INFORMATION TO USERS

A MODEL OF CONSUMER PREFERENCE FOR INTERPERSONAL INFORMATION SEARCH

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ABSTRACT

A Model of Consumer Preference for Interpersonal Information Search

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This study examines the effect of some potential influencers on consumers' preference for interpersonal information search. A model offering individual and situational predictors of consumer preference was tested using structural equation modeling. The individual variables included people's susceptibility to social influence, their need for cognition, and their self-confidence. The situational variables included respondents' product knowledge, and their perceived risk. A self-administered survey was distributed in English and French to a sample of respondents in the greater Montreal area. All three individual variables influenced significantly consumers' preference for interpersonal information search. As for the situational variables, only product knowledge had a significant effect on the dependent variable. The moderating effect of culture was also tested and yielded non-significant results suggesting that consumers' collectivistic orientation does not moderate the impact of the predictor variables on the dependent variable. The results also suggested that women have a higher preference for interpersonal sources than men and that income is negatively related to consumer preference for interpersonal information search.

AKNOWLEDGEMENT

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Chapter 1   INTRODUCTION

Consumers' search for specific information related to a product or a service is a critical step in their purchase decision-making process. As rational beings, we like to reduce the uncertainty inherent in making a choice. One way of coping with this uncertainty is by gathering situation-specific information designed to help us evaluate the various alternatives and choose the most valuable one.

The importance of information in consumer decision-making is clearly outlined in Thorelli et al. (1975). The authors proposed a relatively simplistic model of purchase decision-making in which external search for information plays a central role. External search is shown to affect consumers' evaluation of alternatives, which in turn influences the purchase behaviour. According to Thorelli et al. (1975), product related information could enter into the buying process at a number of different points. It can enter at the predisposition stage in the form of stored information and attitudes resulting from past experience. Product related information can also come from conscious external search, or it can simply come from accidental exposure. The authors argued that only information obtained through external search is the result of a conscious, rational, and physically traceable activity, which justifies the attention external search received from investigators.

Since the work of Thorelli and his colleagues, information seeking behaviour has been widely investigated by marketing scholars (e.g., Claxton et al., 1974; Newman, 1977; Bettman, 1979; Beatty & Smith, 1987). The numerous studies range from investigating external search determinants in various buying situations (e.g., Newman,

1977; Moore & Lehmann, 1980; Punj & Staelin, 1983; Beatty & Smith, 1987; Laroche et al., 2000) to offering typologies of search strategies (e.g., Claxton et al., 1974; Kiel & Layton, 1981; Furse, Punj, & Stewart, 1984).

The body of literature on information search often recognized interpersonal information seeking as one of the preponderant types. Consumers seem to rely with a varying degree on interpersonal sources to gather most of the information needed. Brown & Reingen (1987) suggested that interpersonal exchange plays a dominant role in shaping consumers' attitudes and behaviours. Similarly, other scholars found word-of-mouth communication to be one of the most important sources when making purchase decisions (e.g., Herr, Kardes, & Kim, 1991; Beatty & Smith, 1987; Furse, Punj, & Stewart, 1984; Price & Feick, 1984). Literature specifically addressing interpersonal information search, however, is not extensive and mostly dealt with the effect of communicator characteristics such as opinion leadership, expertise, and tie-strength (Brown & Reigen, 1987; Gilly et al., 1998; Bansal & Voyer, 2000), as well as the effects of word-of-mouth advertising (Arndt, 1967a; Herr et al., 1991).

The present study intends to extend this research stream by investigating possible influencers of consumers' preference for interpersonal information search. Consumers' preference for interpersonal information search refers to their tendency to favour the opinion of others as a primary source of information in a buying situation. The main objectives of this paper are twofold. First, it will propose and empirically test a model describing the influence of some individual and situational variables on consumers' tendency to favour interpersonal sources as the primary means of obtaining information

2

about products and services. Second, it will investigate the moderating effect of culture on people's preference for interpersonal information seeking.

This research has important theoretical implications, as it is intended to extend the existing knowledge on one rather influential aspect of information search behaviour: the interpersonal information search. In addition, except for a limited number of studies (e.g., Thorelli et al., 1975; Dawar et al., 1996; Money et al., 1998), the cultural issue has rarely been raised in previous research despite its emerging importance. It deserves full attention in a business world that is increasingly global.

Practitioners can also benefit from the findings of this study. Given the early positioning of information search in the buying decision process, if they can identify which segment in their market relies more heavily on others' opinions and which other segment is likely to give these opinions, they can tailor their communication strategies to suit both segments. For instance, marketers could focus more on persuading those likely to give opinions and benefit from the eventual positive and powerful word-of-mouth these persons are most likely to spread.

Chapter 2   LITERATURE REVIEW

General Background

I <u>Information search</u>

Information search is clearly a multi-dimensional concept. According to Fodness & Murray's (1998) terms, this concept includes a spatial dimension (internal vs. external search), a temporal dimension (prepurchase vs. ongoing search), and an operational dimension (contributory vs. decisive search). Another important dimension of information search is the extent of search. This dimension has typically been investigated in studies dealing with antecedents of information search or studies proposing a typology of information sources.

Scholars have distinguished between internal and external information search activities (e.g., Fodness & Murray, 1991; Moore & Lehman, 1980). While internal search refers to retrieving stored information, external search encompasses all other activities the consumers engage in to obtain relevant information from their environment that will be used in their purchase decision. Due to the empirical difficulties in assessing internal search, the latter has received very little attention in the information search literature. It is, however, generally accepted that internal search occurs before external search and influences the extent of external search activity (Moore & Lehmann, 1980). Kiel & Layton (1981) provide two main reasons why internal search may not be sufficient. First, consumers may lack sufficient product knowledge or experience. Second, too much time

may have gone by since the last confrontation with a similar decision process. In both cases, missing relevant information has to be retrieved from the environment rather than from the memory.

The temporal dimension of search distinguishes between information sought when a purchase need arises and ongoing information search activities, which are independent of a specific purchase need. Interestingly, past literature suggests that identical sources are often used for both search processes. However, the purpose of the search is different. In the case of purchase related search, the goal is to make a better purchase decision. In the ongoing search case, on the other hand, the goal is to build a knowledge base for future use or to achieve some intrinsic satisfaction from the search process (Fodness & Murray, 1998; Bloch et al., 1986).

The operational dimension of search pertains to the relative value of the information sought in terms of its influence on the final decision (Fodness & Murray, 1998). A piece of information or a source of information which has a major influence on the choice decision is referred to as decisive. Contrastingly, a source or a piece of information which may have some influence but has a limited impact on the final decision is referred to as contributory.

Compared to the previous dimensions, the extent of external search enjoyed a much larger interest from scholars. As early as 1987, Beatty & Smith identified over 50 studies that dealt with the possible antecedents of information search extent. They also listed approximately 60 variables that have been studied empirically as determinants of external search. Based on earlier work by Bettman (1979) and Newman (1977), Moore & Lehman (1980) developed five broad categories to classify the numerous determinants of

5

the extent of information search. These categories are: 1) Market environment, 2) Situational variables, 3) Potential payoff/product importance, 4) Knowledge and experience, and 5) Individual differences. Later, Beatty & Smith (1987) updated this list by adding two more categories: 6) Conflict and conflict resolution, and 7) Cost of search. Beatty & Smith's extensive literature review led them to the following conclusions concerning the determinants of external search:

1. "Consumers tend to engage in more search when purchasing higher priced, more visible, and more complex products – i.e., products that intrinsically create greater perceived risk."

2. "Search is also influenced by individual factors, such as the perceived benefits of search (e.g., enjoyment, self-confidence, role), demographic aspects, and product knowledge possessed."

3. "Search effort tend to be further influenced by factors in the market place such as store distribution and by situational factors such as time pressure impinging on the shopper." (Beatty & Smith, 1987, p84).

External search studies also focused on identifying different search patterns by clustering individuals who utilized sources of information differently during the search process. Midgley (1983), for example, found five clusters of consumers who differed in their style of search for men's suits: minimal external search (deliberate), peer assisted, extensive external search, spouse assisted, or minimal external search (decisive). Kiel & Layton (1981) also suggested that consumers can be classified into groups according to their search behaviour for a car. They suggested three major groups: a low search group, a high search group, and a selective search group. Low information seekers were

6

described as undertaking little search from all the sources of information; they visit few dealers, discuss the purchase with few people, and make little use of media. They were also thought to make the purchase more quickly than other consumers and undertake little brand or dealer deliberation. The high information seekers, on the other hand, spend substantial time considering the purchase, make extensive use of the various sources, and deliberate on several brands and dealers before reaching a final decision. As for the selective information seekers, they represent consumers who make extensive use of one source of information but make relatively less use of other sources. Similarly, Furse, Punj & Stewart (1984) identified six distinctive search patterns among purchasers of automobiles: 1) a low search group, 2) a purchase-pal-assisted group, 3) a high search group, 4) a high-self-search group, 5) a retail shopper group, and 6) a moderate search group. Most of these clusters are reminiscent of those found in the two previous studies. Clusters 1 and 3, for example, are similar to Kiel & Layton's low search and high search groups, while clusters 5 and 6 resemble Kiel and Layton's selective search group. Furthermore, the purchase-pal-assisted group is similar to Midgley's peer assisted or spouse assisted information search patterns.

While it is commonly accepted that consumers may undertake search for information before making a purchase decision, it is also suggested that the amount of external search tends to be limited rather than extensive (Newman, 1977). Midgley (1983) proposes that consumers seem to "rely on a small subset of all available information sources (personal, neutral, and advertising)" (p. 74). The relatively limited search activities undertaken by consumers raise an interesting question whether

7

consumers' preference for one source of information could be ascertained and its influencers identified.

II Interpersonal Information Search

Interpersonal sources, in this study, reflect the non-commercial personal sources used by the consumers to gather any product-related information. These sources include family, friends, colleagues, etc., and exclude salesclerks and various sales representatives. One of the main distinctions between word-of-mouth or interpersonal information exchange and commercial sources of information is, according to Arndt (1967a), the perceived motives of the communicator. While in commercial advertising the receiver might be aware of potential biases and exaggerations in the statements of the communicator, in word-of-mouth, the communicator is thought to be independent of the seller and his recommendations are not thought to be biased or exaggerated. This, in addition to other reasons, such as providing an opportunity for clarification and immediate feedback, suggests that interpersonal sources play a dominant role in consumers' acquisition of product related information. This point of view is widely shared by marketing scholars. Katz & Lazarsfeld (1955), for example, found that word-of-mouth was the most influential information source in the purchase of household and food products. The authors reported that word-of-mouth was seven times as effective as newspapers and magazines, four times as effective as personal selling, and twice as effective as radio advertising in influencing consumers to switch brands. Similar findings were reported by Engel, Blackwell, & Kegerreis (1969) who found that close to 60% of

their respondents recalled word-of-mouth as the most influential source in their decision of adopting of an automotive diagnostic centre. Similarly, Price and Feick (1984) reported that 91% of the respondents said they were very likely or somewhat likely to use knowledgeable friends, relatives or acquaintances as sources of information in the product purchase. Herr, Kardes, & Kim, (1991) also found that word-of-mouth had more influence on product judgements than less vivid printed information. They also found that the effect of word-of-mouth was reduced or eliminated when a prior impression of the target brand was available from memory or when extremely negative attribute information was presented.

Personal sources were also found to play a particularly influential role in the diffusion of information regarding new products. Arndt (1967b) found that respondents who received positive word-of-mouth about a new food product were more likely to purchase it than those who received negative word-of-mouth.

More recent research introduced other more complex aspects of interpersonal information exchange processes. Brown & Reigen, (1987), for example, recognized the influence of social ties on the word-of-mouth referral behaviour. They suggested that at a macro level weak ties play an important bridging role, allowing information to travel between distinct groups. At a micro level, however, strong and homophilous ties seem to be more influential than weak ties and are more likely to be activated for goods related information. Gilly et al., (1998) also acknowledged that one of the main differences between word-of-mouth and other sources of information is that the word-of-mouth channel is immediately bi-directional and interactive. They, therefore, proposed a dyadic

model of interpersonal information exchange that included both the information seeker and the source.

Recent research also studied word-of-mouth processes in the service context and the international context (e.g., Bansal & Voyer, 2000; Money, Gilly, & Graham, 1998). Bansal & Voyer (2000, p167) argue that "word-of-mouth processes offer special solutions to the problem of intangibility of services. Because a consumer may not understand a service fully before its consumption, he or she might seek word-of-mouth information from an experienced source". In the international context, Money et al., (1998) found that national culture has a strong effect on the number of referral sources consulted. In a comparative study of U.S. and Japanese industrial services firms, they found that Japanese companies use more referral sources than comparable American companies.

Past research has contributed significantly to the understanding of the phenomenon of word-of-mouth communication and interpersonal information exchange. However, there has been no effort to understand the predictors of consumers' preference for interpersonal sources. In other words, what makes consumers prefer to get their product related information from friends and family, and in which circumstances do they prefer to do so?

Conceptual Framework

Building on existing research in marketing and social and cross-cultural psychology, a model of consumers' preference for interpersonal information search is proposed (see Fig.1). The model suggests individual and situational factors as possible influencers of consumers' preference for interpersonal sources. The individual factors include an individual's susceptibility to interpersonal influence, his or her need for cognition and his or her self-confidence. The situational factors include an individual's product knowledge and his or her perceived risk associated with the purchase of a specific product. Culture and, more specifically, an individual's individualistic/collectivistic orientation are also hypothesized to play a moderating role in consumers' search behaviour.

I <u>Individual Factors</u>

1 <u>Informational susceptibility to interpersonal influence</u>

Individuals may differ in their response to social influence. The underlying concept of influenceability (McGuire, 1968) or, in Bearden et al.'s (1989) terms, "susceptibility to interpersonal influence" was proposed as a general trait that varies across individuals. Bearden et al. (1989) define this construct as "the need to identify with or enhance one's image in the opinion of significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others regarding purchase decisions, and/or the tendency to learn about products and services by observing others or seeking information from others" (p. 474).

According to McGuire (1968) a person's relative influenceability tends to remain stable across different social situations and across occurrences. That is, conforming to one source on one issue will usually translate into conforming to other sources on other issues. Deutsh & Gerard (1955) are credited as being the first to suggest that interpersonal influence can be manifested through either normative or informational influences. They defined informational influence as the tendency to accept information from others as evidence of the reality. On the other hand, Burnkrant & Cousineau (1975) defined normative influence as the tendency to conform to the expectations of others.

Bearden et al. (1989) developed a two-dimensional measure of informational and normative interpersonal influence. The normative dimension reflects the need to identify with or enhance one's image in the opinion of significant others. It is closely related to the attention-to-social-comparison-information (ATSCI) (Lennox & Wolfe, 1984).

The informational dimension reflects the tendency to learn about products and services by observing others or seeking information from others. In other words, informational influence is fairly close to our concept of preference for personal sources. However, our conceptualization of preference for personal sources does not hypothesize a general trait, but rather a variable choice, which is contingent on individual and situational factors. Consumer X, for instance, might be highly susceptible to informational influence and yet have no preference for interpersonal source in a situation where he/she has an extensive knowledge and expertise of the product category. In consumer research, informational influence was found to affect product evaluation and brand selection (Burnkrant & Cousineau, 1975; Cohen & Golden, 1972; Bearden & Etzel, 1982).

Price and Feick (1984) found that interpersonal sources of information are more likely to be used than any other types of information source. They also found that consumers display high intentions of using interpersonal sources whether these sources are readily accessible and known to them or not. The authors argued that this finding provides a strong support for the informational versus normative motives of social influence. Consumers are motivated by informational social influence rather than normative social influence to seek information from other people. Indeed, the use of accessible sources is consistent with the informational motives such as improving communication and lowering the costs of search. Furthermore, when the sources are inaccessible or unknown, they are less likely to be members of the individual's reference group and, therefore, are less likely to provide the individual with norms of behaviour (normative influence). Consistent with Price & Feick (1984), it is proposed that people with higher susceptibility to informational influence will be more likely to prefer seeking information about products and services from personal sources than people who are less influenceable. No relationship is suggested between normative influence and preference for interpersonal sources.

H1: The informational dimension of susceptibility to interpersonal influence will be positively related to consumers' preference for interpersonal sources.
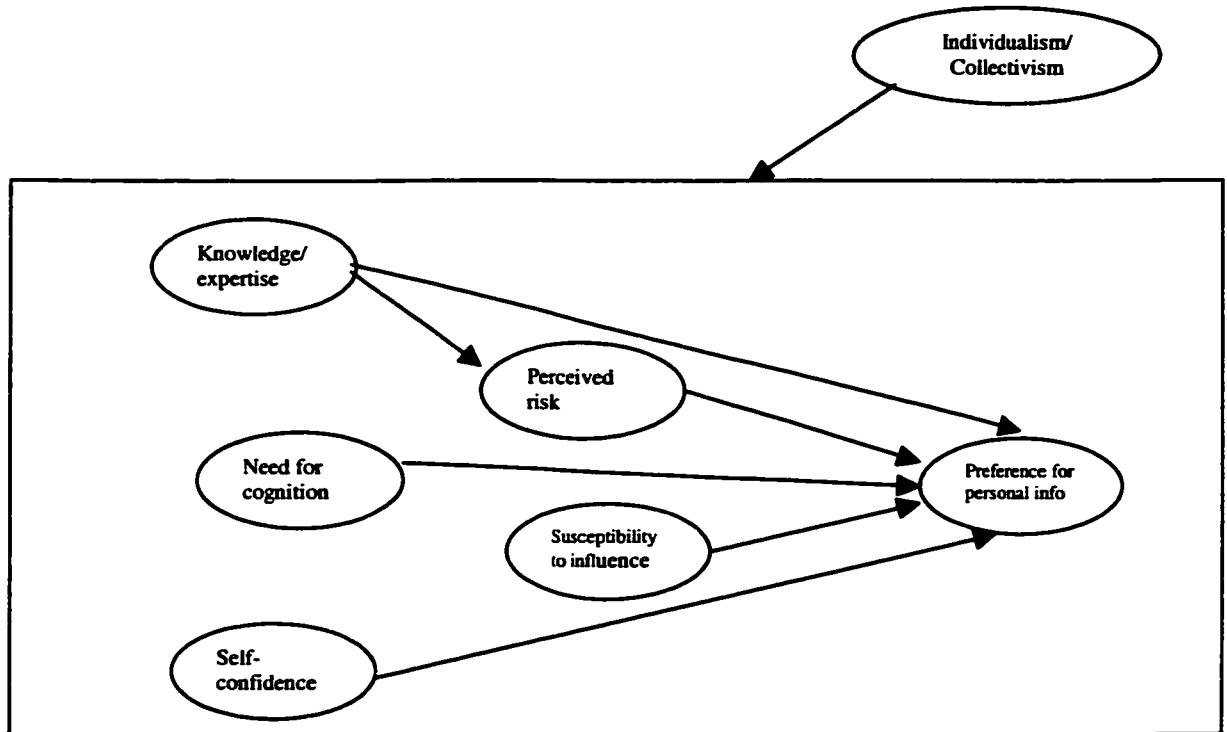
Fig. 1: *Conceptual model of consumers' preference for interpersonal information sources*

2 *Need for cognition*

Need for cognition was first conceptualized by Cohen, Stotland, & Wolfe (1955) as a need to understand and make reasonable the experiential world. Cohen et al. (1955) argued that stronger needs lead people to see a situation as ambiguous even if it is relatively structured, indicating that higher standards for cognitive clarity are associated with greater need for cognition. According to Cacioppo, Petty, Feinstein & Jarvis (1996), Cohen and his colleagues' conceptualization of need for cognition emphasized ambiguity intolerance and tension reduction, and as such appears closer to contemporary scales that measure ambiguity tolerance, need for structure, or need for closure.

On the other hand, Cacioppo & Petty (1982) proposed that need for cognition was a stable individual difference in people's tendency to engage in and enjoy effortful cognitive activity. Low need for cognition is defined as the relative absence of motivation for effortful cognitive activities that defines high need for cognition. Cacioppo & Petty (1982) conducted a series of four studies to develop and validate a scale to assess the need for cognition. In the first study, a pool of 45 items was administered to groups known to differ on need for cognition. Members of a university faculty served as subjects in the high need for cognition group, whereas assembly-line workers served as subjects in the low need for cognition group. The criteria of ambiguity, irrelevance, and internal consistency were used, resulting in the selection of 34 items for subsequent studies. A principal-components analysis and a scree test of these data revealed one dominant factor, which accounted for 30.1% of the variance. Further, no gender differences in need for cognition were found. This was confirmed by later research (e.g., Sadowsky & Cogburn, 1997; Tolentino, Curry, & Leak, 1990). Study 2 served to validate the factor structure by administering the 34 items to a more homogeneous population. A short form of the need for cognition scale was also developed by Cacioppo, Petty & Kao (1984) on the basis of reanalyses of the data from 1982 and a replication and extension involving 527 undergraduate students. Cacioppo et al. (1984) found that the Cronbach alpha reached an asymptote after entering the 18 items in the 34-item scale that had the highest factor loadings. Reliability and factor analyses confirmed that the 18-item scale was highly correlated with the original 34-item scale, possessed high internal consistency, and was characterized by one dominant factor accounting for 37% of the variance.

Since 1982, a sizeable amount of literature has emerged on individual differences in need for cognition in fields ranging from social personality, development and cognitive psychology to behavioural medicine, education, journalism, marketing, and law (Cacioppo et al., 1996).

In the advertising literature, high need for cognition individuals have been shown to process and evaluate advertising information more thoroughly than low need for cognition individuals. They tend to be influenced by message-relevant thoughts rather than peripheral cues such as endorser attractiveness (Haugtvedt & Petty, 1992), spokesperson credibility (Petty & Cacioppo, 1986), humour (Zhang, 1996) or the number of arguments presented (Cacioppo, Petty & Morris, 1983). Furthermore, according to Inman, McAlister & Hoyer (1990), high need for cognition individuals tend to make more optimal in-store purchase decision because they tend to react to a promotional signal only when a significant price reduction is offered. Conversely, low need for cognition individuals react when the product appears to be on special regardless of the amount of price reduction offered.

The concept of need for cognition has also greatly contributed to the persuasion literature. According to the heuristic-systematic information processing model (Chaiken, 1980), high involvement leads message recipients to employ a systematic processing strategy, in which message based cognitions mediate persuasion. Low involvement, on the other hand, leads recipients to use a heuristic processing strategy, in which simple decision rules mediate persuasion. Along the same line, the Elaboration Likelihood Model (Petty & Cacioppo, 1986) proposes that extensive issue or argument processing represents the central route to persuasion or resistance. However, when people are

16

relatively unmotivated or unable to process issue-relevant arguments, attitude changes may still occur if peripheral cues are present in the persuasion situation. Consistent with the ELM, Cacioppo et al. (1986) found that individuals high in need for cognition are more likely to think about and elaborate cognitively on issue-relevant information when forming attitudes than are individuals low in need for cognition. Further, Haugtvedt & Petty (1992) found that, even though the attitudes and beliefs of high and low need for cognition individuals may appear identical following a persuasive communication, these attitudes differ in their likelihood of persisting over time and in resisting counter-persuasion attempts. In particular, attitudes and beliefs of high need for cognition individuals exhibited greater persistence over time and greater resistance to an immediate counter-message than those of low need for cognition individuals.

In an extensive literature review of the subject, Cacioppo et al. (1996) found relationships between need for cognition and other individual-differences variables. Individuals who differ in terms of need for cognition, for instance, have been posited to differ in terms of their tendency to actively acquire information about a relevant stimulus or event and to engage in effortful cognitive activity when given a task or making sense of the world. Interestingly, variations in need for cognition were found to be negatively related to scales measuring attention to social comparison cues and scales measuring the tendency to value factors such as attractiveness and popularity in one's identity.

As for the possible antecedents to need for cognition, Cacioppo et al. (1986) argued that need for cognition, at least in theory, should result from a person's values, the competence feedback, feelings of personal satisfaction, and mastery derived from cognitive challenges.

17

In line with these findings and with the definition of need for cognition, as proposed by Cacioppo & Petty (1982), it is proposed that people low in need for cognition, compared to those high in need for cognition, are more likely to favour interpersonal information sources. Because individuals high in need for cognition tend to process information more thoroughly and tend to engage in more extensive information search, they will use a wide range of information sources, which reduces their preference for interpersonal sources. On the other hand, low need for cognition individuals are less likely to use multiple sources. Moreover, they are less motivated to gather and process extensive raw information and are more likely to accept already processed information given to them by trusted personal sources.

H2: The lower an individual's need for cognition is, the greater his or her preference for interpersonal sources will be.

3 *Self-confidence*

First, an important conceptual distinction is to be made between generalized self-confidence and situation-specific self-confidence. The former is a relatively stable personality trait, whereas the latter usually depends on the individual's experience and expertise in the domain of interest. In this study, the focus is exclusively on generalized self-confidence. Relatively few studies have looked at the effect of self-confidence on information search. Nevertheless, the findings of these studies have been inconsistent. Arndt (1967b), for example, found a positive linear relationship between self-confidence and being exposed to word-of-mouth communication. Individuals higher in self-confidence received more word-of-mouth information than those lower in self-

confidence. The rationale was that "those higher in self-confidence would have sufficient assurance to discuss products freely with others" (P. 312). In contrast, Kiel & Layton (1981) found a negative linear relationship between self-confidence and search. In both cases of aggregate search and media search, those consumers with higher self-confidence undertook less search activity. Similarly, in their cluster analysis, Furse et al., (1984) classified self-assured people in the moderate-search shopper cluster.

Other findings also suggest a curvilinear relationship between self-confidence and persuasibility or product related discussion (e.g., Cunningham, 1967). It is argued that those high in self-confidence tend to rely on themselves, while those low in self-confidence tend to react defensively and move in an opposite direction to the one suggested by the persuasion attempt. Arndt (1967b) also found a curvilinear relationship between self-confidence and the impact of word-of-mouth, with the medium self-confidence group being most responsive to word-of-mouth comments. This was found despite a positive linear relationship between self-confidence and exposure to word-of-mouth communication.

Preference for interpersonal sources is, at least in theory, fairly close to word-of-mouth exposure. A person who prefers to get product related information from personal sources is likely to be exposed to considerable word-of-mouth communication. This suggests a positive linear relationship between self-confidence and preference for interpersonal sources such as suggested by Arndt (1967b). An individual's self-assurance would make him or her comfortable in discussing product information with others. On the other hand, someone who actively seeks others' opinions is likely to behave according to these sought opinions (Bansal & Voyer, 2000). Preference for interpersonal

sources is, therefore, also related to persuasion or impact of word-of-mouth. This may suggest a curvilinear relationship between self-confidence and preference for interpersonal sources similar to the one found in past research (Arndt, 1967b; Cunningham, 1967). It is, however, reasonable to suggest that preference for interpersonal sources is conceptually more related to exposure to interpersonal information than to persuasion. Therefore, a positive relationship between self-confidence and preference for interpersonal source is hypothesized.

H3: An individual's self-confidence is positively related to his or her preference for interpersonal sources.

II Situational Factors

1 *Perceived risk*

The study of risk has been formally associated with consumer behaviour for many years. Bauer (1960) goes as far as affirming that consumer behaviour is risk taking. He argues that any action taken by a consumer will produce consequences which he or she cannot anticipate with certainty and which might have unpleasant consequences.

Murray & Schlacter (1990) defined perceived risk as a multidimensional construct. It represents consumers' pre-purchase uncertainty related to the type and degree of expected loss resulting from the purchase and the use of a product or a service. Possible loss categories are financial loss, performance loss, psychological loss, social loss, and convenience loss (Arndt, 1967b; Bansal & Voyer, 2000). Cunningham (1967)

was the first to attempt to measure directly, in a large-scale survey, the risk perceived by consumers for three different household product categories. He found that consumers vary considerably in their perceived risk of a particular product category, and that different product categories varied in the degree of perceived riskiness. He argued that even an apparently innocent product such as dry spaghetti might be high in perceived risk for certain consumers.

Past research has also consistently recognized perceived risk as a fundamental concept in consumer information search (Arndt, 1967b; Kaplan & Szybillo, 1974; Peter & Rayan, 1976; Murray & Schlacter, 1990, Srinivasan & Ratchford, 1991; Chaudhuri, 2000). Arndt, for example, found that "to cope with the hazards of buying, consumers tend to develop risk-handling strategies. One such strategy…would be to seek additional information from a number of sources" (1967b, p. 303). Chaudhuri (2000) found that perceived risk mediates the relationship between product importance and the extent of information search. Srinivasan & Ratchford (1991) proposed that perceived risk positively influenced the perceived search benefits, the size of the evoked set, and the search effort. They also found that perceived risk was negatively influenced by the product knowledge, the amount of product related experience, and positive experience with the product. Similarly, Bansal & Voyer (2000) found a negative influence of product expertise on perceived risk, and a negative influence of perceived risk on word-of-mouth information actively sought. In addition, Murray (1991) proposes that word-of mouth is the most important source of information when the goal is to reduce the perceived risk. He argues that this is because word-of-mouth offers great opportunities for clarification and feedback.

Because of the feedback and clarification opportunities offered by interpersonal information exchange, it is suggested that perceived risk is positively related to consumers' preference for interpersonal sources.

H4: There is a positive influence of perceived risk on consumers' preference for interpersonal sources.

2 *Product-class knowledge*

Alba & Hutchinson (1987) defined product-class knowledge as a two-dimensional construct. The first component, familiarity, was defined as "the number of product-related experiences that have been accumulated by the consumer"; while the second component, expertise, was defined as "the ability to perform product-related tasks successfully" (p. 411).

In the information search literature, Brucks (1985) found that prior knowledge of a product class facilitated the acquisition of new information and increased search efficiency. Depending on the way knowledge was operationalized, some controversy exists on the direction of relationship between product knowledge and total external search. Evidence of both positive and curvilinear relationships has been provided. However, past research generally supported a negative relationship between knowledge and total external search for information (see Beatty & Smith, 1987; Brucks, 1985 for reviews). The theory suggests that those with high product knowledge engage in less information search than those lower in product knowledge prior to purchase because they are confident in their ability to make a good decision. In contrast, those low in product

knowledge tend to doubt their ability to make an optimal choice decision and are, therefore, likely to engage in more information search (Bloch et al., 1986). Furthermore, knowledgeable consumers tend to rely less on interpersonal sources for product related information.

In their cluster analysis, Kiel & Layton (1981) found that the group of consumers who tended to rely on interpersonal sources had little experience with car purchasing. On the other hand, the group of consumers considered knowledgeable about cars tended to rely less on interpersonal sources. Similar evidence is found in Furse et al. (1984), Beatty & Smith (1987), and Murray (1991). In addition, Gilly and al. (1998) found that the greater the expertise of an information seeker, the less likely he or she will have a preference for word-of-mouth influence in general. Similarly, we propose a negative relationship between product knowledge and preference for interpersonal sources.

H5: The more knowledgeable a consumer is about the product, the less likely he or she is to prefer interpersonal sources for obtaining product information.

Recent literature also provides support for a negative relationship between product knowledge and perceived risk (Srinivasan & Ratchford, 1991; Bansal & Voyer, 2000). That is, the greater the consumer's knowledge about the product is, the less risky the product will be perceived. It is therefore proposed that there is an indirect effect of product knowledge on preference for personal sources through the perceived risk.

H6: The greater the product-class knowledge is, the less the perceived risk will be.

III Cultural influence

In the broad cross-cultural literature, one stream of research has focused on examining the universality of consumer models in different countries and cultural contexts. This has also been a key theme in cross-cultural psychology. Here concerns have been expressed about the relevance of examining models developed in the US and Europe (i.e., individualist cultures) in other, often collectivist, cultures (Cheung & Leung, 1998). Another stream of research, comprising the largest number of studies, has focused on comparing different aspects of consumer attitudes and behaviours, such as personality traits, values, attitudes and cognitions, and decision-making behaviour in different countries and cultural contexts (Douglas, Craig & Sleuwaegen, 1992). The influence of culture on personality has particularly interested social scientists for a long time. In the first half of the century, the idea that different cultural groups have distinctive personality traits was pursued by anthropologists and cross-cultural psychologist with limited success. (Grimm, et al., 1999; McCrae et al., 1998). Measures, as well as models of personality were inadequate in those early days of personality and culture studies, and interest in the topic waned. Nevertheless, contemporary psychologists have a much better grasp of personality structure and assessment, and are also aware of the many difficulties of making cross-cultural comparisons (McCrae et al., 1998). In an attempt to preclude problems due to translation, Paunonen et al. (2000), for example, proposed a non verbal

personality questionnaire, which was, however, designed to measure the same personality dimensions as previous verbal questionnaires.

It is meaningful to compare members of two cultures with respects to personality traits only if the same traits are found in both cultures. Fortunately, there is now considerable evidence that very similar dimensions of personality can be found in many different cultures (Kashima et al., 1995; Paunonen et al., 2000). Cheung et al. (1998), though, argued that including relatively emic constructs are needed to provide a more comprehensive coverage of the personality dimensions that are important to the local culture.

Only a small amount of research has, however, specifically investigated the information search processes. Thorelli et al (1975) was the first to introduce the idea that culture might influence information-seeking behaviours. However, his research focused exclusively on behaviours related to impersonal sources. Recently, a few scholars (Dawar et al., 1996; Clark, 1990; Money et al., 1998) have studied the impact of culture on information search. They essentially used a general concept of culture comparison that transcends national boundaries. Douglas et al. (1992) suggested that in order to use culture as an explanatory variable, it is best to view it as a complex multidimensional structure rather than as a simple categorical variable, and to array cultures along interpretable dimensions. Among the most influential studies of this type is Hofstede's (1980) research on work values in 53 nations or regions. Hofstede derived four dimensions along which the dominant value systems in different nations can be ordered. These dimensions, which have been widely accepted and used by many researchers to locate and compare cultural groups, are:

Power distance: the extent to which members of a society accept that power in institutions and organizations is distributed unequally.

Uncertainty avoidance: the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity, which leads them to support beliefs promising certainty and to maintain institutions protecting conformity.

Masculinity/Femininity: a preference for achievement, heroism, assertiveness, and material success as opposed to a preference for relationships, modesty, caring for the weak, and the quality of life.

Individualism/Collectivism: a preference for a loosely knit social framework in society, in which individuals are supposed to take care of themselves and their immediate families only, as opposed to a preference for a tightly knit social framework, in which individuals can expect their relatives, clan or other in-group to look after them in exchange for unquestioning loyalty.

Using Hofstede's dimensions, Dawar et al. (1996), for instance, found that the greater the uncertainty avoidance and power distance exhibited by a country, the smaller the proportion of consumers who search for product information from interpersonal sources.

Of all the cultural dimensions, it appears that individualism-collectivism dominates current theoretical and measurement efforts (Grimm et al. 1999). According to Grimm et al. (1999), in the theoretical literature on individualism-collectivism, many personality characteristics are explicitly mentioned or implicitly implied as reflecting individualistic or collectivist tendencies. A summary of these characteristics is shown in table 1.

**Table 1: Personality characteristics across the individualism-collectivism**

**dimension**

Personality characteristics reflecting individualism	Personality characteristics associated with collectivism
- Independence - Pleasure seeking - Assertiveness - Creativity - Curiosity - Competitiveness - Self-assurance - Efficiency - Initiative - Directness	- Attentiveness - Respectfulness - Humility - Deference - Dependence - Empathy - Harmony - Self-control - Sharing - Moderation - Nurturance - Obedience - Dutifulness - Reciprocity - Self-sacrifice - Security - Traditionalism - Conformity - Cooperativeness

A few studies have successfully related self-described personality traits and individualism-collectivism. For example, samples in individualistic cultures have averaged higher on needs for aggression, change, exhibition, heterosexuality, intraception, independence, and uniqueness, whereas samples of collectivistic cultures have averaged higher on affiliative tendencies, interdependence, sensitivity to rejection, and needs for abasement, deference, dominance, endurance, and order (Grimm et al., 1999). These studies typically involved samples for the US, China, Hong Kong, and Japan.

Triandis (1995) described four central elements of the I-C distinction: (a) a sense of self as an autonomous, independent person versus a sense of self as more connected to in-groups, (b) a priority on personal goals versus subordination of personal goals to group goal, (c) an emphasis on personal attributes versus roles and norms in guiding behaviour, and (d) the maintenance of relationships for personal benefits rather than for a sense of connection and obligation.

Based on the theoretical differences between individualist and collectivist cultures, one should expect differences in the way individualist and collectivist individuals collect relevant product information. For example, Eastern countries like China are recognized for the emphasis put on family and close relatives (the" inner group") (Yang, 1993), which is not always the case in Western countries. Supporting the collectivist orientation, Eastern cultures use this close network as sources of personal help when making a decision (Triandis et al, 1988). It is therefore expected that people's collectivistic orientation would moderate the impact of the individual and situational variables included in the preference model. These variables would have a significantly greater impact on the information source preference for the individualistic sample than for the collectivistic sample. Note that no direct relationship was posited between culture and preference for interpersonal information search. Indeed, while individuals from collectivistic cultures might use personal sources frequently, there is no theoretical evidence to suggest that they prefer interpersonal sources to other information sources.

H7: Susceptibility to interpersonal influence will have a greater effect on the consumers' preference for interpersonal information sources in the individualistic sample than in the collectivistic sample.

H8: Need for cognition will have a greater effect on the consumers' preference for interpersonal information sources in the individualistic sample than in the collectivistic sample.

H9: Self-confidence will have a greater effect on the consumers' preference for interpersonal information sources in the individualistic sample than in the collectivistic sample.

H10: Perceived risk will have a greater effect on the consumers' preference for interpersonal information sources in the individualistic sample than in the collectivistic sample.

H11: Product knowledge will have a greater effect on the consumers' preference for interpersonal information sources in the individualistic sample than in the collectivistic sample.

Chapter 3 RESEARCH METHODOLOGY

Research Design

Primary data was collected using a field survey method. A total of 1000 self-administered questionnaires were distributed. 800 of them were distributed door-to-door by trained field-workers, who were required to briefly explain the purpose of the study and ask respondents whether they were willing to participate. Respondents who accepted to participate, then, only had to mail their questionnaires back using pre-stamped envelopes provided by the field-workers. Each questionnaire was accompanied by a cover letter describing the purpose of the research and emphasizing that participation was strictly anonymous and voluntary. In the absence of concrete incentives for people to participate, the cover letter also included a statement informing respondents that their participation will help a student complete his graduation requirements. Another 200 questionnaires were distributed in various malls, churches, and associations and required the same brief explanation of the purpose of the research. The chosen method was judged the most appropriate alternative for collecting data for this study. Indeed, given the financial and time constraints, a mail survey provided an optimum data collection alternative, as it offered relatively low costs, great geographic flexibility, and opportunity for the respondents to answer anonymously at their own convenience.

The study took place in the Greater Montreal area. This region is characterized by the presence of both French-speaking and English-speaking consumers, which required the design of a bilingual questionnaire. The questionnaire was originally written in

English. It was then translated into French and translated back into English in order to verify the accuracy of translation.

A pre-test was conducted in both languages before the final questionnaires were administered. The pre-test involved 20 respondents, mainly students, who were asked to go through the questionnaire and detect any ambiguity in the survey questions. As a result of the pre-test, some items had to be further clarified and others had to be placed in a different order.

Sample

The target population was Canadian consumers in general. The sampling frame consisted of consumers in the Greater Montreal area. Seventeen census areas were selected and one or two streets were randomly chosen in each of these areas to proceed with the door-to-door distribution of questionnaires. Table 2 shows a breakdown of the questionnaires by area. The sample size was determined based on existing results in the relevant literature. Steenkamp & Van Trijp (1991) contend that maximum likelihood estimations should be robust if the sample size is greater than 100. On the other hand, Aubert, Rivard and Party (1994) argue that, in confirmatory factor analysis, a ratio of 10 respondents per item of the largest scale is an acceptable method. Therefore, we estimated that our sample should include about 200 respondents from each cultural group. A total of 1000 questionnaires (500 in English and 500 in French) were distributed in February 2001. 431 questionnaires were returned, but only 419 (198 in English and 221 in French) of them were usable questionnaires. The other ones had either too many

missing responses or were returned completely blank. The response rate of 41.9% was judged satisfactory. Table 3 provides a breakdown of the questionnaires by language, as well as the return rates.

Table 2: Questionnaire Distribution

Municipality	No. Distributed
Anjou	30
Brossard	60
Candiac	56
Dorval	50
Greenfield Park	60
Laprairie	56
Montreal	62
Montreal West	63
Notre Dame de Grace (1)	37
Notre Dame de Grace (2)	39
Nun's Island	48
Pointe Claire	70
Saint Lambert	50
Town of Mont Royal	40
Verdun	24
Westmont (1)	25
Westmont (2)	30
Other	200
Total	1000

Table 3: Returned Questionnaires

	French	English	Total
Questionnaires distributed	500	500	1000
Total Questionnaires returned	228	203	431
Usable Questionnaires returned	221	198	419
Rate of return	44.2%	39.6%	41.9%

Measures

The measurement instrument in both English and French is provided fully in Appendix 1. The questionnaire is composed of three parts. In Part A, respondents were asked to think about a scenario in which they were faced with the decision to purchase a laptop computer. They were then asked questions about how they would go about handling the search for relevant information (brand selection, model selection, etc.) prior to the purchase decision. A laptop computer was chosen because it is believed that individuals' knowledge of computers and their perceived risk are likely to differ, thus, providing an interesting variety of situational factors. Part A also includes items measuring product knowledge and perceived risk. Part B contains measures of personality, individual differences, and cultural variables such as need for cognition, self-confidence, collectivist orientation, and susceptibility to interpersonal influence. Finally, part C is designed to assess demographic variables.

All of the dimensions in the model have been studied previously, which provided a large pool of existing valid items to draw from. The most appropriate measures for each

concept were selected from the literature and adapted to meet the study's needs. Product knowledge, for example, was measured by an adapted scale from Mirsha et al. (1993). Mirsha et al. (1993) used a four-item, seven-point semantic differential scale to measure the degree of knowledge and experience that a respondent reported to have about a specific product-class. Three of these four items were adapted to relate to laptop computers. The forth item was unclear and did not add any further information, which is why it was dropped.

Perceived risk was measured using a six-item, nine-point differential semantic scale adapted from Murray & Schlacter (1990). The items reflected both the financial and the performance components of risk.

The short need for cognition scale (18 items) developed by Cacioppo et al. (1984) was adapted to measure the need for cognition.

Susceptibility to interpersonal influence was measured using an adapted version of the scale of consumer susceptibility to interpersonal influence (12 items) developed by Bearden et al. (1989).

Self-confidence was measured using a 6-item, 9-point semantic differential scale adapted from Wells & Tigert (1971).

Individuals' collectivist orientation was measured by ten items adapted from Yamaguchi (1994).

Finally, preference for interpersonal sources was measured as an index of seven different items adapted from the scale used by Gilly et al. (1998). The score of preference for interpersonal information sources was computed by dividing the score of the item measuring the likelihood of using interpersonal sources to gather relevant information by

the sum of the scores of all seven items measuring the likelihood of using seven different sources of information.

Reliability measures of all the scales used in this study have been reported greater than 0.75 (mostly Cronbach's alpha or Spearman-Brown).

Data Processing

As they were received, the questionnaires were verified by the researcher for completeness and consistency. The usable questionnaires were then coded and entered on the SPSS software. Coding was fairly simple, given the highly structured nature of the questionnaire. Indeed, most of the questions were already pre-coded on the questionnaire, with 1 being strongly disagree and 9 being strongly agree.

Once entered into the computer, the entire dataset was audited by a third person to evaluate the accuracy of the data. The auditor compared the data from the questionnaires to the data entries recorded onto the computer. Very few mistakes were reported and were corrected subsequently.

Statistical analysis was conducted using structural equation modelling. This method allows both confirmation of the factor structure and testing of the stated hypotheses. The EQS computer program was selected to carry out the data analysis because it was readily available and familiar to the researcher. The by default level of significance used by this program is .95. This is a reasonable level of confidence for the purposes of this study.

35

Structural Equation Modeling

Structural equation modeling (SEM) is a statistical methodology that takes a confirmatory approach to the multivariate analysis of a given structural theory (Byrne, 1994). Its inceptors argue that this technique is increasingly used in the behavioural and social sciences for specifying, estimating, and testing hypothesized interrelationships among meaningful variables (Bentler, 1988; Joreskog& Sorbom, 1988).

Byrne (1994) proposes the following aspects, distinguishing SEM from other multivariate analysis procedures:

1. SEM takes a confirmatory rather than an exploratory approach to data analysis (although aspects of exploratory analysis can be addressed).

2. Whereas most other multivariate procedures, such as exploratory factor analysis, are descriptive in nature, SEM, by demanding that relationships between variables be specified a priori, can be used for inferential purposes.

3. SEM explicitly accounts for measurement errors, while other procedures are incapable of even assessing these parameters.

4. Analyses using SEM can incorporate both observed variables and latent (unobserved) constructs, which are of primary interest for social scientists. By contrast, other procedures can only deal with observed variables.

Three major assumptions underlie the validity of SEM analysis. These are:

1. Normal multivariate distribution of the data. While it is, in general, easier to check the normality assumption for each variable independently, this condition is not sufficient to infer multivariate

36

normality. The importance of multivariate normality stems from the fact that the chi square statistic is extremely sensitive to departure from normality. In case of extreme departure from normality, the significance of such a test makes no sense (Bentler, 1989).

2.   The analysis is based on a covariance matrix.

3.   A large enough sample size. As mentioned earlier, a ratio of 10 observations per item of the largest scale in the model is considered sufficient.

Given these assumptions, the first step in the data analysis stage should be to check if all the assumptions are met. The largest scale in the present study is the need for cognition scale (18 items). This implies that only 180 observations are needed for the analysis. Consequently, the questionnaires collected for the project are more than sufficient to satisfy assumption 3. Furthermore, by entering the raw data into the computer program, EQS will automatically extract the covariance matrix to conduct all the analyses. This satisfies the second assumption. The third assumption will be checked next.

Data Description

First, it is necessary to check for the existence of and deal with any missing values. Indeed, like most multivariate methods, SEM requires data to be complete. Considering all the variables included in the model, the program identified two cases with missing values. These are case 20 and case 310. It was decided to delete these cases for

further analysis since their small number will neither affect the sample size nor the results of the analysis. In fact, physically deleting these cases from the dataset is not necessary. The program will simply automatically ignore them during computation.

Next, verification of the multivariate normality assumption was based on information provided by the univariate statistics (kurtosis and skewness), and by the normalized estimate of multivariate kurtosis. Byrne (1994) suggested that high values of kurtosis and skewness (superior in absolute value to 1.5) are suggestive of a violation of the normality assumption. On the other hand, Bentler (1992) proposed that high values of normalized estimate of multivariate kurtosis are suggestive of a violation of multivariate normality. The EQS output showed a slight to moderate violation of the kurtosis and skewness criteria. All the variables but one had a kurtosis and a skewness smaller than $|1.5|$. The variable with the high values of skewness and kurtosis is the dependent variable Pref, which had a kurtosis of 6.45 and a skewness of 1.53. Five other variable had values of kurtosis greater than $|1|$. KNOW1 = -1.21; KNOW3 = -1.1; CONF3 = 1.02; NFC1 = -1.08; and NFC5 = 1.34. These preliminary results suggest a slight violation of the multivariate normality assumption. This violation is further confirmed by the value of the normalized estimate of multivariate kurtosis, which is equal to 38.03.

Interestingly, the program is capable of identifying outliers, which can help improve the multivariate normality of the sample. EQS provides the 5 cases with the largest contribution to normalized multivariate kurtosis. It is possible that none of these cases is actually an outlier. Identification of an outlier is based on the estimate presented for one case relative to those presented for the four other cases. While there is no absolute value upon which to make this judgement, the rule of thumb is that estimates for outlying

cases are substantially different from those representing the other cases. According to the EQS output for the full model, the observations that contributed most to normalized multivariate kurtosis are cases 7, 60, 217, 281, and 312 with relative estimates of 1204.37, 1594.89, 2460.12, 1634.51, and 3162.20. Case 312 has an estimate relatively larger than the others. The model was then resubmitted after eliminating case 312. The elimination of case 312 only marginally improved the normalized estimate of multivariate kurtosis, which moved from 38.03 to 37.89. Moreover, overall fit indices and parameter estimates have not changed significantly. In light of these results it has been decided that case 312 does not represent an extremely outlying case and should remain in the data for further analyses.

For parameter estimation purposes, fortunately, slight to moderate departures from normality can be handled by the maximum likelihood (ML) estimation procedure. The chi-square value (χ^2), however, may not reflect an adequate evaluation of the model under study (Byrne, 1994). Satorra & Bentler (1988) developed a statistic that incorporates a scaling correction for the χ^2 statistic when distributional assumptions are violated; its computation takes into account the model, the estimation method, and the sample kurtosis values. This Satorra-Bentler chi-square (S-Bχ^2) is considered to be the most reliable test statistic for evaluating covariance structure models under various distributions and sample sizes (Byrne, 1994). In EQS, the ROBUST option must be selected along with the estimation method in order to compute the S-Bχ^2 statistic. When this option is chosen, robust standard errors are also computed.

In conclusion, the sample data to be analysed, although not perfectly normally distributed, displays an acceptable distribution. Furthermore, the ML estimation method

accompanied by the ROBUST procedure allow for goodness of fit and parameter estimates to be trusted confidently. A summary of descriptive statistics is provided for each variable in Appendix 2.

Sample Description

The demographic composition of the sample is summarized in Table 4. The crosstabulation technique was used to test for differences between the collectivistic and the individualistic samples based on various demographic variables. The significance level considered for the Pearson statistic was 0.05. The results indicate that at this level of significance there are no differences between the individualistic and the collectivistic samples on any of the demographic variables included in the study. Both samples displayed similar demographic characteristics. A brief description of the results for each of the demographic variables will be presented next.

I Gender

There were no significant differences between the individualistic and the collectivistic samples regarding gender. The proportions of males and females were fairly similar across both samples. Furthermore, both males and females were adequately represented. Males represented 52.6% of the total sample and females accounted for the remaining 47.4% of the respondents.

II Status

The majority of the respondents (64.4%) were married or living with a partner. Approximately a quarter of the sample (26%) was comprised of single people. Here again, there were no significant differences between the individualistic and the collectivistic samples regarding the status of the respondents.

III Age

In terms of the respondents' age, there were no significant differences across the two cultural groups. Both the individualistic and the collectivistic samples displayed a similar and relatively even distribution of age. 37,6% of the total sample was composed of people between the ages of 20 and 39, while 47.7% of the respondents were between 40 and 60 years old.

IV Income

The income distribution of the sample was quite uneven. In fact half of the respondents (50.3%) reported an annual family income superior to $70,000. Only 13.5% of the respondents earned less than $30.000 and 36.1% of them had a family income between $30,000 and $69,999. There were, however, no significant differences across the individualistic and the collectivistic samples regarding income.

V Education

Although no significant differences were found across the two cultural groups in terms of education, the whole sample was fairly well-educated. In fact, 90.8% of the respondents had a post-secondary education. 42.9% had a university degree and 21% even had a graduate degree.

Table 4: Descriptive Statistics

Variable	Range	Collectivistic (%)	Individualistic (%)	Total (%)	Pearson (sig)
Gender	Male	54.1	51.1	52.6	0.875
	Female	45.9	48.9	47.4	
Status	Single	27.6	25	26	0.966
	Married	62.1	66.4	64.4	
	Separated	7.6	7.1	7.7	
	Widowed	2.8	1.4	1.9	
Age	Under 20	2.1	4.3	3.4	0.151
	20 to 29	21.4	22	18.9	
	30 to 39	14.5	19.9	18.7	
	40 to 49	28.3	24.8	25.9	
	50 to 59	17.9	22	21.8	
	60 and older	15.9	7.1	11.3	
Income	> $30,000	15.8	13.4	13.5	0.186
	$30,000 to $49,999	20.9	15.7	16	
	$50,000 to $69,999	19.4	17.2	20.1	
	$70,000 and more	43.9	53.7	50.5	
Education	Elementary	1.4	1.4	1	0.778
	Secondary	9.6	5.8	8.2	
	College	25.3	26.1	27	
	University	43.8	45.7	42.9	
	Graduate	19.9	21	21	

In summary, the individualistic and the collectivistic samples displayed fairly similar demographic characteristics. Therefore, any non-invariance found between the individualistic and the collectivistic groups would not be due to demographic differences.

Special Issues

Before moving to assessment of the overall model fit, it is important to discuss the specification of the need for cognition construct. This concept has been presented earlier as an important independent factor in determining people's preference for interpersonal

sources of information. Need for cognition was measured by an 18-item scale. Most of the past research dealing with validating the scale has found one dominant factor underlying the concept of NFC, and one or more other factors explaining relatively little variance (see Cacioppo et al., 1996 for a review). While all of theses studies used exploratory factor analytic techniques, they nonetheless concluded that NFC was a one-factor construct. Forterlee & Ho (1999), on the other hand, conducted a confirmatory factor analysis to validate the structure of the NFC scale using an Australian sample. Forterlee & Ho (1999) conducted an exploratory factor analysis first and found one major factor (accounting for 32.7% of the variance) including all the positively worded items and a second factor accounting for 7.3% of the variance and comprising the negatively framed questions. Furthermore the two factors were highly correlated (r = -.524). At this point, the authors suspected a single factor structure with the second factor reflecting the scoring protocol of the items. After deleting item 18 because of poor psychometric properties, the authors set out to confirm their hypothesis. They compared three CFA models. The first model was based on the findings of the EFA and included two factors; the first factor was represented by the 8 positively worded items and the second factor represented by the 9 negatively worded items. The second model was a single factor model based on previous findings. Finally, the third model was also a single factor model but the measurement errors of the negatively framed questions were all correlated. The authors argued that participants often have difficulties responding to negatively worded items, leading them to give inappropriate responses. This can be interpreted as a method bias and may be responsible for the appearance of separate factors associated with positively and negatively framed items. This negative-item method effect is posited such

that there are some systematic residual covariations among the negatively framed items that cannot be explained by the latent NFC factor. The authors also argued that "the use of correlated errors to represent a negative-item method effect is consistent with the correlated error model popularized in multitrait-multimethod (MTMM) research" (p475). The comparison of these three models based on overall fit indexes showed that the third model was the best fitting one. Forterlee & Ho (1999) therefore concluded that NFC is a single factor construct and that negative-item method effect accounted for the second factor identified in the EFA. They also suggested that one way of dealing with the negative-item method effect is not to consider the negatively worded items in calculating factor scores.

Consistent with Forterlee & Ho's study, in order to eliminate any negative-item method effect, the present research has only included the positively worded questions in the specification of the NFC factor. Consequently, NFC was measured by 9 items instead of the original 18.

The first objective of this research was to propose and empirically test a model describing the influence of some individual and situational variables on consumers' tendency to favour interpersonal sources as the primary means of obtaining information about products and services. A graphical representation of this model could be the following:
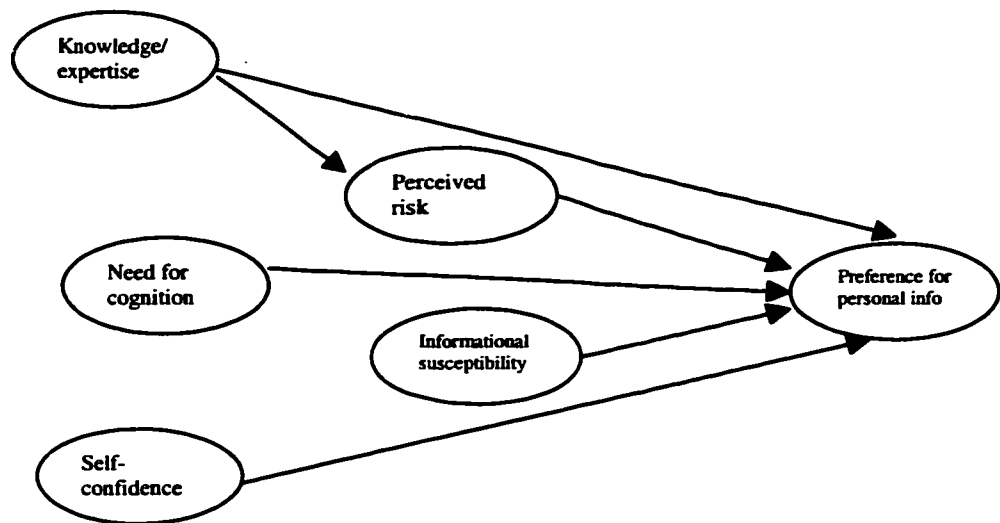
Figure 2: Consumers' preference for interpersonal information sources

(no cultural effects)

The preference model as illustrated in Figure 2 shows five factors: NFC, self-confidence, informational interpersonal influence, product knowledge, and perceived risk. A preliminary analysis of psychometric properties of the items composing the different scales resulted in deleting certain items presenting poor psychometric properties. The final measurement instrument includes:

- 9 items measuring NFC (originally 18)

- 4 items measuring self-confidence (originally 6)

- 3 items measuring informational interpersonal influence (originally 4)

- 3 items measuring product knowledge (originally 3)

- 4 items measuring perceived risk (originally 6)

A confirmatory factor analysis was then conducted to confirm the factor structure of the model. In SEM, it is strongly suggested that a CFA precedes the analysis of the full model (Byrne, 1994).

I The initial factor model

The following representation (Figure 3) illustrates the initial factorial structure for the proposed model. The parameters of the model include the factor loadings of the indicator variables, the variances of the independent variables (factors and residuals), and the covariances between need for cognition and self-confidence and between product knowledge and perceived risk. Theoretically, the covariance between need for cognition and self-confidence is easily conceivable and a positive relationship between the two concepts has been shown in past research (see Cacioppo et al., 1996). On the other hand, the covariance between product knowledge and perceived risk stems directly form hypothesis 6, which suggest a negative influence of product knowledge on perceived risk. It is important to note that for purposes of statistical identification as well as for setting the scale for the latent factors, the first measurement indicator for each factor (NFC1,

46

CONF1, SUSCEP1, KNOW1, and RISK1) has been specified as fixed. These parameters are constrained equal to 1. It is also worth noting that all the paths for the residuals (Es) are fixed to 1 since their variances are specified as free.
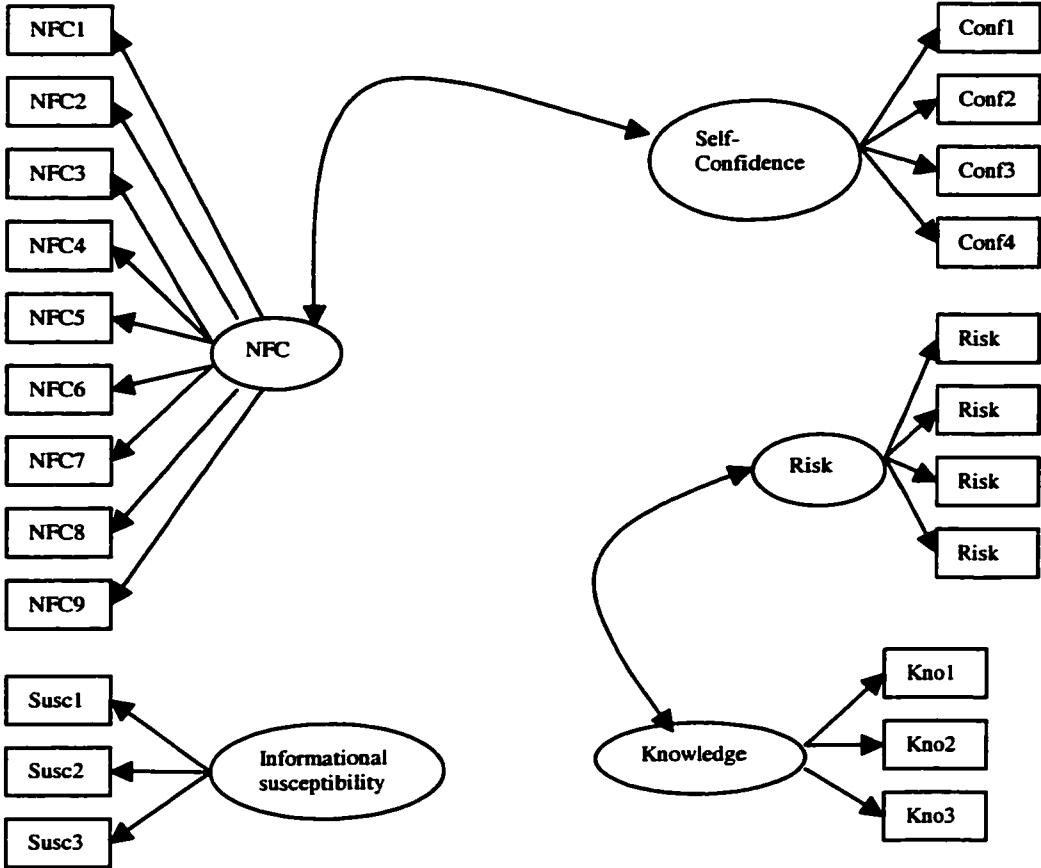
Figure 3: The Initial Factorial Model

1 Model Fit

Model evaluation involves a number of criteria, some of which bear on the fit of the model as a whole, and others of which bear on the fit of individual parameters.

a Assessment of overall model fit

The basic idea in assessing model fit is to determine the degree of similarity between the sample covariance matrix and the predicted covariance matrix (Byrne, 1994). Discrepancy in fit between these matrices is represented by the residual covariance matrix and its standardized version. The smaller the residuals the better the fit. EQS provides two particularly interesting pieces of information on model fit. First, the program computes the average off-diagonal value of the lower triangular standardized residual matrix. The smaller this value, the better the fit. Second, EQS displays the frequency distribution of the standardized residuals. Ideally this distribution should be symmetric and centred around zero.

Other overall fit criteria include the traditional chi-square χ^2 statistic and its p-value, the ratio χ^2/df, the Normed Fit Index (NFI), the Non Normed Fit Index (NNFI), the Comparative Fit Index (CFI), and the Adjusted Comparative Fit Index (CFI). Ideally the χ^2 value should be small and its associated probability value should be greater than the selected significance level. However, as this statistic is extremely sensitive to sample size and statistical power, it would reject almost every reasonable model in a great statistical power condition (Raykov, Tomer, & Nesselroade, 1991). Furthermore, given that the data is not perfectly normally distributed, the Satorra-Bentler χ^2 is probably a better indicator of model fit than the traditional χ^2. As for the practical fit indices (NFI, NNFI, and CFI), they range from 0 to 1 and are derived from a comparison of the hypothesized model with the null model. Values greater than 0.90 are considered to indicate acceptable fit to the data (Bentler, 1992).

48

In the case of the initial factorial model specified earlier, the overall indices suggest a good fit to the data. Indeed, residuals analysis indicates that the Average Off-diagonal Absolute Standardized Residuals = 0.0671 and the 84.70% of the standardized residuals range from -0.10 to 0.10. Model fit is further confirmed by a scrutiny of the various fit indices. The $\chi^2 = 484.119$ for 228 degrees of freedom, yielding a ratio of $\chi^2/df = 2.12$. Better yet, the $S\text{-}B\chi^2 = 397.4813$, yielding a ratio of $S\text{-}B\chi^2/df = 1.74$. The probability value associated with the χ^2, however, was less than 0.001 in both cases. NFI = 0.889, NNFI = 0.931, CFI = 0.938, and the Adjusted CFI = 0.949.

b *Assessment of parameter estimates*

According to Byrne (1994), the first aspect in assessing the fit of individual parameters is to determine their viability and their estimated values. Any estimates falling outside of the admissible range clearly indicate either a misfit of the specified model or insufficient information provided in the input matrix. A review of the parameter estimates indicates that all of them seem reasonable. For example, there are no correlations greater than 1 or any other aberrant results. Furthermore, all standard errors fall within an acceptable range. The second aspect of individual parameters' fit concerns their statistical significance. Besides providing the parameter estimates, EQS provides their standard errors and z-test statistics. Based on a 5% significance level, the test statistic must be greater than ± 1.96 before the hypothesis (parameter = 0) is rejected. Table 5 presents estimates of the factor loadings and their test statistics.

Table 5: Statistical Significance of Parameter Estimates

	Parameter estimate	Standard error	Test statistic	ROBUST standard error	ROBUST test statistic
NFC1	1.00	-	-	-	-
NFC2	1.135**	.126	8.994	.125	9.094
NFC3	.885**	.118	7.467	.108	8.178
NFC4	.850**	.102	8.324	.103	8.232
NFC5	.933**	.103	9.074	.112	8.323
NFC6	1.064**	.131	8.112	.113	9.449
NFC7	1.086**	.132	8.219	.131	8.266
NFC8	1.141**	.129	8.844	.127	9.005
NFC9	.747**	.112	6.664	.106	7.028
CONF1	1.00	-	-	-	-
CONF2	.861**	.060	14.347	.063	13.766
CONF3	.767**	.054	14.289	.068	11.329
CONF4	.975**	.073	13.300	.070	13.978
SUSCEP1	1.00	-	-	-	-
SUSCEP2	1.343**	.092	14.573	.102	13.193
SUSCEP3	1.177**	.082	14.335	.091	12.941
KNOW1	1.00	-	-	-	-
KNOW2	.725**	.034	21.240	.036	19.898
KNOW3	.902**	.036	24.750	.032	28.269
RISK1	1.00	-	-	-	-
RISK2	1.175**	.066	17.842	.070	16.727
RISK3	1.105**	.067	16.476	.068	16.301
RISK4	1.095**	.063	17.271	.069	15.863

** significant at $\alpha = .05$

Table 5 clearly shows that all the factor loadings are statistically significant.

2 *Assessment of parameter misspecification*

Although overall fit indices and parameter estimates indicate that the proposed factorial model is fitting the data reasonably well, there still might be some malfitting parameters. Parameter misspecification can be determined in EQS by means of the LM (Lagrange Multiplier) test. Looking at the cumulative multivariate statistics provided by the LM test, it appears that at least two parameters should be freed. These are two error covariances. The LM test indicates that error covariances between NFC9 and NFC3, as well as between NFC6 and NFC1, should be freely estimated as parameters of the factorial model. Adding these parameters to the model should reduce the χ^2 value by 47.937. This will translate in a significant improvement of the overall model fit.

II Model Re-specification

Byrne (1994) cautions against model re-specifications that are not supported by strong theoretical foundations. Researchers, she warns, can easily fall into over-specification by trying to improve their model fit. In this sense, they are capitalizing on statistical chance rather than refining a theory or a theoretical concept.

In the present case, however, the error terms of interest are related to the same construct. It is very possible that a phenomenon of redundancy took place and lead to strong correlation between these error terms. The similarity in the wording of items NFC9 and NFC1, and items NFC3 and NFC6 clearly supports this argument.

NFC 9 = I usually end up deliberating about issues even when they do not affect me personally.

NFC 3 = I find great satisfaction in deliberating hard and for long hours.

NFC 1 = I would prefer complex to simple problems.

NFC 6 = I prefer my life to be filled with puzzles that I must solve.

The initial factorial model will now be re-specified taking into account the above misspecification errors. The final factorial model (Figure 4) is similar to the initial factorial model with the addition of two error covariances.

Figure 4: The Final Factorial Model
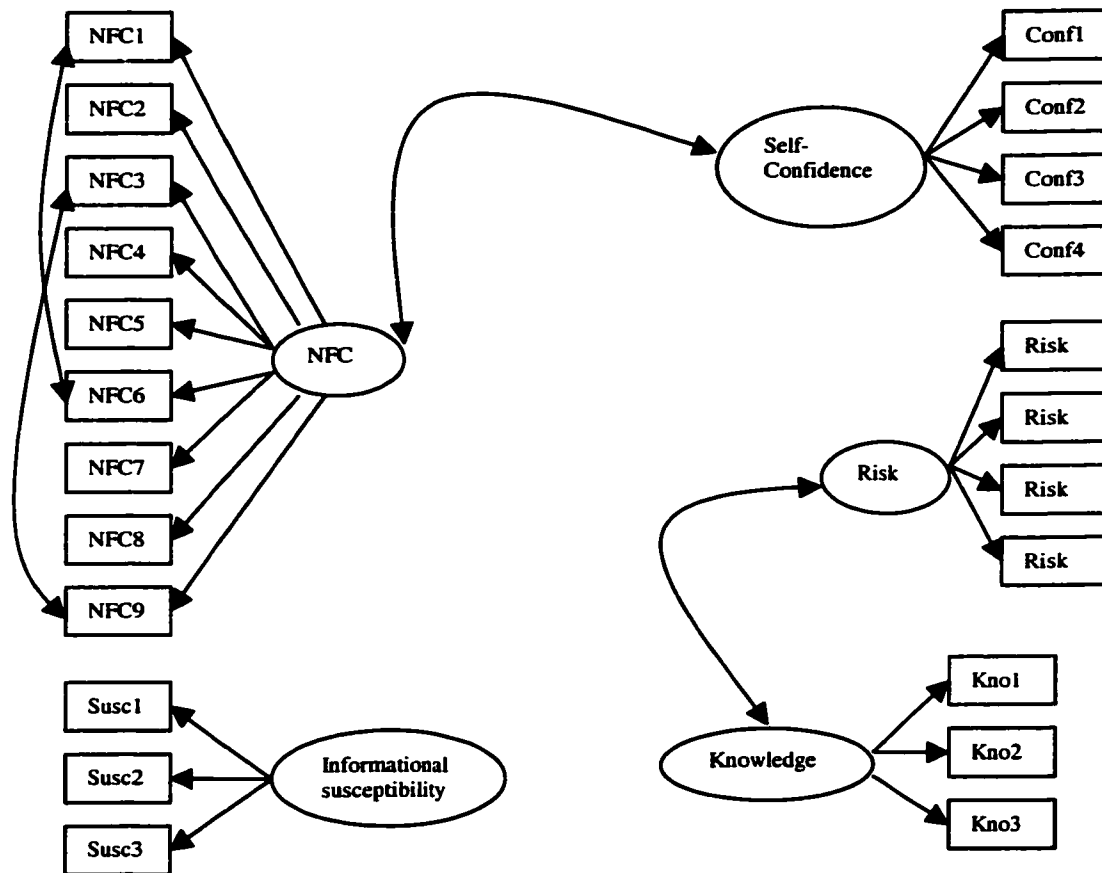
1 *Model Fit*

A summary of various model fit indices are presented in table 6, which compares the final factorial model to the initial factorial model in terms of fitting the data. The final model clearly fits the data better than the initial model, although the initial model fits the data quite well. Therefore, the final model will be used in the structural analysis.

Table 6: Initial and Final Factor Model Fit

Fit Criteria	Initial Factorial Model	Final Factorial Model
Average Off-Diagonal Absolute Standardized Residuals	0.0671	0.0656
Distribution of Standardized Residuals	Good	Good
χ^2	484.119	435.426
S-Bχ^2	397.4813	358.4676
Degrees of Freedom (df)	228	226
S-Bχ^2/df	1.74	1.58
NFI	0.889	0.900
NNFI	0.931	0.943
CFI	0.938	0.949
Adjusted CFI	0.949	0.960
Number of iterations before convergence	6	6
Number of parameter estimates close to 0	0	0
Re-specification compared to initial model	None Initial model	2 error covariances

III The full structural model

The full model differs from the factorial model in two aspects. First, the dependent variable (PREF) included in the full model wasn't included in the factorial model. The reason is simple: Preference for interpersonal sources was measured by only one indicator, which is in fact an index, and therefore is not considered a factor but a variable. Individual variables are never included in a CFA. Second, while the factorial model mainly deals with validating the factorial structure of the measurement instrument, the full model includes causal paths between independent and dependent variables. Causality, however, is to be interpreted in a loose sense since only controlled experimental designs allow proving causality. In SEM, the precedence and effect aspects of a causal relation can be represented, but one cannot control for other potential influencers. Therefore, causality is to be understood more as influence or relationship. Figure 5 illustrates the full model of preference for interpersonal sources. Single-headed arrows represent "causal" effects, while double-headed arrows represent covariations between the independent factors.

1 Model fit

a Assessment of overall model fit

A summary of overall model fit is presented in Table 7.

The results show that, overall, the specified full model fits the data adequately.
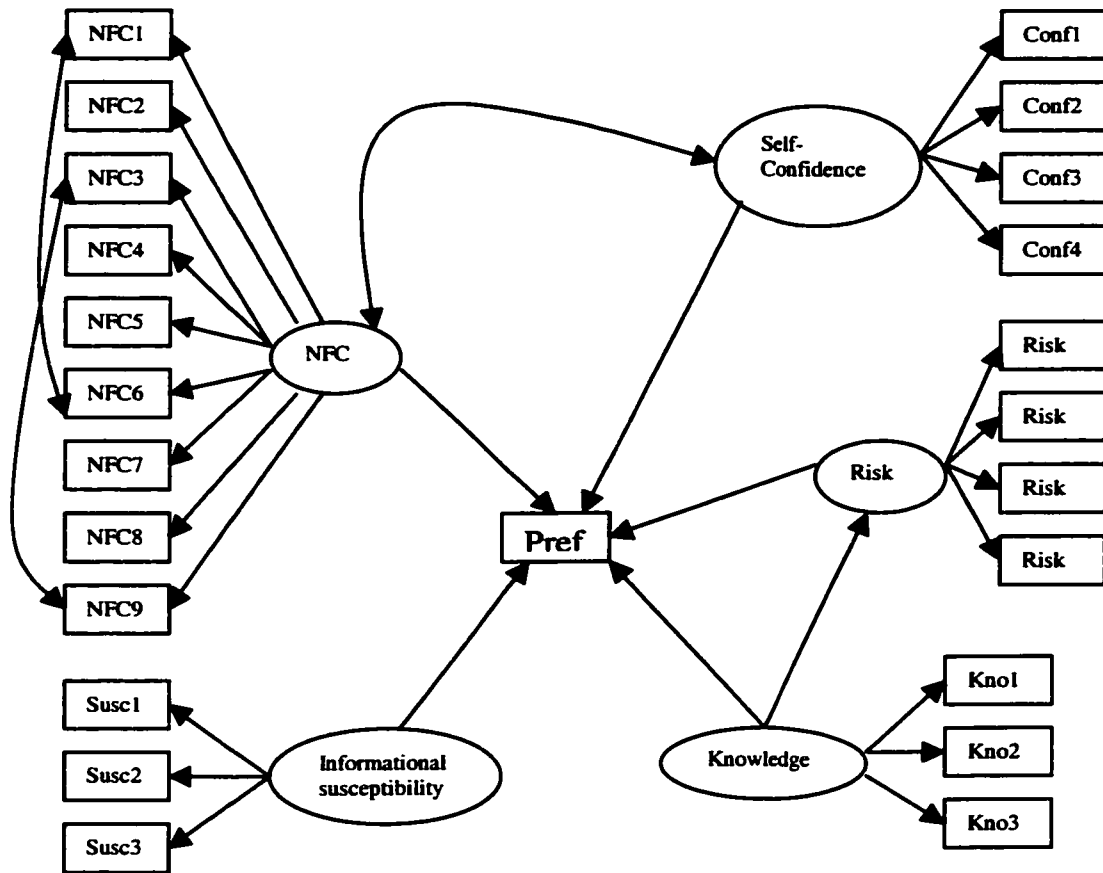
Figure 5: The Full model of Preference for interpersonal sources.

b *Assessment of parameter estimates*

Parameters of the measurement instrument have been discussed in a previous section. The present discussion is therefore only concerned with the path coefficients representing the hypothesized relationships between the various constructs. Table 8 illustrates the regression coefficients' estimates and their statistical significance. Table 8 also provides the standardized values of the regression coefficient. These standardized values could be used in further research for comparison purposes.

Table 7: Full Model Fit

Fit Criteria	Full Model of Preference for Interpersonal Sources
Average Off-Diagonal Absolute Standardized Residuals	0.0646
Distribution of Standardized Residuals	Good
χ^2	458.215
S-Bχ^2	378.7812
Degrees of Freedom (df)	244
S-Bχ^2/df	1.55
NFI	0.897
NNFI	0.942
CFI	0.949
Adjusted CFI	0.960
Number of iterations before convergence	12

Table 8: Statistical Significance of Regression Coefficients' Estimates

	H	Parameter estimate	Standard error	Test statistic	ROBUST Standard error	ROBUST test statistic	Standardized estimate
NFC→PREF	H2	-0.111***	0.042	-2.662	0.041	-2.736	-0.178
CONF→PREF	H3	0.059**	0.031	1.949	0.033	1.786	0.126
SUSCE→PREF	H1	0.095***	0.025	3.782	0.029	3.235	0.189
KNOW→PREF	H5	-0.101***	0.016	-6.387	0.016	-6.305	-0.330
RISK→PREF	H4	-0.031	0.024	-1.252	0.028	-1.099	-0.065
KNOW→RISK	H6	-0.219***	0.035	-6.247	0.037	-5.917	-3.337

*** significant at α = .01
** significant at α = .05

Hypothesis 1 predicted a positive relationship between an individual's informational susceptibility to interpersonal influence and his or her preference for personal sources when seeking product related information. The results of this study support H1. The path coefficient between SUSCEP and PREF is indeed positive and statistically significant (z = 3.782 (3.235)) for α = 1%. The size of the relationship may seem moderate, as a one unit change in the level of informational susceptibility (everything else held equal) will lead to a 0.095 change in the level of preference for interpersonal sources. This is not so small, however, given that the average preference level equals 1.833 across the sample.

Hypothesis 2 is also supported. A negative and statistically significant relationship was found between need for cognition and preference for interpersonal sources. The z-statistic (-2.662 (-2.736)) is above the 2.326 minimum value required for a 99% confidence level. Here, again, the seemingly small effect reflected by the absolute value of the regression coefficient is a bit misleading. Indeed, all of the regression coefficients are to be interpreted in light of the range and mean of the dependent variable, here the preference variable. In fact NFC seems to have the largest effect, compared to the other factors included in the model, on people's preference for interpersonal sources.

Hypothesis 3 predicted a positive relationship between individuals' self-confidence and their preference for seeking information from interpersonal sources. The present research supports H3. The direction of the relationship was found as hypothesized, and statistical significance was reached at the 5% level when considering both the z-statistic and the ROBUST test statistic.

Perceived risk was also thought to influence an individual's preference for interpersonal information seeking. It was hypothesized in H4 that a positive relationship would prevail between perceived risk and preference for interpersonal sources. The results do not support H4. There is no significant relationship between perceived risk and preference for interpersonal sources (β = -0.031; z = -1.252 (-1.099)).

Product knowledge had an important effect on respondents' information seeking behaviour. The results show a significant negative relationship between product knowledge and individuals' preference for interpersonal information seeking (β = -0.101; z = -6.387 (-6.305)). This gives full support to H5.

Finally, hypothesis 6 was also entirely supported by the data. A significant negative relationship was found between product knowledge and perceived risk (β = -0.219; z = -6.247 (-5.917)). In this case, the study replicated the well-established findings on the relationship between product knowledge and perceived risk.

I Modelization of Cultural Influence

The moderating role of people's individualistic/collectivistic orientation, which represents the hypotheses 7 through 11, will be modeled using a multi-group analysis. More precisely, a test of invariant causal structure across a collectivistic and an individualistic samples will be conducted.

The collectivistic and individualistic samples were obtained by dividing the whole sample according to the respondents' scores on the individualism/collectivism scale. The entire sample was divided into three groups of equivalent sizes. Those who scored high (third group) were considered in the collectivistic sample and those who scored low (first group) were assigned to the individualistic sample. The middle group was purposely eliminated in order to increase the difference between the two groups. One important issue relates to the scale reliability. Reliability analysis showed that the scale used to assess people's collectivism orientation (Yamaguchi, 1994) had a relatively low reliability score (Cronbach's $\alpha = 0.51$). A respondent's score on the collectivism scale was measured by averaging his or her scores on the 10 items used. According to this scoring procedure, 147 people were considered in the collectivistic sample and the remaining 141 were included in the individualistic sample.

Tests for invariance across groups usually start with a general "omnibus" test of the equality of covariance structures across groups. One tests the null hypothesis H0: Σ (group 1) = Σ (group 2) =...=Σ (group n), Σ being the covariance matrix of the given population. Rejection of the null hypothesis then argues for the non-equivalence of the

groups. Traditionally subsequent testing of more restrictive models was necessary in order to identify the source of non-invariance (Byrne, 1994). The EQS approach, on the other hand, tests the validity of pre-specified equality constrains multivariately. This makes it unnecessary to compare a series of restrictive versus less restrictive models in order to identify the source of non-invariance.

Prior to testing for invariance, it is considered most appropriate to first establish a baseline model for each group separately (Byrne, 1994). Byrne also argues that since measuring instruments are often group-specific in the way they operate, baseline models need not be identical across groups. However, when testing for invariance across groups, it is important that the data for all groups be analysed simultaneously in order to obtain efficient estimates. This is so because in testing for invariance, equality constraints are imposed on particular parameters (Bentler, 1992).

II The Baseline models

The full model of preference for interpersonal sources was applied separately to both the collectivistic sample and the individualistic sample. The results for overall model fit are presented next. Table 9 clearly shows that the full model of preference for interpersonal sources adequately fits the data from both the collectivistic and the individualistic samples.

Table 9: Baseline Models Fit

Fit Criteria	Collectivistic sample	Individualistic sample
Average Off-Diagonal Absolute Standardized Residuals	0.0740	0.0801
Distribution of Standardized Residuals	Good	Good
χ^2	355.479	355.426
S-Bχ^2	304.6442	305.3293
Degrees of Freedom (df)	244	244
S-Bχ^2/df	1.24	1.25
NFI	0.800	0.790
NNFI	0.916	0.911
CFI	0.926	0.921
Adjusted CFI	0.948	0.947
Number of iterations before convergence	12	13

Table 10 presents the estimates of the regression coefficients along with their ROBUST standard errors and test statistics. Table 11 shows the estimates of factor loadings with their ROBUST standard errors and test statistics for both the collectivistic and the individualistic groups.

Table 10: Comparison of Regression Coefficients (collectivistic vs.

Individualistic)

	H	Collectivistic sample				Individualistic sample			
		Parameter estimate	Std error	Test statistic	Stdzed estimate	Parameter estimate	Std error	Test statistic	Stdized estimate
NFC→PREF	H2	-0.206***	0.077	-2.661	-0.304	-0.074*	0.056	-1.332	-0.135
CONF→PREF	H3	0.070*	0.054	1.305	0.159	0.053	0.050	1.063	0.104
SUSCEP→PREF	H1	0.112*	0.069	1.621	0.187	0.087**	0.046	1.900	0.171
KNOW→PREF	H5	-0.077***	0.029	-2.674	-0.250	-0.120***	0.031	-3.876	-0.363
RISK→PREF	H4	0.001	0.046	0.024	0.002	-0.026	0.059	-0.443	-0.051
KNOW→RISK	H6	-0.295***	0.064	-4.624	-0.424	-0.228***	0.060	-3.768	-0.358

*** significant at α = .01
** significant at α = .05
* significant at α = .10

Table 11: Statistical Significance of Measurement Parameter Estimates

	Collectivistic Group			Individualistic Group		
	Parameter estimate	Standard error	Test statistic	Parameter estimate	Standard error	Test statistic
NFC1	1.00	-	-	1.00	-	-
NFC2	1.290**	.250	5.154	1.072**	.194	5.540
NFC3	.984**	.216	4.559	.872**	.170	5.122
NFC4	.989**	.233	4.240	.673**	.142	4.728
NFC5	1.110**	.230	4.821	.813**	.159	5.095
NFC6	1.259**	.221	5.687	1.223**	.177	6.903
NFC7	1.315**	.278	4.738	.971**	.218	4.453
NFC8	1.335**	.283	4.708	.893**	.179	4.995
NFC9	.600**	.179	3.347	.693**	.154	4.499
CONF1	1.00	-	-	1.00	-	-
CONF2	.900**	.0100	8.973	.723**	.112	6.434
CONF3	.687**	.114	6.022	.905**	.106	8.513
CONF4	1.003**	.091	10.996	.939**	.129	7.250
SUSCEP1	1.00	-	-	1.00	-	-
SUSCEP2	1.601**	.231	6.918	1.353**	.167	8.095
SUSCEP3	1.444**	.205	7.035	1.157**	.146	7.940
KNOW1	1.00	-	-	1.00	-	-
KNOW2	.695**	.062	11.157	.719**	.067	10.720
KNOW3	.847**	.053	16.000	.937**	.066	14.104
RISK1	1.00	-	-	1.00	-	-
RISK2	1.005**	.092	10.905	1.196**	.124	9.663
RISK3	1.003**	.085	11.821	1.132**	.133	8.531
RISK4	1.033**	.078	13.168	1.123**	.131	8.559

** significant at α = .05

Table 10 shows that the effects of each of the proposed independent variables on the preference for interpersonal information seeking are slightly different for the collectivistic and the individualistic samples. In EQS, however, a more rigorous method for proving or disproving invariance across the two groups is to conduct a multi-group analysis, in which the following relationships are constrained equal across the two samples.

SUSCEP → PREF

NFC → PREF

CONF → PREF

RISK → PREF

KNOW → PREF

Any invalid equality constraint will be considered a source of non-invariance between groups. On the other hand, validity of all the equality constrains would mean that the causal model is equivalent or invariant across the two groups.

III Results

Results from the test of invariance are summarized in table 12. Overall, these results indicate that the restrictive proposed model fits the data quite well, suggesting invariance across the collectivistic and the individualistic samples.

Table 12: Invariance Structure Model Fit

Fit Criteria	Full Model of Preference for Interpersonal Sources
χ^2	713.566
Degrees of Freedom (df)	493
χ^2/df	1.44
NFI	0.794
NNFI	0.915
CFI	0.924
Number of iterations before convergence	13

Validity of the imposed equality constraints is judged using the $LM\chi^2$ statistics associated to each constraint. One simply has to check the related probability values to determine if any of the tests were statistically significant. A value greater than 0.05 indicates that the test was significant. This means that the hypothesized equality held. The equality constraints and their related probability values are represented in table 13.

Table 13: Equality Constraints' Evaluation

Equality constraint across the two groups	Change in χ^2	Probability	Conclusion
SUSCEP → PREF	0.167	0.682	This parameter is invariant across the 2 groups
NFC → PREF	1.497	0.224	This parameter is invariant across the 2 groups
CONF → PREF	0.199	0.655	This parameter is invariant across the 2 groups
RISK → PREF	0.013	0.910	This parameter is invariant across the 2 groups
KNOW → PREF	0.283	0.595	This parameter is invariant across the 2 groups

Based on the previous results, it seems that hypotheses seven through eleven were not supported by the data. Indeed the fact that the full model's structure was found invariant across the collectivistic and the individualistic sample indicates that the size and direction of the relationships are similar for both groups. The results, therefore, do not support the hypothesis that the influence of the proposed situational and individual factors on people's preference for interpersonal information seeking is moderated by their individualistic/collectivistic orientation. Further discussion of these results and their implications are presented in the discussion section.

Non-hypothesized results

Besides testing the proposed model, the researcher was also interested in other findings. It was thought interesting, for example, to test for possible gender differences in consumers' preference for interpersonal information seeking. Do women have a greater preference for interpersonal sources than men or vice versa ?

In order to test for the gender effect, an independent-samples t-test was conducted to compare the average scores of males and females on their preference for interpersonal information search.

Men had an mean score of preference for interpersonal information search equal to 1.7288 with a standard deviation equal to 0.7366. On the other hand women had a mean score of 1.9500 with a standard deviation of 0.7062. The t-statistic test for equality of means yielded a t-value equal to -3.123, which indicates that the difference between the two groups is significant at $\alpha = 0.002$. Furthermore, the negative sign of the t-test

indicates that women have a higher preference for interpersonal information search than men.

A correlation analysis was also conducted to test for possible relationships between consumers' preference for interpersonal search and the other demographic variables (refer to Table 14). Only income was significantly correlated to consumers' preference for interpersonal information search ($r = -.127$, $\alpha = .011$). This negative relationship between consumers' income and their preference for interpersonal information search suggests that the higher a consumer's income is the less likely he/she is to use interpersonal information sources. Income was also positively related to education ($r = .231$, $\alpha < .001$), age ($r = .269$, $\alpha < .001$), and status ($r = .244$, $\alpha < .001$). Finally, status was positively related to age ($r = .510$, $\alpha < .001$).

Table 14: Correlations table (Preference and Demographics)

	Preference	Education	Income	Age	Status
Preference	1	-.094	-.127*	-.018	.058
Education		1	.231**	-.020	-.040
Income			1	.269**	.244**
Age				1	.510**
Status					1

** significant at $\alpha = .01$
* significant at $\alpha = .05$

The researcher was also particularly interested in investigating demographic correlates of need for cognition. At this regard, several correlations were computed leading to some interesting results. NFC was found to be positively correlated with the respondents' level of education ($r = .239$, $\alpha < .001$) and their income level ($r = .170$, $\alpha = .001$). These results give further support to previous findings (for a review see Cacioppo et al., 1996). On the other hand, a negative relationship was found between NFC and collectivistic orientation ($r = -.144$, $\alpha = .003$).

An independent-sample t-test also revealed a gender difference in need for cognition. The results ($t = 4.185$, $\alpha = .001$) indicated that on average men showed a higher level of NFC than women. This finding is particularly interesting as it contradicts previous research findings (e.g., Cacioppo & Petty, 1982; Sadowsky & Cogburn, 1997; Tolentino, Curry, & Leak, 1990). All of these studies have argued for the absence of relationship between NFC and gender.

Chapter 4   CONCLUSIONS AND DISCUSSION

Discussion

I Consumers' Preference for Interpersonal Information Seeking

Past research has clearly demonstrated the importance of information search within the consumer buying process. Scholars have identified several sources used by consumers in order to obtain information relevant to their purchase situation. The rich literature dealing with this topic has also suggested that, in general, people tend to use only a limited number of the sources available to them in an effort to keep the search costs low. Among the various information sources, interpersonal non-commercial sources seem to be somehow favoured by consumers. This preference probably stems from the feedback and clarification opportunities offered in interpersonal exchanges, in addition to consumers' perception of these non-commercial sources as being objective and neutral. The present paper dealt with identifying and empirically testing a model of potential influencers of consumers' preference for interpersonal information seeking. It was hypothesized that several individual and situational factors would influence people's preference for personal sources when seeking product-related information. It was also hypothesized that culture would play a moderating role in the preference process. A questionnaire survey was conducted in a large Eastern metropolitan area. The self-reported data was then analysed using structural equation modeling. The following part provides a summary and an interpretation of the empirical results of the study.

II Examination of the Results

To summarize the findings from the full structural model and the invariance model, the results supported the hypotheses H1, H2, H3, H5, and H6. There were no significant effects for H4, H7, H8, H9, H10, and H11. Next, each finding will be interpreted in light of its corresponding hypothesis.

1 Informational interpersonal influence

In hypothesis 1, it was proposed that an individual's informational susceptibility to social influence would positively influence his/her level of preference for interpersonal information seeking. The results of the path analysis fully support this hypothesis. This clearly suggests that the more an individual is influenceable – that is, the more he/she tends to accept information from others as evidence of the reality – the more he/she tends to favour interpersonal sources when seeking product-related information. Highly influenceable consumers trust the information provided by a personal source as accurate and sufficient. Therefore, they are less motivated than the less influenceable consumers to search for further information and explore other sources.

2 Need for cognition

The second hypothesis claimed that individuals' need for cognition is negatively related to their preference for interpersonal information search. Here again, the results fully supported the proposed relationship, suggesting that consumers with high need for cognition are less likely to favour interpersonal sources than consumers with lower need for cognition. Indeed, as opposed to individuals with low NFC, those who display a high

level of NFC are known to favour extensive information search. Therefore high NFC individuals tend to use all available sources to form an attitude or a judgement and thus display a lesser preference for interpersonal sources. On the other hand, individuals with low need for cognition are known to be only marginally motivated to engage in effortful thinking and extensive information processing. They may favour interpersonal sources because of the minimal effort required in gathering the desired information. Low NFC individuals may also find personal sources attractive because the raw information has already been processed by the source and is usually presented to them in a concise form.

3 *Self-confidence*

The results of the study offered full support for the third hypothesis. H3 proposed that a person's self-confidence is positively related to his/her preference for interpersonal information search. The rationale was that self-confident consumers would have enough assurance to discuss product-related information freely with others. The results showed a positive relationship between the two concepts. Furthermore, the regression coefficient was statistically significant at $\alpha = .05$.

4 *Perceived risk*

H4 suggested a positive relationship between perceived risk and consumers' preference for interpersonal information search. It was argued that the opportunity for clarification and immediate feedback provided by personal sources would make them particularly appreciated in situations of relatively high perceived risk associated with the purchase of a certain good.

The results of the study, however, did not support this argument. This suggests that in a situation where the consumer perceives a great deal of financial and/or performance risk, he or she will not favour personal sources. A possible explanation might be that in a high risk situation, the consumer will tend to engage in an extensive search and explore a wide variety of sources. The accumulation of diverse and complementary information sought from a variety of sources will be used by the consumer as a risk reducing strategy. This argument implies a positive relationship between perceived risk and the extent of total information search as well as a positive relationship between perceived risk and the number of sources used rather than a relationship between perceived risk and preference for interpersonal search. Both these relationships have already been documented (e.g., Beatty & Smith, 1987).

5 *Product knowledge*

Hypothesis 5 stated a negative relationship between product knowledge and consumers' preference for interpersonal information search. This proposition was fully supported by the results of this study. It appears that knowledgeable consumers rely less on interpersonal sources than consumers who are less familiar with the product category. Perhaps, consumers who are deeply convinced that they possess a good knowledge of a certain product category also believe that other people are unlikely to possess more information than them regarding that specific product category. Thus, they are less motivated to seek information from others when the need arises. Instead, these knowledgeable consumers would search impersonal sources. An alternative explanation might be that people who pretend to be experts in a certain category of products simply

do not want to publicly admit any lack of knowledge. In this case, if they are missing any piece of information, they will be more likely to search for it using impersonal sources than asking other people.

6 *Knowledge – risk relation*

The sixth hypothesis proposed a negative relationship between product knowledge and perceived risk. A strong support was obtained for this proposition. This study clearly replicated previous findings indicating that consumers knowledgeable about a certain product category tend to perceive a lesser risk associated with this product category than less knowledgeable consumers. In fact the perceived risk stems from the uncertainty inherent to the purchase decision. Knowledge reduces that uncertainty and therefore the perceived risk.

7 *Cultural influence*

Hypotheses 7 to 12 argued for a moderating role played by culture. It was suggested that the individual and situational variables included in the model would have a significantly greater impact on the information source preference for the individualistic sample than for the collectivistic sample. The rationale was that collectivistic cultures are recognized for the emphasis put on family and close relatives (the" inner group"). Individuals from collectivistic cultures use this close network as a source of personal help when making a decision. It was therefore expected that the proposed influencers of consumers' preference for consulting interpersonal sources would have a significantly lesser effect on collectivist individuals than on individualists.

The results of the study did not give support to any of the hypotheses H7 through H12. Two possible explanations can be offered. First, culture and particularly people's collectivistic orientation may simply not moderate the effects of the proposed individual and situational variables on consumers' preference for interpersonal information search, as suggested by the results of the study. Second, methodological flaws may be blamed for the rejection of the proposed hypotheses. Indeed, two methodological aspects are likely to have influenced the results of this study, if not considerably at least partially. These are; an inappropriate sampling procedure, and an unreliable scale used to measure collectivism. The entire sample was drawn from only one major city in North America. Subsequent to the data collection, respondents were assigned to either an individualistic sample or a collectivistic sample based on their score on the collectivist orientation scale (Yamaguchi, 1994). Clearly, the variation in collectivism for a sample drawn from the same city was extremely low. In fact 77.3% of the respondents had a score between 4 and 6 on a 1 to 9 scale. A more appropriate sampling procedure would be to select samples from culturally different populations. This would lead to a greater variation between the two groups. Furthermore, the Yamaguchi scale had a low reliability coefficient; α = .5128. A more reliable scale might have yielded different results.

8 The non-hypothesized findings

The study revealed that women in general have a greater preference for interpersonal information search than men. This result, however, was not hypothesized a priori. Therefore, the rationale behind such a gender difference remains obscure and should be investigated in future research. A negative relationship was also found between

consumers' preference for interpersonal information search and their income. Richer people seem to rely less on others' opinions when seeking product-related information.

Significant relationships among several other demographic variables were also found. Income, for example, was positively related to education, age, and status. In addition, age was positively related to status.

Other non-hypothesized findings were concerned with the concept of need for cognition. For example, NFC was found to co-vary with certain demographic variables such as gender, education, and income. The gender difference is particularly interesting because previous research has consistently rejected it. Finally, a negative relationship was found between people's collectivistic orientation and their need for cognition. This suggests that people with an individualistic orientation have a greater need for cognition than collectivistic people.

Table 15: Summary of the findings

Hypothesis	Result	Conclusions
H1	Supported	Individuals' susceptibility to informational interpersonal influence positively influences their preference for interpersonal sources when seeking product related information.
H2	Supported	Individuals' level of need for cognition negatively influences their preference for interpersonal sources when seeking product-related information.
H3	Supported	There is a positive relationship between an individual's level of self-confidence and his/her preference for interpersonal information seeking.
H4	No effect	Perceived risk does not seem to influence consumers' preference for interpersonal information search.
H5	Supported	Consumers' product knowledge seems to negatively influence their preference for interpersonal sources when seeking product-related information.
H6	Supported	Consumers' product knowledge has a negative effect on their perception of the financial and performance risk associated with the purchase of a laptop computer.
H7	No effect	Consumers' collectivistic orientation does not appear to moderate the relationship between susceptibility to interpersonal influence and preference for interpersonal information seeking.
H8	No effect	Consumers' collectivistic orientation does not appear to moderate the relationship between need for cognition and preference for interpersonal.
H9	No effect	Consumers' collectivistic orientation does not appear to moderate the relationship between self-confidence and preference for interpersonal.
H10	No effect	Consumers' collectivistic orientation does not appear to moderate the relationship between perceived risk and preference for interpersonal.
H11	No effect	Consumers' collectivistic orientation does not appear to moderate the relationship between product knowledge and preference for interpersonal.

Limitations of the study

There are several limitations to this project. The most obvious one relates to the way culture was treated in the study. Douglas et al., (1992) suggested that in order to use culture as an explanatory variable, it is best to view it as a complex multidimensional structure rather than as a simple categorical variable, and to array cultures along interpretable dimensions. Although recognizing this point of view, only one cultural dimension was included in the present study (Individualism/Collectivism). The belief was that Individualism/Collectivism is the most relevant cultural dimension to the proposed model. Others might, however, argue that cultural dimensions such as uncertainty avoidance or power distance could play a significant role in influencing consumers' preference for interpersonal information sources. Although the literature does not seem to support such influences, it does not appear foolish to propose these relationships. Therefore, not measuring the possible role played by the other cultural dimensions represents an obvious weakness in the study.

Another limitation relates to the sampling strategy. The questionnaires were distributed door-to-door in different parts of the same city. Culture was measured using a collectivism scale. Individuals who scored low on collectivism were considered in the individualistic sample, while those who scored high on collectivism were considered in the collectivistic sample. The outcome of this sampling method was the creation of two groups with very little difference in their average scores on collectivism. Indeed, the average factor score for the individualistic sample was 4.331 whereas the average score for the collectivistic sample was 6.046. These results are not surprising given that both

samples come from the same general population. Ideally the collectivistic sample should have been drawn from a collectivistic country (e.g., China) and the individualistic sample from an individualistic country (e.g., The U.S.). However, the financial and time resources were limited and did not permit such an endeavour.

An additional limitation pertains to the psychometric properties of the collectivism scale used in this study. Although the original developer of the scale reported high reliability estimates (Cronbach's alpha ranging from .77 to .88) using several Japanese samples (Yamaguchi, 1994), the implementation of this scale in a Canadian sample resulted in a low α equal to .5128.

Finally, not all possible influencers were included in the model. For example, the study considered a scenario where consumers were faced with the decision to buy a new laptop computer. One can argue that consumers' information search behaviour would differ across different products and services. Here, the length of the questionnaire did not allow for testing different products and services. Furthermore, it was thought that some of the difference expected between various products can be captured in differences in perceived risk and product knowledge.

Suggestions for future research

The conclusions drawn from this study open up many areas for future research. First, future research should address some the limitations encountered in this project. For example, in later studies of the subject, culture should be treated as a multidimensional construct and each of its relevant dimensions should be measured using reliable scales. Furthermore, culturally different samples should be selected from culturally different populations.

Future research should also look into developing a scale of consumers' preference for interpersonal information search. In the present paper, this variable was measured as a ratio of the likelihood that a consumer uses interpersonal sources by the likelihood of him/her using several other sources of information. Although this measurement strategy proved reliable in this study as well as in other ones (e.g., Gilly et al., 1998), the concept of preference might not be fully captured by this single indicator. Future research will therefore benefit from developing and validating a scale to measure consumers' preference for interpersonal information search.

It is also strongly suggested that future studies test for other potential influencers. At this regard, qualitative research may prove exceptionally useful in exploring potential influencers which may have been unanticipated or overlooked by the researcher.

The influence of gender also deserves further investigation. It was found in this study that gender differences exist in consumers' preference for interpersonal information search. The question, however, is what role does gender really play? Is it a moderator of

certain relationships or does it directly influence consumers' preference for interpersonal information search, or both?

For further validation, the proposed model should also be tested in different situations using different samples. It is fairly known that consumers' information search behaviour varies across different product categories. Future research should therefore study the impact of product category as well as test the model in a service setting.

Equally important is the dyadic aspect involved in interpersonal information search. This information exchange takes place between the information seeker and the source or information giver. It would be of prime interest to investigate the effects of the source characteristics on consumers' preference for interpersonal information search. Such characteristics are the expertise and the accessibility of the source, as well as the strength of relationship between the source and the receiver. Bansal & Voyer (2000) found a positive relationship between the source's expertise and word-of-mouth actively sought. They also found a positive relationship between the strength of relationship and word-of-mouth actively sought. These results offer a good indication as to the direction of the potential relationships between consumers' preference for interpersonal information search and the above constructs.

I <u>Theoretical Implications</u>

The theoretical implications of this research take several forms. The findings would be of interest to behavioural scientists both in marketing and psychology. This research helped provide a better understanding of an important phenomenon in consumer information search behaviour. It was found that consumers may favour interpersonal sources to obtain product-related information under certain circumstances, such as when they are unfamiliar with the product. It was also found that different consumers have different levels of preference for interpersonal information search depending on some of their personality traits, such as their influenceability and need for cognition.

Furthermore, the proposed model introduced several relationships that had not been studied before. The negative influence of an individual's need for cognition on his/her preference for interpersonal information search, for example, is an interesting result both for marketing scholars and for social psychology researchers. Indeed, Cacioppo et al. (1996) identified over one hundred empirical studies dealing with the concept of need for cognition. This study confirms the theoretical importance of this variable by relating it to another important variable in consumer behaviour; consumer preference for interpersonal information search.

The study also confirmed already investigated relationships. The negative relationship between product knowledge and perceived risk, for example, has long been

proposed (e.g., Beatty & Smith, 1987). The empirical results of this research further validate the nature and extent of relationship between these two variables.

II <u>Managerial Implications</u>

This study provides marketing practitioners with insights into some of the individual and situational variables that influence consumers' selection of their information source. The findings generally indicate what type of consumers are more likely to seek product-related information from interpersonal sources and under which circumstances do they do so. More specifically, marketers now know that consumers who have a low need for cognition and who are socially influenceable tend to favour interpersonal sources when seeking product information. Marketers also know that when consumers are unfamiliar with a product category, they also tend to favour interpersonal sources.

Given the early positioning of information search in the buying decision process, if marketers can identify which segment in their market relies more heavily on others' opinions and which other segment is likely to give these opinions, they can tailor their communication strategies to suit both segments. For instance, marketers could focus more on persuading those likely to give opinions and benefit from the eventual positive and powerful word-of-mouth these persons are most likely to spread.

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APPENDIX 1

Questionnaire
(English and French Versions)

Questionnaire

Instructions

We thank you for your cooperation. We value your responses to this questionnaire. We have tried to make it as simple as possible. All that is required from you is to circle a number to indicate your answer. It is important that you answer ALL the questions. If at any time you do not know the exact answer, please provide the estimate that best suits your situation.
Please note that there are no good or bad answers.

PART A

Please take a few seconds and think about the following situation: you have just decided to buy a new laptop computer. Keeping this scenario in mind, please answer the following questions.
Consider the possible sources you would normally consult in order to find a particular information which will help you choose the computer you are about to buy (for example, information concerning the different models or operational systems, the different brands, the different kinds of warranty offered, different accessories, etc.). Please circle the number corresponding to your answer.

	Very Likely								Very Unlikely
How likely is it that you would try to seek computer related information from other people (friends, family, etc.)?	1	2	3	4	5	6	7	8	9
How likely is it that you would consult print ads to find information on laptop computers?	1	2	3	4	5	6	7	8	9
How likely is it that you would use the Internet to find information on laptop computers?	1	2	3	4	5	6	7	8	9
How likely is it that you would consult reports from consumer associations to find information on laptop computers?	1	2	3	4	5	6	7	8	9
How likely is it that you would consult specialty magazines to find information on laptop computers?	1	2	3	4	5	6	7	8	9
How likely is it that you would consult salespeople to find information on laptop computers?	1	2	3	4	5	6	7	8	9
How likely is it that you would visit several stores to find information on laptop computers?	1	2	3	4	5	6	7	8	9

In general, would you consider yourself familiar or unfamiliar with laptop computers?

Very familiar   1   2   3   4   5   6   7   8   9   Very unfamiliar

Would you consider yourself informed or uninformed about laptop computers?

Not at all informed   1   2   3   4   5   6   7   8   9   Highly informed

Would you consider yourself knowledgeable about laptop computers?

Know a great deal   1   2   3   4   5   6   7   8   9   Know nothing at all

---

Considering the sizable investment associated with the purchase of a laptop computer, how risky would you say purchasing the new laptop computer would be?

Not risky at all   1   2   3   4   5   6   7   8   9   Extremely risky

Given the expense involved with purchasing laptop computers, how much risk would you say would be involved with purchasing the new laptop computer?

Substantial risk   1   2   3   4   5   6   7   8   9   Very little risk

Financially speaking, how risky do you feel it would be for you to purchase this new laptop computer?

Not risky at all   1   2   3   4   5   6   7   8   9   Extremely risky

---

How sure are you about the laptop computer's ability to perform satisfactorily?

Not sure at all   1   2   3   4   5   6   7   8   9   Absolutely sure

Considering the possible problems associated with laptop computers' performance, how much risk would you say would be involved with purchasing the new laptop computer?

Very little risk   1   2   3   4   5   6   7   8   9   A great deal of risk

How confident are you of the new laptop computer's ability to perform as expected?

Very confident   1   2   3   4   5   6   7   8   9   Not confident at all

---

PART B

Please circle the number that corresponds to your level of agreement with the following statements.

	Disagree Strongly							Agree Strongly

I think I have more self-confidence than most people.　　1 2 3 4 5 6 7 8 9

I am more independent than most people.　　1 2 3 4 5 6 7 8 9

I think I have a lot of personal ability.　　1 2 3 4 5 6 7 8 9

I like to be considered a leader.　　1 2 3 4 5 6 7 8 9

I have never been really outstanding at anything.　　1 2 3 4 5 6 7 8 9

I often can talk others into doing something.　　1 2 3 4 5 6 7 8 9

I rarely purchase the latest fashion styles until I am sure　　1 2 3 4 5 6 7 8 9
my friends approve of them.

It's important that others like the products and brands I buy.　　1 2 3 4 5 6 7 8 9

When buying products, I generally purchase those brands that　　1 2 3 4 5 6 7 8 9
I think others will approve of.

If other people can see me using a product, I often purchase　　1 2 3 4 5 6 7 8 9
the brand they expect me to buy.

I like to know what brands and products make good impressions　1 2 3 4 5 6 7 8 9
on others.

I achieve a sense of belonging by purchasing the same products　1 2 3 4 5 6 7 8 9
and brands that others purchase.

If I want to be like someone, I often try to buy the same brands　1 2 3 4 5 6 7 8 9
that they buy.

I often identify with other people by purchasing the same　　1 2 3 4 5 6 7 8 9
products and brands they purchase.

To make sure I buy the right product, I often observe what others　1 2 3 4 5 6 7 8 9
are buying and using.

	Disagree Strongly								Agree Strongly

If I have little experience with a product, I often ask my friends about the product.

1 2 3 4 5 6 7 8 9

I often consult other people to help choose the best alternative available from a product category.

1 2 3 4 5 6 7 8 9

I frequently gather information from friends and family before I buy.

1 2 3 4 5 6 7 8 9

I like introducing new brands and products to my friends.

1 2 3 4 5 6 7 8 9

I like helping people by providing them with information about many kinds of products.

1 2 3 4 5 6 7 8 9

People ask me for information about products, places to shop or sales.

1 2 3 4 5 6 7 8 9

If someone asked where to get the best buy on several types of products, I could tell him or her where to shop.

1 2 3 4 5 6 7 8 9

My friends think of me as a good source of information when it comes to new products and sales.

1 2 3 4 5 6 7 8 9

Think about a person who has information about a variety of products and likes to share this information with others. This person knows about new products, sales, stores, and so on, but doesn't necessarily feel he or she is an expert on one particular product. How well would you say this description fits you? Please circle the number corresponding to your answer.

the description does 1   2   3   4   5   6   7   8   9 the description
not fit me at all   fits me perfectly

Please indicate to what extent each of the following statements describes you.

	Does not describe me at all								Describes me perfectly

I don't sacrifice my self-interest for my group.

1 2 3 4 5 6 7 8 9

I don't think it necessary to act as fellow group members would prefer.

1 2 3 4 5 6 7 8 9

I stick with my group even through difficulties.

1 2 3 4 5 6 7 8 9

I maintain harmony in my group.

1 2 3 4 5 6 7 8 9

	Does not describe me at all								Describes me perfectly
I don't change my opinions in conformity with those of the majority.	1	2	3	4	5	6	7	8	9
I don't support my group when they are wrong.	1	2	3	4	5	6	7	8	9
I respect decisions made by my group.	1	2	3	4	5	6	7	8	9
I remain in my group if they need me even though dissatisfied with them.	1	2	3	4	5	6	7	8	9
I assert my opposition when I disagree strongly with the members of my group.	1	2	3	4	5	6	7	8	9
I make an effort to avoid disagreements with my group members.	1	2	3	4	5	6	7	8	9

For each of the statements below, please indicate to what extent the statement is characteristic of you. If the statement is extremely uncharacteristic of you (not at all like you) please circle "1"; if the statement is extremely characteristic of you (very much like you) please circle "9". Of course a statement might be neither extremely characteristic nor extremely uncharacteristic of you; if so please use the appropriate number in the scale that describes you best.

	Extremely Uncharacteristic								Extremely Characteristic
I would prefer complex to simple problems.	1	2	3	4	5	6	7	8	9
I like to have the responsibility of handling a situation that requires a lot of thinking.	1	2	3	4	5	6	7	8	9
Thinking is not my idea of fun.	1	2	3	4	5	6	7	8	9
I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.	1	2	3	4	5	6	7	8	9
I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something.	1	2	3	4	5	6	7	8	9

I find great satisfaction in deliberating hard and for long hours.	1	2	3	4	5	6	7	8	9
I only think as hard as I have to.	1	2	3	4	5	6	7	8	9
I prefer to think about small daily projects than long-term ones.	1	2	3	4	5	6	7	8	9
I like tasks that require little thought once I've learned them.	1	2	3	4	5	6	7	8	9

	Extremely Uncharacteristic								Extremely Characteristic

The idea of relying on thought to make my way to the top appeals to me.

    1 2 3 4 5 6 7 8 9

I really enjoy a task that involves coming up with new solutions to problems.

    1 2 3 4 5 6 7 8 9

Learning new ways to think doesn't excite me very much.

    1 2 3 4 5 6 7 8 9

I prefer my life to be filled with puzzles that I must solve.

    1 2 3 4 5 6 7 8 9

The notion of thinking abstractly is appealing to me.

    1 2 3 4 5 6 7 8 9

I prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

    1 2 3 4 5 6 7 8 9

I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

    1 2 3 4 5 6 7 8 9

It's enough for me that something gets the job done; I don't care how or why it works.

    1 2 3 4 5 6 7 8 9

I usually end up deliberating about issues even when they do not affect me personally.

    1 2 3 4 5 6 7 8 9

In the following section, we would like to know the extent to which you use English, French, and other languages in your daily activities. Please provide a distribution in percentage of time from 0 (never) to 100 (all the time) in each activity in the following language categories.

	English	French	Other (specify_____)	Total
Watching television	_____	_____	_____	100%
Listening to radio	_____	_____	_____	100%
Reading newspapers	_____	_____	_____	100%
Going to movies or watching videos	_____	_____	_____	100%

Please circle the number that corresponds to your level of agreement with the following statements.

	Disagree Strongly							Agree Strongly
I consider myself Anglophone	1 2 3 4 5 6 7 8 9
I consider myself Francophone	1 2 3 4 5 6 7 8 9
I consider myself_____(Specify)	1 2 3 4 5 6 7 8 9

DEMOGRAPHICS

1. Are you _____ Male   _____ Female

2. Are you
   _____ Single
   _____ Married or living together
   _____ Separated or divorced
   _____ Widowed

3. Please indicate your age bracket

   _____ Under 20   _____ 40 to 49
   _____ 20 to 29   _____ 50 to 59
   _____ 30 to 39   _____ 60 and older

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 to $79,999
   _____ $40,000 to $49,999   _____ $80,000 and over

5. Please indicate your highest level of education

   _____ Elementary school
   _____ Secondary school or less
   _____ Community college/CEGEP/Technical school/ diploma
   _____ Bachelor degree
   _____ Master or Doctorate degree

6. What is your occupation? _____

Thank you very much for your cooperation.

Questionnaire

Directives

Nous vous remercions de votre collaboration. Vos réponses à ce questionnaire nous seront extrêmement utiles. Nous avons essayé de rendre ce questionnaire aussi simple que possible tout en respectant les objectifs de la recherche. Votre tâche consiste à encercler un chiffre pour indiquer votre réponse. Il est très important que vous répondiez à **TOUTES** les questions. Si à un moment donné vous ignorez la réponse exacte, faites une estimation selon votre situation.
Sachez qu'il n'y a pas de réponses justes ou fausses.
Pour plus de simplicité, nous avons rédigé les phrases uniquement au masculin.

PARTIE A

Imaginez le scénario suivant : Vous avez décidé de vous acheter un nouvel ordinateur portable. Veuillez s'il vous plait répondre aux questions suivantes en référant à ce scénario.
Considérez les différentes sources d'information que vous consulteriez afin de trouver des renseignements pertinents vous permettant de choisir le nouvel ordinateur portable (par exemple, des renseignements sur les différents modèles ou systèmes opérationnels, les diverses marques, les différents types de garanties, les divers accessoires, etc.). **Veuillez s'il vous plaît encercler le chiffre correspondant à votre réponse.**

	Très probable							Très peu probable
Consulteriez vous d'autres personnes (amis, famille, etc.) pour obtenir de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							
Consulteriez vous des annonces publicitaires pour obtenir de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							
Utiliseriez vous l'Internet pour obtenir de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							
Consulteriez vous des rapports d'associations de consommateurs (du style Protégez Vous) pour obtenir de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							
Consulteriez vous des revues spécialisées pour obtenir de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							
Consulteriez vous des vendeurs pour obtenir de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							
Iriez-vous dans plusieurs magasins pour trouver de l'information sur les ordinateurs portables?	1 2 3 4 5 6 7 8 9							

En général, vous considérez-vous familier avec les ordinateurs portables?

Très familier   1   2   3   4   5   6   7   8   9   Pas du tout familier

Vous considérez-vous informé sur les ordinateurs portables?

Pas du tout informé   1   2   3   4   5   6   7   8   9   Très bien informé

Est-ce que vous pensez bien connaître les ordinateurs portables?

Connais très bien   1   2   3   4   5   6   7   8   9   Connais pas du tout

---

Compte tenu l'investissement important associé à l'achat d'un ordinateur portable, à quel point diriez vous qu'il est risqué d'acheter un nouvel ordinateur portable?

Pas risqué du tout   1   2   3   4   5   6   7   8   9   Extrêmement risqué

Considérant les dépenses liées à l'achat d'un ordinateur portable, quel est le niveau de risque attaché à l'achat d'un nouvel ordinateur portable?

Énormément de risque   1   2   3   4   5   6   7   8   9   Très peu de risque

Financièrement parlant, quel niveau de risque ressentez-vous à acheter un nouvel ordinateur portabie?

Pas risqué du tout   1   2   3   4   5   6   7   8   9   Extrêmement risqué

Quel est votre degré de certitude que l'ordinateur portable fonctionnera de façon satisfaisante?

Pas certain du tout   1   2   3   4   5   6   7   8   9   Absolument certain

Si l'on considère les problèmes pouvant affecter la performance d'un ordinateur portable, quel niveau de risque est impliqué dans l'achat d'un nouvel ordinateur portable?

Très peu de risque   1   2   3   4   5   6   7   8   9   Énormément de risque

Quel est votre degré de confiance que le nouvel ordinateur portable répondra à vos attentes en terme de performance?

Extrêmement confiant   1   2   3   4   5   6   7   8   9   Pas confiant du tout

---

PARTIE B

Veuillez s'il vous plaît encercler le chiffre correspondant à votre degré d'accord avec chacun des énoncés suivants.

	Tout à fait en désaccord							Tout à fait d'accord
Je pense être plus confiant que la plupart des gens.	1 2 3 4 5 6 7 8 9							
Je suis plus indépendant que la plupart des gens.	1 2 3 4 5 6 7 8 9							
Je pense avoir beaucoup d'habilités personnelles.	1 2 3 4 5 6 7 8 9							
J'aime être considéré comme un « leader ».	1 2 3 4 5 6 7 8 9							
Je n'ai jamais été vraiment excellent à quoique ce soit.	1 2 3 4 5 6 7 8 9							
J'arrive souvent à convaincre les autres de faire quelque chose.	1 2 3 4 5 6 7 8 9							
Je n'achète les derniers modèles à la mode que quand je suis sûr que mes amis les approuvent.	1 2 3 4 5 6 7 8 9							
Il est important que les autres aiment les produits et les marques que j'achète.	1 2 3 4 5 6 7 8 9							
En général, quand j'achète des produits, je choisis les marques que les autres vont approuver.	1 2 3 4 5 6 7 8 9							
Si je dois être vu utiliser un certain produit, je choisis souvent la la marque que les gens s'attendent que j'achète.	1 2 3 4 5 6 7 8 9							
J'aime bien connaître les marques et les produits qui font bonne impression sur les autres.	1 2 3 4 5 6 7 8 9							
J'affirme mon appartenance à un groupe en achetant les mêmes produits et les mêmes marques que les autres membres.	1 2 3 4 5 6 7 8 9							
Si je veux être comme quelqu'un, j'achète les mêmes produits et les mêmes marques que lui.	1 2 3 4 5 6 7 8 9							
Je m'identifie souvent à des gens en achetant les mêmes produits et les mêmes marques qu'ils achètent.	1 2 3 4 5 6 7 8 9							
Pour être sûr d'acheter le bon produit, j'observe souvent ce que les autres achètent et utilisent.	1 2 3 4 5 6 7 8 9							

	Tout à fait en désaccord							Tout à fait d'accord

Si j'ai peu d'expérience avec un produit, je demande souvent à mes amis ce qu'ils en pensent.　　1 2 3 4 5 6 7 8 9

Je demande souvent à d'autres personnes de m'aider à choisir la la meilleure alternative dans une catégorie de produit.　　1 2 3 4 5 6 7 8 9

Je demande souvent des renseignements à mes amis et ma famille avant d'acheter un produit.　　1 2 3 4 5 6 7 8 9

J'aime faire connaître de nouveaux produits ou nouvelles marques à mes amis.　　1 2 3 4 5 6 7 8 9

J'aime aider les gens en leur fournissant de l'information sur plusieurs types de produits.　　1 2 3 4 5 6 7 8 9

Les gens me demandent des renseignements sur divers types de produits, les endroits où magasiner et les soldes.　　1 2 3 4 5 6 7 8 9

Si une personne me demande où elle peut trouver les meilleurs achats de plusieurs types de produits, je peux lui indiquer où se les procurer.　　1 2 3 4 5 6 7 8 9

Mes amis me considèrent comme une bonne source d'information au sujet de nouveaux produits et de soldes.　　1 2 3 4 5 6 7 8 9

Pensez à quelqu'un qui connaît bien plusieurs produits et qui aime partager ses connaissances avec les autres. Cette personne possède une bonne connaissance des nouveaux produits sur le marché, des soldes, des magasins, etc., mais ne se considère pas particulièrement experte au sujet d'un produit en particulier. A quel point cet énoncé vous décrit-il?

Cet énoncé ne me　1　2　3　4　5　6　7　8　9　Cet énoncé me décrit
décrit pas du tout　　　　　　　　　　　　　　　　parfaitement

A quel point chacun des énoncés suivants vous décrit-il ?

	Ne me décrit pas du tout							Me décrit parfaitement

Je ne sacrifie pas mes intérêts personnels pour mon groupe.　　1 2 3 4 5 6 7 8 9

Je ne pense pas qu'il soit nécessaire d'agir comme les autres membres du groupe le préféreraient.　　1 2 3 4 5 6 7 8 9

Je reste avec mon groupe même dans les moments difficiles.　　1 2 3 4 5 6 7 8 9

Je maintiens l'harmonie dans mon groupe.　　1 2 3 4 5 6 7 8 9

103

	Ne me décrit pas du tout								Me décrit parfaitement
Je ne change pas mes opinions pour me conformer à ceux de la majorité.	1	2	3	4	5	6	7	8	9
Je n'appuis pas les membres de mon groupe lorsqu'ils ont tord.	1	2	3	4	5	6	7	8	9
Je respecte les décisions prises par mon groupe.	1	2	3	4	5	6	7	8	9
Je reste avec mon groupe s'ils ont besoin de moi, même si je ne suis pas satisfait avec eux.	1	2	3	4	5	6	7	8	9
J'affirme mon opposition lorsque je ne suis pas d'accord avec les membres de mon groupe.	1	2	3	4	5	6	7	8	9
J'essaye d'éviter les désaccords avec les membres de mon groupe.	1	2	3	4	5	6	7	8	9

Pour chacun des énoncés suivants, veuillez s'il vous plaît indiquer à quel point l'énoncé vous caractérise. **Si l'énoncé ne vous décrit pas du tout (Extrêmement Atypique), veuillez encercler « 1 ». Si l'énoncé vous décrit parfaitement (Extrêmement Typique), veuillez encercler « 9 ».** Bien entendu, un énoncé pourrait n'être ni extrêmement atypique ni extrêmement typique; dans ce cas veuillez encercler le chiffre qui correspond le mieux à votre situation.

	Extrêmement Atypique								Extrêmement Typique
Je préfère les problèmes compliqués aux problèmes simples.	1	2	3	4	5	6	7	8	9
J'aime la responsabilité de gérer une situation qui demande beaucoup de réflexion.	1	2	3	4	5	6	7	8	9
Penser n'est pas une activité amusante.	1	2	3	4	5	6	7	8	9
Je préfère faire quelque chose qui demande peu de réflexion plutôt que quelque chose qui va défier mes capacités de réflexion.	1	2	3	4	5	6	7	8	9
J'essaye d'anticiper et d'éviter les situations qui pourraient me pousser à réfléchir profondément à propos de quelque chose.	1	2	3	4	5	6	7	8	9
Je tire une grande satisfaction à débattre ardemment et longuement.	1	2	3	4	5	6	7	8	9
Je ne réfléchis pas plus que je ne dois.	1	2	3	4	5	6	7	8	9
Je préfère penser à des petits projets quotidiens plutôt qu'à des projets à long terme.	1	2	3	4	5	6	7	8	9
J'aime les tâches qui demandent peu de réflexion une fois apprises.	1	2	3	4	5	6	7	8	9

	Extrêmement Atypique								Extrêmement Typique

J'aime l'idée de faire mon chemin jusqu'au sommet en utilisant la réflexion.

1 2 3 4 5 6 7 8 9

J'aime beaucoup les tâches qui consistent à trouver des solutions nouvelles à des problèmes.

1 2 3 4 5 6 7 8 9

Apprendre de nouvelles méthodes de penser ne m'excite pas beaucoup.

1 2 3 4 5 6 7 8 9

Je préfère que ma vie soit remplie de casse-tête que je dois résoudre.

1 2 3 4 5 6 7 8 9

J'aime l'idée de penser dans l'abstrait.

1 2 3 4 5 6 7 8 9

Je préfère une tâche qui est intellectuelle, difficile et importante à une tâche plus ou moins importante mais qui ne demande pas beaucoup de réflexion.

1 2 3 4 5 6 7 8 9

Je me sens libéré plutôt que satisfait après l'accomplissement d'une tâche qui demande beaucoup d'effort mental.

1 2 3 4 5 6 7 8 9

Je me contente du fait que le travail soit fait; peu importe comment ou pourquoi ça marche.

1 2 3 4 5 6 7 8 9

Je me retrouve souvent en train de débattre de sujets même s'ils ne m'affectent pas personnellement.

1 2 3 4 5 6 7 8 9

Dans la section suivante, nous aimerions connaître l'étendue de votre utilisation de la langue française, de la langue anglaise, et de toute(s) autre(s) langue(s) dans vos activités quotidiennes. Veuillez s'il vous plait distribuer 100 points de 0% (jamais) à 100% (tout le temps) pour chaque activité dans les trois catégories de langues suivantes.

	Français	Anglais	Autre (laquelle?_____)	Total
Regarder la télévision	_____	_____	_____	100%
Écouter la radio	_____	_____	_____	100%
Lire les journaux	_____	_____	_____	100%
Regarder des films au cinéma ou des vidéos	_____	_____	_____	100%

Veuillez s'il vous plaît encercler le chiffre correspondant à votre degré d'accord avec chacun des énoncés suivants.

	Tout à fait En désaccord								Tout à fait 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_____(Préciser).	1	2	3	4	5	6	7	8	9

DONNÉES DÉMOGRAPHIQUES

1. Êtes vous ____ Homme ____ Femme

2. Êtes vous
   ____ Célibataire
   ____ Marié(e) ou vivant en union libre
   ____ Séparé(e) ou divorcé(e)
   ____ Veuf(ve)

3. Veuillez indiquer votre catégorie d'âge

   ____ 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 indiquer la catégorie de votre revenu **familial** brut.

   ____ 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 à $79,999
   ____ $40,000 à $49,999   ____ $80,000 et plus

5. Veuillez indiquer votre plus haut niveau d'étude

   ____ École primaire
   ____ École secondaire
   ____ CEGEP/ collégial
   ____ Baccalauréat
   ____ Maîtrise ou or Doctorat

6. Quelle est votre profession? _____

Merci de votre collaboration.

106

APPENDIX 2

Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
KNOW1	419	1	9	4,86	2,59
KNOW2	419	1	9	5,60	2,13
KNOW3	419	1	9	4,59	2,38
RISK1	419	1	9	4,59	2,07
RISK2	419	1	9	4,73	2,06
RISK3	419	1	9	4,45	2,10
RISK4	419	1	9	4,63	1,99
SUSCEP1	419	1	9	6,60	1,96
SUSCEP2	419	1	9	5,68	2,18
SUSCEP3	419	1	9	5,77	2,23
CONF1	419	1	9	6,03	1,91
CONF2	419	1	9	6,75	1,81
CONF3	419	1	9	6,86	1,62
CONF4	419	1	9	5,92	2,21
IC1	419	1	9	5,22	2,26
IC2	419	1	9	3,89	2,13
IC3	419	1	9	7,17	1,71
IC4	419	1	9	7,01	1,54
IC5	419	1	9	3,22	2,02
IC6	419	1	9	3,40	2,11
IC7	419	1	9	7,14	1,51
IC8	419	1	9	6,47	1,94
IC9	419	1	9	2,67	1,67
IC10	419	1	9	5,89	2,21
NFC1	419	1	9	4,64	2,50
NFC2	419	1	9	6,45	2,05
NFC3	419	1	9	5,25	2,22
NFC4	419	1	9	6,62	1,78
NFC5	419	1	9	7,16	1,65
NFC6	418	1	9	4,80	2,33
NFC7	419	1	9	5,48	2,33
NFC8	419	1	9	5,90	2,13
NFC9	419	1	9	5,34	2,21
PREFEREN	418	,20	6,00	1,8330	,7292