentally friendly products and help to solve the environmental crisis. Olney & Bryce (1991) pointed that using such environmental product claims creates problems among the consumers due to the fact that there is a lack of standard definition for the environmentally friendly product

claims, which in turn leaves plenty of rooms for some companies to play around with the term when making product claims. Furthermore, these claims would be meaningless without proper context. On a more serious note, the use of certain claims might mask serious problems that other dimensions have on the environment. The mentioned problems will in turn create mistrust between consumers and companies. In order to illustrate the above point, the authors studied three major environmental problems and the way the companies dealt with them. The three areas are landfills, air pollution and non-renewable resources. In the three areas examined, they showed that some companies were using false product claims to attract consumer attention. At the end of this paper, the authors pointed out areas of future research that consumer researchers might find exciting and fruitful: to study the issue of environmental impact from a process point of view or from a focus point of view. From the process point of view, researchers will study “the stage of a consumer in a consumption process, which might be acquisition, use or disposal, while a focus point of view indicates the level of analysis to be used in a study from a personal orientation, to an interpersonal orientation and finally through a cultural or cross-cultural orientation” (Olney & Bryce, 1991).

As advised earlier, some companies use environmental product claims to emphasize certain product attributes while minimizing other attributes that are found harmful to the environment. A question related to the “green” product and package claims is how the consumers will respond to such claims. Research indicate that consumers are concerned enough to consider paying more for environmentally friendly products. In a 1990 poll by the J. Walter Thompson advertising agency, 82% of the respondents said they would pay at least 5% more for a product that was environmentally friendly (Shrum, McCarty and

Lowrey, 1995), however other findings suggest that consumers are not only confused about environmental products claims, but also distrustful of them. Some studies found that although consumers express a high level of environmental concern, however their actual purchasing behavior has lagged behind (e.g., Mayer, Scammon, and Gray-Lee, 1993) and one reason for this lack of consumer responsiveness may be the confusion about and skepticism toward marketing communications (Gray-Lee, Scammon, and Mayer 1994). Newell, Goldsmith & Banzhaf (1998) investigated whether consumers who are exposed to an ad containing a deceptive environmental claim have significantly different attitudes about the ad than those consumers exposed to a similar non-deceptive ad. They found when an ad is perceived environmentally misleading, consumers also perceive lower advertiser credibility, express negative attitudes toward the ad and toward the brand, and develop lower purchase intentions for the brand. This suggests that consumers who are sceptical of “green” marketing claims may inadvertently forego the chance to help the environment by purchasing less harmful products. It is clear that consumer skepticism toward environmental claims is of great importance to public policy makers as well as consumer researchers and practitioners. Attempting to answer this question, Mohr, Eroglu & Ellen (1998) suggested including skepticism toward environmental claims in the study. They developed a tool to measure skepticism toward marketing communications that make environmental claims and their study showed that the scale has acceptable levels of reliability and validity.

Due to the fact that some organizations change their marketing claims without modifying their products or production process to integrate pro-environmental claims, green marketing is facing a negative publicity. Polonsky et al. (1998) studied the extent

that environmental marketing information is incorporated on dishwashing liquid packaging and the extent the information provided is “misleading” in the Australian market. The study demonstrated that a majority of the environmental information on the dishwashing liquid packages appears to be either meaningless, has no explanation, or has a poor explanation and can be classified as being not accurate. In order to solve the negative publicity that green marketing is confronted, Mendleson & Polonsky (1995) suggested to form strategic alliances between environmental organizations and manufacturers to overcome three problems associated with green marketing: poor credibility; consumer cynicism; and consumer confusion.

Norm vs. Behavior

Some studies have applied Schwartz’s norm-activation model in the area of proenvironmental behaviour. Schwartz’s norm-activation model predicts “an altruistic behavior is more likely to occur when a person is both aware of the harmful consequences (awareness of consequences) of his/her (potential) actions for others and when the person ascribes responsibility (AR) for these consequences to the self” (Schultz & Zelezny, 1998, pp. 542). More recent work by Schwartz (1992, 1994) goes beyond the welfare of others in an attempt to identify the domain of human values. According to him, self-transcendence/self-enhancement and openness to change/conservation are two important dimensions when predicting value types. Self-transcendence is an orientation toward the welfare of others, whereas self-enhancement is an orientation toward self-interests. Openness to change reflects the degree to which a person is motivated to follow his/her own emotional and intellectual interests, whereas conservation reflects a motivation to preserve the status quo (Schwartz, 1992). Several studies have examined

the applicability of the norm-activation model to pro-environmental behaviour (e.g. ,Follows & Jobbs, 1999) and the overall results tend to support the norm-activation model and suggest that values, especially the nature items within self-transcendence play an important role in determining environmentally responsible behaviour. Straughan & Roberts (1999) found that among all the predictor variables (i.e., demographic variables: age, family income, sex, and academic classification; & psychographic measures: liberalism, perceived consumer effectiveness, environmental concern, altruism), altruism was the second most important variable following perceived consumer effectiveness (PCE) and the result suggests that altruism should not be ignored when profiling green consumers. Claiming that most of the previous studies in this area were conducted in the United States, Schultz & Zelezny (1998) decided to examine the relationship between values and pro-environmental behaviour and to examine the relationship between values of self-transcendence and pro-environmental behaviour within the context of Schwartz's norm-activation model, drawing on data from the United States, three Latin American countries and one European country. Schultz & Zelezny (1998) argued that when applying this model to the context of pro-environmental behaviour, people who endorse pro-environmental altruistic values and who are exposed to circumstances likely to activate norms based on this altruistic values tend to act in a pro-environmental manner, holding other things being equal. They predicted a positive relationship between self-transcendence values and self-reported pro-environmental behavior across cultures and this relationship would be stronger among individuals who were high in awareness of consequences (AC) and ascribed responsibility (AR), regardless of culture. The results from this study clearly indicated that values, particularly the nature subtype of self-

transcendence, are important variables to consider in the prediction of environmental behaviour in all countries except Peru, where the relationship is positive but failed to reach a statistically significant level. Also the study showed a negative relationship between self-enhancement and pro-environmental behaviour and it partially supported the norm-activation model of altruism. It is explained that self-enhancement may provide a value-basis (e.g., egoistic) for environmental behaviour if the person perceives that acting in such a way will lead to personal gains.

Locus of Control

Some other studies have investigated the relationship between psychological variables, environmental concern and environmental behaviours. Among these studies, those that focus on green purchase intention or behavior suggest that an internal locus of control is correlated positively with intent to purchase ecologically packaged products (Schwepker and Cornwell 1991). Willen, Wiener, and Cobb-Walgren (1991) demonstrated in their study that perceived consumer effectiveness, (a domain-specific construct related to locus of control), was positively related to intent to purchase environmentally safe products. This correlation also exists for some post-purchase behaviour such as recycling (Shrum, Lowrey, and McCarty 1994). Similar findings were confirmed in two studies that were conducted in Asian countries: Tang & Chan (1998) conducted their study in Hong Kong, whereas Rice, Wongtada & Leelakulthanit (1996) conducted their study in Thailand. Take into consideration that these two countries are collectivism cultures, where the local of control is more likely to be external oriented, both studies advised that although the consumers in their countries do consider the negative impact of goods on the environment before purchasing, however they do not

seem to perceive the purchasing behaviour of an individual as one potential opportunity to improve environmental condition.

Culture

Culture is the collective mental programming of the people in an environment (Hofstede 1980). Hofstede (1980) collected data from 40 independent nations and his study found four criteria by which the national cultures differ from each other: Power Distance, Uncertainty Avoidance, Individualism-Collectivism, and Masculinity-Femininity.

Individualism vs. collectivism

The collectivism and individualism constructs have been discussed in many contexts in the social sciences, e.g., the embedded self versus the autonomous self (Markus & Kitayama, 1991), values (Hofstede, 1980, 1991), to name a few. According to Hofstede, "Individualism implies a loosely knit social framework in which people are supposed to take care of themselves and of their immediate families only, while collectivism is characterized by a tight social framework in which people distinguish between in-groups and out-groups; they expect their in-group (relatives, clan, organizations) to look after them, and in exchange for that they feel they owe absolute loyalty to it" (Hofstede 1980, pp. 45). Triandis (1993) advised that individualism is a consequence of (a) cultural complexity, such as the number of available groups, e.g., the more groups there are, the more people can decide for themselves whether to join or leave these groups; (b) cultural heterogeneity, that is people exposed to different kinds of norms must decide for themselves which norms to follow; (c) affluence (if one is rich one

can do his/her own things, without depending on the group to achieve his/her personal goals); (d) social mobility; and (e) geographic mobility (one can change groups more easily thus groups cannot influence individuals as much). Collectivism can be found in parts of Europe (e.g., Southern Italy, rural Greece) and much of Africa, Asia, and Latin America (Triandis 1993). Individualism is found to be very high in the United States and generally, in the English-speaking countries (Hofstede 1980). Studies also showed that despite the extreme similarities between Canada and United States, Canada is found to be somewhat less individualistic and more collectivist than the United States (Triandis 1993).

Triandis (1993) reviewed the literature and concluded individualism and collectivism constructs are cultural syndromes, which according to him is “a set of elements of subjective culture organized around a theme. A cultural syndrome can be identified “when shared attitudes, beliefs, norms, roles, values, and other such elements of subjective culture, identified among those who share a language, historic period, and geographic location, (a) are organized around a theme, (b) there is evidence that the within-culture variance of these constructs is small relative to the between-cultures variance, and (c) there is a link between these patterns of subjective culture and geography” (Triandis 1993, pp. 155). “In the case of individualism, the organizing theme is the centrality of the autonomous individual; in the case of collectivism, it is the centrality of the collective – family, tribe, work organization, consumer group, state, ethnic group, or religious group” (Triandis 1993, pp. 156). Several decades’ research in the field of culture leads Triandis to believe individualism and collectivism can coexist and are simply emphasized more or less in each culture, depending on the situation.

However Hofstede (1980) presented individualism and collectivism as opposite poles of one dimension. Triandis pointed out that most cultures include a mixture of individualistic and collectivist elements, and most individuals include in their cognitive system both patterns. According to him, “the probability that the collectivist cognitive system will be activated increases when (a) the individual knows that the other people in the particular situation are collectivists, (b) the individual is in a collective (e.g., in the family), (c) the emphasis is on what people have in common or what makes them the same as the collective, and (d) the task is cooperative. The individualistic cognitive system is more likely to be activated when (a) the others in the situation are individualists, (b) the person focuses on what makes him or her distinct from others, (c) the task is individualistically competitive, and (d) the situation is public (e.g., the marketplace)” (Triandis 1993, pp. 159). When predicting social behaviour, studies show that collectivists pay more attention to norms than to attitudes, while individualists pay more attention to attitudes than to norms. In a cross-cultural study conducted in United States, Australia, England, Canada, Holland, Ireland, Israel, Spain, and Mexico, Bontempo & Rivera (1992) found that the more individualistic the culture, the more attitudes were weighed more heavily than norms. Another study conducted by Kashima, Siegel, Tanaka, and Kashima (1992) also shows that Japanese subjects believe in the existence of the attitude-behavior link less than their Australian counterparts who are more individualistic than the Japanese. Triandis et al. (1995) also advised that collectivists pay more attention to the situation (context) than do individualists in making judgements about people and the appropriateness of behaviours in various situations. Previous research also demonstrate that collectivists often show less consideration than

individualists do for the welfare of strangers and the presumed greater concern of collectivists for collective interest does not extend beyond their in-group (Schwartz, 1990).

Most of the studies comparing French Canadian and English Canadian agreed that differences do exist between these two groups of consumers in Canada. Laroche et. al (1996) demonstrated that French Canadians tend to be more collectivism than their English counterparts. Richer & Laporte (1972) argued that French-Canadians are expected to be more present- and collectively oriented. The persistence of a distinct French Canadian society, which has promoted collectivist values at the expense of individualist accomplishments (Lortie-Lussier & Fellers 1991), while English Canadians sharing more individualism of American culture are found to be more individualist than the French Canadians. It is found that French Canadians give more importance to security, prestige, and interpersonal aspects of the organization and are present-oriented, whereas English Canadians value recognition, promotional opportunities, autonomy, and fair salary and are future-oriented (Lortie-Lussier et al. 1986).

Italy is a very much male-dominated society... and is extremely resistant to change (Jansen, 1988). Among the strongest values held by Italians are those concerned with the family. Everything in Italian society is revolved around the family and the individual's first loyalty is to the family, then to the village and province, then to the region, then to the area, North or South, before expressing an attachment to Italy as a whole (Jansen, 1988). The family is also expected to display a good outer appearance, with emphasis on neatness, which can be seen from the customs that one cannot simply drop in to visit a friend, since the host needs to be informed earlier to make sure the house looks clean

when the guest arrives. In Italy, one way in which the family opened up to the outside is through the institution of godparenthood. In southern Italy, a tradition of resignation characterized by the belief that the individual had little control over his/her life situation and the emphasis is on fate (Fandetti & Gelfand, 1983). Further, Frandetti & Gelfand (1983) also discussed that Southern Italians view family as the only reliable institution and little trust is extended to outsiders beyond the family circle. For the southern Italian peasant, the village is the true country and individuals from other towns are strangers to be viewed with suspicion. It is concluded that moral values among southern Italians applied primarily to family members and they act to maximize the material short-run advantage of the family and assume that all others did the same thing. The individual is not perceived as independent of the family unit and the basic value orientation in this society is to stress the primacy of family goals and welfare over individual benefit. In his review of Italian immigrants to Canada, Jansen (1988) advised that the specific characteristics that Southern Italians have made any attempt of cooperative action to deal with common problems very difficult and doomed to failure.

Previous research showed that “culture” has a certain level of influence on proenvironmental consumptions. E.g., researchers found that in collectivist cultures, consumers do consider the negative impact of goods on the environment before purchasing; however they do not seem to perceive the purchasing behavior of an individual to have potential influence on the environmental. However in individualist cultures, consumers demonstrate higher level of internal locus of control and are more likely to purchase ecological friendly products (e.g., Rice, Wongtada & Leelakulthanit, 1996, etc.).

As far as recycling is concerned, McCarty and Shrum (1994) demonstrated that collectivism was negatively related to the attitudes about the inconvenience of recycling. According to them, individuals that are more collectivist put higher importance on being cooperative, helpful, and concern more about the group goals, thus they will less likely to consider recycling to be inconvenient. Their research results suggest that this culture orientation has an indirect, but positive effect on recycling. That is, the more individuals are collectivistic, the less likely they consider recycling to be inconvenient and the more likely they are to engage in recycling behaviours.

Studies that try to study the moderating effects of “culture” on environmental knowledge, attitude and pro-ecological behavior do not reach consistent conclusion. Arbuthnot and Lingg (1975) collected their data in USA and France and their study found no difference between the environmental knowledge between these groups, however their study did find that French (in France) are more preoccupied with their personal economic gain and loss when faced with environmental questions, and are less concerned with the future consequences of present behaviour.

Around decades later, Laroche, Toffoli, Kim & Muller (1996) compared the pro-environmental knowledge, attitudes and behavior between Quebec French and Ontario English and found that Francophones have lower scores on eco-literacy and concern for local environmental issues than Ontario Anglophones, however there are no significant differences on pro-environmental attitudes and purchase of ecologically-unfriendly products among these two groups of consumers. The study also found that although French Canadians have lower level of pro-environmental knowledge, however there is no difference on proenvironmental consumption between French Canadians and English

Canadians, which the authors suggested could be explained by the cultural differences between these two cultural sub-groups. As Triandis (1993) suggested that individualists weight attitudes more, while collectivists put more weight more on norms instead of attitudes. The authors suggested that different behavioural influence strategy would apply when reaching French Canadians, that is “an optimal strategy would require altering beliefs about referent expectations, the identification or creation of opinion leaders, the simulation of word-of-mouth communication, and a greater emphasis on referent power in advertisements” (Laroche et. al 1996, pp. 201).

The detailed literature review has led to the following hypotheses, listed on page 29.

HYPOTHESES

- H1 (a): English Canadians and Italian Canadians will differ in terms of attitudes toward the environment, behaviours and environmental knowledge**
- H1 (b): French Canadians and Italian Canadians will differ in terms of attitudes toward the environment, behaviours and environmental knowledge**
- H2 (a): The more Italians acculturated toward the English culture, the less evident will differences between the attitudes, behaviours, and environmental knowledge between the two groups.**
- H2 (b): The more Italians acculturated toward the French culture, the less evident will differences between the attitudes, behaviours and environmental knowledge between the two groups.**
- H3 (a): Italian Canadians are expected to be more collectivist than English Canadians**
- H3 (b): Italian Canadians are expected to be more collectivist than French Canadians**
- H4 (a): English Canadians and Italian Canadians will differ in terms of terminal and instrumental values**
- H4 (b): French Canadians and Italian Canadians will differ in terms of terminal and instrumental values**
- H5: Individuals who place higher/lower importance on values will differ in terms of their environmental attitudes, behaviours, and knowledge as well as individualism/collectivism.**

RESEARCH METHODOLOGY

1. Description of the sample

The populations targeted for this survey consisted of English-Canadians, French-Canadians, and Italian-Canadians residing in the Greater Montreal area. In order to ensure a representative sample of each one of the three ethnic groups, given the bicultural and multicultural character of the population of the city of Montreal, the data collection was carried in the following manner:

English-Canadians and French-Canadians

The data collection for these two ethnic groups was confined to a selected number of census tracts in municipalities located in Montreal and its surrounding area that, according to the 1991 Census of Canada, exhibited a large percentage of residents whose mother tongue (single response) was either English or French. Twenty-two census tracts in 17 municipalities were chosen for the survey.

Italian-Canadians

The data collection for this ethnic group was carried out in fourteen census tracts of two municipalities of Montreal with a high concentration of residents whose mother tongue (single response) was Italian.

The geographic areas chosen were residential districts with detached or semi-detached dwellings, which are easily accessible to interviewers. Residents in apartment

dwelling were not to be canvassed because of difficulty in obtaining access to those dwellings. A sample of at least 200 usable questionnaires from each ethnic group was deemed appropriate for this research.

2. The Survey Instrument

A structured non-disguised questionnaire was designed to gather the data required for this research. The questionnaire was written in English and translated into French and into Italian. Prior to the printing of the questionnaire, a pre-test was done. No major flaws were detected in the pre-test. A sample of the questionnaire in English, French, and Italian appears in Appendix A.

The questionnaire contained nine pages plus a cover letter. The questionnaire was divided into seven parts:

Part A measured language use and acculturation. For the language use section, respondents were asked to give a distribution in percentage of time from 0 (never) to 100 (all the time). These percentages were to be divided between the English, French, Italian, or Other categories, depending on the respondents' use of each of these languages in eleven different contexts. For the acculturation section, respondents were asked to read 21 statements and state whether they agreed or disagreed with each one of them. Each answer was recorded on a nine-point Likert scale. Respondents picked a point on the scale between 1 (strongly disagree) and 9 (strongly agree).

Part B measured eco-literacy or environmental knowledge. Eleven questions were asked to the respondents. Questions four, six, nine, ten and eleven were multiple choice, while the other questions required open-ended answers. The answers given to us by the respondents were intended to create an eco-literacy score for each respondent. This score

tells us how much a particular respondent knows about environmental and recycling issues.

Part C measured respondents' attitudes toward a variety of topics related to the environment. Respondents were asked to read 35 statements and state whether they agreed or disagreed with each one. Each answer was recorded on a nine-point Likert scale. Respondents picked a point on the scale between 1 (strongly disagree) and 9 (strongly agree).

Part D measured respondents' behaviour toward the environment. The first section contained one multiple-choice question on willingness to pay an air pollution tax on gasoline. Section two, three, and four contained a total of 24 questions asking the respondents how often they engaged in particular friendly/unfriendly behaviours. Each answer was recorded on a nine-point Likert scale. Respondents picked a point on the scale between 1 (never) and 9 (always).

Part E measured culture in terms of the individualism and collectivism dimensions. It is based on the work of Triandis (1993, 1995) on culture. Respondents were asked to answer eleven questions concerning certain aspects of culture. Each answer was recorded on a nine-point Likert scale. Respondents picked a point on the scale between 1 (false) and 9 (true).

Part F measured values and is based on the work done by Rokeach (1973) and Kahle (1983). The first section measured nine terminal values (desired end states of existence) and the second section measured eleven instrument values (preferable modes of behaviour). Both sections required respondents to rate each value in terms of its importance to themselves as guiding principles in their life. Each answer was recorded on

a nine-point Likert scale. Respondents picked a point on the scale between 1 (very unimportant) and 9 (very important). In addition, each section required the respondents to pick out the most important value in their daily life.

Part G measured demographics. Eleven questions were asked concerning: gender, marital status, age, income, family size, age of youngest child living at home, home ownership, place of residence (municipality), education, occupation, and employment status. Answers to these questions will help us to profile the sample used for the present research.

3. Data Collection

Within each of the census tracts in the selected municipalities, a number of streets were picked at random and efforts were made to survey as many households on these streets as possible until a quota of at least 200 usable sets of questionnaires were obtained for each target group.

The data distribution took place from October 2, 1996 to July 9, 1997 and was collected by Mr. Guido Barbaro-Forleo, a MS.c. student in Concordia University. The questionnaires were administered door to door. Data collection was done mostly on weekends and evenings when respondents were more likely to be at home. Qualifying respondents willing to participate in the survey were given a set of questionnaires in the language of their choice (English or French or Italian), accompanied by a prepaid envelope addressed to Prof. Michel Laroche, to be filled in at their own convenience and mailed directly to Concordia University. Based on previous surveys, a usable return rate of 30% was expected.

A total of 1606 questionnaires were distributed among English and French Canadians, 794 in English, 812 in French. For the Italian Canadian sample, 1259 questionnaires were

distributed as follows: 818 in English, 336 in Italian, and 105 in French. Table 1 shows the breakdown of questionnaires distributed and received (usable) by municipality.

**TABLE 1
QUESTIONNAIRE DISTRIBUTION**

English and French sample:

Municipality	No. of Census tracts	No. of Questionnaires Distributed	No. of questionnaire received (usable)
Beaconsfield	2	110	40
Candiac	1	55	27
Boucherville	2	106	45
St.Lambert	1	79	36
Longueuil	1	111	44
N.D.G.	2	86	35
Montreal	1	82	39
Montreal West	1	164	63
Westmount	2	186	77
Dollard-des-Ormeaux	1	62	15
Pointe Claire	1	133	46
St-Hubert	2	135	46
Dorval	1	50	16
Anjou	1	100	35
Verdun	1	38	15
Laprairie	1	25	7
Pierrefonds	1	84	29

Italian sample:

St-Leonard	10	727	142
Riviere-des-Prairies	4	532	135
TOTAL	36	2865	892

The rates of return are shown in Table 2. The total rate of return for usable questionnaires is 31%. It is noted that French-Canadians rank first on the return rate,

which is at 44%, followed by English-Canadians at 33% and Italian-Canadians at 22%. It appears that French-Canadians were more interested to participate in this research on environmental issues.

**TABLE 2
RETURNED QUESTIONNAIRES**

	English	French	Italians	Total
No. of questionnaires distributed	794	812	1259	2865
No. of questionnaires received by mail				986
No. of usable questionnaires	259	356	277	892
Rate of return (usable)	33%	44%	22%	31%
Percentage of total sample	29%	40%	31%	100%

Following the data collection, responses were coded and entered directly into a data file to be analyzed with the SPSS program. Questionnaires returned by non-qualifying respondents, or questionnaires containing a substantial amount of missing information were not entered in the data file. The data was verified and input errors were corrected.

4. Demographic Characteristics of the Sample

The demographic data helps us to profile the sample we used in this study. By studying the demographic characteristics of the sample, we will be able to understand the kind of individuals that participate in this research, i.e., which segment of the Quebec population they belong to. A breakdown of the distribution along with Chi-Square tests, is presented in Table 3.

Gender: Generally speaking, there were more female respondents than male respondents in each of the ethnic group, however the difference is not statistically significant ($X^2=1.24$).

Marital Status: within each ethnic group, the majority of the respondents are married/equivalent. It is also noticed that compared to English Canadians & French Canadians, the Italian respondents represent a much higher percentage in the single category and a much lower percentage in the category of separated/divorced/widowed ($X^2=32.09$, $\alpha=0.01$).

Age: about half of the respondents are in their middle ages between 30 to 49 years old (the age difference is statistically significant $X^2=92.65$, $\alpha=0.01$). This shows that our sample is composed largely of the middle-aged people in the population. Apart from this, Italian respondents are found to have a much higher percentage at the age range less than 29 years old, while English respondents represent a much higher percentage at 60 years and over.

Income: there are also statistically significant differences in income ($X^2=73.02$, $\alpha=0.01$). A striking high percentage of English (46.8%) and French (46.9%) respondents have income \$70,000 and over, while more Italian respondents have income between \$50,000-\$59,999. This shows the English and French samples are made up of affluent people, while majority of Italian respondents are less affluent.

Age of the children living at home: Italians are found to have the higher number. This also helps to explain why compared to English and French Canadians, Italians respondents are found to be more likely to have a larger-sized family.

**TABLE 3
DEMOGRAPHICS**

	English Percentage	French Percentage	Italians Percentage	Chi Square
(1). Gender				1.24
Male	38.7	41.2	43.4	
Female	61.3	58.8	56.6	
(2). Marital status				32.09 a
Single	7.9	16.7	23.2	
Married/Equiv.	81.5	75.1	73.9	
Sep./Div./Wid.	10.6	8.2	2.9	
(3). Age				92.65 a
Under 29 years	4.9	16.2	24.9	
30-39 Years	18.8	27.9	19.0	
40-49 Years	30.8	32.9	35.2	
50-59 Years	18.0	14.0	12.5	
60 Years and above	27.4	9.0	8.4	
(4). Income				73.02 a
<\$20,000	3.6	6.3	3.3	
\$20,000-\$29,999	8.7	6.0	11.9	
\$30,000-\$39,999	6.0	7.4	12.7	
\$40,000-\$49,999	13.5	10.5	16.4	
\$50,000-\$59,999	10.7	13.6	21.7	
\$60,000-\$69,999	10.7	9.4	15.6	
\$70,000 and above	46.8	46.9	18.4	
(5). Size of family				56.78 a
1	23.6	20.2	7.0	
2	20.3	23.4	14.0	
3	15.2	23.7	23.6	
4	27.8	23.1	35.4	
5	13.1	9.5	19.9	
(6). Home				23.03 a
Own home	84.2	84.9	95.9	
Rent	15.8	15.1	4.1	
(7). Education				89.02 a
High School	14.7	18.1	41.8	
Com. College, Cege.	18.8	26.3	26.7	
Undergrad Univ.	66.5	55.6	31.5	
(8). Employment Status				27.46 a
Other	34.3	26.3	26.1	
Part-time	23.8	13.3	14.0	
Full-time	41.9	60.4	59.9	
(9). Age of child	11.1103	10.0550	13.3103	9.39 a (F ratio)

a: p≤.01
b: p≤.05
c: p≤.10

Family size: comparatively more English and French respondents have a family size of four or less, whereas more Italian respondents have a family size of 5 or more. Also, a smaller percentage of Italians are found with a size of one. This demonstrates that compared to English and French respondents, Italians are more likely to have a larger size family.

Home ownership: it shows clearly that the majority of the respondents own their home. This variable is believed to be closely related to income. However, even though the Italian respondents are found, generally speaking, to have lower income than English and French respondents, much higher percentage of Italian respondents own their home ($X^2=23.03$, $\alpha=0.01$), which can be explained by the higher importance put on family by the Italians.

Education: comparatively more than half of the English and French respondents are university graduates, whereas a higher percentage of Italian respondents are high school graduates only.

Employment status: almost 60% of French and Italian respondent have a full-time job, while less English respondents work full time, and more are found to be more likely working part-time, or in other kind of job category (retired, homemaker, student, unemployed).

Overall, the above demographic variables help us to see that the profile of the sample in this research tends to be: female, married/equivalent, middle-aged (between the age of 30–49 years old, except in Italian sample where we see a higher percentage of individuals that are under 29 years old. Compared to French, Italians are younger, English are older), have higher than average income (except for the Italian sample where

a higher percentage of the respondents have an income between \$50,000-\$59,999, and a lesser percentage in \$70,000 and above range), have around two teenage children living with them (Italian respondents appear to have bigger family size), own a home (especially the Italians), are university graduates (except for the Italian sample where more respondents have higher school education only), and have a full-time job. The English and French respondents represent a more affluent, older and educated population than the traditional Quebec population, which according to Statistics Canada 1991, 60% of it have an income less than \$39,999 and the majority of it have lower education (32% elementary, 19% high school & 20% college) and 42% of it are at age less than 29 years old.

ANALYSIS AND INTERPRETATION

In order to facilitate the analyses, it is necessary to recode the variables and group them into more manageable number of variables. A description of the data reduction procedures follows.

1. Environmental attitudes

First, we ran Factor and Reliability analyses on the 35 statements describing environmental attitudes to a variety of topics in Section C of the questionnaire. The purpose of factor analyses is to group the 35 statements into a number of clearly identifiable factors and the items that do not fit into these factors will be deleted.

The factor analyses we conducted produced six clearly identifiable factors all having eigenvalues greater than one. An eigenvalue specifies how many items are captured by a particular factor. The more items captured by one factor the better, which is

exactly the primary purpose of factor analyses to effectively reduce the number of items into a set of clearly identifiable factors.

As can be seen in Table 4, each item in the factors has a factor loading greater than 0.6. A factor loading shows the correlation between the item in question and the other items in the factor. The six factors reduced the statements from 35 to 17, and explained 63.7% of the variance. We labelled each of the six factors based on the meaning that all the items under each factor covers.

We also ran reliability analyses to assess the internal consistency of each factor. Cronbach's Alpha coefficients for all the items in the factors for all samples and for each

**TABLE 4
FACTOR & RELIABILITY ANALYSES ON ENVIRONMENTAL ATTITUDES**

DESCRIPTION	ITEMS	F.LOADING	CR.ALPHA'S ENG./FRE./ITA.
FACTOR 1 Unconcerned for waste	Since Canada is such a large country, any pollution that we create is easily spread out and therefore of no concern to me. With so much water in Canada I don't see why people are worried about leaky faucets and flushing toilets. In Quebec we have so much electricity that we do not have to worry about conservation.	0.8101 0.8443 0.8422	0.75/0.71/0.88
FACTOR 2 Willing to pay more	I would be willing to spend an extra \$10 a week in order to buy less environmentally harmful products. I would accept paying 10% more taxes to pay for an environmental cleanup program. It is acceptable to pay 10% more for groceries that are produced, processed, and packaged in an environmental friendly way.	0.7542 0.7809 0.8363	0.75/0.73/0.72
FACTOR 3 Companies acting responsibly	Packaged food companies are acting responsibly toward the environment. Paper companies are concerned about the environment.	0.8441 0.8630	0.66/0.64/0.67
FACTOR 4 Ecology minded	Recycling will reduce pollution. Phosphate-free laundry detergents are good for the environment. Recycling is important to save natural resources.	0.7610 0.7078 0.6140	0.54/0.34/0.60
FACTOR 5 Environmental activist	There should be tougher anti-pollution laws, even if such laws might mean a decrease in our standard of living. I feel that the air I breathe is polluted most of the time. I feel the values in Canadian society have been a basic cause of the present environmental problems.	0.6139 0.6955 0.7352	0.54/0.38/0.59
FACTOR 6 Recycling is inconvenient	Recycling is too much trouble. I hate to wash out bottles for recycling. Keeping separate piles of garbage for recycling is too much trouble.	0.7357 0.7326 0.8410	0.62/0.73/0.71

sample were run respectively. From Table 4 we can see that all Cronbach's Alpha values are higher than .5 with the exception of Factor 4 and 5 for the French sample, which are comparatively much lower than for English and Italian samples. Unweighted means were calculated for each factor.

2. Environmental knowledge

Part B of our questionnaire contains eleven questions designed to test the respondents' environmental knowledge. Respondents were coded 0 for wrong answer and 1 for correct answer. Preliminary Factor and Reliability Analyses did not present any easily interpretable result, which indicates that the eleven questions needed to be rearranged. Out of the eleven questions, three deal specifically with the recycling aspect of environmental knowledge (Question 4, 5, 6), while the remaining questions cover respondents' general knowledge toward broader environmental issues. Based on this, three reliability analyses were performed.

First, we analyzed all of the eleven questions for the entire sample and each cultural group. The Cronbach's Alpha was .6871 for the entire sample and .6591/.4679/.7599 for English/French/Italian group. The second analysis was performed on all the questions covering general knowledge on environmental issues, which gives us a Cronbach's Alpha of .5397 for the entire sample and .7634/.4239/.8366 for English/French/Italian group. The last Reliability analysis was for the section of recycling knowledge and the Cronbach's Alpha was .7509 for the entire group and .4884/.4788/.5384 for English/French/Italian group. Based on these results, it is decided to use two knowledge scores: one for recycling knowledge and another for general knowledge toward environmental issues. The correct answers in each group were then added to obtain two

knowledge scores for each respondent. It is noticed that the Cronbach's Alpha for French group was relatively low, but marginally acceptable.

3. Behaviours

On page six and seven of our questionnaire, there are 4 sections of questions designed to measure the behaviour of the respondents. After running Factor and Reliability analyses on the items in the four sections, we realized our results were not clearly interpretable. Based on these results, it is decided to group the items into three logical groups.

The first logical group is composed of five questions dealing with environmentally friendly car usage and maintenance. Further analysis show that item seven from section three actually deals with the behaviour of car owners and should therefore be included with the first logical group. This brings the number of questions in the first logical group to six. The second logical group is composed of ten questions measuring various energy-saving and environmentally friendly activities. The third logical group contains nine questions measuring the purchase behaviours of respondents. Finally, the section measuring people's willingness to pay a tax on gasoline in order to help pay for the cost of reducing air pollution, is composed of a single question and therefore is not categorized as a group. Reliability analyses on each of the three groups were performed and results are reported below.

The first logical group is composed of the five questions dealing with environmentally friendly car usage and maintenance plus item seven from section three. A Cronbach's Alpha of .59 for the entire sample and .60/.49/.67 for English/French/Italian samples respectively, were satisfactory. The second logical group

is consisted of ten questions measuring various environmentally friendly activities. A Cronbach's Alpha of .63 for the entire sample and .66/.56/.73 for the English/French/Italian samples respectively were found satisfactory, too. The third logical group is made up of nine items measuring the purchase behaviours of respondents. Although a Cronbach's Alpha coefficients were very low (.32 for the entire sample and .39/.27/.20 for the English/French/Italian samples respectively), it was decided however to keep all items in one group to facilitate the analysis in this exploratory research.

Unweighted means were calculated for each of the three groups to produce a single measure for each one.

4. Culture

There are eleven questions on page 7 of our questionnaire designed to measure the cultural aspect of respondents in terms of the individualism and collectivism dimensions. These questions were adapted from the work done by Triandis (1995) on culture.

After running Factor and Reliability analyses, only two factors produced with good reliabilities. Results are reported in Table 5.

**TABLE 5
FACTOR AND RELIABILITY ANALYSES ON INDIVIDUALISM/COLLECTIVISM**

TABLE 5	Culture	F. Loadings	Cr. Alpha's Eng./Fren./Ita.
Factor 1: Collectivism			
	Entertain visitors even if they drop in at odd hours.	0.8767	.70/.65/.76
	Entertain even unwelcome guests.	0.8690	
Factor 2: Individualism			
	Place your parents in an old people's home or nursing home.	-0.8735	.63/.65/.52
	Ask your old parents to live with you. (reversed)	0.8428	

Factor one measures collectivism and groups question seven and eight together. Factor two measures individualism and groups question one and three together. With regard to factor two, question one had been reversed to “not to ask your old parents to live with you” to represent individualism characteristics. No other changes were made to the questions in either factor one or two. Unweighted mean values for items in the two factors were calculated for further analyses.

5. Profile of the environmentally concerned/unconcerned individual

The determination of environmentally friendly and unfriendly groupings was done through cluster analysis (Ward method), based on the respondents’ average score to the questions in the five factors of environmental consciousness and the three groups of environmentally friendly behaviour relating to the car, activities and products purchased.

An elbow test was also applied to examine successive drops in the average F-ratio (average between-cluster variance divided by average within-cluster variance for the ten variables) from one cluster solution to the next in a series of two to six clusters to help determine the final number of clusters to be used in this study (Kim, Laroche, & Lee, 1990). By examining the successive drops in average F-scores from one solution to the next (40.1, 24.1, 5.1, 6.2), beyond three clusters smaller amounts of between-group variance are explained, implying that the three-cluster solution appears to reflect adequately the group patterns in this study. The profiles of the three clusters based on their mean values of the nine measurement items on attitudes and behaviour are presented in Table 6 and Table 7 on page 45 & 46.

The mean values of the three clusters on the two factors measuring environmental knowledge are presented in Table 8 on page 46.

Statistically significant differences are found among the three clusters when the mean values of the collectivism and individualism factors are compared. Results are presented in Table 9 on page 47.

When comparing the mean importance ascribed to values among the three clusters, statistically significant differences are found on the following terminal values: sense of belonging, warm relationships with others, self-fulfillment, and self-respect, and instrumental values: courageous, helpful, honest, independent, loving, and responsible. Results are presented in Table 10 on page 48.

Table 11 on page 49 presents the results of the cross-tabulation of terminal and instrumental values.

**TABLE 6
ANOVA ON ATTITUDES**

FACTORS	CL1 n=132	CL2 n=419	CL3 n=342	F-VALUE	SCHEFFE TEST (P=.05)
Unconcerned for Waste	1.40 (mean) 1.09 (s.d.)	1.14 (mean) .40 (s.d.)	1.95 (mean) 1.56 (s.d.)	52.45 a	3,2; 3,1
Willing to pay more	2.55 1.17	6.73 1.53	4.26 1.62	479.45 a	3,1; 2,1; 2,3
Companies acting responsibly	4.46 1.65	4.06 1.98	4.56 1.79	7.39 a	3,2
Ecology minded	8.03 1.10	8.13 1.12	6.82 1.81	86.42 a	1,3; 2,3
Environmental Activist	6.60 1.52	7.00 1.29	6.02 1.46	46.63 a	1,3; 2,3; 2,1
Recycling is inconvenient	1.84 0.99	1.74 1.03	4.08 1.98	264.91 a	3,2; 1,3

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 7
ANOVA ON BEHAVIOURS**

BEHAVIOURS	CL1 n=132	CL2 n=419	CL3 n=342	F-VALUE	SCHEFFE TEST (P=.05)
Environmentally friendly activities	5.87 1.21	6.24 1.09	5.44 1.15	48.14 a	1,3; 2,3; 2,1
Purchase environmentally unfriendly products	3.34 0.87	3.28 0.95	3.78 0.92	29.02 a	3,2; 3,1
Environmentally friendly car usage and maintenance	6.03 1.47	6.12 1.59	4.86 1.26	76.99 a	1,3; 2,3
Tax on gasoline	0.36 0.37	0.65 0.28	0.46 0.35	53.55 a	3,1; 2,1; 2,3

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 8
ANOVA ON ENVIRONMENTAL KNOWLEDGE**

ITEMS	CL1 n=132	CL2 n=419	CL3 n=342	F-VALUE	SCHEFEE TEST (P=.05)
Questions 4,5,6 on recycling knowledge	0.90 0.18	0.85 0.22	0.82 0.25	7.00 a	1,3
All questions on environmental knowledge except 4,5,6	0.46 0.17	0.46 0.18	0.42 0.18	7.31 a	3,2

a: p≤.01
b: p≤.05
c: p≤.10

TABLE 9
ANOVA ON INDIVIDUALISM/COLLECTIVISM

CULTURE	CL1 n=132	CL2 n=419	CL3 n=342	F-VALUE	SCHEFFE TEST (P=.05)
Individualism (Factor 2)	4.93	4.27	4.64	4.37 b	1,2
Ask your parents to live with you (reversed).	2.52	2.52	2.4		
Place your parents in an old people's home or nursing home.					
Collectivism (Factor 1)	5.55	6.22	5.88	4.86 a	1,2
Entertain visitors even if they drop in at odd hours.	2.41	2.25	2.30		
Entertain even unwelcome guests.					

a: $p \leq .01$

b: $p \leq .05$

c: $p \leq .10$

**TABLE 10
ANOVA ON VALUES**

VALUES	CL1 n=132	CL2 n=419	CL3 n=342	F-VALUES	SCHEFFE TEST (P=.05)
TERMINAL VALUES:					
Sense of belonging	7.01 2.05	7.53 2.00	7.37 1.83	3.57 b	1,2
Warm relationships with others	7.94 1.40	8.11 1.47	7.80 1.58	4.03 b	3,2
Self-fulfillment	8.03 1.36	8.14 1.45	7.88 1.54	3.09 b	3,2
Self-respect	8.61 0.92	8.60 1.07	8.39 1.16	3.85 b	3,2
INSTRUMENTAL VALUES:					
Courageous	7.66 1.36	7.83 1.36	7.45 1.50	6.76 a	3,2
Helpful	7.42 1.54	7.77 1.24	7.21 1.60	14.74 a	3,2
Honest	8.62 0.81	8.60 0.86	8.13 1.38	20.03 a	2,3; 1,3
Independent	8.08 1.23	7.94 1.33	7.68 1.56	4.83 a	2,3; 1,3
Loving	8.06 1.25	8.11 1.28	7.85 1.43	3.66 b	3,2
Responsible	8.60 0.93	8.51 0.92	8.30 1.23	5.43 a	2,3; 1,3

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 11
CROSS-TABULATION OF TERMINAL/INSTRUMENTAL VALUES**

VALUES	CL1 %	CL2 %	CL3 %
TERMINAL VALUES:			
Warm relationships with others	20.2	23.6	13.0
Self-fulfillment	8.1	13.0	9.4
Security	16.1	7.7	12.1
Self-respect	25.0	22.0	25.1
A sense of accomplishment	16.1	16.2	18.2
INSTRUMENTAL VALUES:			
Honest	40.5	40.0	37.6
Loving	6.3	13.2	8.6
Responsible	21.4	20.5	24.8
Independent	9.5	8.1	10.5

Based on the information presented in these tables, we can profile the three clusters into an environmental friendly group (cluster 2), an environmental unfriendly group (cluster 3), and the middle-of-the-road group (cluster 1). Detailed explanation regarding how we reached the above conclusion follows.

Referring to Table 6 and 7 where results on attitude and behaviour are presented, Cluster 2 comes out consistently as the environmental friendly group. As of attitudes, they are very much concerned about the waste and are more ecology-minded; they do not think the companies are acting responsibly in dealing with the environment; they are willing to pay more to participate in environmental friendly activities; they are more likely to be involved in environmentally friendly activities and they do not think recycling is inconvenient.

In terms of behaviour, respondents in Cluster 2 are most likely to participate in environmentally friendly activities and environmentally friendly car usage and maintenance; they purchase the least environmentally unfriendly products and are willing to pay more for tax on gasoline in order to help to pay for the cost of reducing air pollution.

On the contrary, cluster 3, the environmentally unfriendly group, consistently demonstrates opposite attitudes and behaviours when compared to cluster 2. Cluster 1 appears to be the middle-of-the-road kind in terms of attitudes and behaviours, except it demonstrated the lowest level of willingness to pay more to participate in environmentally friendly activities and to pay on air pollution tax on gasoline. On this particular attitude and behaviour, cluster 1 becomes the environmentally unfriendly group, while cluster 3 becomes the moderate group. The Sheffe Tests at an alpha level of .05 show that cluster 1 (middle-of-the-road group) and cluster 2 (environmentally friendly group) do not differ significantly on their attitudes on factor 1 (unconcerned for waste), factor 3 (companies acting responsibly), factor 4 (ecology-minded) and factor 6 (recycling is inconvenient). This shows that these two groups have similar attitude with regards to these factors. The Sheffe Tests on behaviour also show that cluster 1 and 2 are similar when talking about purchasing of environmentally unfriendly products and environmentally friendly car usage and maintenance.

As far as environmental knowledge is concerned, cluster 3 (environmentally unfriendly group) again shows the lowest level of knowledge. Cluster 1 shows a higher level of knowledge on recycling, while cluster 2 does better on all the other questions, however the Scheffe Test at an alpha level of .05 shows no significant difference between

cluster 1 (middle-of-the-road) and cluster 2 (environmentally friendly group). Our results suggest that higher level of environmental knowledge is related to a more environmentally friendly group, which are similar to previous research findings that individuals with higher level of environmental knowledge demonstrate higher level of environmentally friendly behaviour (e.g., Amyx, De Jong, Lin, Chakraborty, & Wiener, 1994).

Table 9 presents the results on individualism and collectivism. The results clearly demonstrate that cluster 2 (environmentally friendly group) is more collectivist, which in line with previous research findings that collectivist people tend to be more environmentally friendly, while individualist people tend to be more environmentally unfriendly. Scheffe Tests with alpha at .05 show no statistically significant difference between cluster 1 (middle-of-the-road group) and cluster 3 (environmentally unfriendly group).

Table 10 contains the results on terminal values and instrumental values. Among the three groups, cluster 2 places the highest importance on all the values except for self-respect in terms of terminal values, and being honest, independent and responsible in terms of instrumental values, on which cluster 2 places only slightly lower values than cluster 1, however Sheffe Tests show no significant differences between these two groups on the value items just mentioned. Cluster 3 places the lowest importance on all values except on terminal value of sense of belonging, on which it places higher value than cluster 1, however no significant difference between cluster 1 and 3 on this item is detected when we run the Sheffe Test at an alpha level of .05. In one word, Sheffe Test demonstrates significant difference on all the terminal values except on “sense of

belonging”, and all instrumental values between cluster 2 (environmentally friendly group) and cluster 3 (environmentally unfriendly group), while cluster 1 tends to be somewhere in between.

Additional test on values was also performed. In the section on values, each respondent was also asked to state, out of the list, the one terminal and instrumental value that s/he considered to be the most important. A cross-tabulation analysis was applied to interpret the results, which are presented in Table 11. Only the most frequently mentioned instrumental and terminal values are presented in the table. We can see from the table that a much higher percentage of respondents in cluster 2 (environmentally friendly group) mentioned warm relationships with others to be the most important terminal value compared to the other two groups. This group of people care about their relationships with others, and this concern may in turn lead to a concern for the welfare of others with whom one is in frequently contact. Previous research has shown that this concern was positively related to environmentally friendly attitude. We also noticed that Cluster 3 (environmentally unfriendly group) places a much higher importance on self-respect and a sense of accomplishment, which seems to indicate that the individuals in this group need to accomplish things as a way to gain respect from the others. Comparing cluster 1 and 3, we can see that higher percentage of respondents in cluster 3 think a sense of accomplishment to be the most important value. With respect to instrumental values, cluster 2 (environmentally friendly group) places the most importance on being loving, which further suggests that these people care about the welfare of others. Cluster 1 (moderate group) is found placing the most importance on being honest. Cluster 3 (environmentally unfriendly group) places the most importance

on responsible and independent. Taking the results of our cross-tabulation on terminal and instrumental values as a whole, it appears that people in cluster 3 who place a higher importance on being independent tend to place a much lower importance on warm relationships with others. This in turn explains in certain way why this group of people are least environmentally friendly.

Finally, Chi-Square test on demographics variables were performed in order to profile the people in each cluster. Results are reported in Table 12.

**TABLE 12
CHI-SQUARE TEST FOR DEMOGRAPHICS**

VARIABLE	RANGE	CL1 %	CL2 %	CL3 %	CHI-SQUARE
Gender	Male	48.9	36.7	43.6	7.46 b
	Female	52.1	63.3	56.4	
Marriage status	Married/equivalent	16.7	27.0	21.1	7.39 b
	Sing./Sep./Wid.	83.3	73.0	78.9	
Age	less than 30 years	12.9	14.8	17.8	30.57 a
	30-39 years	22.7	20.8	25.1	
	40-49 years	34.8	29.4	36.5	
	50-59 years	8.3	18.1	12.3	
	60 years and over	21.2	16.9	8.2	
Employment status	Full-time	32.6	33.2	21.1	26.6 a
	Part-time	14.4	20.3	14.3	
	Other	53.0	46.5	64.6	
Ethnic Groups	English	27.3	34.6	24.0	24.07 a
	French	50.0	39.9	37.7	
	Italian	22.7	25.5	38.3	

a: p≤.01

b: p≤.05

c: p≤.10

Significant differences are found with regards to gender, marriage status, age, employment status and language. Respondents in cluster 2 (environmentally friendly group) tend to be female, but single/separated/widowed, which is inconsistent with previous research findings that environmentally friendly individuals tend to be married. However when we look closely at married/equivalent category, we still see a much higher percentage in cluster 2 (environmentally friendly group), which in certain way supports the previous findings that environmentally friendly individuals tend to be married.

With regards to age, the most significant difference that separates cluster 2 from cluster 1 and 3 appears in the age group of 50 –59 years. In this age group, more people are found in cluster 2, followed by cluster 3 and cluster 1. This is in line with previous research findings that environmentally friendly individuals tend to be older.

As of employment status, most people in cluster 2 do not have either a full-time or part-time job. A closer look at this category, we can see that the highest percentage appears at cluster 3 (environmentally unfriendly group), followed by cluster 1 (moderate group), and cluster 2 (environmentally friendly group) represented the lowest percentage. Meantime, we can also see that more people in cluster 2 have full-time or part-time job than cluster 1 and 3.

As far as ethnic group is concerned, more French are found in cluster 2 (environmentally friendly group), however more French are also found in cluster 1 (moderate group). Comparatively more Italians are found in cluster 3 that are identified as environmentally unfriendly group.

To conclude, environmentally friendly people tend to be female, slightly more Francophones, single/separated/widowed, between 50-59 years old and do not have a full-time or part-time job.

6. Comparison of English, French and Italian Canadians

This section is devoted to study the cross-cultural differences between English, French and Italian Canadians in their attitude and behaviour toward environmental activities, which is also the purpose of this study.

Prior to making any comparison between the three groups, it is necessary to examine the respondents' level of acculturation, which is measured by the questions contained in Part A of our questionnaire. A multidimensional index of ethnicity based on the respondents' self-identification and communication variables was created from the method developed by Laroche, Joy, & Kim (1989). The results are presented in Appendix B.

For the English sample, the correlation coefficients among the 11 variables measuring the percentage of English/French language in various contexts were computed and the reliability analysis was also conducted. The average correlation was .87, with a Cronbach's Alpha of .9830, indicating very high internal consistency. Similar analysis was conducted for the French sample and its average correlation and Cronbach's Alpha were .87 and .9832 respectively.

The 11 items of English language and French language usage were then averaged to produce a more manageable dimensional measure. A high correlation and Cronbach's alpha were found (.9996 and .9998, respectively). Thus, the English dimension measure was subtracted from the French dimension to produce a single measure of communication

pattern with a scale ranging from -100 (English spoken 100% of the time) to +100 (French spoken 100% of the time).

Next, when we look at the English self-identification measure *I consider myself to be English Canadian*, and the French self-identification measure *I consider myself to be French Canadian*, a high correlation and Cronbach's alpha were also found (.9617 for English Canadians, and .9804 for French Canadians, respectively). The English dimension was subtracted from the French dimension and this single measure of self-identity was converted into a percentage by dividing by 8 and multiplying by 100 to obtain a scale ranging from -100 (strongly English Canadian) to +100 (strongly French Canadian).

Correlation and reliability analysis on communication and self-identity were also conducted and high correlation and Cronbach's alpha were obtained (.9481 & .9654, respectively), indicating high internal consistency. Subsequently, an index of ethnicity was obtained by averaging the communication pattern and the self-identity measure.

Using this index of ethnicity a sample of 176 Strong English was obtained by selecting those respondents with an ethnicity index score of -90 or less. Likewise, a sample of strong French comprised of 169 respondents who ethnicity index was equal or greater than 90.

Similarly to the procedure used to divide the English and French samples into subgroups with varying degrees of acculturation toward English or French, the Italian sample was also segmented into various groups.

For the purpose of this exploratory study, three segments representing strong Italians, Italians acculturated toward the French culture (French Italians), and Italians

acculturated toward the English culture (English Italians), were deemed appropriate to represent the acculturation pattern of Italian-Canadians in the bi-cultural environment of Montreal.

The pattern of usage of the English, French, and Italian languages in the same eleven interpersonal and mass communication contexts used for the French and English Canadians, in addition to two more variables measuring the usage of these three languages when communicating with the spouse's relatives and when watching movies, were used for segmenting the Italian sample. As done for the French and English samples, missing values for the percentages of times each language used with spouse and spouse's relatives and with children, were replaced with the average of the total sample, in order to include in the analysis those who were single and/or without children.

In a fashion analogous to the one followed for the French- and English-Canadian sample, the unweighted averages of the relative usage of the three languages in the thirteen communication contexts were calculated; average correlations for these variables were high ranging from 0.49 to 0.62, likewise Cronbach alphas were very high ranging from .8984 to .9461 (see Appendix B) showing good internal consistency. Next, the relative percentage of the Italian language usage was subtracted from the relative percentage of the English language usage (E-I), and, likewise, the relative percentage of the Italian language usage was subtracted from the relative percentage of the French language usage (F-I). These two variables which reflected the relative use of the two languages versus Italian with values ranging from -100% to +100%, were subjected to a cluster analysis using the Ward method.

Given the purpose of this study, which is to segment Italian Canadians toward the

two dominant cultures, the three-cluster solution showed sufficient between-group differences both statistically and substantively. When looking at the changes in the average F-ratios from one solution to the next, the successive change in F-ratios from the two-group to the three-group solution was rather abrupt (540 to 393), but became relatively gradual from the three-group to the four-group solution (393 to 411) and thereafter. Univariate analyses of variance comparing the two input variables showed significant differences in both cases ($p < .01$). Figure 2 in Appendix C shows the pattern of the clusters on the E-I (x axis) and F-I (y axis) map. Table 13 shows that cluster 1 is very much acculturated toward the English culture, as they use English 73% of the time, compared to 11% and 16% of French and Italian spoken. Cluster 2, on the other hand, shows to be acculturated toward the French culture, as they have the highest percentage of French spoken (45%) compared to cluster 1 and 3 (11% and 22%, respectively). Cluster 3 represents the strong Italians who speak Italian 62% of the time.

TABLE 13
ANOVA ON IDENTIFY ITALIANS

	CL1 n=163	CL2 n=47	CL3 n=64	F-VALUE
INDEXE (E-I)	56.11 (mean) 16.99 (s.d.)	32.87 (mean) 17.18 (s.d.)	-44.74 (mean) 29.61 (s.d.)	549.22 a
INDEXF (F-I)	5.41 10.68	33.95 20.83	-40.00 27.37	235.54 a
English spoken	72.54 9.43	43.93 16.08	16.84 14.97	499.66 a
French spoken	11.02 5.55	45.01 17.46	21.58 13.48	189.38 a
Italian spoken	16.44 8.41	11.06 6.44	61.58 17.47	442.55 a

a: $p \leq .01$
b: $p \leq .05$
c: $p \leq .10$

Prior to conducting the comparisons among the groups, chi-square tests were performed to see if the groups differed in demographic characteristics. For the Strong English, English Italians, and Strong Italians, statistically significant differences are found for the following demographic variables: respondent's gender, marital status, age, family income, education, employment, and age of child living at home. For the Strong French, French Italians, and Strong Italians, all the above demographic variables are found to be statistically significant too except for marital status. Detailed results are reported in Table 14 & 15 respectively. Statistically significant demographic variables were used as covariates in the subsequent analyses of variance to control for effects due to demographic differences.

To test the hypotheses proposed in this study, a series of MANOVAs, controlling for the age of the child, employment status, education, income, age, marital status and gender, were run to examine the differences that exist between strong English, English Italians and strong Italians. Another series of MANOVAs were conducted to compare strong French, French Italians and strong Italians, with the same covariants, except for marital status, which was not significant. Results are presented in Table 16 to 21. Detailed discussion on each of the tables follows.

**TABLE 14
CHI-SQUARE TEST FOR DEMOGRAPHICS**

VARIABLE	RANGE	STRONG ENG. % n=176	ENG. ITA. % n=162	STRONG ITA. % n=64	CHI-SQUARE
Gender	Male	33.0	36.8	50.0	5.86 c
	Female	67.0	63.2	50.0	
Marital status	Sing/Sep./Div.	20.3	31.3	14.1	9.57 a
	Married	79.7	68.7	85.9	
Age	Less than 40 years old	22.0	58.3	12.5	121.33 a
	40 to 49 years	28.2	37.4	21.9	
	50 years and over	49.7	4.3	65.6	
Income	Less than \$30,000	14.1	10.4	26.6	49.12 a
	\$30,000 to \$39,999	5.1	10.4	17.2	
	\$40,000 to \$49,999	13.6	17.8	10.9	
	\$50,000 to \$59,999	15.8	30.1	32.8	
	\$60,000 and over	51.4	31.3	12.5	
Education	High school or less	15.3	31.3	75.0	96.1 a
	College	20.9	33.1	12.5	
	University degree and above	63.8	35.6	12.5	
Employment	No work	39.5	25.8	37.5	25.42 a
	Part-time	27.1	16.0	10.9	
	Full-time	33.3	58.3	51.6	
Age of child living at home		5.8	8.0	15.5	29.0 a

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 15
CHI-SQUARE TEST FOR DEMOGRAPHICS**

VARIABLE	RANGE	STRONG FREN.	FREN. ITA.	STRONG ITA.	CHI-SQUARE
		% n=168	% n=47	% n=64	
Gender	Male	37.3	57.4	50.0	7.48 b
	Female	62.7	42.6	50.0	
Martital status (not significant)	Sing./Sep./Div.	24.3	23.4	14.1	2.92
	Married	75.7	76.6	85.9	
Age	Less than 40 years old	36.1	36.2	12.5	38.31 a
	40 to 49 years	36.1	46.8	21.9	
	50 years and over	27.8	17.0	65.6	
Income	Less than \$30,000	10.7	6.4	26.6	32.96 a
	\$30,000 to \$39,999	9.5	6.4	17.2	
	\$40,000 to \$49,999	11.8	8.5	10.9	
	\$50,000 to \$59,999	21.3	27.7	32.8	
	\$60,000 and over	46.7	51.1	12.5	
Education	High school or less	18.9	31.9	75.0	65.78 a
	College	29.0	25.5	12.5	
	University degree and above	52.1	42.6	12.5	
Employment	No work	30.2	10.6	37.5	10.49 b
	Part-time	14.2	14.9	10.9	
	Full-time	55.6	74.5	51.6	
Age of child living at home		6.4	8.6	14.5	24.8 a

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 16
MANOVA ON ATTITUDE**

FACTORS	Strong Eng.	Eng. Italian	Strong Ita.	F-VALUE
Unconcerned for waste	1.44 (adj. mean) <i>1.05 (s.d.)</i>	1.68 (adj. mean) <i>1.35 (s.d.)</i>	1.99 (adj. mean) <i>1.63 (s.d.)</i>	2.78 c
Willingness to pay more (not significant)	5.55 <i>2.32</i>	5.05 <i>0.02</i>	5.30 <i>2.28</i>	1.38
Companies acting responsibly	3.73 <i>1.96</i>	4.34 <i>1.69</i>	4.72 <i>2.07</i>	5.42 a
Ecology minded (not significant)	7.68 <i>1.71</i>	7.54 <i>1.43</i>	7.30 <i>1.73</i>	0.91
Environmental activist	6.90 <i>1.47</i>	6.27 <i>1.47</i>	6.44 <i>1.57</i>	5.13 a
Recycling is inconvenient	2.48 <i>1.74</i>	2.94 <i>1.89</i>	3.28 <i>2.19</i>	3.35 b

FACTORS	Strong Fren.	Fren. Italian	Strong Ita.	F-VALUE
Unconcerned for waste	1.38 <i>0.58</i>	2.06 <i>1.87</i>	1.77 <i>1.63</i>	6.28 a
Willingness to pay more (not significant)	4.84 <i>2.05</i>	4.98 <i>1.94</i>	5.19 <i>2.28</i>	0.52
Companies acting responsibly (not significant)	4.77 <i>1.84</i>	4.48 <i>1.62</i>	4.71 <i>2.07</i>	0.4
Ecology minded	8.12 <i>1.23</i>	7.29 <i>1.82</i>	7.30 <i>1.73</i>	8.24 a
Environmental activist	6.94 <i>1.25</i>	6.20 <i>1.44</i>	6.50 <i>1.57</i>	5.43 a
Recycling is inconvenient (not significant)	2.76 <i>1.93</i>	2.53 <i>1.45</i>	3.29 <i>2.19</i>	1.99

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 17
MANOVA ON BEHAVIORS**

BEHAVIORS	Strong Eng.	Eng. Italian	Strong Ita.	F-VALUE
Environmentally friendly car usage and maintenance (not significant)	5.71 (adj.mean) <i>1.62 (s.d.)</i>	5.76 (adj.mean) <i>1.51 (s.d.)</i>	6.07 (adj.mean) <i>1.66 (s.d.)</i>	0.88
Environmentally friendly activities	5.86 <i>1.35</i>	5.79 <i>1.17</i>	6.56 <i>1.34</i>	6.62 a
Purchase of environmentally unfriendly products	3.32 <i>0.92</i>	3.66 <i>0.91</i>	3.96 <i>0.92</i>	9.39 a
Tax on gasoline (not significant)	0.57 <i>0.34</i>	0.53 <i>0.34</i>	0.57 <i>0.33</i>	0.53

BEHAVIORS	Strong Fren.	Fren. Italian	Strong Ita.	F-VALUE
Environmentally friendly car usage and maintenance (not significant)	5.50 <i>1.64</i>	5.64 <i>1.44</i>	6.00 <i>1.66</i>	1.54
Environmentally friendly activities	5.84 <i>1.09</i>	6.21 <i>0.95</i>	6.59 <i>1.34</i>	7.34 a
Purchase of environmentally unfriendly products	3.22 <i>0.86</i>	3.77 <i>1.06</i>	3.92 <i>0.92</i>	12.52 a
Tax on gasoline	0.45 <i>0.35</i>	0.50 <i>0.34</i>	0.58 <i>0.33</i>	2.43 c

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 18
MANOVA ON ENVIRONMENTAL KNOWLEDGE**

ITEMS	Strong Eng.	Eng. Italian	Strong Ita.	F-VALUE
Question 4,5,6 on recycling knowledge (not significant)	0.81 (adj.mean) <i>0.24 (s.d.)</i>	0.80 (adj.mean) <i>0.27 (s.d.)</i>	0.73 (adj.mean) <i>0.33 (s.d.)</i>	1.48

All questions on environmental knowledge except 4,5,6	0.45 <i>0.17</i>	0.38 <i>0.17</i>	0.31 <i>1.6</i>	13.45 a
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ITEMS	Strong Fren.	Fren. Italian	Strong Ita.	F-VALUE
Question 4,5,6 on recycling knowledge	0.89 <i>0.13</i>	0.76 <i>0.27</i>	0.73 <i>0.33</i>	10.78 a

All questions on environmental knowledge except 4,5,6	0.48 <i>0.16</i>	0.37 <i>0.21</i>	0.30 <i>0.16</i>	20.87 a
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a: $p \leq 0.01$

b: $p \leq 0.05$

c: $p \leq 0.10$

TABLE 19
MANOVA ON INDIVIDUALISM/COLLECTIVISM

CULTURE	Strong Eng.	Eng. Italian	Strong Ita.	F-VALUE
Individualism Ask your old parents to live with you (reversed). Place your parents in an old people's home or nursing home.	4.63 (adj.mean) <i>2.56 (s.d.)</i>	3.44 (adj.mean) <i>1.96 (s.d.)</i>	3.00 (adj.mean) <i>1.96 (s.d.)</i>	11.46 a
Collectivism Entertain visitors even if they drop in at odd hours. Entertain even unwelcome guests. (not significant)	6.40 <i>2.12</i>	6.35 <i>2.29</i>	6.11 <i>2.54</i>	0.27
Culture	Strong Fren.	Fren. Italian	Strong Ita.	F-VALUE
Individualism Ask your old parents to live with you (reversed). Place your parents in an old people's home or nursing home.	5.51 <i>2.40</i>	3.46 <i>2.24</i>	3.13 <i>1.96</i>	23.95 a
Collectivism Entertain visitors even if they drop in at odd hours. Entertain even unwelcome guests.	5.21 <i>2.36</i>	6.30 <i>2.23</i>	6.37 <i>2.54</i>	5.73 a

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 20
MANOVA ON TERMINAL VALUES**

VALUES	Strong Eng.	Eng. Italian	Strong Ita.	F-VALUE
Excitement	5.86 (adj.mean) <i>2.27 (s.d.)</i>	6.39 (adj.mean) <i>1.84 (s.d.)</i>	5.77 (adj.mean) <i>2.38 (s.d.)</i>	2.33 c
Warm relationship with others	8.23 <i>1.68</i>	7.86 <i>1.45</i>	7.56 <i>1.91</i>	3.69 b
Self-fulfillment	8.08 <i>1.73</i>	7.93 <i>1.40</i>	7.11 <i>2.23</i>	5.36 a

VALUES	Strong Fren.	Fren. Italian	Strong Ita.	F-VALUE
Excitement	4.02 <i>2.33</i>	5.63 <i>2.33</i>	5.78 <i>2.38</i>	13.13 a
Self-fulfillment	8.12 <i>1.16</i>	7.95 <i>1.34</i>	7.15 <i>2.23</i>	6.70 a

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 21
MANOVA ON INSTRUMENTAL VALUES**

VALUES	Strong Eng.	Eng. Italian	Strong Ita.	F-VALUE
Clean	7.09 (adj.mean) <i>1.85 (s.d.)</i>	7.95 (adj.mean) <i>1.54 (s.d.)</i>	8.09 (adj.mean) <i>1.56 (s.d.)</i>	9.35 a
Honest (not significant)	8.49 <i>1.32</i>	8.38 <i>1.17</i>	8.17 <i>1.27</i>	1.1
Self-controlled	7.39 <i>1.80</i>	7.99 <i>1.23</i>	7.80 <i>1.63</i>	4.1 b

VALUES	Strong Fren.	Fren. Italian	Strong Ita.	F-VALUE
Obedient	5.62 <i>2.22</i>	6.94 <i>2.03</i>	7.22 <i>2.09</i>	11.82 a
Responsible	8.62 <i>0.65</i>	8.28 <i>1.23</i>	8.38 <i>1.23</i>	2.76 c

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 22
CROSS-TABULATION OF TERMINAL/INSTRUMENTAL VALUES**

VALUES	Strong Eng. %	Eng. Italian %	Strong Ita. %
TERMINAL VALUES:			
Warm relationships with others	25.3	9.9	15.8
Security	7.8	21.2	17.5
Self-respect	25.3	14.6	26.3
A sense of accomplishment	15.6	20.5	15.8
INSTRUMENTAL VALUES:			
Honest	39.6	34.5	34.5
Independent	7.3	11.5	12.1
Loving	15.2	14.9	8.6
Responsible	18.9	20.3	17.2

VALUES	Strong Fren. %	Fren. Italian %	Strong Ita. %
TERMINAL VALUES:			
Warm relationships with others	21.9	15.9	15.8
Self-fulfillment	14.8	11.4	0.0
Security	7.1	9.1	17.5
Self-respect	29.0	20.5	26.3
A sense of accomplishment	9.7	22.7	15.8
INSTRUMENTAL VALUES:			
Honest	44.2	46.7	34.5
Responsible	28.2	13.3	17.2
Loving	6.1	11.1	8.6
Independent	6.1	4.4	12.1

Table 16 on page 62 reports the result of MANOVA on attitude. When looking at strong English, English Italians and strong Italians, they hold significant different attitude on all factors except factor 2 (willingness to pay more) and factor 4 (ecology minded). Strong English tend to place the most importance on environmental activism and do not think that companies are acting responsibly toward the environment. They are more concerned about the waste and do not think recycling is inconvenient. Compared to strong English, strong Italians demonstrate the opposite attitudes: they are less likely to be environmental activists and are more likely to think that companies are acting responsibly toward the environment; they are less concerned about waste and think recycling is inconvenient. There is no significant difference in their attitudes when we look at the factors of “willingness to pay more” and “ecology-mindedness”. English Italians are acculturated toward the English culture on their attitudes regarding waste and recycling, as well as their attitude regarding whether the companies are acting responsibly, which can be seen from their in-between attitude scores among the three groups. However we do not see any evidence of acculturation on factor 5 (environmental activist) where English Italians are the group that are least likely to be environmental activists. This indicates that English and Italians have different attitudes with respect to environmental activism.

Similar analysis was also run for the group of strong French, French Italians and strong Italians to study if there are any significant differences on their environmental attitude. Table 16 shows significant differences with respect to their attitude on factor 1 (unconcerned for waste), factor 4 (ecology minded) and factor 5 (environmental activist). The results show that compared to strong Italians, strong French tend to be more ecology-

minded; they are more concerned about waste and put more importance on environmental activism. Little evidence of acculturation was found on all the factors, except on factor 2, where French Italians move closer to French with respect to their willingness to pay more to participate in environmentally friendly activities, but this factor is not statistically significant. This indicates that French and Italians hold different attitudes on a majority of environmental issues.

Table 17 on page 63 contains the MANOVA result on behavior. Overall, strong English and strong French purchase less environmentally unfriendly products than strong Italians, however the latter participate more in environmentally friendly activities, despite of their less positive environmental attitude. Contrary to what we just discussed in the previous section that strong English and strong French have a much stronger positive attitude toward environmental issues, e.g., they are more concerned about waste and do not think recycling is inconvenient, and they are more likely to be environmentally activists, etc., they are less willing to change their behavior to the benefit of the environment, except on their purchasing decisions. This seems to indicate that the respondents' attitudes do not necessarily predict their behavior.

A possible explanation for the above findings regarding strong French behavior might be found in the study of Laroche (1996). He found that French Canadians place more importance on "joie-de-vivre" and the expression of "joie-de-vivre" is often used to characterize French Canadians attitude of looking for good things in life. Thus, if French consumers like a product, they will buy it regularly, regardless of price.

The data shows strong evidence that Italians are acculturated toward the two dominant cultures in their behaviours. Italians are acculturated toward the English culture

on the first 3 factors and the evidence can be seen from their in-between means (5.76, 5.79 and 3.66 respectively). Meanwhile, Italians are also acculturated toward the French culture on all their behaviour aspects with the value of mean as 5.64, 6.21, 3.77 and 0.50 respectively. It is interesting to see that strong English and strong Italians have the same mean of 0.57 regarding tax on gasoline, however English Italians have a lower level of 0.53 compared to the other two groups, but no statically significant difference is found on this factor. Marginal significant differences are found between strong French and strong Italians. This might indicate strong English and Strong Italians have very similar behaviour patterns regarding tax on gasoline.

Table 18 on page 64 contains the MANOVA on environmental knowledge. The results show that strong French tend to be the most knowledgeable group on all environmental issues, followed by the acculturated French Italians. Strong Italians are found with the lowest environmentally knowledge score. Significant differences are found only on general environmental knowledge between strong English/English Italians/strong Italians; still strong Italians turn out to be least knowledgeable group among these three groups.

There is clear evidence of acculturation when we look at environmental knowledge. When we compare English and Italians, we can see that English Italians, the acculturated group, move closer toward the English culture. Although the difference on recycling knowledge is not statistically significant, the direction is on the right track. Similar patterns are found when comparing French and Italians, and the differences on both recycling related questions and general environmental knowledge are significant. This result suggests that in the process of acculturation toward the two dominant cultures, both

English Italians and French Italians improve their environmental knowledge and move closer to the two dominant cultures.

Table 19 on page 65 reports the MANOVA on individualism and collectivism. The data shows that strong Italians are more collectivists, while strong English and strong French tend to be more individualists than strong Italians. It is noticed that strong English do not differ significantly from strong Italians on the measurement of collectivism and have a higher score than strong French (6.40 vs. 5.21), which contradicts previous research that Anglophones tend to be more individualists than Francophones and Italians (e.g., Laroche, Toffoli, Kim & Muller, 1996; Jansen 1988, etc.). One of the possible explanations might be due to the measures we used in this study, which are too narrow in perspective and therefore not capturing the constructs of individualism and collectivism in general.

There is clear evidence showing that Italians are acculturated toward both the English culture and the French culture. English Italians are found to move closer to strong English with mean value of 3.44 on individualism measurement, while French Italians have means of 3.46 & 6.30 for individualism and collectivism measurements respectively. In our literature review, we mentioned that in an individualist culture, the locus of control tends to be more internal oriented, the consumers do seem to perceive the purchasing behaviour of an individual as one potential opportunity to improve environmental condition. This helps to explain the finding that English Italians, acculturated toward the English culture in terms of their level of individualism, purchase less environmentally unfriendly products compared to strong Italians. Same logic also applies for French Italians.

Table 20 on page 66 contains MANOVA on terminal values. The data clearly indicates that strong English place the most importance on warm relationship with others and self-fulfillment. Comparing French with Italians, it is found that strong Italians place a higher importance on excitement, while French put more weight on self-fulfillment. Strong Italians are also found to put less importance on warm relationships with others comparing to strong English. This can be explained by previous research findings that everything in Italy is revolved around the family and little trust is extended to outsiders beyond the family circle (Jansen 1988; Fandetti & Gelfand 1983). Strong French appear to place the least importance on excitement, which is in agreement with the previous research findings that French Canadians tend to be more conservative in their attitude and are less willing to take risks (Laroche, Toffoli, Kim & Muller 1996).

Evidence of acculturation toward the two dominant cultures can be found on all the terminal values that reach the significant level. There appears to be an over-shooting effect on the English Italians group, which have a mean value of 6.39 on excitement compared to the strong English at 5.86 and strong Italians at 5.77. The English Italians are found to be closer to strong English group when self-fulfillment is involved. Same scenario happens for French Italians group. The effect of acculturation is not as strong when we look at the value of warm relationship with others, where English Italians are found to be closer to strong Italians.

The results of MANOVA on instrument values are presented in Table 21 on page 66. The first thing that we notice is that strong Italians put the most importance on being clean (8.09) compared to strong English (7.09) and English Italians (7.95). This is in agreement with previous research findings that an Italian family is expected to display a

good outer appear, with emphasis on neatness (Jansen 1988). Strong Italians are also found to put more emphasis on self-controlled, which can be explained by its cultural orientation to be more collectivists. Same logic applies to strong Italians who tend to put more importance on obedience compared to strong French. Finally, strong English put more importance on honesty than strong Italians, though not significant, while strong French put more importance on responsibility than strong Italians and the difference is marginally significant.

There is also evidence of acculturation, e.g., English Italians are closer to strong English on the importance they put on honesty, though the difference is not significant. When the values of cleanness and self-controlled are involved, English Italians are less acculturated toward the English culture. French Italians are found less acculturated toward the French culture when we look at the values of obedience and responsibility. This seems to indicate that Italians are less acculturated toward the two dominated cultures when the values that are important to their own culture are involved.

In order to better profile the groups with respect to values, we cross-tabulated the responses to the most important values. Table 22 on page 67 presents our results. The table shows that with regards to terminal values, warm relationships with others is valued more by strong English and strong French than by strong Italians. In addition, a lower percentage of strong Italians picked self-respect to be the most important terminal value than strong French did. We also notice that fairly equal percentage of strong Italians and strong English picked self-respect as the most importance terminal value for them. With regards to security and a sense of accomplishment, English Italians are found placing the highest importance when comparing English and Italians. Strong Italians are found value

the most on security when we compare French and Italians. When we look at the value of a sense of accomplishment, we can see that the two acculturated groups, i.e. English Italians and French Italians, put the highest importance among all the groups.

With regards to instrumental values, we see that strong English value being honest the most, while English Italians and strong Italians have almost the same percentage score. This indicates that English Italians are not very acculturated toward the English culture with regards to being honest. When we turn to the group of French and Italians, we can see that being honest is valued the most by French Italians, closely followed by strong French, which might indicate a over-shooting phenomenon. The table also shows that strong Italians value the most of being independent, English Italians demonstrate a fairly similar percentage, however French Italians showed a much lower value. This might indicate that when being independent is involved, English Italians are less acculturated toward the English culture, while over-shooting happened on French Italians. With regards to the value of loving, strong English value it the most, followed closely by English Italians, which again indicate the possibility of acculturation. Finally, being responsible is valued the most by English Italians, however the percentages of strong English and strong Italians are fairly close. Comparing French and Italians, strong French place more importance on being responsible. Here again, we can observe the effect of over-shooting on both English Italians and French Italians, and the only difference is the direction of over-shooting.

To summarise the results contained in the MANOVA tables discussed before, the data indicates that the strong English group holds strong positive environmental attitudes with regards to environmental activism and they do not think the companies are acting

responsibly toward the environment. They are concerned about waste and do not think recycling is inconvenient. Despite their positive environmental attitudes and higher level of environmental knowledge, they only exhibit their environmentally friendly behaviour in purchasing less environmentally unfriendly products. They value warm relationship with others and self-fulfilment with respect to terminal values, and honesty in terms of instrumental values. Cross-tabulation of terminal and instrumental values also shows that higher percentage of strong English value being loving with respect to instrument value. They are individualist.

Strong French are ecology-minded and are prone to be environmental activists. They are concerned about waste, but in certain way think recycling is inconvenient. They do not participate in environmentally friendly activities and car usage and maintenance, except for purchasing less environmentally unfriendly products, although they hold a strong positive environmental attitude and have more environmental knowledge. They value self-fulfilment and responsibility with respect to terminal and instrument values respectively. Cross-tabulation of terminal and instrumental values also shows that higher percentage of strong French value warm relationships with others and self-respect with regards to terminal values, and being honesty and responsible with respect to instrumental values than strong Italians. They tend to be more individualist.

Strong Italians are less concerned about waste and think recycling is inconvenient. They also think companies are acting responsibly toward the environment. They have the lowest level of environmental knowledge, however they participate the most in environmentally friendly activities and car usage and maintenance, but at the same time they also purchase more environmentally unfriendly products. A possible explanation for

this finding might be found when we refer back to Table 3 on page 37, which shows that majority of our Italian respondents are less affluent. It is possible that the economic restraint leads them to pay more attention on energy-saving activities, which turns out to be environmentally friendly. Meanwhile, it is also possible that economic restraint prevents them from purchasing environmentally friendly products, since most of which are more expensive than less environmentally friendly products. When we look at values, strong Italians value excitement with regards to terminal values, though not as much as strong English do. With respect to instrumental values, they value cleanness, self-control and obedience. In addition, cross-tabulation of terminal and instrumental values also shows that strong Italians score the highest on being independent. Finally, they are collectivists, which from a different perspective explains our finding that strong Italians purchase more environmentally unfriendly products, as previous studies suggest that in a collectivist culture, a consumer does consider the negative impact of goods on the environment before purchasing, however s/he does not seem to perceive the purchasing behaviour of an individual as one potential opportunity to improve environmental condition.

English Italians are acculturated toward the English culture on their attitudes toward the environment issues. Their environmental knowledge level is similar or close to that of the strong English. Compared to strong Italians, they are more concerned about waste and less likely to think that recycling is inconvenient; they are less likely to think companies are acting responsibly toward the environment and less prone to be environmental activists; they participate less in environmentally friendly activities, however they also purchase less environmentally unfriendly products. English Italians put the highest

importance on excitement and their score of self-fulfilment is similar to that of strong English. When clean and self-controlled values are involved, they stay very close to strong Italians and are not much acculturated. In addition, cross-tabulation of terminal and instrumental values also shows that English Italians score the highest on security with regards to terminal values. Finally, they are a bit more individualist than strong Italians are.

French Italians are not concerned about waste, but when recycling is involved, they do not think it is inconvenient. Similar to English Italians, French Italians are less prone to be environmental activists. Their environmental knowledge level is improved compared to the strong Italians, however still much lower than that of strong French. Compared to strong Italians, French Italians participate less in environmentally friendly activities and pay less on tax on gasoline, however they purchase less environmentally unfriendly products. They are less acculturated toward the French culture on being obedient and responsible with regards to instrumental value, and excitement with respect to terminal value, however they are more acculturated toward the French culture when self-fulfilment is involved. Also, cross-tabulation of terminal and instrumental values shows that French Italians score higher on a sense of accomplishment with regards to terminal values, and honesty and loving with regards to instrumental values than strong French and strong Italians. They are also collectivist, similar to strong Italians.

7. Comparison of Individualists and Collectivists

In this section we will examine the respondents' environmental friendliness based upon their cultural orientation, i.e. individualism vs. collectivism. In order to achieve this goal, we divided our sample into two groups, An Individualist group and a Collectivist

group using cluster analysis. The variables used to create the two clusters consisted of the mean of the six questions reflecting a collectivistic orientation and the mean of the five questions reflecting an individualistic orientation. The two variables were then subjected to a cluster analysis using the ward method. A series of ANOVAs were run to examine the differences that exist between Individualists and Collectivists with respect to environmental attitudes, behaviours, knowledge, and demographic characteristics. Results are presented in Table 24 to 29 on page 80-82. Detailed explanation on each of the tables follows.

The ANOVA results in Table 23 on page 79 helped us identify the two clusters. The results clearly indicate that group 1 (N = 374) is comprised of individualists, and group 2 (N = 468) is composed of collectivists. Statistically significant differences between group 1 (individualists) and group 2 (collectivists) are evident at $p < .01$.

Table 24 on page 80 presents the results on attitudes comparing individualists and collectivists. The results are mixed; however we can still see that individualists and collectivists hold different attitudes toward environmental problems. On the one hand, Group 1, the individualists, are more concerned about waste, they are ecology-minded and are prone to be environmental activists, but they are less willing to pay more, albeit these last three attitudes are marginally significant only. Group 2, the collectivists, they are less concerned about waste, but they are more willing to pay more. So, when willingness to pay more (to participate in environmentally friendly activities) is not involved, individualists are more environmentally friendly, while collectivists are found to be more environmentally friendly with respect to willingness to pay more. This result, in certain way, contradicts the previous finding that although consumers in collectivist

cultures are concerned about environmental problems, they do not perceive the purchasing behaviour of an individual as one potential opportunity to improve the environmental conditions (Tang & Chan, 1998).

TABLE 23
ANOVA ON INDIVIDUALISM/COLLECTIVISM

CULTURE	GROUP 1	GROUP 2	F-VALUE
Individualism			
Place your parents in an old people's home or nursing home.	3.57 (mean) <i>1.26 (s.d.)</i>	3.07 (mean) <i>1.28 (s.d.)</i>	32.61 a
Prefer going to a cocktail party rather than going to dinner with four of your close friends.			
Spend money (e.g., send flowers) rather than take the time to visit an ailing friend.			
Live far from your parents.			
Show resentment toward visitors who interrupt your work.			
Collectivism			
Ask your old parents to live with you.	3.77	5.25	304.36 a
Stay with friends, rather than at a hotel, when you go to another town (even if you have plenty of money).	<i>1.22</i>	<i>1.22</i>	
Ask close relatives for a loan.			
Entertain visitors even if they drop in at odd hours.			
Entertain even unwelcome guests.			
Have parents who consult your fiancé(e)'s parents extensively, before they decide whether you two should get married.			

a: $p \leq .01$

b: $p \leq .05$

c: $p \leq .10$

TABLE 24
ANOVA ON ATTITUDES

FACTORS	GROUP 1	GROUP 2	F-VALUES
Unconcerned for waste	1.38 (mean) <i>1.01 (s.d.)</i>	1.61 (mean) <i>1.29 (s.d.)</i>	8.42 a
Willingness to pay more	4.95 <i>2.27</i>	5.32 <i>2.09</i>	6.02 b
Companies acting responsibly (not significant)	4.26 <i>1.93</i>	4.32 <i>1.80</i>	0.17
Ecology minded	7.71 <i>1.51</i>	7.53 <i>1.60</i>	2.90 c
Environmental activist	6.66 <i>1.42</i>	6.48 <i>1.46</i>	3.24 c
Recycling is inconvenient (not significant)	2.68 <i>1.91</i>	2.64 <i>1.79</i>	0.12

a: p≤.01

b: p≤.05

c: p≤.10

TABLE 25
ANOVA ON ENVIRONMENTAL KNOWLEDGE

ITEMS	GROUP 1	GROUP 2	F-VALUE
Questions 4,5,6 on recycling knowledge (not significant)	0.86 (mean) <i>0.21 (s.d.)</i>	0.84 (mean) <i>0.23 (s.d.)</i>	2.57
All 11 questions on environmental knowledge except 4,5,6,	0.46 <i>0.18</i>	0.44 <i>0.18</i>	3.04 c

a: p≤.01

b: p≤.05

c: p≤.10

**TABLE 26
ANOVA ON BEHAVIORS**

BEHAVIORS	GROUP 1	GROUP 2	F-VALUE
Environmentally friendly car usage and maintenance	5.43 (mean) <i>1.49 (s.d.)</i>	5.71 (mean) <i>1.59 (s.d.)</i>	6.56 a
Environmentally friendly activities	5.73 <i>1.17</i>	5.97 <i>1.16</i>	9.08 a
Purchase of environmentally friendly products (not significant)	3.50 <i>0.93</i>	3.50 <i>0.97</i>	0.00

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 27
ANOVA ON VALUES**

VALUES	GROUP 1	GROUP 2	F-VALUE
TERMINAL VALUES:			
Fun and enjoyment of life	7.99 (mean) <i>1.41 (s.d.)</i>	7.75 (mean) <i>1.63 (s.d.)</i>	5.09 b
INSTRUMENTAL VALUES:			
Helpful	7.36 <i>1.36</i>	7.65 <i>1.45</i>	8.68 a
Obedient	5.96 <i>2.23</i>	6.52 <i>2.12</i>	13.55 a
Self-controlled	7.45 <i>1.58</i>	7.69 <i>1.46</i>	5.10 b

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 28
CROSS-TABULATION OF TERMINAL/INSTRUMENTAL VALUES**

VALUES	GROUP 1 %	GROUP 2 %
TERMINAL VALUES:		
Warm relationships with others	17.6	20.7
Self-fulfillment	12.1	10.1
Security	12.9	8.7
Self-respect	23.8	23.2
A sense of accomplishment	15.6	17.8
INSTRUMENTAL VALUES:		
Honest	37.0	41.0
Independent	9.7	8.9
Loving	8.6	11.4
Responsible	25.8	19.7

**TABLE 29
CHI-SQUARE TEST FOR DEMOGRAPHICS**

VARIABLE	RANGE	GROUP 1 %	GROUP 2 %	CHI-SQUARE
Income	Less than \$20,000	4.8	2.8	13.67 b
	\$20,000 - \$29,999	7.2	8.1	
	\$30,000 - \$ 39,999	5.6	9.8	
	\$40,000 - \$ 49,999	11.8	12.6	
	\$50,000 - \$ 59,999	18.2	22.6	
	\$60,000 - \$ 69,999	11.2	11.5	
	\$70,000 and over	41.2	32.5	
Ethnic Groups	Anglophone	28.6	28.4	29.16 a
	Francophone	49.7	34.2	
	Italian	21.7	37.4	

a: p≤.01
b: p≤.05
c: p≤.10

Table 25 on page 80 contains our results regarding environmental knowledge. Only the general environment knowledge item comes out to be marginally significant. Group 1, the individualists, are more knowledgeable on all questions than collectivists except recycling-related questions. Care must be taken when interpreting this finding, as we did not find any evidence in our extensive literature review that cultural orientation affects people's environmental knowledge.

Table 26 on page 81 reports the results on behaviours. Group 2 (collectivists) clearly comes out as having the most environmentally friendly behaviours, despite the findings that they hold less positive environmental attitudes than individualists, except on willingness to pay more, which we just covered in the previous section regarding environmental attitudes. Group 2 (collectivists) are more likely to use and maintain their car in an environmentally friendly way and more likely to participate in environmentally friendly activities. This result is in line with the previous research findings that collectivism was found to be the most influential predictor over ecological commitment, since collectivism emphasises on external locus of control, adapting to nature and to reach a harmony to nature (Li, 1997). Previous research suggests collectivists pay more attention to norms than to attitudes, while individualists pay more attention to attitudes than to norms (e.g., Bontempo & Rivera, 1992, etc.). This might also help to explain our findings that although collectivists hold less positive environmental attitudes (except on willingness to pay more), they still tend to demonstrate more environmentally friendly behaviours to follow the norms set by the government who promotes and encourages its citizens to behave in an environmentally friendly way. There is no statistically significant difference between the two groups on purchasing environmentally unfriendly products,

which is confusing when we try to relate attitude and behaviour. In the previous section regarding environmental attitude, our results suggest that collectivists hold more positive attitudes with regards to willingness to pay more, however this pro-environmental attitude does not reflect on their purchasing behaviour. This might again suggest that although collectivists hold positive environmental attitude with respect to willingness to pay more, they do not seem to perceive the purchasing behaviour of an individual as one potential opportunity to improve environment condition (Tang & Chan, 1998).

Table 27 on page 81 contains our results regarding terminal and instrumental values. With regard to terminal values, our results indicate that Group 1 (individualists) place higher importance on fun and enjoyment of life than Group 2 (collectivists), and the difference is significant. This finding is in agreement with previous research findings, e.g., Triandis (1993) suggests that this value is traditionally associated with individualists.

With regards to instrumental values, statistically significant differences are found between Group 1 and Group 2. Our results show that Group 2 (collectivists) place higher importance on the values of being helpful, obedient and self-controlled than Group 1 (individualists), which is in line with the previous findings that individuals in a collectivist culture are more likely to expect their in-group members to look after them, and in exchange for their help, they feel they owe absolute loyalty to the group they belong to (Hofstede, 1980). With this in mind, together with the results we obtained with respect to attitudes and behaviours, our results seems to indicates that collectivists are perhaps more prone to be environmentally friendly, although they hold less positive environmentally attitudes, except on willingness to pay more than individualists.

Table 28 on page 82 presents a cross-tabulation of terminal and instrumental values. This analysis allows us to find out which terminal and instrumental values are valued the most by each of the two groups. As we can see, Group 1 (individualists) place more importance on self-fulfillment, security, and self-respect with regards to terminal values, and being independent and responsible with regards to instrumental values. These values seem to suggest a self-centred personality, which in turn might lead the people to engage in activities to maximize their personal gains and to gain security and self-respect for themselves. Group 2 (collectivists), on the other hand, place more importance on warm relationships with others and a sense of accomplishment with respect to terminal values, and on being honest and loving with regards to instrumental values than Group 1 (individualists). With these values in mind, it seems reasonable to predict that people in Group 2 (collectivists) are less likely to participate in environmentally unfriendly activities, which in the future could harm not only themselves but others as well. The only possible contradiction emerges because Group 2 (collectivists) places slightly higher importance on a sense of accomplishment than Group 1 (individualists). In previous section profiling environmentally friendly/unfriendly individuals, our results shows that environmentally unfriendly individuals tend to value more on a sense of accomplishment as a way to gain respect for themselves.

Table 29 on page 82 presents the Chi-square test for demographics, which concludes our comparison of individualists and collectivists. Only statistically significant variables are reported. When we look at the income variable, we notice that majority of people in both groups have an income of \$70,000 and above, however there are more people in Group 1 (individualists) that have an income of \$70,000 and above. This seems

to indicate that the more affluent the members are, the more they tend to be individualists, which is in line with Triandis' (1993) findings that affluence is one of causes that lead to individualism, as if one is rich, one can do his/her own things, without depending on the group to achieve his/her personal goals.

When looking at the ethnic groups variable, our results tend to indicate that majority of people in Group 1 (individualists) are Francophones, followed by Anglophones. This contradicts the previous research that Anglophones tend to be more individualist than Francophones (Laroche, Toffoli, Kim & Muller, 1996). We have explained in the previous section comparing English/French/Italian Canadians that this might due to the measures we used in this study, which are too narrow in perspective and therefore not capturing the constructs of individualism and collectivism. Finally, Italians represent the biggest percentage in Group 2 (collectivists), followed closely by Francophone. This is in agreement with our previous discussion that Italians are found to be the most collectivist among the three ethnic groups.

8. Comparison of the People with High Value and Low Value

In this part of our analysis, we divided our samples into two groups, that is the group of people that place a higher importance on all the values in our questionnaire, and the group of people that place a lower importance on all the values in our questionnaire. We then compared these two groups of people with respect to their environmental attitudes, behaviours, knowledge, individualism/collectivism and demographic characteristics in order to examine whether there exist differences on their level of environmental friendliness. Cluster analysis (Ward method) was used. In order to run the cluster analyses, the terminal and instrumental values were grouped into factors. Given

the large number of values, it was deemed necessary to reduce the number of variables to facilitate interpretation. The terminal values were grouped into three factors as done by McCarthy & Shrum (1994), while the article by Vinson et al. (1977) provided the basis for grouping the Rockeach instrumental values into four factors. Our results are reported in Tables 30-36 on pages 87-90, followed by a detailed discussion.

**TABLE 30
ANOVA ON VALUES**

VALUES	GROUP 1	GROUP 2	F-VALUE
TERMINAL VALUES:			
Self-gratification factor: (Self-fulfillment, Self-respect, A sense of accomplishment)	8.58 (mean) 0.59 (s.d.)	7.42 (mean) 1.54 (s.d.)	267.83 a
Fun factor: (Excitement, Fun and enjoyment of life Warm relationship with others)	7.37 1.16	6.30 1.44	127.01 a
Security factor: (Sense of belonging, Security, Being well respected)	8.17 0.83	6.77 1.61	283.66 a
INSTRUMENT VALUES			
Competence factor: (Courageous, Independent, Intellectual Logical)	8.06 0.69	6.74 1.34	368.11 a
Compassion factor: (Helpful, Loving)	8.09 0.82	6.77 1.46	284.42 a
Social factor: (Clean, Obdient)	7.50 1.15	5.31 1.56	506.82 a
Integrity factor: (Honest, Responsible, Self-controlled)	8.45 0.60	7.27 1.35	327.48 a

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 31
CROSS-TABULATION OF TERMINAL/INSTRUMENTAL VALUES**

VALUES	GROUP 1 %	GROUP 2 %
TERMINAL VALUES:		
Warm relationships with others	16.9	25.6
Self-fulfillment	11.6	8.4
Security	11.4	8.4
Self-respect	23.9	22.7
A sense of accomplishment	16.9	16.7
INSTRUMENTAL VALUES		
Honest	40.0	36.4
Loving	9.9	12.6
Responsible	22.1	22.4

**TABLE 32
ANOVA ON ATTITUDES**

FACTORS	GROUP 1	GROUP 2	F-VALUE
Unconcerned for waste	1.42 <i>1.09</i>	1.68 <i>1.28</i>	8.90 a
Willingness to pay more (not significant)	5.21 <i>2.24</i>	5.02 <i>2.06</i>	1.26
Companies acting responsibly (not significant)	4.33 <i>1.91</i>	4.19 <i>1.75</i>	1.02
Ecology minded	7.67 <i>1.57</i>	7.44 <i>1.48</i>	3.73 b
Environmental activist	6.68 <i>1.41</i>	6.24 <i>1.53</i>	15.95 a
Recycling is inconvenient	2.57 <i>1.82</i>	2.83 <i>1.91</i>	3.39 b

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 33
ANOVA ON BEHAVIORS**

BEHAVIORS	GROUP 1	GROUP 2	F-VALUE
Environmentally friendly car usage and maintenance	5.76 <i>1.60</i>	5.19 <i>1.43</i>	22.66 a
Environmentally friendly activities	5.94 <i>1.20</i>	5.69 <i>1.14</i>	7.93 a
Purchase of environmentally unfriendly products	3.45 <i>0.95</i>	3.59 <i>0.96</i>	4.00 b
Tax on gasoline (not significant)	0.53 <i>0.35</i>	0.55 <i>0.34</i>	0.35

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 34
ANOVA ON ENVIRONMENTAL KNOWLEDGE**

ITEMS	GROUP 1	GROUP 2	F-VALUE
Questions 4,5,6 on recycling knowledge (not significant)	0.84 <i>0.23</i>	0.85 <i>0.20</i>	0.34
All 11 questions on environmental knowledge except 4,5,6	0.44 <i>0.18</i>	0.47 <i>0.19</i>	5.51 b

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 35
ANOVA ON INDIVIDUALISM/COLLECTIVISM**

CULTURE	GROUP 1	GROUP 2	F-VALUE
INDIVIDUALISM			
Ask your old parents to live with you (reversed)	4.39 <i>2.54</i>	4.86 <i>2.31</i>	6.23 a
Place your parents in an old people's home or nursing home.			
COLLECTIVISM			
Entertain visitors even if they drop in at odd hours.	6.03 <i>2.30</i>	5.87 <i>2.32</i>	0.73
Entertain even unwelcome guests (not significant)			

a: p≤.01
b: p≤.05
c: p≤.10

**TABLE 36
CHI-SQUARE TEST FOR DEMOGRAPHICS**

VARIABLE	RANGE	GROUP 1 %	GROUP 2 %	CHI-SQUARE
Gender	Male	38.2	49.3	8.68 a
	Female	61.8	50.7	
Education	Elementary	4.5	3.9	14.60 a
	High school	21.6	13.6	
	Com.College, CEGE	25.9	20.2	
	Undergraduate Univ.	29.2	38.2	
	Graduate Univ.	18.9	24.1	
Ethnic Groups	Anglophone	29.0	30.7	13.08 a
	Francophone	37.8	48.2	
	Italian	33.2	21.1	

a: p≤.01
b: p≤.05
c: p≤.10

Table 30 on page 87 contains the results on values and we can see that there exist statistically significant differences between Group 1 (High Value) and Group 2 (Low Value). When we move to Table 31 on page 88, we can see that the biggest difference between these two groups occurs for terminal value “warm relationships with others”. Higher percentage of people from Group 2 (Low Value) actually place more importance on warm relationships with others than people from Group 1 (High Value).

Table 32 on page 88 reports the results on environmental attitudes. Group 1 (High Value) has more positive environmental attitudes than Group 2 (Low Value). People in Group 1 are more concerned for waste; less likely to think recycling is inconvenient; they are ecology-minded and are more prone to be environmental activists. This seems to indicate that there is a relationship between values and environmental attitudes. To be more specific, the results suggest that people who place higher importance on values tend to have a more positive attitude toward the environmental issues.

Table 33 on page 89 contains the ANOVA on behaviours. Statistically significant differences are found between Group 1 (High Value) and Group 2 (Low Values) on all the behaviour items except Tax on Gasoline. People in Group 1 (High Value) are more likely to participate in environmentally friendly car usage and maintenance and other environmentally friendly activities. Meanwhile, they are more likely to purchase environmentally friendly products than people from Group 2 (Low Value). This result highlights the possibility that a link between values and behaviours.

Table 34 on page 89 reports the ANOVA results on environmental knowledge. Again, similar to the findings on the previous section that compares individualism/collectivism, statistically significant difference is found on general

environmental knowledge only, and no difference is found on recycling-related questions. People in Group 2 (Low Value) are found to be more knowledgeable on general environmental questions than people in Group 1 (High Value). There is no direct support from the previous research on this finding. When we refer to Table 30 on page 87, people in Group 2 (Low Value) place lower importance on intellectual value and this contradicts our findings that they have the same or even higher knowledge on environmental issues.

Table 35 on page 90 contains the ANOVA results on individualism/collectivism. People in Group 2 (Low Value) are found to be more individualists than those in Group 1 (High Value).

Table 36 on page 90 reports the Chi-square test for demographics. When we look at gender, we can see that the majority of people in Group 1 (High Value) are female, compare to almost equal percentage of male and female in Group 2 (Low Value). This seems to indicate that females are more likely to place a higher importance on values.

When look at education, Group 1 (High Value) exhibits a higher percentage of respondents with an education level below undergraduate university, whereas Group 2 leads with an education level at or above undergraduate university. This finding is interesting, as Group 1 places higher importance on the intellectual value but actually has a lower percentage of people having education at university level or above. This helps to explain our previous finding regarding environmental knowledge that Group 2 (Low Value) are found to be more knowledgeable than Group 1 (High Value) on general environmental questions.

When we look at the ethnic groups variable, considerably more Francophones are found in Group 2 (Low Value). Close numbers are found for Group 1 (High Value),

however Francophones still lead, followed by Italians and Anglophones. This seems to indicate that Francophones are more likely to place lower importance on values than Anglophones and Italians. Referring back to the section that compares individualism/collectivism, Table 29 on page 82 also shows that Francophones are more individualistic than English and Italian Canadians. So, it is not surprising to find more Francophones in Group 2 (Low Value).

To summarize the findings in this section, our results indicate that people in Group 1 (High Value) are less individualistic and they hold stronger positive environmental attitudes and demonstrate higher level of environmentally friendly behaviours. However, they are less knowledgeable regarding general environmental questions than Group 2 (Low Value). This part of result is consistent with the findings of McCarty and Shrum (1994) in their study that examines the antecedents of recycling and the value-attitude-behaviour hierarchy. McCarty and Shrum (1994) found that the inconvenience exerted a stronger influence on attitudes about the importance of recycling. That is the more individuals believe that recycling is inconvenient, the less important they believe it to be. The authors suggested that immediate concerns about convenience seem to have strong relationships with other attitudes and behaviours. Our results confirm McCarty and Shrum's finding that people from Group 1 (High Value) care more about waste and are less likely to consider recycling is inconvenient, and they also participate more in environmentally friendly activities than Group 2 (Low Value). In addition, McCarty and Shrum also found that collectivism was negatively related to the attitudes about the inconvenience of recycling. They argued that collectivism implies cooperation, helpfulness, and considerations of the goals of the group relative to the individuals.

Therefore, the more individuals are cooperative, helpful, and concerned about group goals, the less likely they believe recycling is inconvenient. Our results that Group 1 (High Value) tend to be less individualistic and participate more in environmentally friendly activities seem to match the notion that collectivism is related to beliefs that promote the good of the group.

In addition, our results also indicate that higher percentage of people in Group 2 (Low Value) place higher importance on warm relationships with others than Group 1 (High Value). This part of the finding is confusing, as it contradicts with our finding in the previous section comparing Individualism/Collectivism that collectivists place higher importance on having warm relationships with others. This contradicting result might, again, due to the measures we used in our study, which are too narrow in perspective and therefore not capturing the constructs of individualism and collectivism.

Finally, when demographics variables are examined, our results show that higher percentage of people in Group 1 (High Value) are female, Francophones, and having an education lower than undergraduate university level, while Group 2 (Low Value) is composed of fairly equal percentage of male and female, and the majority of them have an education level at undergraduate university or above, and almost half of them are Francophones. Italians represent the lowest percentage in Group 2 (Low Value).

CONCLUSION

In this section, we will go over our results to examine if our hypotheses are supported. Limitations and implications will also be discussed. We will conclude this paper with some suggestions for future research.

1. Examination of Hypotheses

H1 (a): English Canadians and Italian Canadians will differ in terms of attitudes toward the environment, behaviours and environmental knowledge.

With regards to attitude, our hypothesis is partially supported. Our results show that statistically significant differences exist on four out of the six attitude factors. Comparing to strong Italians, strong English, though marginally significant, are more concerned about the waste and they are less likely to think recycling is inconvenient. Meanwhile, strong English are less likely to think companies are acting responsibly toward the environment and they are more prone to be environmental activists than strong Italians. No statistically significant difference was found regarding their willingness to pay more and ecology-minded.

With respect to behaviours, our hypothesis is again partially supported. Although strong English Canadians hold stronger positive attitudes toward the environment, they are less likely to participate in environmental friendly activities, except they purchase more environmentally friendly products than strong Italians. No statistically significant difference is found with regards to behaviours involving environmentally friendly car usage and maintenance and tax on gasoline.

When environmental knowledge is involved, our hypothesis is partially supported. Strong English are found to be more knowledgeable on general environmental questions than strong Italians. No difference exists when recycling-related questions are involved.

To summarize, our results show that strong English hold stronger positive attitudes toward the environment issues, and are more knowledgeable on general environmental issues than strong Italians, however their positive environmental attitudes and higher level of knowledge only reflect in their purchasing of more environmentally friendly products. Their environmentally friendly purchasing behavior can be explained by Perceived Consumer Effectiveness (PCE) that was found to be an important determinant of the development of personal norms, which in turn determines the personal purchasing behaviour in the environmental field in an individualist culture. Strong Italians, on the other hand, participate more in environmentally friendly activities, but purchase more environmentally unfriendly products.

H1 (b): French Canadians and Italian Canadians will differ in terms of attitudes toward the environment, behaviours and environmental knowledge.

Our hypothesis is partially supported when we look at environmental attitudes variable. Our results show that strong French are more concerned about the waste, and are more ecology-minded and are more prone to be environmental activists than strong Italians. Similar to the finding on behaviours regarding English and Italians, strong French participate less in environmentally friendly activities, but they purchase more environmentally friendly products than strong Italians. In addition, though our results show that they hold less positive environmental attitudes, strong Italians actually pay higher tax on gasoline than strong French, though the difference is only marginally

significant. No significant difference exists regarding environmentally friendly car usage and maintenance. So, our hypothesis is also partially supported when we look at the behaviour variables. Finally, our hypothesis is supported with regards to environmental knowledge. Strong French are more knowledgeable than strong Italians on all environmental questions.

To summarize, strong French hold positive attitudes toward the environment and are more knowledgeable on all environmental issues than strong Italians, however similar to strong English, strong French purchase more environmentally friendly products, but participate less in energy-saving and environmentally friendly activities than strong Italians.

H2 (a): The more Italians acculturated toward the English culture, the less evident will differences between the attitudes, behaviours, and environmental knowledge between the two groups.

This hypothesis is partially supported. With regards to attitudes, we notice evidence of acculturation when we look at the factors (1) concern for waste, (2) companies acting responsibly, and (3) recycling is inconvenient. The results indicate that strong English and strong Italians groups have the most extreme values, however when we move to the acculturated group, English Italians, we notice the in-between mean values, which indicate the acculturation toward the English culture. In addition, we also notice an overshooting effect that English Italians are least likely to be environmental activists.

A similar situation occurs when we look at the behaviours. When we look at the two factors that turn out to be significant, i.e., (1) environmentally friendly activities and (2) purchase of environmentally unfriendly activities, English Italians are found with

moderate mean values, which confirm existence of acculturation toward the English culture.

Finally, we when move to knowledge variable, we notice the evidence of acculturation toward the English culture regarding general environmental questions. Though the difference is not significant on recycling-related questions, English Italians and strong English are found to have very similar knowledge scores.

H2 (b): The more Italians acculturated toward the French culture, the less evident will differences between the attitudes, behaviours, and environmental knowledge between the two groups.

Our hypothesis is not supported with regards to environmental attitudes. When we look at concern for waste, over-shooting appears on French Italians who show the least concern for waste, even higher than strong Italians. Over-shooting effect can be observed regarding environmental activism. French Italians are least likely to be environmental activists, which is very similar to the pattern found on English Italians. When we look at their attitude regarding ecology- mindedness, French Italians have almost the same mean value as the strong Italians. With regards behaviours and knowledge, our hypothesis is supported. We can see the evidence of acculturation on all the behaviour items and environmental knowledge. Even though the difference on environmentally friendly car usage and maintenance is not significant, the mean value of French Italians is moving toward the right direction. The finding suggests that with their improve environmental knowledge, French Italians purchase less environmentally unfriendly products.

H3: Italian Canadians are expected to be more collectivist than English Canadians (French Canadians)

This hypothesis is supported. In the section comparing Individualism and collectivism, our results show that the highest percentage of people in Group 2 (collectivists) are Italians (37.4%), while the lowest percentage of people in Group 1 (individualists) are Italians (21.7%). In addition, referring to Table 19 on page 65 in the section that compares English/French/Italian Canadians, our results also shows that strong Italians score lower than strong English and strong French in terms of individualism and the differences is significant. Meanwhile, strong Italians also score much higher than strong French with respect to collectivism. The results discussed so far suggest that Italians are more collectivistic than English and French Canadians.

H4 (a): English Canadians and Italian Canadians will differ in terms of terminal and instrumental values

H4 (b): French Canadians and Italian Canadians will differ in terms of terminal and instrumental values

Our hypothesis is partially supported. Referring back to Table 20 on page 66, out of the terminal values that turned out to be significant, strong English place higher importance on warm relationships with others and self-fulfillment than strong Italians, however when the value of excitement is involved, strong English and strong Italians have similar scores. When we look at the group of strong French and strong Italians, we can see that strong Italians put higher importance on excitement than strong French, however the latter value more self-fulfillment than strong Italians.

With respect to instrumental values, our results in Table 21 on page 66 shows that strong Italians put higher importance on cleanness and self-controlled than strong

English. Meanwhile, strong Italians also score higher on being obedient than strong French, however the latter think being responsible is more important.

The cross-tabulation of terminal and instrumental values (Table 22 on page 67) again shows that higher percentage of strong English value warm relationship with others in terms of terminal values, and being honest & loving in terms of instrumental values than strong Italians, however much higher percentage of strong Italians value being independent than strong English. When we look at strong French/French Italians/strong Italians, we again see that higher percentage of strong French think warm relationships with others; self-fulfillment and self-respect in terms of terminal values, and being honest and responsible in terms of instrumental values are very important for them, and more strong Italians think security and being independent is very important to them.

H5: Individuals who place higher/lower importance on values will differ in terms of their environmental attitudes, behaviours, and knowledge as well as individualism/collectivism

This hypothesis is supported. Our results clearly indicate that people from Group 1 (High Value) hold stronger positive attitudes toward the environment than people from Group 2 (Low Value). People from Group 1 (High Value) are more concerned for waste and are less likely to think recycling is inconvenient. Further, they are also more ecology-minded and more prone to be environmental activists than people from Group 2 (Low Value). In terms of behaviours, people from Group 1 (High Value) are also more environmentally friendly: they use and maintain their car in an environmentally friendly way and participate more in environmentally friendly activities. Meanwhile, they purchase less environmentally unfriendly products. As far as environmental knowledge is

concerned, people from Group 1 (High Value) turn out to be less knowledgeable with regards to general environmental questions. Further analysis demonstrate that people from Group 1 (High Value) tend to have lower education level than people from Group 2 (Low Value), which in certain way explains people from Group 1 (High Value), though place higher importance on intellectual are found less knowledgeable on general environmental questions than people from Group 2 (Low Value). Finally, when we compare the cultural orientation of these two groups, our results show that people from Group 1 (High Value) tend to be less individualistic than Group 2 (Low Value).

2. Limitations of the Study

Our study found that strong French are more individualists than strong English, which contradicts the previous research findings that English are more individualists than French. When we tried to explain our results, we mentioned that this might be caused by the measures we used in our research that do not cover enough the dimension of individualism and collectivism. This is one big limitation of our present study.

A second major limitation appears at the sample size. Our research consists of 892 people picked at random from various municipalities in metropolitan Montreal. If we could increase our sample size, we would be able to improve the reliability and generalizability of our results.

3. Implications of the Study

The main objective of our research was to examine if English, French and Italian Canadians differ in terms of their attitudes, behaviours and environmental knowledge. Our results show that English, French and Italian Canadians do differ on the above-mentioned variables. Even when we look at Italian Canadians, we can also find

differences exist between English Italians, French Italians and strong Italians. This finding can help the marketers to study the profile of the target ethnic group(s) and to construct advertising campaigns to specifically target the ethnic group(s), like in this case, English, French and Italian Canadians; or to reach a certain segment of the ethnic group to effectively modify and encourage certain environmentally friendly attitude and behavior. For example, our results show that English and French Canadians hold strong positive attitudes toward the environment, and are more knowledgeable than Italian Canadians, however their positive environment attitudes only reflect in their purchasing behaviour that they purchase less environmentally unfriendly products. English and French respondents were found participate much less in environmentally friendly activities than strong Italians who are more collectivists. Our discussion on individualism/collectivism also shows that collectivists participate more in environmentally friendly activities. This might suggests to the marketers that in order to educate English and French Canadians to transfer their positive attitude toward behaviour, it might help to emphasis certain collectivist values in the advertising campaigns to promote more environmentally friendly activities from English and French Canadians.

Our study also shows that strong Italians hold less positive attitudes toward the environment compared to English and French Canadians, however they participate more in energy-saving and environmentally friendly activities, except they purchase more environmentally unfriendly products. Meanwhile, Italians are also found less knowledgeable than English Canadians and French Canadians. It suggests to the marketers that in order to encourage Italians to purchase less environmentally unfriendly

products, it might be necessary to design advertising campaigns that target specifically this segment to educate them that purchasing of environmentally unfriendly products will harm the environment in the long run, and that each consumer's purchasing behaviour does contribute to our environment condition. In this way, the marketers might reach the segment of strong Italians to modify their behaviour toward the desired direction.

Our study also reveals the profile of environmentally friendly/unfriendly individuals, which will benefit the marketers, too, since they will have things to base themselves on to construct effective environmental campaign to reach the environmentally friendly/unfriendly individuals. For example, our results show that environmentally friendly individuals place higher importance on all values than the environmentally unfriendly individuals. In order to modify the attitude and behavior of the environmentally unfriendly group, marketers can create advertising campaigns to promote the desired values, which in the long run will promote environmentally friendly attitude and behavior.

4. Suggestions for Future Research

First, future studies can examine individualism/collectivism by using measures, which better captures this cultural dimension. As mentioned before, our results show that French Canadians are more individualists than English Canadians, which contradicts the previous research findings and we think it is mainly due to the narrow measures we used.

Second, future studies can also examine the other culture dimensions, e.g., masculinity/femininity. In a Masculinity culture, dominant values in the society are "masculine" – that is, assertiveness, the acquisition of money and things, and not caring for others and performance is what counts; while in a Femininity culture, quality of life is

important; people work in order to live; people and environment are important; small and slow are beautiful (Hofstede 1980, pp.46, 49). Hofstede (1980) found that Italy scores higher than Canadians on this dimension. Jansen (1988) also pointed out that among a number of goals (prosperity, friendship, family security, self-development, independence, excitement, spiritual life, achievement, economic stability, love, and helping others), Italian Canadians were found place much more weight on “prosperity” as a major goal. Other goals that Italians considered important to them included “friendship”, “family security” and “independence” (Jansen, 1988). These values are in contrast with proenvironmental behaviour. Between English and French Canadians, French Canadians are found to place more importance on enjoy life and the expression *joie-de-vivre* is often used to characterize the French-Canadians attitude of looking for the good things in life (Laroche, 1996). French Canadians are also found to be more conservative in their attitudes and less willing to take risks. This dimension might generate some interesting results for future studies.

Third, future studies can sample a much larger size of the population to increase the reliability and generalizability of the research results.

Last but not the least, social desirability might present in our research. E.g., our study shows that Italians have less positive environmental attitudes and are less knowledgeable on environmental issues, however they report to participate more in energy-saving and environmentally friendly activities. Future studies can design questionnaires to try to eliminate the effect of social desirability as much as possible.

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APPENDIX A
QUESTIONNAIRES

QUESTIONNAIRE

Thank you for your cooperation. We value the answers you express in this questionnaire. We have tried to make it as easy as possible. All that is required of you is to answer the questions asked. It is important that you answer ALL questions. If, at any point, you do not know the exact answer, please estimate it as best as possible.

PART A

1. Language Use: In this section, we would like to know the extent to which you use English, French, and other languages in your normal activities. Please give a distribution in percent of time from 0 (never) to 100 (all the time).

	English	French	Other ()	Total
At home with spouse	____%	____%	____%	100%
At home with children	____%	____%	____%	100%
With relatives	____%	____%	____%	100%
At work	____%	____%	____%	100%
Watching television	____%	____%	____%	100%
Listening to radio	____%	____%	____%	100%
Reading newspapers	____%	____%	____%	100%
Reading magazines/books	____%	____%	____%	100%
Shopping	____%	____%	____%	100%
With close friends	____%	____%	____%	100%
When you went to school	____%	____%	____%	100%

2. Please indicate your degree of agreement with the following statements (circle the number that best reflects your degree of agreement).

	Strongly Disagree					Strongly Agree			
I consider myself to be Anglophone	1	2	3	4	5	6	7	8	9
I consider myself to be Francophone	1	2	3	4	5	6	7	8	9
I consider myself to be Allophone* (please specify:)	1	2	3	4	5	6	7	8	9
My parents are Anglophones	1	2	3	4	5	6	7	8	9
My parents are Francophones	1	2	3	4	5	6	7	8	9
My parents are Allophones*	1	2	3	4	5	6	7	8	9
All my closest friends are Anglophones	1	2	3	4	5	6	7	8	9
All my closest friends are Francophones	1	2	3	4	5	6	7	8	9
All my closest friends are Allophones*	1	2	3	4	5	6	7	8	9

* Other than Anglophone(s) or Francophone(s). Use the one that applies to you.

	Strongly Disagree								Strongly Agree
My spouse is Anglophone	1	2	3	4	5	6	7	8	9
My spouse is Francophone	1	2	3	4	5	6	7	8	9
My spouse is Allophone*	1	2	3	4	5	6	7	8	9
I am very comfortable dealing with Anglophones	1	2	3	4	5	6	7	8	9
I am very comfortable dealing with Francophones	1	2	3	4	5	6	7	8	9
I am very comfortable dealing with Allophones*	1	2	3	4	5	6	7	8	9
I like to go to places where I can be with Anglophones	1	2	3	4	5	6	7	8	9
I like to go to places where I can be with Francophones	1	2	3	4	5	6	7	8	9
I like to go to places where I can be with Allophones*	1	2	3	4	5	6	7	8	9
I am strongly attached to all aspects of the Anglophone culture	1	2	3	4	5	6	7	8	9
I am strongly attached to all aspects of the Francophone culture	1	2	3	4	5	6	7	8	9
I am strongly attached to all aspects of the Allophone* culture	1	2	3	4	5	6	7	8	9

* Other than Anglophone(s) or Francophone(s). Use the one that applies to you.

PART B

Now we would like to ask you some questions about the environment.

1. In the media, one occasionally hears or reads about "the three R's" of environmentally responsible behavior. Can you tell me what the three "R's" stand for? (If you believe there are four R's, list all four)

2. Can you please tell me what this symbol means to you?



3. Can you please tell me what this symbol means to you?



4. Have you ever heard of the blue box (bag) or green box (bag) program? (Please circle ONE answer only)

- 1. YES
- 2. NO (GO TO QUESTION 7)
- 3. NOT SURE (GO TO QUESTION 7)

5. Can you tell me what the blue box (bag) or green box (bag) is for?

6. Under the current blue box (bag) or green box (bag) program, which of these items cannot be recycled?
(Circle all that apply)

	can	cannot	don't know
Metal food cans	1	2	9
All plastic containers	1	2	9
Lightbulbs	1	2	9
Magazines, catalogs, and books	1	2	9
Newspapers	1	2	9

7. What does the term "greenhouse effect" mean to you?

8. One sometimes hears or reads about "greenhouse gases". Can you name a "greenhouse gas"?

9. To the best of your knowledge, what is the single most important source of air pollution on this planet? (Circle ONE answer only)

- 1 Cigarette smoke
- 2 Automobiles
- 3 Heavy industry
- 4 Power Stations
- 9 Don't know

10. Taking all things that can be thought of as garbage in a Canadian household, what percentage of that garbage would you say can be recycled or composted? (Circle ONE answer only)

- 1 10%
- 2 30%
- 3 50%
- 4 70%
- 5 90%
- 9 Don't know

11. Which one of these is the simplest way to reduce a car's fuel consumption? (Circle ONE answer only)

- 1 Use high octane gas
- 2 Keep tires soft
- 3 Drive faster
- 4 Drive slower
- 9 Don't know

The following statements describe attitudes to a variety of topics. Please read through each and indicate how strongly you personally agree or disagree with it. Circle one number from 1 to 9 in each case depending on your attitudes.

	Strongly Disagree									Strongly Agree
There should be tougher anti-pollution laws, even if such laws might mean a decrease in our standard of living.	1	2	3	4	5	6	7	8	9	
I feel that values in Canadian society have been a basic cause of the present environmental problems.	1	2	3	4	5	6	7	8	9	
I feel quite safe about drinking the municipal water.	1	2	3	4	5	6	7	8	9	
I feel that the air I breathe is polluted most of the time.	1	2	3	4	5	6	7	8	9	
I feel that most of our lakes, ponds, and rivers are very safe to swim in.	1	2	3	4	5	6	7	8	9	
I would be embarrassed to refuse a disposable styrofoam container in a restaurant.	1	2	3	4	5	6	7	8	9	
I feel consumer product packaging is the greatest source of solid wastes.	1	2	3	4	5	6	7	8	9	
I feel that newspapers, flyers, and so-called "junk-mail" are the greatest contributors to pollution.	1	2	3	4	5	6	7	8	9	
My behaviour as one individual makes no difference in the fight against pollution.	1	2	3	4	5	6	7	8	9	
As a form of protest against excess packaging, I would be willing to mail excess packaging back to the manufacturer of that product.	1	2	3	4	5	6	7	8	9	
It is not up to the consumer to be interested in how the products he/she uses affect the environment.	1	2	3	4	5	6	7	8	9	
Leaving the TV on when nobody is watching is no big deal since electricity is so cheap.	1	2	3	4	5	6	7	8	9	
It is ridiculous to have to pay for returnable containers.	1	2	3	4	5	6	7	8	9	
I would be willing to spend an extra \$10 a week in order to buy less environmentally harmful products.	1	2	3	4	5	6	7	8	9	
Recycling is too much trouble.	1	2	3	4	5	6	7	8	9	
I would accept paying 10% more taxes to pay for an environmental cleanup program.	1	2	3	4	5	6	7	8	9	

	Strongly Disagree								Strongly Agree
It is acceptable to pay 10% more for groceries that are produced, processed, and packaged in an environmentally friendly way.	1	2	3	4	5	6	7	8	9
Recycling will save land that would be used as dumpsites.	1	2	3	4	5	6	7	8	9
Canada has so many trees that there is no need to recycle paper.	1	2	3	4	5	6	7	8	9
Since Canada is such a large country any pollution that we create is easily spread out and therefore of no concern to me.	1	2	3	4	5	6	7	8	9
With so much water in Canada I don't see why people are worried about leaky faucets and flushing toilets.	1	2	3	4	5	6	7	8	9
In Quebec we have so much electricity that we do not have to worry about conservation.	1	2	3	4	5	6	7	8	9
I hate to wash out bottles for recycling.	1	2	3	4	5	6	7	8	9
I personally do not feel that pollution affects my life.	1	2	3	4	5	6	7	8	9
The benefits of most products are more important than the pollution which results from their production and use.	1	2	3	4	5	6	7	8	9
Keeping separate piles of garbage for recycling is too much trouble.	1	2	3	4	5	6	7	8	9
Trying to control pollution is much more trouble than it is worth.	1	2	3	4	5	6	7	8	9
Phosphate-free laundry detergents are good for the environment.	1	2	3	4	5	6	7	8	9
Recycling will reduce pollution.	1	2	3	4	5	6	7	8	9
Packaged food companies are acting responsibly toward the environment.	1	2	3	4	5	6	7	8	9
Paper companies are concerned about the environment.	1	2	3	4	5	6	7	8	9
Non-returnable containers for drinks must be banned.	1	2	3	4	5	6	7	8	9
People must not only try to be more environmentally conscious but must educate their friends whenever possible.	1	2	3	4	5	6	7	8	9
The earth is a closed system where everything eventually returns to normal, so I see no need to worry about its present state.	1	2	3	4	5	6	7	8	9
Recycling is important to save natural resources.	1	2	3	4	5	6	7	8	9

We will now ask you some questions regarding your behaviour in various situations. Please read the instructions carefully, and try to answer ALL questions as truthfully as possible.

1. If the government proposed an air pollution tax on gasoline, to help pay for the cost of reducing air pollution, how supportive would you be of this idea? Let's say that regular unleaded gas now costs 65 cents a liter at the pump. What is the highest price, per liter, you would agree to pay at the pump, knowing that every cent above 65 cents is going towards reducing air pollution... (Circle ONE answer only)

- | | |
|---|------------|
| 0 | No change |
| 1 | 70 cents |
| 2 | 75 cents |
| 3 | 80 cents |
| 4 | 90 cents |
| 5 | 95 cents |
| 6 | one dollar |

2. As a car driver or car owner, how often would you engage in these behaviours? For each statement, please circle one number from 1 to 9 depending on how often you engage in this behavior. (If you do not drive or own a car, please go to Question 3)

	Never									Always								
Using public transportation whenever that option is available.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Keeping your car well-tuned by taking it for regular tune-ups.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Organizing a car pool so that you do not have to drive every day.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Checking your tire pressure every week.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Driving more slowly	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

3. Here is a list of energy-saving and environmentally-friendly activities. For each statement, please circle one number from 1 to 9 depending on how often you engage in this behavior.

	Never									Always								
Turning off all lights before leaving the house.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Buying more expensive, but more energy efficient, lightbulbs.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Drying clothes outside instead of using an electric dryer.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Turning down the heat a little in the winter and wearing extra sweaters.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Refusing to air condition your home during the summer.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Washing your clothes in cold water	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Walking rather than driving to a store that is a few blocks away.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Refusing to buy products from companies accused of being polluters.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Using the blue or green box (bag) for recycling.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Bring your own bags when shopping.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
When buying something wrapped, check that it is wrapped in paper or cardboard made of recycled material.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

4. How often do you purchase the following items? For each statement, please circle one number from 1 to 9 depending on how often you engage in this behavior.

	Never									Always								
Disposable diapers.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Plastic knives, forks, or spoons.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Laundry detergent that is phosphate free.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Styrofoam cups.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Non rechargeable batteries for appliances, toys and/or radios.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Disposable camera.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Fruits and vegetables that are organically grown.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Toothpaste in pumps.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Disposable razors.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

PART C

We will now ask you some statements concerning aspects of culture. For each statement, please circle one number from 1=false to 9=true. Please indicate if you are the kind of person who is likely to:

	False									True								
Ask your old parents to live with you.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Stay with friends, rather than at a hotel, when you go to another town (even if you have plenty of money).	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Place your parents in an old people's home or nursing home.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Prefer going to a cocktail party rather than going to dinner with four of your close friends.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Spend money (e.g., send flowers) rather than take the time to visit an ailing friend.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Ask close relatives for a loan.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Entertain visitors even if they drop in at odd hours.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Entertain even unwelcome guests.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Live far from your parents.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Show resentment toward visitors who interrupt your work.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Have parents who consult your fiancé(e)'s parents extensively, before they decide whether you two should get married.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

PART D

The following is a list of things that some people look for or want out of life. Please study the list carefully and then rate each thing on how important it is in YOUR daily life, where 1 = very unimportant, and 9 = very important.

	Very Unimportant								Very Important
	1	2	3	4	5	6	7	8	9
Sense of belonging	1	2	3	4	5	6	7	8	9
Excitement	1	2	3	4	5	6	7	8	9
Warm relationships with others	1	2	3	4	5	6	7	8	9
Self-fulfillment	1	2	3	4	5	6	7	8	9
Being well respected	1	2	3	4	5	6	7	8	9
Fun and enjoyment of life	1	2	3	4	5	6	7	8	9
Security	1	2	3	4	5	6	7	8	9
Self-respect	1	2	3	4	5	6	7	8	9
A sense of accomplishment	1	2	3	4	5	6	7	8	9

Now reread the items and write here the *ONE* thing that is most important to you in your daily life: _____

Listed below are 11 values in alphabetical order. Please study the list carefully and rate each value in terms of their importance to YOU as guiding principles in YOUR life.

	Very Unimportant								Very Important
	1	2	3	4	5	6	7	8	9
Clean (i.e., neat, tidy)	1	2	3	4	5	6	7	8	9
Courageous (i.e., standing up for your beliefs)	1	2	3	4	5	6	7	8	9
Helpful (i.e., working for the welfare of others)	1	2	3	4	5	6	7	8	9
Honest (i.e., sincere, truthful)	1	2	3	4	5	6	7	8	9
Independent (i.e., self-reliant, self-sufficient)	1	2	3	4	5	6	7	8	9
Intellectual (i.e., intelligent, reflective)	1	2	3	4	5	6	7	8	9
Logical (i.e., consistent, rational)	1	2	3	4	5	6	7	8	9
Loving (i.e., affectionate, tender)	1	2	3	4	5	6	7	8	9
Obedient (i.e., dutiful, respectful)	1	2	3	4	5	6	7	8	9
Responsible (i.e., dependable, reliable)	1	2	3	4	5	6	7	8	9
Self-controlled (i.e., restrained, self-disciplined)	1	2	3	4	5	6	7	8	9

Now reread the items and write here the *ONE* value that is most important to you: _____

PART E**Demographics**

1. Are you : male female
2. Are you : single
 married or living together
 separated or divorced
 widowed

Please indicate your age bracket :

- under 20 years 40 to 49 years
 20 to 29 years 50 to 59 years
 30 to 39 years 60 years and over

4. Please indicate your total family gross income bracket :

- under \$20,000 \$50,000 to \$59,999
 \$20,000 to \$29,999 \$60,000 to \$69,999
 \$30,000 to \$39,999 \$70,000 and over
 \$40,000 to \$49,999

5. Size of your family (living with you) : 1 2 3 4 5 or more

6. If you have children living at home, what is the age of the youngest child ? Years.

7. Do you, or does your family : own your home? or rent?

- Is this a: detached house
 semi-detached house or a row or townhouse
 an apartment in a duplex or triplex
 an apartment block
 other

8. Which municipality do you live in ? _____

9. Please indicate the highest level of education you have attained:

- elementary school
 high school
 community college/CEGEP/technical school/diploma
 undergraduate university degree
 graduate university degree

10. What is your occupation? _____

11. What is your employment status? (Circle one number)

- Work full-time (30 + hours per week) 1
 Work part-time (less than 30 hours per week) 2
 Retired, Pensioned 3
 Student 4
 Unemployed 5
 Homemaker only 6

We are very grateful for your participation in filling out this questionnaire. Thank you.

QUESTIONNAIRE

Merci de votre collaboration. Vos réponses à ce questionnaire nous seront extrêmement utiles. Nous avons essayé de rendre ce questionnaire aussi facile que possible à remplir. Tout ce que vous avez à faire c'est d'indiquer votre réponse. Il est important que vous répondiez à TOUTES les questions. Si, à un moment donné, vous ignorez la réponse exacte, faites une estimation au mieux de vos connaissances.

PARTIE A

1. Langue utilisée: Veuillez S.V.P. indiquer votre degré d'utilisation du français, et de l'anglais dans vos activités courantes en distribuant 100 points de 0% (jamais) à 100% (tout le temps).

	Français	Anglais	Autre (_____)	Total
À la maison avec votre époux/épouse	_____ %	_____ %	_____ %	100%
À la maison avec vos enfants	_____ %	_____ %	_____ %	100%
Avec les autres membres de votre famille	_____ %	_____ %	_____ %	100%
Au travail	_____ %	_____ %	_____ %	100%
À regarder la télévision	_____ %	_____ %	_____ %	100%
À écouter la radio	_____ %	_____ %	_____ %	100%
À lire des journaux	_____ %	_____ %	_____ %	100%
À lire des revues et des livres	_____ %	_____ %	_____ %	100%
À magasiner	_____ %	_____ %	_____ %	100%
Avec vos amis intimes	_____ %	_____ %	_____ %	100%
Quand vous étiez à l'école	_____ %	_____ %	_____ %	100%

2. Veuillez S.V.P. indiquer votre degré d'accord avec les énoncés suivants (encerclez le chiffre qui correspond le mieux à votre sentiment):

	Entièrement en désaccord					Entièrement d'accord				
Je me considère francophone	1	2	3	4	5	6	7	8	9	
Je me considère anglophone	1	2	3	4	5	6	7	8	9	
Je me considère allophone* (précisez, SVP: _____)	1	2	3	4	5	6	7	8	9	
Mes parents sont francophones	1	2	3	4	5	6	7	8	9	
Mes parents sont anglophones	1	2	3	4	5	6	7	8	9	
Mes parents sont allophones*	1	2	3	4	5	6	7	8	9	
Tous mes meilleurs amis sont francophones	1	2	3	4	5	6	7	8	9	
Tous mes meilleurs amis sont anglophones	1	2	3	4	5	6	7	8	9	
Tous mes meilleurs amis sont allophones*	1	2	3	4	5	6	7	8	9	
Mon(ma) conjoint(e) est francophone	1	2	3	4	5	6	7	8	9	
Mon(ma) conjoint(e) est anglophone	1	2	3	4	5	6	7	8	9	
Mon(ma) conjoint(e) est allophone*	1	2	3	4	5	6	7	8	9	

* Autre que francophone(s) ou anglophone(s). Utilisez celui qui s'applique à vous.

	Entièrement en désaccord					Entièrement d'accord				
Je me sens très à l'aise dans mes relations avec des francophones	1	2	3	4	5	6	7	8	9	
Je me sens très à l'aise dans mes relations avec des anglophones	1	2	3	4	5	6	7	8	9	
Je me sens très à l'aise dans mes relations avec des allophones*	1	2	3	4	5	6	7	8	9	
J'aime aller aux endroits où je me trouve en compagnie de francophones	1	2	3	4	5	6	7	8	9	
J'aime aller aux endroits où je me trouve en compagnie d'anglophones	1	2	3	4	5	6	7	8	9	
J'aime aller aux endroits où je me trouve en compagnie d'allophones*	1	2	3	4	5	6	7	8	9	
Je suis très attaché(e) à tous les aspects de la culture française	1	2	3	4	5	6	7	8	9	
Je suis très attaché(e) à tous les aspects de la culture anglaise	1	2	3	4	5	6	7	8	9	
Je suis très attaché(e) à tous les aspects de la culture allophone*	1	2	3	4	5	6	7	8	9	

* Autre que francophone(s) ou anglophone(s). Utilisez celui qui s'applique à vous.

PARTIE B

Maintenant, nous voudrions vous poser des questions sur l'environnement.

1. Dans les médias, on entend parler, ou on lit, au sujet des "trois R" du comportement responsable face à l'environnement. Pouvez-vous nous dire ce que ces trois "R" représentent? (Si vous croyez qu'il y en a quatre, écrivez tous les quatre)

2. Pouvez-vous nous dire ce que d'après vous ce symbole représente?



3. Pouvez-vous nous dire ce que d'après vous ce symbole représente?



4. Avez-vous entendu parler du service du bac (sac) bleu ou vert? (SVP encercler UNE réponse seulement)

- 1. OUI
- 2. NON (SVP ALLER À LA QUESTION 7)
- 3. PAS SÛR(E) (SVP ALLER À LA QUESTION 7)

5. Pouvez-vous nous dire à quoi sert le bac (sac) bleu ou vert?

6. Dans le service actuel du bac (sac) bleu ou vert, lequel (lesquels) des déchets suivants ne sont pas récupérables? (SVP encerclez toutes les réponses qui s'appliquent)

	on récupère	on ne récupère pas	ne sais pas
Contenants de métal	1	2	9
Tous les contenants de plastique	1	2	9
Ampoules électriques	1	2	9
Magazines, catalogues, et livres	1	2	9
Journaux	1	2	9

7. Selon vous, que veut dire le terme "effet de serre"?

8. Parfois on entend parler, ou on lit, au sujet des gaz qui contribuent à "l'effet de serre." Pouvez-vous nommer un de ces gaz?

9. Au mieux de vos connaissances, quelle est la plus importante source de la pollution de l'air dans cette planète? (SVP encerclez UNE réponse seulement)

- 1 La fumée de la cigarette
- 2 Les automobiles
- 3 L'industrie lourde
- 4 Les centrales électriques
- 9 Ne sais pas

10. Si on prend tous les déchets domestiques des foyers canadiens, quel pourcentage de ces déchets peuvent être recyclés ou compostés, d'après vous? (SVP encerclez UNE réponse seulement)

- 1 10%
- 2 30%
- 3 50%
- 4 70%
- 5 90%
- 9 ne sais pas

11. Des activités suivantes, quelle est la manière la plus simple pour réduire la consommation de carburant d'une voiture? (SVP encerclez UNE réponse seulement)

- 1 utiliser une essence à octane supérieur
- 2 maintenir la pression des pneus faible
- 3 conduire plus vite
- 4 conduire plus lentement
- 9 ne sais pas

Ci-après, nous vous posons quelques questions reliées à votre comportement en diverses situations. Veuillez lire les instructions attentivement, et essayez de répondre à TOUTES les questions aussi fidèlement que possible.

1. En supposant que le gouvernement propose une taxe sur l'essence pour aider à défrayer les coûts pour réduire la pollution de l'air, quel serait votre support à cette idée? Supposons que l'essence sans plomb coûte maintenant 65 cents le litre. Quel est le plus haut prix, du litre, que vous seriez disposé(e) à payer, en sachant que tout cent au-dessus de 65 cents est destiné à réduire la pollution de l'air? (SVP encerclez UNE réponse seulement):

- | | |
|---|-------------------|
| 0 | pas de changement |
| 1 | 70 cents |
| 2 | 75 cents |
| 3 | 80 cents |
| 4 | 90 cents |
| 5 | 95 cents |
| 6 | un dollar |

2. En tant que conducteur, ou propriétaire, d'un véhicule, avec quelle fréquence faites-vous les activités suivantes? Pour chaque énoncé, veuillez SVP encerclez un numéro de 1 à 9 dépendant de la fréquence. (Si vous ne conduisez pas ou n'êtes pas propriétaire d'une voiture, SVP allez à la question 3)

	Jamais									Toujours								
Utiliser le transport en commun autant que cette option est disponible.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Maintenir la voiture à point en la portant au garage régulièrement pour des mises au point.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Organiser du co-voiturage pour éviter de conduire tous les jours.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Vérifier la pression des pneus chaque semaine.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Conduire plus lentement.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

3. Voici une liste d'activités destinées à économiser de l'énergie et à favoriser la protection de l'environnement. Pour chaque énoncé, veuillez encerclez un numéro de 1 à 9 dépendant de la fréquence avec laquelle vous participez à ces activités.

	Jamais									Toujours								
Éteindre toutes les lumières avant de quitter la maison.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Acheter des ampoules qui permettent d'économiser de l'électricité, même si elles coûtent plus cher.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Sécher la lessive à l'air frais au lieu d'utiliser la sècheuse électrique.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Baisser la température un peu en hiver et porter davantage de gilets.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Refuser d'utiliser de l'air climatisé en été.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Faire la lessive à l'eau froide.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Marcher au lieu de prendre la voiture pour aller à un magasin qui se trouve à quelques rues de distance.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Refuser d'acheter des produits des compagnies accusées de polluer l'environnement.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Utiliser le bac (sac) bleu/vert pour le recyclage.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Apporter vos propres sacs lorsque vous allez magasiner.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Vérifier que l'emballage soit en papier ou en carton recyclés lors de l'achat d'un produit emballé.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

4. Avec quelle fréquence achetez-vous les produits suivants? Pour chaque énoncé, SVP encerclez un numéro de 1 à 9 dépendant de la fréquence avec laquelle vous les achetez.

	Jamais								Toujours
	1	2	3	4	5	6	7	8	9
Couches jetables.	1	2	3	4	5	6	7	8	9
Couteaux, fourchettes, ou cuillères en plastique.	1	2	3	4	5	6	7	8	9
Détergent à lessive qui ne contient pas de phosphate.	1	2	3	4	5	6	7	8	9
Verres en mousse.	1	2	3	4	5	6	7	8	9
Piles non rechargeables pour les appareils ménagers, jouets et/ou radios.	1	2	3	4	5	6	7	8	9
Camera jetable.	1	2	3	4	5	6	7	8	9
Fruits et légumes qui sont de culture biologique.	1	2	3	4	5	6	7	8	9
Dentifrice en pompe.	1	2	3	4	5	6	7	8	9
Rasoirs jetables.	1	2	3	4	5	6	7	8	9

PARTIE C

Maintenant, nous vous posons quelques questions reliées à la culture. Pour chaque énoncé, SVP encerclez un numéro de 1=faux à 9=vrai. Êtes-vous le genre de personne qui serait portée à:

	Faux								Vrai
	1	2	3	4	5	6	7	8	9
demander à vos parents âgés de vivre avec vous.	1	2	3	4	5	6	7	8	9
rester avec des amis, au lieu d'aller à un hôtel, quand vous allez dans une autre ville (même si vous avez beaucoup d'argent).	1	2	3	4	5	6	7	8	9
placer vos parents dans une maison pour personnes âgées ou une maison de santé.	1	2	3	4	5	6	7	8	9
préférer aller à un cocktail au lieu d'aller dîner avec quatre de vos amis intimes.	1	2	3	4	5	6	7	8	9
dépenser de l'argent (par ex. envoyer des fleurs) au lieu de prendre le temps de visiter un(e) ami(e) malade.	1	2	3	4	5	6	7	8	9
faire un emprunt à votre proche famille.	1	2	3	4	5	6	7	8	9
recevoir des visiteurs même s'ils arrivent à des heures inopportunes.	1	2	3	4	5	6	7	8	9
recevoir des gens même s'ils ne sont pas les bienvenus.	1	2	3	4	5	6	7	8	9
vivre loin de vos parents.	1	2	3	4	5	6	7	8	9
montrer votre irritation envers des visiteurs qui interrompent votre travail.	1	2	3	4	5	6	7	8	9
avoir des parents qui consultent beaucoup les parents de votre fiancé(e), avant de décider si vous deux devriez vous marier.	1	2	3	4	5	6	7	8	9

PARTIE D

Voici une liste des choses que certaines gens recherchent ou désirent dans la vie. Veuillez lire la liste attentivement et indiquer l'importance que VOUS accordez à chaque énoncé en encerclant un numéro de 1=pas important du tout à 9=très important.

	Pas important du tout								Très important
Le sens d'appartenance	1	2	3	4	5	6	7	8	9
Les sensations fortes	1	2	3	4	5	6	7	8	9
Des relations affectives avec d'autres personnes	1	2	3	4	5	6	7	8	9
La réalisation de soi	1	2	3	4	5	6	7	8	9
Etre bien respecté(e) par autrui	1	2	3	4	5	6	7	8	9
Le plaisir et la jouissance de la vie	1	2	3	4	5	6	7	8	9
La sécurité	1	2	3	4	5	6	7	8	9
Le respect de soi	1	2	3	4	5	6	7	8	9
Le sens d'accomplissement	1	2	3	4	5	6	7	8	9

Maintenant, relisez la liste et écrivez ici *LA chose*

la plus importante dans votre vie quotidienne: _____

Ci-après vous trouverez 11 valeurs par ordre alphabétique. Veuillez SVP lire la liste attentivement et indiquer l'importance que VOUS accordez à chacun en tant que principe directeur de VOTRE vie.

	Pas important du tout								Très important
Propre (net, soigné)	1	2	3	4	5	6	7	8	9
Courageux (défend ses idées)	1	2	3	4	5	6	7	8	9
Serviable (travaille au bien-être des autres)	1	2	3	4	5	6	7	8	9
Honnête (sincère, vrai)	1	2	3	4	5	6	7	8	9
Indépendant (autonome)	1	2	3	4	5	6	7	8	9
Intellectuel (intelligent, réfléchi)	1	2	3	4	5	6	7	8	9
Logique (rationnel)	1	2	3	4	5	6	7	8	9
Affectueux (tendre, aimant)	1	2	3	4	5	6	7	8	9
Obéissant (respectueux, soumis)	1	2	3	4	5	6	7	8	9
Responsable (fiable, digne de confiance)	1	2	3	4	5	6	7	8	9
Maître de soi (a de la retenue, de la discipline)	1	2	3	4	5	6	7	8	9

Maintenant, relisez la liste et écrivez ici *LA valeur*

la plus importante pour vous: _____

PARTIE E

Renseignement démographique

1. Êtes-vous : homme femme
2. Êtes-vous: célibataire
 marié(e) ou l'équivalent
 séparé(e) ou divorcé(e)
 veuf(ve)
3. À quelle catégorie d'âge appartenez-vous?
- moins de 20 ans 40 à 49 ans
 20 à 29 ans 50 à 59 ans
 30 à 39 ans 60 ans et plus
4. Veuillez SVP indiquer le revenu total brut de votre famille:
- moins de 20,000\$ 50,000\$ à 59,999\$
 20,000\$ à 29,999\$ 60,000\$ à 69,999\$
 30,000\$ à 39,999\$ 70,000\$ et plus
 40,000\$ à 49,999\$
5. Membres dans votre famille (demeurant chez vous) : 1 2 3 4 5 ou plus
6. Si vous avez des enfants à la maison, quelle est l'âge du plus jeune? ans.
7. Êtes-vous, ou votre famille: propriétaire? ou locataire?
- Habitez-vous dans maison détachée
 maison semi-détachée, non-détachée, ou maison de ville
 logement dans un duplex ou triplex
 bloc à appartement
 autre
8. Dans quelle municipalité habitez-vous? _____
9. Veuillez SVP indiquer le niveau de scolarité le plus élevé atteint par vous:
- école élémentaire
 école secondaire
 diplôme du CÉGEP/école technique/collège
 diplôme universitaire, premier cycle (baccalauréat)
 diplôme universitaire, deuxième ou troisième cycle
10. Quelle est votre profession? _____
11. Présentement est-ce que vous ... (encerclez un numéro)
- | | |
|--|---|
| Travaillez à temps plein (30+ par semaine) | 1 |
| Travaillez à temps partiel (moins de 30 hrs par semaine) | 2 |
| Êtes retraité(e) ou pensionné(e) | 3 |
| Êtes étudiant(e) | 4 |
| Êtes en chômage | 5 |
| Êtes ménagère/homme à la maison | 6 |

MERCİ ENCORE DE VOTRE PARTICIPATION

Questionario

La ringrazio per la Sua collaborazione. Appreziamo le risposte espresse. Abbiamo cercato di rendere i quesiti del questionario i più facili possibili. Tutto quello che chiediamo é di rispondere alle domande poste. É molto importante rispondere a tutte le domande. Se, in qualsiasi momento, non sapesse la risposta esatta, La pregherei di rispondere al meglio che può.

PARTE A

1. Uso della lingua: In questa sezione, vorremmo sapere fino a che punto Lei usa l'italiano, l'inglese e il francese nelle sue attività normali. La pregherei di dare una distribuzione in percentuale di tempo da 0 (mai) a 100 (sempre).

	Italiano	Inglese	Francese	Totale
A casa con il coniuge	_____ %	_____ %	_____ %	100%
A casa con i figli	_____ %	_____ %	_____ %	100%
Con i miei parenti	_____ %	_____ %	_____ %	100%
Con i parenti del mio coniuge	_____ %	_____ %	_____ %	100%
Al lavoro	_____ %	_____ %	_____ %	100%
Guardando la televisione	_____ %	_____ %	_____ %	100%
Ascoltando la radio	_____ %	_____ %	_____ %	100%
Leggendo i giornali	_____ %	_____ %	_____ %	100%
Leggendo riviste/libri	_____ %	_____ %	_____ %	100%
Guardando dei film	_____ %	_____ %	_____ %	100%
Facendo le spese	_____ %	_____ %	_____ %	100%
Con amici intimi	_____ %	_____ %	_____ %	100%
Quando andava a scuola	_____ %	_____ %	_____ %	100%

2. Indichi sino a che punto lei é d'accordo o in disaccordo con le seguenti affermazioni (indicare con un cerchio la cifra che meglio riflette il Suo accordo o disaccordo).

	Fortemente in disaccordo					Fortemente d'accordo				
Mi considero italo-canadese	1	2	3	4	5	6	7	8	9	
Mi considero inglese-canadese	1	2	3	4	5	6	7	8	9	
Mi considero francese-canadese	1	2	3	4	5	6	7	8	9	
I miei genitori sono italo-canadesi	1	2	3	4	5	6	7	8	9	
I miei genitori sono inglesi-canadesi	1	2	3	4	5	6	7	8	9	
I miei genitori sono francesi-canadesi	1	2	3	4	5	6	7	8	9	
Tutti i miei amici intimi sono italo-canadesi	1	2	3	4	5	6	7	8	9	
Tutti i miei amici intimi sono inglesi-canadesi	1	2	3	4	5	6	7	8	9	
Tutti i miei amici intimi sono francesi-canadesi	1	2	3	4	5	6	7	8	9	

	Fortemente in disaccordo					Fortemente d'accordo				
Il mio coniuge é italo-canadese	1	2	3	4	5	6	7	8	9	
Il mio coniuge é inglese-canadese	1	2	3	4	5	6	7	8	9	
Il mio coniuge é francese-canadese	1	2	3	4	5	6	7	8	9	
Mi sento a mio agio con gli italo-canadesi	1	2	3	4	5	6	7	8	9	
Mi sento a mio agio con gli inglesi-canadesi	1	2	3	4	5	6	7	8	9	
Mi sento a mio agio con i francesi-canadesi	1	2	3	4	5	6	7	8	9	
Mi piace andare nei luoghi dove posso frequentare gli italo-canadesi	1	2	3	4	5	6	7	8	9	
Mi piace andare nei luoghi dove posso frequentare gli inglesi-canadesi	1	2	3	4	5	6	7	8	9	
Mi piace andare nei luoghi dove posso frequentare i francesi-canadesi	1	2	3	4	5	6	7	8	9	
Sono molto attaccato a tutti gli aspetti della cultura italo-canadese	1	2	3	4	5	6	7	8	9	
Sono molto attaccato a tutti gli aspetti della cultura inglese-canadese	1	2	3	4	5	6	7	8	9	
Sono molto attaccato a tutti gli aspetti della cultura francese-canadese	1	2	3	4	5	6	7	8	9	

PARTE B

Adesso Le faremo alcune domande concernenti l'ambiente.

1. Nei media, si sente a volte parlare o si legge delle tre "R" del buon comportamento verso l'ambiente. Mi puo' dire cosa significano le tre "R". (Se crede che ce ne siano quattro "R", Le enumeri.)

2. Cosa significa questo simbolo per Lei?



3. Cosa significa questo simbolo per Lei?



4. Ha mai sentito parlare dei programmi "blue box (bag)" o "green box (bag)"? (Indicare solo UNA risposta)

1. Si
2. No (andare alla domanda N.7)
3. Non sono sicuro/a (andare alla domanda N.7)

5. Mi puo dire a che serve il programma "blue box (bag)" o "green box (bag)?"

6. Nel programma attuale di "blue box (bag)" o "green box (bag)", quali di questi articoli non sono riciclabili? (indicare tutte le risposte valide)

	possono	non possono	non so
Scatolette (o lattine) di metallo per alimenti ecc.	1	2	9
Tutti i recipienti di plastica	1	2	9
Lampadine	1	2	9
Riviste, cataloghi, e libri	1	2	9
Giornali	1	2	9

7. Cosa significa per Lei il termine "effetto serra" (greenhouse effect)?

8. A volte si sente parlare o si legge di gas prodotti dall'effetto serra. Puo' nominarne qualcuno?

9. Secondo Lei, quale é la fonte più importante dell'inquinamento atmosferico su questo pianeta? (indicare solo UNA risposta)

- 1 Fumo di sigaretta
- 2 Automobili
- 3 Industria pesante
- 4 Centrali elettriche
- 9 Non so

10. Prendendo in considerazione tutte le cose che possono essere considerate immondizie in una casa canadese, quale percentuale di queste immondizie puo' essere riciclata o ridotta in concime organico? (indicare solo UNA risposta)

- 1 10%
- 2 30%
- 3 50%
- 4 70%
- 5 90%
- 9 non so

11. Quale di questi é il modo più semplice per ridurre il consumo di carburanti di un automobile? (indicare con un cerchio solamente UNA risposta)

- 1 utilizzare benzina ad alto numero di ottani
- 2 tenere bassa la pressione delle gomme
- 3 andare più velocemente
- 4 andare più lentamente
- 9 non so

Le seguenti affermazioni descrivono atteggiamenti nei confronti di soggetti vari. La pregherei di leggere ogni affermazione e di indicare il Suo accordo o disaccordo, segnando un cerchio attorno a un numero dall'1 al 9 per ogni caso a secondo del Suo parere.

	Fortemente in disaccordo				Fortemente d'accordo				
Dovrebbero esserci delle leggi più severe contro l'inquinamento, anche se queste leggi potrebbero significare una riduzione nel tenore di vita.	1	2	3	4	5	6	7	8	9
Credo che i valori della società canadese sono stati la causa principale dei problemi d'ambiente attuali.	1	2	3	4	5	6	7	8	9
Ho abbastanza fiducia nella qualità dell'acqua fornita dalla municipalità.	1	2	3	4	5	6	7	8	9
Credo che l'aria che respiro é inquinata la maggior parte del tempo.	1	2	3	4	5	6	7	8	9
Credo che ci si possa bagnare senza pericolo nella maggior parte dei nostri laghi, stagni, e fiumi.	1	2	3	4	5	6	7	8	9
In un ristorante, mi sentirei in imbarazzo a rifiutare un recipiente in polistirolo non riutilizzabile.	1	2	3	4	5	6	7	8	9
Credo che i materiali da imballaggio dei prodotti di consumo siano la maggior fonte di rifiuti solidi.	1	2	3	4	5	6	7	8	9
Credo che i giornali, i volantini, e le stampe pubblicitarie, siano i maggiori contributori dell'inquinamento.	1	2	3	4	5	6	7	8	9
Il mio comportamento personale non fa nessuna differenza nella lotta contro l'inquinamento.	1	2	3	4	5	6	7	8	9
Come protesta contro l'uso eccessivo d'imballaggio, sarei disposto/a a rinviare per posta l'imballaggio superfluo al fabbricante del prodotto.	1	2	3	4	5	6	7	8	9
Non sta al consumatore d'interessarsi dell'effetto sull'ambiente che hanno i prodotti che lei/lui usa.	1	2	3	4	5	6	7	8	9
Lasciare la televisione accesa quando nessuno la guarda non é grave dato che l'elettricità costa poco.	1	2	3	4	5	6	7	8	9
É assurdo dover pagare per dei recipienti restituibili.	1	2	3	4	5	6	7	8	9
Sarei disposto/a a pagare 10\$ in più alla settimana per comprare prodotti meno nocivi per l'ambiente.	1	2	3	4	5	6	7	8	9
Il riciclaggio é molto fastidioso.	1	2	3	4	5	6	7	8	9
Accetterei di pagare 10% in più di tasse per un programma di risanamento ambientale.	1	2	3	4	5	6	7	8	9
É accettabile pagare 10% in più per gli alimenti prodotti, trattati, e confezionati in un modo che non sia dannoso per l'ambiente.	1	2	3	4	5	6	7	8	9

**Fortemente
in disaccordo**

**Fortemente
d'accordo**

Il riciclaggio salverebbe terreni che verrebbero utilizzati come depositi d'immondizie.	1	2	3	4	5	6	7	8	9
Il Canada ha così tanti alberi che non è necessario riciclare la carta.	1	2	3	4	5	6	7	8	9
Dato che il Canada è un paese molto grande, l'inquinamento creato da noi è facilmente disperso dunque non mi riguarda.	1	2	3	4	5	6	7	8	9
Con così tanta acqua in Canada, non capisco perché la gente si preoccupa di rubinetti che colano e degli scarichi di sciacquoni.	1	2	3	4	5	6	7	8	9
Nel Québec abbiamo così tanta elettricità che non dobbiamo preoccuparci di conservarla.	1	2	3	4	5	6	7	8	9
Odio lavare le bottiglie per il riciclaggio.	1	2	3	4	5	6	7	8	9
Personalmente, non credo che l'inquinamento possa influenzare la mia vita.	1	2	3	4	5	6	7	8	9
I benefici della maggior parte dei prodotti sono più importanti dell'inquinamento che risulta dalla loro produzione e dal loro uso.	1	2	3	4	5	6	7	8	9
Tenere mucchi separati d'immondizie per il riciclaggio è troppo fastidioso.	1	2	3	4	5	6	7	8	9
Cercare di controllare l'inquinamento è più un fastidio che altro e non ne vale la pena.	1	2	3	4	5	6	7	8	9
I detersivi per la biancheria senza fosfato sono buoni per l'ambiente.	1	2	3	4	5	6	7	8	9
Il riciclaggio ridurrà l'inquinamento.	1	2	3	4	5	6	7	8	9
Le ditte di prodotti alimentari confezionati agiscono in modo responsabile verso l'ambiente.	1	2	3	4	5	6	7	8	9
Le fabbriche in cui si produce la carta si preoccupano dell'ambiente.	1	2	3	4	5	6	7	8	9
I recipienti per bibite non restituibili devono essere proibiti.	1	2	3	4	5	6	7	8	9
La gente non solo dovrebbe cercare di essere ambientalmente cosciente ma anche di istruire gli amici, quando possibile.	1	2	3	4	5	6	7	8	9
La terra è un sistema chiuso dove tutto ritorna al normale, allora non vedo nessun motivo di preoccupazione per il suo stato attuale.	1	2	3	4	5	6	7	8	9
Il riciclaggio è importante per risparmiare le risorse naturali.	1	2	3	4	5	6	7	8	9

4. Con quale frequenza Lei compra gli articoli seguenti? Per ogni affermazione, La prego di indicare con un cerchio un numero dall'1 al 9 a secondo della frequenza di ogni suo comportamento.

	Mai									Sempre								
Pannolini non riutilizzabili.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Coltelli, forchette o cucchiari di plastica.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Detersivo per biancheria senza fosfati.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Tazze di polistirolo.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Batterie <i>non</i> ricaricabili per elettrodomestici, giochi, e/o radio.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Macchina fotografica gettabile.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Frutta e verdura coltivata <i>organicamente</i> .	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Dentifricio nei tubetti a pompa.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Rasoi usa e getta.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

PARTE C

Le seguenti sono delle affermazioni concernenti degli aspetti della cultura. Per ogni affermazione, La prego di indicare con un cerchio un numero dall'1=falso al 9=vero. La prego di indicare se Lei é il tipo di persona prediposta a:

	Falso									Vero								
Chiedere ai propri genitori anziani di vivere a casa propria.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Stare con amici, invece di andare in albergo, quando va in un'altra città (anche se ha tanti soldi).	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Mettere i genitori in un pensionato.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Preferire andare ad un "cocktail party" invece di andare ad una cena con quattro amici intimi.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Spendere soldi (es., inviare fiori) invece di trovare il tempo per visitare un amico che sta male.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Chiedere a dei parenti intimi un prestito.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Accogliere ospiti anche quando si presentano ad ore strane.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Accogliere anche ospiti non graditi.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Vivere lontano dai genitori.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Dimostrare risentimento verso visitatori che interrompono il suo lavoro.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
Avere genitori che comunicano estesamente con i genitori del fidanzato/a prima di decidere se voi due dobbiate sposarvi.	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9

PARTE D

La seguente é una lista di cose che certa gente cerca nella vita o vuole dalla vita. La prego di esaminare la lista attentamente e di valutare ogni cosa relativamente all'importanza che ha nella SUA vita quotidiana. Il 1 = molto insignificante e il 9= molto significante.

	Molto insignificante								Molto significante
Un senso di appartenenza	1	2	3	4	5	6	7	8	9
Eccitazione	1	2	3	4	5	6	7	8	9
Rapporti calorosi con gli altri	1	2	3	4	5	6	7	8	9
Auto-emancipazione	1	2	3	4	5	6	7	8	9
Essere ben rispettato/a	1	2	3	4	5	6	7	8	9
Divertimento e godimento della vita	1	2	3	4	5	6	7	8	9
Sicurezza	1	2	3	4	5	6	7	8	9
Rispetto verso se stesso	1	2	3	4	5	6	7	8	9
Un senso di realizzazione	1	2	3	4	5	6	7	8	9

Adesso rilegga la lista e scelga *IL* valore più importante

nella Sua vita quotidiana: _____

Sotto sono elencati 11 valori in ordine alfabetico. La prego di guardare la lista attentamente e di valutare ogni valore secondo la loro importanza come principii guida nella SUA vita.

	Molto insignificante								Molto significante
Essere pulito (es.,ordinato)	1	2	3	4	5	6	7	8	9
Coraggioso (es., difendere le proprie convinzioni)	1	2	3	4	5	6	7	8	9
Essere d'aiuto (es., lavorare per il benessere degli altri)	1	2	3	4	5	6	7	8	9
Onesto (es., sincero, veritiero)	1	2	3	4	5	6	7	8	9
Indipendente (es., auto-sufficiente, sicuro di sè)	1	2	3	4	5	6	7	8	9
Intellettuale (es., intelligente, riflessivo)	1	2	3	4	5	6	7	8	9
Logico (es., coerente, razionale)	1	2	3	4	5	6	7	8	9
Amoroso (es., affettuoso, tenero)	1	2	3	4	5	6	7	8	9
Obbediente (es., rispettoso, doveroso)	1	2	3	4	5	6	7	8	9
Responsabile (es., attendibile, affidabile)	1	2	3	4	5	6	7	8	9
Disciplinato (es., controllato)	1	2	3	4	5	6	7	8	9

Adesso rilegga la lista e scriva qui *IL* valore che é più

importante per lei: _____

PARTE E**Dati Anagrafici**

1. Lei e' di sesso: ___ maschile ___ femminile
2. Lei e': ___ Celibe/nubile
 ___ Sposato/a o convivente
 ___ Separato/a o divorziato/a
 ___ Vedovo/a
3. La prego di indicare la Sua eta':
- ___ meno di 20 anni ___ 40 a 49 anni
 ___ 20 a 29 anni ___ 50 a 59 anni
 ___ 30 a 39 anni ___ 60 anni e piu'
4. La preghiamo di indicare il reddito totale (lordo) familiare:
- ___ inferiore a \$20,000 ___ \$50,000 a \$59,999
 ___ \$20,000 a \$29,999 ___ \$60,000 a \$69,999
 ___ \$30,000 a \$39,999 ___ \$70,000 e piu'
 ___ \$40,000 a \$49,999
5. Quanti membri della Sua famiglia vivono con Lei? ___1 ___2 ___3 ___4 ___5 o piu'
6. Se ha figli che vivono a casa con Lei, che eta' ha il/la piu' giovane? _____ anni.
7. Lei o la Sua famiglia: ___ e' proprietario di casa? ___ e' in affitto?
- Questa e': ___ una casa staccata
 ___ una casa semi-staccata o una residenza cittadina o una casa a schiera
 ___ una appartamento in una casa bifamiliare o trifamiliare
 ___ un condominio (o una casa divisa in appartamenti)
 ___ altra
8. In che municipalita' abita? _____
9. La preghiamo di indicare il grado d'istruzione ottenuto:
- ___ scuola elementare
 ___ scuola media (High school)
 ___ 'Cegep', scuola superiore, scuola tecnica
 ___ diplomato/a di universita'
 ___ laureato di universita'
10. Qual'e' la sua occupazione? _____
11. Qual'è il suo impiego (accerchiare un numero)
- | | |
|--|---|
| Lavoro a tempo pieno (30 ore + per settimana) | 1 |
| Lavoro a tempo parziale (meno di 30 ore/settimana) | 2 |
| Ritirato, pensionato/a | 3 |
| Studente/ssa | 4 |
| Disoccupato/a | 5 |
| Casalingo/a solamente | 6 |

Le siamo molto grati per la sua partecipazione nel riempimento di questo questionario. Grazie.

APPENDIX B

CORRELATIONS AND RELIABILITY ANALYSES

1. Percentage of times English is used in communication contexts

	SP.	CH.	REL.	WORK	TV	RADIO	NEWSP.	MAG.	SHOP	FRIEND	SCHOOL
At home with spouse	1.0										
At home with children	0.95	1.0									
With relatives	0.93	0.95	1.0								
At work	0.78	0.76	0.76	1.0							
Watching television	0.82	0.81	0.80	0.74	1.0						
Listening to radio	0.80	0.81	0.79	0.69	0.85	1.0					
Reading newspapers	0.92	0.91	0.90	0.76	0.85	0.83	1.0				
Reading magazines/books	0.86	0.87	0.86	0.74	0.87	0.84	0.91	1.0			
Shopping	0.85	0.85	0.85	0.78	0.80	0.77	0.85	0.82	1.0		
With close friends	0.93	0.92	0.92	0.80	0.85	0.82	0.93	0.89	0.89	1.0	
When you went to school	0.88	0.90	0.91	0.75	0.80	0.78	0.87	0.87	0.83	0.91	1.0

Average correlation: 0.87 Cronbach's Alpha: .9830

2. Percentage of times French is used in communication contexts

	SP.	CH.	REL.	WORK	TV	RADIO	NEWSP.	MAG.	SHOP	FRIEND	SCHOOL
At home with spouse	1.0										
At home with children	0.95	1.0									
With relatives	0.93	0.95	1.0								
At work	0.78	0.77	0.76	1.0							
Watching television	0.82	0.81	0.81	0.74	1.0						
Listening to radio	0.80	0.81	0.80	0.69	0.85	1.0					
Reading newspapers	0.91	0.91	0.90	0.76	0.85	0.83	1.0				
Reading magazines/books	0.86	0.87	0.87	0.74	0.88	0.84	0.91	1.0			
Shopping	0.85	0.85	0.85	0.78	0.80	0.77	0.85	0.82	1.0		
With close friends	0.93	0.92	0.93	0.80	0.85	0.82	0.93	0.89	0.89	1.0	
When you went to school	0.88	0.91	0.92	0.75	0.81	0.79	0.88	0.87	0.83	0.91	1.0

Average correlation: 0.87 Cronbach's Alpha: .9832

3. Correlations - Communication Patterns

French language communication	1.0
English language communication	0.9996

Cronbach's Alpha: .9998

4. Correlations - Self-Identification

I consider myself to be English 1.0
 I consider myself to be French 0.9617 1.0

Cronbach's Alpha: .9804

5. Correlation - Ethnic Index

Self-Identification 1.0
 Language 0.9481 1.0

Cronbach's Alpha: .9654

6.1 Percentage of times English is used in communication contexts

	SP.	CH.	REL.	WORK	TV	RADIO	NEWSP.	MAG.	SHOP	FRIEND	SCHOOL
At home with spouse	1.0										
At home with children	0.64	1.0									
With relatives	0.43	0.42	1.0								
At work	0.28	0.33	0.31	1.0							
Watching television	0.61	0.66	0.48	0.5	1.0						
Listening to radio	0.58	0.61	0.46	0.52	0.83	1.0					
Reading newspapers	0.54	0.61	0.48	0.56	0.78	0.78	1.0				
Reading magazines/books	0.57	0.64	0.51	0.49	0.81	0.80	0.84	1.0			
Shopping	0.29	0.37	0.18	0.46	0.49	0.50	0.48	0.50	1.0		
With close friends	0.66	0.67	0.52	0.48	0.77	0.77	0.74	0.82	0.56	1.0	
When you went to school	0.56	0.65	0.38	0.46	0.75	0.73	0.73	0.78	0.48	0.79	1.0
Spous' relatives	0.52	0.37	0.61	0.25	0.36	0.39	0.39	0.39	0.22	0.41	0.31
When watching movies	0.56	0.60	0.45	0.47	0.89	0.77	0.75	0.79	0.44	0.73	0.70

Average correlation: 0.61

Cronbach's Alpha: .9461

6.2 Percentage of times French is used in communication contexts

	SP.	CH.	REL.	WORK	TV	RADIO	NEWSP.	MAG.	SHOP	FRIEND	SCHOOL
At home with spouse	1.0										
At home with children	0.69	1.0									
With relatives	0.53	0.59	1.0								
At work	0.20	0.26	0.21	1.0							
Watching television	0.25	0.37	0.29	0.35	1.0						
Listening to radio	0.35	0.45	0.41	0.40	0.69	1.0					
Reading newspapers	0.37	0.44	0.39	0.41	0.56	0.62	1.0				
Reading magazines/books	0.39	0.51	0.55	0.36	0.57	0.67	0.75	1.0			
Shopping	0.25	0.29	0.27	0.42	0.29	0.35	0.36	0.34	1.0		
With close friends	0.57	0.65	0.68	0.36	0.41	0.57	0.51	0.64	0.42	1.0	
When you went to school	0.36	0.52	0.63	0.24	0.23	0.38	0.41	0.50	0.28	0.68	1.0
Spous' relatives	0.82	0.58	0.43	0.18	0.21	0.28	0.32	0.30	0.23	0.50	0.27
When watching movies	0.16	0.28	0.18	0.30	0.78	0.56	0.52	0.55	0.21	0.31	0.16

Average correlation: 0.49

Cronbach's Alpha: .8984

6.3 Percentage of times Italian is used in communication contexts

	SP.	CH.	REL.	WORK	TV	RADIO	NEWSP.	MAG.	SHOP	FRIEND	SCHOOL
At home with spouse	1.0										
At home with children	0.64	1.0									
With relatives	0.43	0.44	1.0								
At work	0.34	0.34	0.22	1.0							
Watching television	0.54	0.56	0.39	0.58	1.0						
Listening to radio	0.55	0.57	0.40	0.54	0.77	1.0					
Reading newspapers	0.52	0.58	0.41	0.55	0.74	0.79	1.0				
Reading magazines/books	0.56	0.60	0.44	0.52	0.70	0.79	0.84	1.0			
Shopping	0.49	0.54	0.40	0.49	0.62	0.61	0.62	0.66	1.0		
With close friends	0.65	0.66	0.51	0.45	0.67	0.72	0.72	0.80	0.69	1.0	
When you went to school	0.58	0.63	0.40	0.48	0.65	0.70	0.72	0.77	0.59	0.84	1.0
Spous' relatives	0.58	0.39	0.57	0.26	0.33	0.37	0.35	0.41	0.35	0.43	0.35
When watching movies	0.50	0.55	0.38	0.53	0.78	0.73	0.81	0.76	0.62	0.67	0.66

Average correlation: 0.62

Cronbach's Alpha: .9396

APPENDIX C

FIGURE 2

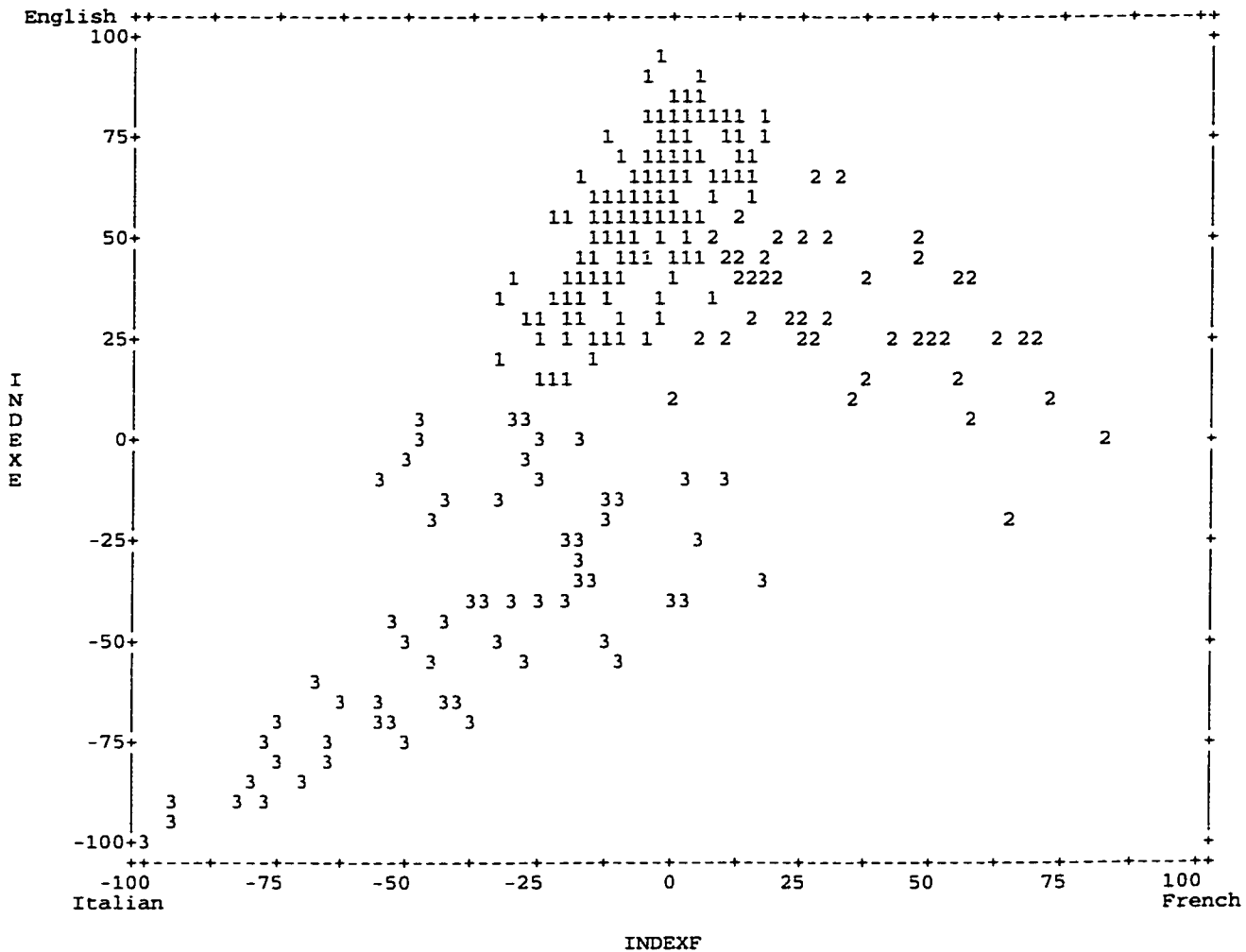


Fig. ___ Plot of clusters by INDEXE AND INDEXF

Legend:
 1 = English Italians
 2 = French Italians
 3 = Strong Italians