

AN EXAMINATION OF CHINESE AND CAUCASIAN CANADIANS'

MONEY BELIEFS AND BEHAVIORS

by

KATHRYN J. THORESON

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Department of Social Work and Family Studies
The University of British Columbia
Vancouver, Canada

Date Dec 10, 2002

Abstract

The aim of this study was to examine the money beliefs and behaviors of Chinese ($n = 214$) and Caucasian Canadians ($n = 326$). A convenience sample of employed adults living in Western Canada was used.

A factor analysis of the Money Beliefs and Behavior Scale (Furnham, 1984) for each group revealed that the Chinese Canadians had a solution containing the factors *Obsession* (preoccupied with money as a means of power), *Inadequacy* (anxious about one's financial situation), *Retention* (hesitancy about spending money) and *Cautious* (minimizing one's financial risks). The factor solution for the Caucasian Canadians contained the factors *Obsession*, *Overcompensation* (tendency to overspend on others), *Security/Conservative* (a cautious approach towards money), and *Inadequacy*.

Ethnicity contributed to the variance explained on *Obsession* and *Inadequacy*. The Chinese were shown to be more obsessed with money as power, and feeling more anxious about their financial situation, than the Caucasians. Further, the patterns for *gender*, *age*, *education*, and *income* on each group's dimensions differed. *Education* was significant in explaining Chinese money beliefs and behaviors, while *gender* and *age* were significant for the Caucasians.

Ethnicity is a key variable to consider when examining money beliefs and behaviors within a nation. The confirmation of similar concepts across cultures points to development of a scale for use cross-culturally. As well, new dimensions have emerged in this study which should be considered in the development of a money attitudes scale. Findings may also help financial service providers and marketers better understand their clientele.

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Chapter I

Introduction

Increased immigration to Canada over the last several decades has resulted in a country that has an ethnically diverse population, comprised of individuals from both developed and developing countries. In addition to the Aboriginal peoples, and the founding British and French groups, there are large numbers of German, Italian, Dutch, Ukrainian, Chinese, Black, and Indo-Pakistani people living in this country (Esses & Gardner, 1996). However, while British and French are still Canada's largest ethnic groups, the number of people reporting their origins as British or French has been declining. In 1991, for example, 31% of the Canadian population reported an ethnic background other than British or French, up from 25% in 1986 (Renaud & Badets, 1993).

One of the fastest growing ethnic groups in Canada is the Chinese. Most of the growth in this population in the past forty years has been through immigration. In 1991, immigrants of Chinese origin accounted for 69% of this population, while 27% were Canadian-born, and 4% were non-permanent residents (Costa & Renaud, 1995). Of the Chinese born outside of Canada, most were born in the People's Republic of China (34%) and Hong Kong (33%). The remainder of the Chinese were born in Viet Nam, Taiwan, Malaysia, and other countries.

Those of Chinese heritage comprised about 3% of the Canadian population in 1996, with two out of three Chinese living in the census metropolitan areas of Toronto and Vancouver. Employment opportunities are generally more abundant in urban areas; as well, there are often existing ethnic communities (Costa & Renaud, 1995). As a result, the Chinese accounted for a fairly large portion of the populations of Vancouver (15%) and Toronto (8%) in 1996, up from 11% and 7% respectively, in 1991.

Overall, the Chinese population in Canada is affluent, and has high levels of discretionary income (Crane & Clarke, 1994). With regards to the Chinese who have immigrated to Canada in recent years, for example, a large number have been entrepreneurs and investors. Of the immigrants arriving from Hong Kong each year between the mid-1980s and the mid-1990s, 20% to 40% have been entrepreneurs and investors, and their families (Costa & Renaud, 1995). Further, during the same period, people from Hong Kong accounted for one-third to one-half of all immigrants entering the country in the entrepreneur class each year, and between 40% and 60% of all immigrants in the investor class.

Considering the prominence of the Chinese in certain regions of Canada, it is surprising that little research has been done in order to understand the money attitudes of the Chinese Canadian population, and how their attitudes might compare to other ethnic groups in this country. As Jain and Joy (1997) have pointed out, while cultural categories such as the concepts of time, space, and money, may be universal, the content of these categories differs between cultures. Therefore, examining the money attitudes of the Chinese and Caucasian populations in Canada will provide insight into potential differences between the two groups. This information could be then be useful to financial service providers and marketers who strive to better meet the needs and concerns of these populations.

Chapter II

Literature Review

The Relationship Between Ethnicity/Culture and Attitudes and Behavior

The interest in this study lies in the relationship between *ethnicity* and/or *culture*, and *money beliefs and behaviors*. Unfortunately, there are no grand theories pertaining to money attitudes, although in the field of economic psychology, a substantial amount has been written regarding the 'meaning of money'. Generally, there is agreement that money is deeply symbolic, and that it is imbued with emotional meaning (Belk & Wallendorf, 1990; Furnham & Argyle, 1998; Katona, 1975; Lea, Jarpy, & Webley, 1987; Yablonsky, 1990). Consider Furnham and Argyle's (1998) statement that "money is, in and of itself, inert"... but everywhere it becomes empowered with "special meanings and imbued with special powers" (p. 6), or Yablonsky's (1990) assertion that, "money says a great deal about our personalities, our hopes and fears, our values, and our hang-ups" (p. 3). This line of thought moves money beyond the realm of economics (wherein individuals are seen as 'rational' users of money), and instead considers money as a social and psychological concept. According to economic psychology then, money is an emotional force— the attitudes and behavior associated with it are shaped by individual traits, traits which in turn have been influenced by the world one inhabits (Yablonsky, 1990).

In considering the influences of the world that one inhabits, factors such as one's ethnic background and/or cultural background certainly shape one's attitudes and behaviors to some degree. Naturally ethnicity, in and of itself, does not directly cause one to have particular attitudes and behaviors, however, the influence of one's ethnic background cannot be ignored. In the areas of consumer socialization and consumer behavior research, for

example, it is widely acknowledged that socio-cultural factors, such as social class and ethnicity, can have direct and indirect influences on consumer behavior (Crane & Clarke, 1994; Engel, Blackwell, & Miniard, 1986; Mahatoo, 1986). Consumer behaviors often reflect cultural differences, which can be the result of differences in values held by particular ethnic groups. In addition, socialization processes, which can vary between cultures, can also have diverse effects on the development of consumer behavior (Moschis, 1987).

Further, cross-cultural perspectives, such as the *ethnic consumption perspective* and the *cultural meaning perspective* both take into account the effect of culture on consumer behavior (Schutte & Ciarlante, 1998). The 'ethnic consumption perspective' stipulates that although there are certain products that have global appeal, consumers of different cultures behave differently. In contrast, the 'cultural meaning perspective' holds that consumers are cross-culturally different in both their preferences for products and their behavior. Therefore, when theorists acknowledge that ethnicity can have an impact on one's (consumer) behavior, it is reasonable to suggest that one's attitudes and beliefs might also be influenced by one's culture.

In the present study, *ethnicity* is a self-reported measure. An *ethnic group* is a group of people who see themselves, and are seen by others, as having a shared history and culture (Pleck, 2000, p.13). Ethnic groups may be formed around nationality, religion, geographic location, physical attributes, or other factors (Engel et al., 1986). Although a particular ethnic group identifies itself by defining and maintaining a boundary between itself and others, the boundary line between one group and the rest is never firmly drawn, but instead is constantly shifting (Pleck, 2000, p.14).

Culture refers to a set of values, customs, traditions, attitudes and ideas that a society

possesses and transmits from one generation to the next (Crane & Clarke, 1994). Culture is learned and inculcated; its transmission is carried out primarily by the family, religious institutions, or schools (Engel et al., 1986). The family has a particularly prominent role in socializing children and transmitting cultural values, and while parents do not solely determine the course of their children's development, many attitudes, interests, goals, beliefs, and prejudices are acquired in the family (Crane & Clarke, 1994).

The term *culture* has no definite boundaries, and it can be applied in a number of different ways, depending on the frame of reference (Mahatoo, 1984, p. 255). As Western society is an ethnically diverse culture in and of itself, component cultures abound. So while one may speak broadly of Western (versus Eastern) culture, and within that, of British, Italian, American or Canadian culture, one can also refer to component cultures within these, such as the French-Canadian culture, or the Mexican-American culture. For the purpose of this paper, however, the frame of reference is that of Western-influenced values versus Chinese (Eastern-influenced) values.

Values are a function of culture, and they have to be considered as preceding and coloring one's attitudes (Pitts & Woodside, 1987). A *value system* is "an enduring organization of beliefs concerning preferred modes of conduct or end-states along an important continuum" (Rokeach, 1973, p.5). *Attitudes* are a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor (Eagly & Chaiken, 1993, p.1). The relationship among values, beliefs, and attitudes is hierarchical (Mahatoo, 1985). Values represent the broad, general orientations an individual holds towards the environment, and are not directed to specific objects, while *beliefs* – the building blocks of attitudes – are the specific knowledge that an individual has about an object. Each

value can provide a frame of reference for a number of attitudes or predispositions to specific objects. For example, 'conservatism' (the value) can influence attitudes on a variety of issues such as education, taxes, and social welfare.

The examination of values provides a meaningful and interpretive analysis of the underlying motives that structure attitudes and behaviors (Pitts & Woodside, 1987). On a broad level, it has generally been acknowledged that Eastern-influenced and Western-influenced values differ to some degree. Hypothetically then, attitudes towards a variety of issues could be influenced by the value systems of these two cultural perspectives. As the two groups of interest in this study are seen to be influenced from opposing perspectives, what follows is an overview of Chinese cultural values and how these values contrast with those from the West.

Cultural Values

Chinese (Eastern-influenced Values)

The center stage in almost all approaches to Chinese social behavior is commanded by Chung-ni K'ung, or Confucius, as he is known in the West (Bond & Hwang, 1986). The predominance of Confucianism in China can be traced back about 2,000 years ago, to its origin in the Han Dynasty. During this period colleges were established, and an education system was developed which was primarily based upon the mastery of Confucian ethics. Eventually, Confucianism became recognized as the official philosophy of state.

According to Bond and Hwang (1986), the essential aspects of Confucianism in constructing a Chinese social psychology are that: a) man exists through, and is defined by, his relationship to others; b) these relationships are structured hierarchically, for example, those between sovereign and subject, father and son, elder brother and younger brother, and

husband and wife; and c) social order is ensured through each party's honoring the requirements in the role relationship, thus guaranteeing a harmonious society. Further, virtue with regard to one's tasks in life consists of trying to acquire skills and education, working hard, not spending more than necessary, being patient, and persevering (Hofstede, 2001).

The Chinese derive their norms and values from Confucianism. These norms and values include: patrilinearity; patriarchy; obedience to, and responsibility for, parents; the use of shame and guilt to control behavior; a high regard for education; and considerable personal interdependence, or dependence, as the case may be (Fan, 1997). This interdependence is indicative of a collectivist society, which is group-oriented. Interdependence is particularly salient in the family, where kinship and togetherness are emphasized.

The Influence of Eastern Values on Consumer Behavior

Consistent with Eastern-influenced values, researchers conducting empirical studies on consumer/economic behavior in North America have found some differences in the consumption patterns of Asian groups compared to other ethnic groups. For example, Hong and Kao (1997) found that more Asian Americans were prepared for financial emergencies than were Hispanics, African Americans, and non-Hispanic whites, and that Asian Americans had higher mean and median emergency fund ratios. Further, the Asian American sample had a higher rate of labor force participation, more multiple wage earners in the same family, and longer working hours than those from the other ethnic groups. In addition, the Asian Americans had the highest holdings of cash savings and U.S. savings bonds.

Studies on budget allocation that have included Asian groups have been conducted in both Canada and the U.S. In their examination of expenditures on necessity and luxury goods in Canada, Abdel-Ghany and Sharpe (1997) found that the 'Chinese/South East Asian' group

allocated a considerably larger than average budget share to reading materials and education expenses than did the other ethnic groups, while also spending significantly less on tobacco, alcohol products, gifts, and contributions. In addition, the Asian group also considered 'food away from home, clothing, health care, and personal care' to be luxury commodities, unlike the 'Canadian' ethnic group, who considered these commodities 'necessities'.

Studies by Fan (1997, 1998) revealed that the expenditure patterns of Asian American households included allocating more of their budgets to shelter-related expenses than did White American households. Further, Asian Americans allocated less of their budget to service-related expenditures, and also spent more of their budget on education than White Americans did. Fan concluded that cultural differences regarding the emphasis on family togetherness (home being an important place for togetherness), the interdependence of family members (rather than relying on the services of others), and the influence of the Confucian ethic, which promotes respect for education and gaining status through education, could at least partially explain these differences in expenditure patterns.

As Henry (1976) has asserted, cultural values are related to individuals' consumer/economic behavior. Clearly, there are differences in economic and consumption behavior when one compares expenditure patterns amongst ethnic groups in North America. With regards to those from an Asian background, a tendency to allocate more of one's budget to educational expenses is certainly apparent, while savings and investment (in a house, for example) also appear to be a priority. As Fan (1997) has emphasized, the value placed on education makes expenditures in this area a priority, while the strong family orientation leads this population to also favor 'shelter' when it comes to allocating budget shares.

Comparing Western-Influenced Values with Eastern-Influenced Values

Canada is a diverse nation, with two official languages, many separate cultures, and a large minority “strongly bent on maintaining its traditions” (Mahatoo, 1985, p. 258). Further, as Berry (1984) notes, the policy of multiculturalism in Canada encourages ethnic groups to maintain their unique cultural background. This makes identification of core values that reflect a mainstream Canadian culture confusing; therefore, the values discussed in this section can serve as a broad base only.

One possible key to the difference in the values between an Eastern-influenced culture and a Western-influenced culture lies in the emphasis on ‘collectivism’ in the East versus ‘individualism’ in the West. Individuals in Western society value self-reliance and independence; the individual is encouraged to satisfy his/her own needs within the group (Schutte & Ciarlante, 1998). As well, individual achievement is considered “paramount” (Engel et. al., 1986, p.368) in Western society (particularly in the United States), and being ‘the best’ is a goal for which many individuals strive. The personal need to achieve is associated with a strong degree of individualism, which values the individual’s independence and promotes the development of the self (Mahatoo, 1985).

Individualism contrasts with the Chinese value of collectivism, which focuses on the interdependence of family members, and subjugates the needs of the individual for the overall well-being of the collective. Children learn to think in terms of ‘we’ in a collectivist-oriented culture (Hofstede, 2001). Therefore, while the success of individuals within a Chinese family is important, these successes serve to promote the development of, and responsibility to, the collective (for example, enhancing the social standing of the family within the community and/or society), rather than focusing on an individual’s achievement for the sake of his/her

own personal development.

Another important difference between the two cultures centers around what Hofstede (2001) refers to as the 'power distance' dimension of cultural values. The power distance indicates how a society handles inequality between individuals. In Western society, a 'low' power distance, where power is relatively more equally distributed, is valued. Norms associated with this egalitarian perspective would include parents and children treating each other as equals. This would likewise extend to relationships between children and older relatives, and children and teachers, for example. In addition, as Hofstede (2001) notes, children are financially independent of their relatives, and they have limited obligation in the old-age security of parents.

In contrast, a 'high' power distance between individuals is valued in Chinese society, where hierarchy is strong and centralized at the top. This ideology extends beyond the family (which is the prototype for all organizations) and into all other aspects of life, such as school, religion, the workplace, and the political system. Norms associated with this perspective include a respect for authority, honoring the status of the older individual, and obedience to, and responsibility for, one's parents. The responsibility for one's parents is both ritual and financial. Children are expected to honor their ancestors and their elders, and to be a source of old-age security, especially to fathers (Hofstede, 2001). In fact, such is the importance of filial piety in Chinese society that Article 15 of China's family law asserts that when children fail to perform the duty of supporting their parents, their parents have the right to demand that their children pay for their support (Schutte & Ciarlante, 1998).

Thirdly, while education is valued in the West, there is a particularly strongly endorsed belief in the Chinese culture (influenced by the Confucian ethic) that education is

the key to one's success. This success is determined not only by the increased opportunities for economic and social advancement (diplomas provide entry to higher status groups), but also by the assumption that education provides an avenue for the improvement of a person on a moral level (Stevenson & Lee, 1996). Students are therefore highly motivated to do well in school and are willing to devote large amounts of time to academic pursuits. The motivation to work hard reduces and/or eliminates any constraints imposed by differences in ability (Stevenson & Lee, 1996).

The high regard for education by the Chinese is perhaps best illustrated with an example. In Canada, Chinese adults have higher levels of formal education than the population in general. In 1991, among people aged 25 to 44, 38% of Chinese immigrants and 55% of Canadian-born Chinese had at least some university education, compared with 27% of the total population (Costa & Renaud, 1995). The high regard for education seems to hold true in the U.S. as well, where Fan (1997) has observed that there are "un-proportionately high numbers" (p. 359) of Asian Americans enrolled in colleges and universities.

Overall then, the Eastern-influenced values which contrast with the Western-influenced values are those that emphasize a collectivist ideology and a high power distance (hierarchal relationships). In addition, there is a more strongly endorsed belief by the Chinese that education is the key to an individual's success (on an economic, social, and moral level). The emphasis placed on family, education, and hard work in Chinese culture are important to note, because with these values come financial obligations. Responsibilities such as these may influence one's attitudes and behaviors associated with money.

Measuring Money Attitudes

Researchers have conceptualized money attitudes in a number of ways, usually with

some degree of overlap amongst the measures. Instruments have included the Modified Semantic Differential (Wernimont & Fitzpatrick, 1972), the Money Attitude Scale (Yamauchi & Templer, 1982), the Money Beliefs and Behavior Scale (Furnham, 1984), and Money Ethics Scale (Tang, 1992). To date, the Money Attitude Scale (MAS), which was developed in the United States, and the Money Beliefs and Behavior Scale (MBBS), which was developed in Britain, have been the most widely used instruments to measure money attitudes.

The scale used in the present study is the Money Beliefs and Behavior Scale (Furnham, 1984). This scale offers a broad range of items, including those which measure attitudes and those which measure behaviors. In contrast, Yamauchi and Templer's (1982) scale primarily measures behaviors, while the Tang (1992) scale focuses more on attitudes.

Table 1 presents the dimensions identified by Furnham (1984), Yamauchi and Templer (1982), and Tang (1992), and shows the common concepts across the measures. Upon examination of the item content of the money scales, it is apparent that there is some overlap, particularly in relation to worrying about finances (Furnham, 1984; Yamauchi & Templer, 1982), in relation to the ability to save money (Furnham, 1984; Tang, 1992; Yamauchi & Templer, 1982;), and in relation to money as a source of power/influence (Furnham, 1984; Tang, 1992; Yamauchi & Templer, 1982). Further, Lim and Teo (1997), whose scale had not yet been developed at the time of the data collection for the present study (1993), have also worked on developing a money attitudes scale using a Chinese student sample, and have identified like-minded dimensions (i.e., *Obsession, Power, Budget, Achievement, Anxiety, Retention*).

Table 1***Comparison of Money Scales***

	Money Beliefs and Behavior Scale (Furnham, 1984)	Money Attitudes Scale (Yamauchi & Templer, 1982)	Money Ethics Scale (Tang, 1992)
# of Dimensions/Items	6/47	5/34	6/30
Common Concepts Across Scales	<p>Factor 1: Obsession: preoccupied/concerned with aspects of money</p> <p>Factor 2: Power/Spending: use of money to control other people or social situations</p> <p>Factor 3: Retention: money is to be saved and not spent</p> <p>Factor 4: Security/Conservative: A somewhat old-fashioned approach towards such, such as not using credit, paying one's bills on time</p>	<p>Factor 1: Power-Prestige: use of money to impress and influence others, money as a sign of success</p> <p>Factor 5: Anxiety: money as a source of anxiety as well as a source of protection from anxiety</p> <p>Factor 1: Power-Prestige</p> <p>Factor 3: Distrust: hesitant, suspicious, and doubtful attitudes towards money</p> <p>Factor 2: Retention-Time: behaviors aimed at the future which require planning and preparation</p>	<p>Factor 3: Achievement: money as a symbol of success</p> <p>Factor 3: Achievement Factor 4: Respect (self-esteem) : money as something through which people express their competence and abilities and gain self-esteem and respect from others</p> <p>Factor 5: Budget: related to the notion of financial planning</p>
Additional Concepts	<p>Factor 5: Inadequacy: Feeling that one has not got enough money</p> <p>Factor 6: Effort/Ability: belief that there is a relationship between an individual's work effort and income</p>	<p>Factor 4: Quality: a belief in getting the best or paying the most to get the quality desired</p>	<p>Factor 1: Good: money is positive</p> <p>Factor 2: Evil : negative attitudes towards money</p> <p>Factor 6: Freedom (Power) : money gives one autonomy, freedom, security, to be what one wants to be</p>
Variance Explained	35.4%	33.6%	42.8

The review of money scales suggests that attitudes towards money are a complex multidimensional concept, and that the idea of money elicits both positive (effort, achievement, competence) and negative (distrust, inadequacy, anxiety) feelings from people (Medina, Saegert, & Gresham, 1996). It is clear, however, that additional scale development is necessary in order to assess all aspects of attitudes towards money. Moreover, the scales need to be applied to non-student samples, to a variety of ethnic groups, and used to assess cultural differences within a nation.

Cross-Cultural Studies on Money Attitudes

Several studies have compared money attitudes cross-culturally, primarily by examining money attitudes across nations. However, there have also been two studies which have compared ethnic groups within a nation. Results have shown that there are variations in attitudes from country to country, and between ethnic groups in the same country.

Bailey and Lown (1992) replicated Furnham's (1984) original study using the Money Beliefs and Behavior Scale (MBBS) with an American sample. The factor analysis of the MBBS for the American sample suggested that the scale did not measure the same attributes in the United States as it did in Great Britain. Compared to the six dimensions that emerged in the Furnham (1984) study, only two factors were identifiable for the American sample—those of *Obsession* and *Retention/Security*. This led the researchers to conclude it is possible that Americans and Britains perceive money somewhat differently, and that in light of the differences between the two countries in governmental forms, class structures, educational systems, and monetary systems, it is possible that the British may have a broader perspective than Americans on attitudes towards money.

Tang (1993) administered his Money Ethics Scale to students in Taiwan, and

compared the results to those found in his U.S. sample. The Chinese students showed significant gender differences on the factors *Achievement* and *Respect* (male students scored significantly higher on these factors than did female students). The sample of full-time employees in the U.S. sample did not show the same gender differences. Tang suggested this may be explained by the reduction of gender-role stereotypes in the U.S. culture (not as apparent in the Chinese culture), and the differences in the status and work experience for the two samples. Further, while *age* and *Budget* were negatively correlated in the Chinese sample, these variables were positively correlated in the U.S. sample. Tang suggested this result could be explained by the financial differences between the two samples: the American sample consisted of respondents who were fully employed, while the Taiwanese sample consisted of full-time students who received money from their parents, and were therefore very careful in using their parents' money.

Other results in the Tang (1993) study revealed that the significant relationship between *Protestant Work Ethic* (PWE) and the factor *Evil* was replicated in the Taiwanese sample; however, PWE was not related to *Budget* and *Freedom/Power* in the Taiwanese sample, as it was in the U.S. sample. In addition, Chinese students believed that the *Protestant Work Ethic* was related to one's *Achievement* and *Respect* in the community, which would seem to support the notion that Chinese people value effort and that they believe that hard work leads to success (Hess, McDevitt, & Chih-Mei, 1987). Tang concluded that people's attitudes towards money are consistent with "their inner values, their 'frame of reference', their culture, and their own experience in society" (p. 98).

Bailey et al. (1994) undertook an exploratory study which involved samples from three nations: Australia, Canada, and the United States. Using Furnham's (1984) MBBS,

Bailey et al. replicated Furnham's study with samples from the three countries and compared the results across nations. Three dimensions were identifiable across the three nations: those of *Security/Conservative*, *Inadequacy*, and *Effort/Ability*, although, as the authors noted, the differences among the countries were far more apparent than any similarities, and very few items loaded on the same factors in all three countries. However, the results suggested that Americans and Canadians had more similar attitudes toward money than either had in common with the Australian sample. The researchers concluded that this would be logical, considering the historical, economic, and geographical proximity of Canada and the U.S.

Masuo, Kim, Malroux, and Manashiro (2001) have also used Furnham's (1984) Money Beliefs and Behavior Scale to examine the money attitudes of Korean, Japanese, and Asian American female college students. Results from their exploratory factor analysis indicated the presence of twelve factors. The researchers concluded that the Asian students held more symbolic views about money compared to the Asian Americans, who viewed money in more evaluative terms.

The Medina, Sargert, and Gresham (1996) study considered the influence of *ethnicity* on a sample from the U.S. Using a modified version of Yamauchi and Templer's (1982) Money Attitude Scale, Medina et al. compared the attitudes of Mexican-Americans and Anglo-Americans towards money. Based on studies in which Hispanics were shown to be associated with higher levels of interdependence, conformity, and a readiness to be influenced by the family, Medina et al. hypothesized that, relative to Anglo-Americans, Mexican-Americans would have: 1) lower scores on *Power/Prestige*; 2) lower scores on *Retention/Time*; 3) higher scores on *Distrust/Anxiety*; and 4) higher scores on *Quality*.

MANOVAs conducted to assess the differences between the two groups confirmed

only one of the hypotheses: Mexican-Americans showed significantly lower mean scores than Anglo-Americans on the *Retention/Time* dimension. With regards to hypotheses one and three, the Mexican-American and Anglo-American samples showed no differences on either the *Power/Prestige* or *Distrust/Anxiety* dimensions, and hypothesis four was contrary to what was predicted: the Mexican-American sample in fact scored lower on the *Quality* dimension than did the Anglo-American sample. As for the hypotheses which were not supported, or in opposition to what was hypothesized, Medina et al.(1996) suggested that the educated Mexican-Americans in the sample may have become assimilated to the assumed utility/value oriented consumption style of the typical Anglo-American.

Johnson and Bailey (1997) examined the influence of *ethnicity* on the money experiences and expectations of Chinese and Caucasian Canadians. In their study, ethnicity was found to be a significant variable on half of the items. For example, Chinese respondents were more likely than Caucasian respondents to say that when they were children their parents had discussed finances with them, and that money was “very important” to their fathers. Also, Chinese respondents, more than Caucasian respondents, were worried about losing a job, having to sell a house or car, losing savings, not being able to make ends meet, and not giving their family all they had hoped for.

In addition, Johnson and Bailey (1997) found significant interactions of several socio-demographic variables by *ethnicity*. [An interaction effect indicates that the pattern of the relationship of the socio-demographic variable to the scale item differs by ethnicity.] The interaction effects occurred on the *age*, *education*, and *income* variables. With regards to age and the Chinese sample, the oldest age group, followed by the youngest, and then the middle age group, said their family’s financial position was “wealthy” when they were children.

Among Caucasians, the order was the youngest, middle, then oldest. In addition, Chinese respondents over age 50 were most worried about having to sell their house or car, while for Caucasians, the youngest group had this concern. As well, Caucasians of all ages expressed less worry than the Chinese did. Clearly, the Johnson and Bailey (1997) study points to the impact that ethnicity has on perceptions of money in the past and future, and suggests that Chinese and Caucasian Canadians approach money differently.

From the above studies, it is apparent that the influence of one's cultural background on one's attitudes toward money can have a significant effect; as such, cross-cultural studies are rightly gaining attention in the field of money and psychology. To date, however, Medina et al.(1996) and Johnson and Bailey (1997) are the only researchers to have measured the influence of (self-reported) ethnicity within a sample from the same country. Considering the ethnic diversity of Canada's population, and the fact that Johnson and Bailey's (1997) findings resulted in several differences with regards to the influence of ethnicity towards money experiences in the past and concerns about the future, this warrants further investigation. As Johnson and Bailey have suggested, "culture has a prevailing effect on money attitudes within the same country" (p. 18); therefore, research that includes Canada's major ethnic groups is needed in order to obtain a more complete picture of attitudes about money cross-culturally.

Other Variables Associated With Money Attitudes

Due to the paucity of the theoretical and empirical support for the relationship of demographic variables and money attitudes, as well as the use of several money attitude scales in the literature, research has painted an incomplete picture of the relationship between demographics and money attitudes (Roberts & Sepulveda, 1999). Despite this, there are a

number of socio-demographic variables which have been repeatedly shown to correlate with money beliefs. These variables include *gender*, *age*, *education*, and *income*.

Gender

Women and men have reported differing attitudes towards money in a number of studies. For example, Wernimont and Fitzpatrick's (1972) found that women were more likely to say that money was less important to them, while Furnham (1984) found that men were more obsessed with money (*Obsession*), and were less conservative and less security-conscious than were women (*Security/Conservative*). Furnham also found that women believed they had little control over their financial situation and thought they got less than they deserved (*Effort/Ability*).

Gresham and Fontenot (1989), who used a modified version of Yamauchi and Templer's (1982) Money Attitudes Scale, found that women scored higher than men along the *Distrust/Anxiety*, *Quality* and *Power/Prestige* money attitude dimensions. Contrary to Gresham and Fontenot (1989), however, Bailey and Gustafson (1986) and Tang and Gilbert (1995) found that men were more likely than women to use money as a tool to influence (*Power*) and impress others (*Prestige*).

Newcomb and Rabow's (1999) gender comparisons of money-related experiences and beliefs revealed separate and distinct money socialization tracks for men compared to women. Out of sixteen possible main effects for *gender*, thirteen were significant. Sons more than daughters perceived that their parents had higher expectations for working and saving, and emphasized money and grades. With respect to gender beliefs, men viewed themselves as knowing more about money than did women. When asked about their assessments of self, others, and money, women evaluated themselves and others in more negative terms than did

men, and men evaluated themselves and others in more positive terms than did women. Men also reported a stronger desire for significant earnings and for less financial dependence than did women. In addition, women reported greater fear of finances and engaged in more bargain hunting than did men. Finally, men said that they were introduced to family bills at an earlier age, that they were currently working more hours per week, and that they received less financial support from their families than did women.

Outside of North America, Lynn's (1993) study on gender differences in competitiveness and valuation of money in twelve countries revealed that men generally scored higher than women on competitiveness, the valuation of money, and the importance of saving money. Meanwhile, Lim and Teo (1997) found that Singaporean men used money as a means of evaluation and comparison more so than Singaporean women did, and Chinese students in Tang's (1993) study showed significant gender differences on *Achievement* and *Respect*. Chinese males scored higher than Chinese females on the factors *Achievement* and *Respect*, while the ability to budget was positively correlated with females. These results differed from Tang's (1992) study with a U.S. sample, in which no gender differences were found. As Tang suggests, culture, status, and work experience may account for differences in the two samples.

Generally, significant (albeit, sometimes inconsistent) differences have been found between the genders when it comes to issues of money. Overall, men have been shown to value money more than women do, and they seem to be more comfortable and confident when it comes to dealing with money. No doubt men's and women's socialization experiences have played a key role in these differences.

Age

Age has been shown to be an influential factor with regards to money attitudes and behaviors. In fact, Bailey and Lown (1993) have suggested that age-cohort groups form the most profound aetiological factors in determining attitudes towards money.

Furnham's (1984) British study revealed four significant differences among age groups: younger people used money more often as a means of power (*Power/Spending*), they were less careful and retentive with money (*Retention*), and they were less security-minded than were older people (*Security/Conservative*). Older people, in turn, believed that the amount of money a person earns or possesses is a function of their effort and ability (*Effort/Ability*), and they also reported a tendency to worry more about money for the future, as did the older respondents in Bailey and Lown's (1993) study.

Tang (1992) and Tang and Gilbert (1995) also found differences with regards to age. Results in both of these studies showed that older people were more likely to report higher levels of financial planning (*Budget*). In addition, Tang (1992) found that young people were more inclined to see money as *Evil*.

Roberts and Sepulveda (1999) found that age was a significant predictor of several factors on the Money Attitudes Scale administered to respondents in Mexico. Consistent with Furnham's (1984) findings on the inverse relationship between *age* and the use of money to influence, and the likelihood that the older one gets, the more s/he worries about money, Roberts and Sepulveda also found that younger people, more so than older people, see money as a tool to influence and impress others, and that they worry less about money. Further, age was the only variable found to be a significant predictor of the *Anxiety* factor, and the only variable found to be correlated with the *Bargain-conscious-compulsive* dimension (a new

dimension identified by the researchers). A compulsion to shop for bargains and sales suggested that younger Mexicans placed a higher value on purchasing products to impress others (Roberts & Sepulveda, 1999).

In Furnham and Okamura's (1999) study, older people reported being more extravagant, possibly, as the authors suggest, because older respondents were in a position to afford it. This would seem to contradict the results that Furnham (1984) and Roberts and Sepulveda (1999) found, which were that older people tend to worry more and/or be more pessimistic about money in the future. However, noting the gap between the years in which the Furnham (1984) and the Furnham and Okamura (1999) studies were undertaken, perhaps the economic/political climate of the times contributed to a more optimistic or pessimistic outlook for respondents.

In summary, age is an influential factor with regards to money attitudes and beliefs, although the results have not always been consistent. Overall, younger people tend to use money as a tool to influence (*Power*), while older people generally report higher levels of financial planning (*Retention/Budget*). However, there are some differences with regards to concerns about money in the future. While older respondents in Britain (Furnham, 1984), the United States (Bailey & Lown, 1993), and Mexico (Roberts & Sepulveda, 1999) reported being more concerned about their finances in the future, Johnson and Bailey (1997) found that younger respondents in Canada reported more worries about money when asked about their expectations for the future. As was mentioned previously, differences could be attributed to cultural factors, as well as to the political and economic climates in these countries at a particular point in time, or simply due to an age difference in the samples across studies.

Education

A few studies have investigated the relationship between *education* and money beliefs. In Furnham's (1984) study, education revealed four significant differences: Less well-educated respondents scored higher on the *Obsession* dimension than did the better-educated; the second least educated group more than any of the other groups tended to use money as a means of power over others; the two middle groups were more conservative and security-minded than the least and most educated group; and the better educated believed that a person's wealth is less under her/his control (a function of her/his effort and ability) than the less well-educated groups. In another study, Furnham (1996), found that those who were more educated were more likely to be bargain hunters.

Other researchers who have considered the effect of education are Roberts and Sepulveda (1999), who found that *education* and financial planning (*Budget*) were positively associated, and Johnson and Bailey (1997), who found that those with some technical or college training worried most about losing their savings, while those with a graduate or professional degree worried least. However, in the same study, those with a bachelor's degree had the highest expectation for a better financial future, while those with a graduate or professional degree had the lowest. While it is somewhat difficult to conclude exactly what the overall effect of education on money attitudes is, it is nonetheless important to delineate this variable's effects (Johnson & Bailey, 1997).

Income

The findings on the relationship between *income* and money attitudes have been inconsistent. For example, while Yamauchi and Templer (1982) found no relationship between *income* and any of the dimensions of money attitudes, others, such as Furnham

(1984), have found that those with less income were more obsessed with money (*Obsession*), and more likely to use money to influence others (*Power*), and that higher income people believed that the ability to earn money was due to effort and ability. In addition, Furnham (1984) and Bailey and Lown (1993) found that the better off a person was, the less likely s/he was to worry about money.

Contrary to Tang (1992) and Tang and Gilbert (1995), who ascertained that those with lower incomes were more likely to budget their money carefully, Roberts and Sepulveda (1999) found a positive association between income and financial planning. As Roberts and Sepulveda suggested, this inconsistency may be a result of Tang and Gilbert's (1995) use of a sample with average to low income, while Roberts and Sepulveda's study involved a highly educated and more affluent segment of Mexican consumers.

The findings on the relationship between income and money attitudes have sometimes been inconsistent, or non-existent, as the case may be. However, inconsistencies (such as those found with income and *Budget*) may be due to factors such as sample characteristics, as Roberts and Sepulveda (1999) have suggested.

Purpose

The purpose of this study was to compare Chinese and Caucasian Canadians' money beliefs and behaviors. The primary research question was: Would the Chinese and Caucasian samples differ on which dimensions emerge in their respective factor analysis solutions of the Money Beliefs and Behavior Scale? Beyond this, would the two ethnic groups score significantly differently from each other on dimensions that were comparable, and further, what demographic variables would be influential in explaining each group's money beliefs and behaviors?

Differences in the two groups would be a plausible outcome, due to cultural influences. Further, differences would also be a possibility due to the fact that factor analyses of the Money Beliefs and Behavior Scale (MBBS) have resulted in inconsistent findings in previous research. Furnham (1984), whose scale was developed in Britain, originally identified six dimensions: *Obsession*, *Power/Spending*, *Retention*, *Security/Conservative*, *Inadequacy* and *Effort/Ability*; however, research findings with North American samples have differed. Although six factors with item content similar to Furnham's have been confirmed when using all sixty items of the instrument (Hanley & Wilhelm, 1992; Wilhelm & Varcoe, 1991), other researchers have confirmed some, but not all, of the six dimensions. Those dimensions identified included *Obsession* and *Retention/Security* (Bailey & Gustafson, 1986, 1991; Bailey & Lown, 1992), *Inadequacy* (Bailey & Gustafson, 1986, 1991), and *Effort/Ability* (Bailey & Gustafson, 1986). Therefore, due to inconsistent findings, there was some degree of uncertainty as to what the factor analyses for the two Canadian samples would look like.

Hypotheses

The MBBS has been used in only one study involving a Canadian (Caucasian) sample (Bailey et al., 1994). Results showed that, compared to Furnham (1984), the scale measured somewhat different attitudes towards money, but that the dimensions of *Security/Conservative*, *Inadequacy*, and *Effort/Ability* were identifiable across the three nations— Australia, the United States, and Canada— when a forced six-factor solution was used in the factor analysis. As the present study used the same Caucasian Canadian sample, as well as a Chinese Canadian sample, it was proposed that the dimensions *Security/Conservative*, *Inadequacy*, and *Effort/Ability* would be identified for both groups.

Based on the identification of three comparable money beliefs and behaviors dimensions for the two groups, it was also proposed that the Chinese and Caucasian samples would differ in their scores on these dimensions. As Tang (1993) has noted, people's attitudes toward money are consistent with their inner values, their 'frame of reference', their culture, and their own experience in society.

For example, the Chinese value thrift, and have traditionally been encouraged to save (Tse, 1996). Attitudes which approve of the use of debt are rare (Doran, 1994). Their strong urge to save may result from a combination of a lack of an established social security system in most Chinese societies (particularly in Hong Kong and the PRC), the promotion of saving as a virtue, and a tradition of caring for one's own extended family (Tse, 1996). Given the emphasis on the interdependence of family members, and on the focus of 'home' as a place of togetherness (Fan 1997, 1998), having a conscientious attitude towards money may be particularly important for Chinese respondents. Responsibilities such as providing a home for one's family, saving for one's child(ren)'s education and/or caring for one's elderly parents all entail considerable financial burden. Thus, it was proposed that:

H1: The Chinese respondents will score higher than the Caucasian respondents on the *Security/Conservative dimension*.

Johnson and Bailey (1997) found that Chinese Canadian respondents, more than Caucasian Canadian respondents, reported worrying more about losing their job, losing their savings, making ends meet, having to sell their house, not being able to maintain their standard of living, and not being able to give their families all they had hoped for. With concerns such as these, there may be a propensity for the Chinese to worry that the financial resources they have may never be enough. Moreover, the use of shame as a behavioral

influence in the Chinese culture pressures individuals to live up to their familial obligations. It would not be unreasonable, therefore, to suggest that Chinese Canadians may have a tendency to feel anxious when it comes to the state of their finances. Thus, it was proposed that:

H2: The Chinese respondents will score higher than the Caucasian respondents on the *Inadequacy* dimension.

Historical materials and cultural folklore document the value that the Chinese place on scholarly endeavor and toil. Intellectual facility is appreciated in its own right, but it is also valued as a path to employment and status (Hess et al., 1987). The virtues of industriousness, ambition, and an ascetic life that condemns laxity and laziness, are strong values in the Chinese culture. There is a belief that hard work leads to success.

In Tang's (1993) study, Chinese students more strongly endorsed the *Protestant Work Ethic* than did the U.S. sample, and the students also believed that *Work Ethic* was related to one's *Achievement* and *Respect* in the community. If one's success can sometimes be partially explained by one's income, then it could be concluded that the Chinese respondents would be more likely to support the belief that one's effort is related to the ability to acquire money. Therefore, it was proposed that:

H3: The Chinese respondents will score higher than the Caucasian respondents on the *Effort/Ability* dimension.

Chapter III

Method

Sample and Data Collection

Data were collected via students who were enrolled in a third year Family Studies Resource Management course taught at a Western Canadian university in 1993. The students in this course distributed the self-administered questionnaires, which consisted of the Money Beliefs and Behavior Scale and several demographic-related questions, to (non-student) acquaintances who were over the age of 21 (see Appendix A for the questionnaire). The students were asked to balance distribution by gender, and to have one respondent per household. Respondents returned the questionnaire by mail or had the student pick it up after it had been placed in a sealed envelope. A total of 650 questionnaires were collected. However, as the present study was concerned with those who identified themselves as either Caucasian or Chinese, the sample was 540 (Caucasian = 326; Chinese = 214) respondents.

Characteristics of the Sample

There were several significant differences between the Chinese and Caucasian sample (see Table 2). Overall, more Chinese (52.8%) than Caucasian (44%) men participated in this study. The average age for the Chinese sample was 31 years ($SD = 9.8$), compared to 36 years ($SD = 12$) for the Caucasian sample. Further, significantly fewer Chinese were married (36.9%, versus 48% of the Caucasian sample).

No significant differences between the groups were found with regards to education, employment status, and income. The majority of participants were well-educated (82.3% report having at least some technical/college education), employed full-time (72.8%), and had a family income over \$30,000 (74.5%).

Table 2***Demographic Characteristics of the Respondents^a and Differences by Ethnicity***

Characteristics	Chinese		Caucasian		Chi-Square
	<i>n</i>	%	<i>n</i>	%	
Gender					4.01*
Female	101	47.2	182	56.0	
Male	<u>113</u>	52.8	<u>143</u>	44.0	
Total	214		325		
Age					20.90***
≤ 30 years	135	65.5	146	45.5	
≥ 31 years	<u>71</u>	34.5	<u>175</u>	54.5	
Total	206		321		
Marital Status					6.45*
Married	79	36.9	156	48.0	
Other ^b	<u>135</u>	63.1	<u>169</u>	52.0	
Total	214		325		
Education					5.69
High School or Less	33	15.5	62	19.1	
Some Technical or College	68	31.9	118	36.3	
Bachelor's Degree	86	40.4	99	30.4	
Graduate/Prof Degree	<u>26</u>	12.2	<u>46</u>	14.2	
Total	213		325		
Employment Status					3.88
Full-Time(30 hrs/wk+)	147	69.0	244	75.3	
Part-Time or Seasonal	36	16.9	51	15.7	
Not Employed ^c	<u>30</u>	14.1	<u>29</u>	9.0	
Total	213		324		
Family Income					8.44
<\$15,000	14	7.1	29	9.1	
\$15,000-\$29,999	29	14.6	65	20.3	
\$30,000-\$44,999	47	23.7	67	20.9	
\$45,000-\$59,999	38	19.2	49	15.3	
\$60,000-\$74,999	32	16.2	34	10.6	
\$75,000-\$89,999	17	8.6	32	10.0	
\$90,000+	<u>21</u>	10.6	<u>44</u>	13.8	
Total	198		320		

a Size of samples vary due to missing data

b Never married, divorced or separated, widowed

c Unemployed, retired, full-time homemaker

* $p < .05$, *** $p < .001$

Measures

Dependent Variable

Money beliefs and behaviors. A slightly modified version of Furnham's (1984) Money Beliefs and Behavior Scale was used to measure respondents' money beliefs and behaviors. Somewhat different terminology was used in the wording of some items in order to make the questioning relevant to Canadian respondents. This instrument is a 60-item scale; the 60 items for this inventory were derived from several sources, including Yamauchi and Templer's (1982) Money Attitudes Scale, items listed in Goldberg and Lewis (1979) on the psychology of money, and items from the Midas scale (Rubenstein, 1980).

Furnham (1984) was able to identify six dimensions of money beliefs and behaviors using a principal components factor analysis: *Obsession*, which implies that people holding these beliefs are obsessed/concerned by all aspects of money; *Power/Spending*, which represents the use of money to control other people or social situations; *Retention*, which measures the attitude that money is to be saved and not spent; *Security/Conservative*, which refers to a somewhat old-fashioned approach towards money, such as not using credit, paying one's bills on time, and knowing one's financial condition at a given time; *Inadequacy*, which refers to feelings that one has not got enough money; and *Effort/Ability*, which indicates that the respondent believes there is a relationship between an individual's work effort and income. The six factors accounted for 35.4% of the total variance in Furnham's study.

In the present study, money beliefs and behaviors were scored on a seven-point scale, with a score of '0' on an item indicating a strong disagreement and a '6' indicating a strong agreement with the statement. Scores on each subscale were summed; high scores indicated

that the beliefs and behaviors were more typical of the respondent.

Furnham (1984) first used the instrument to measure money beliefs and behavior in Britain, although his original 60-item instrument became a 47-item instrument, as only items loading higher than .40 were used to create the final measure. However, while preliminary research suggested that the MBBS was a reliable instrument (Cronbach's alpha = .84 with the 47-item scale), other researchers have raised concerns as several of the scale's items load on more than one dimension, thereby calling into question the reliability of this instrument. In addition, Furnham did not report conducting tests for internal reliability on any of the subscales, but rather reported only the scale's overall reliability.

Independent Variables

Ethnicity. Respondents were asked, "What is your ethnicity?" Eleven categories were listed (including 'other'), and respondents checked the category applicable to themselves. As only two of the ethnic groups were of interest in the present study, Caucasian respondents were coded 1, and Chinese respondents were coded 2.

Other demographic variables. A number of other demographic variables were also measured in this study. These variables included: *gender*, *age*, *marital status*, highest level of *education*, *employment status*, and total *family income*. All of these variables were used to describe the two groups, however, *gender*, *age*, *education*, and *income* were the only variables used in the statistical analysis, as these four variables have been shown to be associated with money attitudes.

Gender was coded as males = 1, females = 2. *Age* was calculated by subtracting the year the respondent was born from the year of the administration of the questionnaire (1993) and measured as a continuous variable for the purpose of the regression analyses. In order to

calculate chi-square, however, *age* was categorized as those younger than, or equal to, 30 years = 1, and older than, or equal to, 31 = 2. *Marital Status* was categorized as married = 1, other = 2. *Education* was represented by four categories (high school or less, some technical or college, bachelor's degree, graduate/professional degree). *Employment Status* included three categories: full-time (30 hours/week or more); part-time (employed less than 30 hours/week) or seasonal; and not employed (unemployed, retired, homemaker). *Family income* remained a seven-category variable, ranging from less than \$15,000 to more than \$90,000. (Refer to the questionnaire in Appendix A to see how the questions were originally asked and how the demographic variables were initially categorized.)

Chapter IV

Results

Factor Analysis of the Money Beliefs and Behavior Scale

This research was exploratory in nature, and involved performing factor analyses of the Money Beliefs and Behavior Scale on the Chinese and Caucasian samples separately. As this scale had never been used with a Chinese sample, the entirety of Furnham's (1984) 60-item scale was used in the initial analyses. Principle components factor analysis with varimax rotation was employed; a factor loading of .40 or greater was used to retain items. Each analysis was initially forced into six factors (see Appendix B for how the items loaded onto six factors), based on a desire to replicate Furnham's original factor solution, and to enable the testing of hypotheses. Left unforced, the Chinese and Caucasian factor solutions indicated 19 and 18 dimensions (based on eigenvalues > 1), respectively.

A forced five and four-factor solution were also analyzed for each group, again using all sixty items in the analyses. Running the six, five, and four factor solutions for each group enabled the identification of items that were consistently loading high enough across solutions. Reliability tests (Cronbach's alpha) were also run on the dimensions of the six, five, and four-factor solutions for each group (see Tables 3 and 4). The labeling of the dimensions was based on identifying how many items from Furnham's (1984) scale loaded on a particular dimension, then applying the labels used by Furnham, if possible. In one case (the *Overcompensation* dimension for the Caucasian sample), this was not possible, as most of the items were not identified on Furnham's six-factor scale. The researcher used a dictionary and selected the term *overcompensation*.

Table 3

Cronbach's Alpha Reliability Tests for the Chinese Six-Factor, Five-Factor, and Four-Factor Solutions (n = 205)

		6-factor	5-factor		4-factor	
F1	Obsession	.86	Obsession/Inadequacy	.82	Obsession/Inadequacy	.81
F2	Retention	.69	Obsession/Power	.84	Obsession/Power	.82
F3	Inadequacy	.46	Retention	.70	Security/Conservative	.61
F4	Unclear	.42	Security/Conservative	.42	Unclear	.32
F5	Security/Conservative	.38	Unclear	.32	NA	
F6	Power/Spending	.51	NA		NA	

Table 4

Cronbach's Alpha Reliability Tests for the Caucasian Six-Factor, Five-factor, and Four-Factor Solutions (n = 308)

		6-factor	5-factor		4-factor	
F1	Obsession	.87	Obsession	.88	Obsession	.87
F2	Security/Conservative	.65	Security/Conservative	.66	Security/Conservative	.66
F3	Overcompensation	.63	Overcompensation	.62	Overcompensation/Retention	.68
F4	Inadequacy	.63	Unclear	.02	Unclear	.16
F5	Unclear	.19	Inadequacy	.62	NA	
F6	Unclear	.34	NA		NA	

Chinese Factor Analysis

Based on the five-factor and four-factor solutions for the Chinese sample, items which were identified as not loading high enough ($< .40$) were removed from further analysis. This included 19 items; notably, ten of these same items were also removed for the Caucasian sample. As well, four items that comprised the last factor (“unclear”) of the five and four factor solutions were removed. Appendix C presents the five and four-factor solutions for the Chinese sample, and contains a list of all the items that were removed.

Thirty-seven items were retained for further analysis. Based on the scree test results, the items were forced into four factors. Upon examination of the resulting solution, it was noted that three other items (#10 “I feel compelled to argue or bargain about the cost of almost everything I buy”; # 34 “I always pay bills promptly” ; # 39 “When a person owes me money I am afraid to ask for it.”) did not load high enough to be included on any of the dimensions, leaving a solution containing 34 items (Table 5).

Due to a desire for conceptual, as well as statistical soundness, faculty ($n=3$) and a graduate student in the Family Studies department at the University of British Columbia were asked to examine the Chinese, as well as the Caucasian, final four-factor solutions, and give the researcher feedback on the conceptual soundness of the four factors in each solution. Each person was given documents (Caucasian and Chinese factor solutions were separately documented) which contained the four factors (and the corresponding items) of the respective solutions. Each person was also given a list of the concepts and the corresponding descriptions (Table 6). Each person was asked to look at the items, apply the concepts, and give the researcher feedback with regards to the items s/he felt did not fit the concept.

Table 5

Final Four-Factor Solution for the Chinese Sample (N = 204)

Original MBBS Factor	Item	Loading
Factor 1 (Obsession)		
3	1. I often buy things that I don't want or need because they are on sale or reduced in price.	.50
2	3. I sometimes buy things that I don't need or want to impress people because they are the right things to have at the time.	.51
2	15. If I have money left over at the end of the month (week), I often feel uncomfortable until it is all spent.	.57
1/3	17. I often feel inferior to others who have more money than myself, even when I know they have done nothing of worth to get it.	.57
1	18. I often use money as a weapon to control or intimidate those who frustrate me.	.55
1	19. I sometimes feel superior to those who have less money than myself, regardless of their ability and achievements.	.56
2	25. I often feel disdain for money and look down on those who have it.	.43
1	28. I feel that money is the only thing that I can count on.	.46
1	36. I believe that time not spent in making money is time wasted.	.55
-	37. I occasionally pay restaurant/shop bills even when I think I have been overcharged because I am afraid the waiter/assistant might be angry with me.	.52
5	42. I am better off than most my friends think.	.49
1	45. I am proud of my financial victories— pay, assets, savings, and investments—and let my friends know about them	.55
-	47. Most of my friends have less money than I do.	.51
1	50. I believe that a person's salary is a good indicator of their intelligence.	.57
Eigenvalue 6.78 Variance 18.3% Cronbach's Alpha .84		
Factor 2 (Inadequacy)		
2	16. I sometimes 'buy' friendship by being very generous with those I want to like me.	.42
1	20. I firmly believe that money can solve all of my problems.	.53
1	21. I often feel anxious and defensive when asked about my personal finances.	.64
-	31. I believe that money gives one power	.54
5	46. I am worse off than most of my friends think.	.55
5	52. Most of my friends have more money than I do.	.62
6	54. I believe that I have very little control over my financial situation in terms of my power to change it.	.43
1	55. I think about money much more than most people I know.	.48
1/5	56. I worry about finances much of the time.	.63
1	60. In Canada, money is how we compare each other.	.45
Eigenvalue 2.84 Variance 7.7% Cronbach's Alpha .77		
Factor 3 (Retention)		
3	4. Even when I have sufficient money, I often feel guilty about spending money on necessities like clothes	.69
-	6. I often spend money, even foolishly on others, but begrudgingly on myself.	.45
3	7. I often say "I can't afford it" whether I can or not.	.66
3	9. I often have difficulty in making decisions about spending money, regardless of the amount.	.65
1	22. In making any purchase, cost is my first consideration.	.52
Eigenvalue 2.65 Variance 7.2% Cronbach's Alpha .66		
Factor 4 (Cautious)		
4	23. I believe that it is rude to inquire about a person's wage/salary.	.63
3/4	26. I prefer to save money because I'm never sure when things will collapse and I'll need cash.	.55
2	41. I prefer not to lend people money.	.55
-	48. I believe it is generally better to conceal the details of my finances from friends and relatives.	.59
4/5	59. I am proud of my ability to save money.	.58
Eigenvalue 2.08 Variance 5.6% Cronbach's Alpha .59		

Table 6*Description of Dimensions for the Chinese Sample*

Term	Definition
Obsession	A preoccupation with money, particularly as a means of power.
Inadequacy	A feeling of anxiety about one's personal financial situation, especially in comparison to others.
Retention	A tendency to keep money in one's possession, rather than spend it.
Cautious	A tendency to minimize risk where financial matters are concerned.

There was no complete agreement amongst the department affiliates as to what items they felt did not fit conceptually, although three of the four affiliates questioned item # 50 from Factor 1, and two of the four affiliates questioned items # 37 and # 42 from Factor 1, and items # 31 and # 60 from Factor 2. It was decided to retain all items as part of the final solution however, one of the reasons being the lack of agreement amongst department affiliates. More importantly, retaining all the items ensured that the reliabilities of the dimensions remained as high as possible. Further, as item # 50 (which was the most questioned item) also loaded onto the Caucasian Factor 1, and would be part of the unit of items which would constitute a comparable dimension between the two ethnic groups, the researcher decided to retain this item.

Stability of the four factors was determined by taking the items loading on Factors 1 and 2, and forcing the analysis into two factors. The same procedure was carried out with Factors 3 and 4 together. Apart from two items which doubled- loaded (# 28 on Factors 1

[.56] and 2 [.41] , and # 6 on Factors 3 [.49] and 4 [-.50]), the stability of the factors was confirmed. Item # 28 did load higher on its original dimension, and because item # 6 loaded negatively onto Factor 4, it remained a better fit on Factor 3. The overall reliability of the scale was .85, and the variance explained by this four-factor solution was 38.8%.

Labeling the dimensions was based primarily on using the terminology applied by Furnham (1984). In cases where this was not possible or appropriate, reference was made to a dictionary or other material (previous money-attitudes studies) in order to generate ideas for labeling dimensions.

Factor 1 of the four-factor solution for the Chinese was labeled *Obsession*. Seven (# 17 [also loaded on Furnham's *Retention* dimension], 18, 19, 28, 36, 45, & 50) of the fourteen items were found on Furnham's (1984) *Obsession* dimension, while three other items (# 3, 15, & 25) were found on Furnham's *Power/Spending* dimension. Item # 1 was found on Furnham's *Retention* dimension, and item # 42 was found on Furnham's *Inadequacy* dimension. Items # 37 and 47 were not found on Furnham's 47-item scale.

As a unit, items on Factor 1 indicate that while there is a preoccupation with money, there is also a tendency to associate money with power— whether this be in relationship to one's social status, the ability to use money to influence others, or in regards to the actual 'buying power' associated with money. This factor accounts for the most variance of the solution, at 18.3%, and is internally strong with a Cronbach's alpha of .84. The average subscale score was 25.4 ($SD = 12.2$), where the scores ranged from 0 – 67.

Factor 2 was labeled *Inadequacy*, even though five (# 20, 21, 55, 56, & 60) of the ten items on this dimension were found on Furnham's (1984) *Obsession* dimension. Three of the items (# 46, 52, & 56 [# 56 also loaded on Furnham's *Obsession* dimension]) were found on

Furnham's *Inadequacy* dimension. Two others (items # 16 and 54) were found on Furnham's *Power/Spending* and *Effort/Ability* dimensions, respectively. Item # 31 was not found on Furnham's 47-item scale.

Conceptually, the items on Factor 2 point to a feeling of inadequacy or anxiety about the state of one's financial affairs, particularly in comparison to others. Internally, this is a moderately strong dimension, with a Cronbach's alpha of .77. The variance explained by this dimension is 7.7%. The average score for this subscale was 27.4 ($SD = 9.4$), where the scores ranged from 0 – 51.

Factor 3 was labeled *Retention*. Three (# 4, 7, 9) of the five items were found on Furnham's (1984) own *Retention* dimension. Item # 22 was found on Furnham's *Obsession* dimension, while item # 6 was not found on Furnham's 47-item scale. Overall, the items indicate a reluctance to part with one's money, particularly when it comes to spending money on oneself. With a Cronbach's alpha of .66, this dimension is not particularly strong, but the alpha is acceptable nonetheless. *Retention* explains 7.2% of the variance. The average score on this subscale was 14 ($SD = 5.7$), where the scores ranged from 0 – 26.

Factor 4 was labeled *Cautious*. This dimension has five items, three of which (# 23, 26, 59) were found on Furnham's (1984) *Security/Conservative* dimension. Item # 41 was found on Furnham's *Power/Spending* dimension, item # 48 was not found on Furnham's 47-item scale. As the Caucasian sample in this study had a *Security/Conservative* dimension which more closely resembled Furnham's dimension, the Chinese factor was labeled *Cautious*. Overall, the items on this dimension suggest a tendency to minimize risk where financial matters are concerned. This is the weakest dimension, with a Cronbach's alpha of .59. Variance explained is 5.6%. The average score for this subscale was 19.3 ($SD = 4.9$),

where the scores ranged from 6 - 30 .

Caucasian Factor Analysis

Similar steps for the removal of items were taken with the Caucasian sample. Based on the five-factor and four-factor solutions for the Caucasian sample, items which were identified as not loading high enough ($<.40$) were removed from further analysis. This included 18 items; ten of these same items were also removed for the Chinese sample. As well, the four items in Factor 4 (“unclear”) of this sample’s original five-factor solution were removed. In essence, then, the 38 items that were retained for the final analysis were those that comprised Factors 1 through 3, and Factor 5 of the five-factor solution, plus item # 27 (“The amount of savings I have is never quite enough.”) which had loaded onto Factor 4 of the four-factor solution. This item was retained because it fit conceptually with those items from Factor 5 of the five-factor solution. See Appendix D for the Caucasian five and four-factor solutions, and a list of all of the items that were removed.

The factor analysis was run, and the scree test indicated four factors using the 38 items, thus the solution was forced into four factors. Examination of the four-factor solution revealed that five other items did not load high enough to be included in the solution. These items were: #1 “I often buy things that I don’t need or want because they are on sale or reduced in price”; #10 “I feel compelled to argue or bargain about almost everything I buy”; # 24 “I feel stupid if I pay a little more for something than a neighbor”; # 48 “I believe it is generally better to conceal the details of my finances from friends and relatives”; and # 49 “I often argue with my partner about money”. It was also apparent one other item (# 58 “I very rarely give homeless people money when they ask for it”) needed to be removed in order to improve the reliability of Factor 3.

As for the feedback given to the researcher regarding the conceptual soundness of the factors for Caucasian solution, the only item to raise questions was # 50; however, as was mentioned previously, the researcher decided to retain this item as it loaded onto the same dimension for both ethnic groups.

Further, because # 55 double-loaded on both Factor 1 (.49) and Factor 4 (.41), a decision was made to keep this item on Factor 4, rather than on Factor 1, in order to increase the number of comparable items there would be with the like-minded Chinese Factor 2 (*Inadequacy*). Keeping this item on Factor 4 allowed for a reliability of .69 (Cronbach's alpha) on this dimension. When # 55 was removed, reliability dropped to .63 (Cronbach's alpha). The decision to remove this item from Factor 1 did not decrease this dimension's reliability (Cronbach's alpha = .86).

The final solution for the Caucasian sample contained 32 items. Overall reliability of the scale was .84, and the variance explained by the model was 37.8%. Stability of the four factors was confirmed by forcing the items on Factor 1 and 2 into two factors, and examining the outcome to confirm the items loaded on the appropriate factor. The same procedure was carried out with the items from Factors 3 and 4. The stability of all four dimensions was confirmed. Table 7 presents the Caucasian final solution, and Table 8 presents a list of the dimensions and their descriptions.

Similar to the first factor of the Chinese solution, Factor 1 of the Caucasian solution was also labeled *Obsession*. Nine (# 17 [also found on Furnham's *Retention* dimension], 18, 19, 20, 28, 36, 43, 45, 50) of the thirteen items on this dimension were found on Furnham's (1984) *Obsession* dimension, while others (# 3, 15, & 16) were found on

Table 7

Final Four-Factor Solution for the Caucasian Sample (N = 306)

Original MBBS Factor	Item	Loading
Factor 1 (Obsession)		
2	3. I sometimes buy things that I don't need or want to impress people because they are the right things to have at the time.	.63
–	5. Every time I make a purchase, I expect people to take advantage of me.	.42
2	15. If I have money left over at the end of the month (week), I often feel uncomfortable until it is all spent.	.48
2	16. I sometimes "buy" friendship by being very generous with those I want to like me.	.58
1/3	17. I often feel inferior to others who have more money than myself, even when I know that they have done nothing of worth to get it.	.55
1	18. I often use money as a weapon to control or intimidate those who frustrate me.	.75
1	19. I sometimes feel superior to those who have less money than myself regardless of their ability and achievements.	.68
1	20. I firmly believe that money can solve all my problems.	.59
1	28. I feel that money is the only thing I can really count on.	.74
1	36. I believe that time not spent making money is time wasted.	.70
1	43. I would do practically anything legal for money if it were enough.	.57
1	45. I am proud of my financial victories— pay, assets, savings, and investments— and let my friends know about them.	.54
1	50. I believe that a person's salary is very revealing in assessing their intelligence.	.49
Eigenvalue 6.85 Variance 18.0% Cronbach's Alpha .86		
Factor 2 (Overcompensation)		
3	4. Even when I have sufficient money, I often feel guilty about spending money on necessities like clothing.	.44
–	6. I often spend money, even foolishly, on others but grudgingly on myself.	.63
3	7. I often say "I can't afford it", whether I can or not.	.48
3	9. I often have difficulty making decisions about spending money, regardless of the amount.	.48
–	11. I often insist on paying more than my share of restaurant or entertainment costs in order that I am not indebted to anyone.	.58
2	35. I often give large tips to waiters/waitresses that I like.	.49
–	37. I occasionally pay restaurant/shop bills even when I think I have been overcharged because I am afraid the waiter/assistant might be angry with me.	.50
–	39. When a person owes me money, I am afraid to ask for it.	.62
Eigenvalue 3.11 Variance 8.2% Cronbach's Alpha .67		
Factor 3 (Security/Conservative)		
4	8. I know almost to the penny how much money I have in my purse, wallet, or pocket at all times.	.60
4	14. I always know how much I have in my savings account (bank or credit union).	.66
1	22. In making any purchase, for any purpose, cost is my first consideration.	.49
3/4	26. I prefer to save money because I'm never sure when things will collapse and I'll need cash.	.60
–	40. I don't like to borrow money from others (except banks) unless I absolutely have to.	.45
Eigenvalue 2.45 Variance 6.4% Cronbach's Alpha .64		
Factor 4 (Inadequacy)		
5	27. The money I have saved is never quite enough.	.49
5	46. I am worse off than most of my friends think.	.58
5	52. Most of my friends have more money than I do.	.66
6	54. I believe that I have very little control over my financial situation in terms of my power to change it.	.53
1	55. I think about money more than most people I know.	.41
1/5	56. I worry about finances much of the time.	.56
Eigenvalue 1.96 Variance 5.2% Cronbach's Alpha .69		

Table 8***Description of Dimensions for the Caucasian Sample***

Term	Definition
Obsession	A preoccupation with money, particularly as a means of power.
Overcompensation	A tendency to overspend on others, and deny oneself.
Security/Conservative	A security-minded approach towards money, marked by moderation and cautiousness.
Inadequacy	A feeling of anxiety about one's personal financial situation, especially in comparison to others.

Furnham's *Power/Spending*. Item # 5 was not found on Furnham's 47-item scale. Again, while the items indicate there is a preoccupation with money, there is also the association with money and power. This factor has a strong internal reliability (Cronbach's alpha = .86), and accounts for 18.0% of the variance. The average score on this subscale was 15.7 ($SD = 11.7$), where the scores ranged from 0 – 62. This variable was significantly positively skewed (towards lower scores).

Factor 2 for the Caucasian sample presented a new concept. It was labeled *Overcompensation*. Three of the items (# 4, 7, & 9) were found on Furnham's (1984) *Retention* dimension, and item # 35 was found on Furnham's *Power/Spending* dimension. Items # 6, 11, 37, and 39 were not found on Furnham's 47-item scale, but these four items a unit suggest a tendency to overspend on others. Further, behind each of the items on the

Overcompensation dimension (save for # 35), there is an indication that a person is denying him/herself because of uncertainty, guilt, fear, or perhaps unworthiness. Therefore, the individual's behavior leans towards overspending on others, but hesitating where s/he is concerned— that is, spending or not spending based on guilt. Overall, the reliability for *Overcompensation* is adequate at .67, with variance explained at 8.2%. The average subscale score on this dimension was 20 ($SD = 7.5$), where the scores ranged from 2 - 47.

Factor 3 was labeled *Security/Conservative*, as three (# 8, 14, & 26) of the five items were found on Furnham's (1984) *Security/Conservative* dimension. Item # 22 was found on Furnham's *Obsession* dimension, and item # 40 was not found on Furnham's 47-item scale. Overall, these items indicate an awareness of one's financial situation, and an approach towards money that is marked by moderation. The internal reliability is on the weak side, with a Cronbach's alpha of .64. Variance accounted for by this dimension is 6.4%. The average subscale score was 19 ($SD = 5.6$), where scores ranged from 2 – 30.

The Caucasian Factor 4, *Inadequacy*, is comparable to Furnham's (1984) *Inadequacy* dimension, with four (# 27, 46, 52, & 56 [# 56 also loaded on Furnham's *Obsession* dimension]) of the six items found on that dimension. The two other items, # 54 and 55, were found on Furnham's *Effort/Ability* and *Obsession* dimensions, respectively. Overall, these items indicate a feeling of inadequacy upon evaluation of one's financial situation, and an anxiousness regarding money. The reliability for this dimension is moderate at .69. The variance explained is 5.2%. The average subscale score was 15.7 ($SD = 6.4$), where the scores ranged from 0 – 36.

Hypotheses Testing

Based on previous research findings, it was hypothesized that there would be three

comparable dimensions (*Security/Conservative*, *Inadequacy*, and *Effort/Ability*) on which to compare the groups. However, only one of these dimensions, *Inadequacy*, was comparable across the two groups. The *Security/Conservative* dimension was found only for the Caucasian sample, while the *Effort/Ability* dimension was found for neither group.

With regards to the *Security/Conservative* dimension for the Caucasian group, this factor consisted of five items (# 8, 14, 22, 26, & 40). Only two of these items (# 22 & 26) were in the final analysis for the Chinese sample, and the two loaded onto different dimensions (*Retention & Cautious*, respectively). Therefore, there was no basis for a comparable dimension across the two groups.

With regards to the *Effort/Ability* dimension, this factor was found for neither of the two groups. One of the reasons for this was that three (# 33, 51, & 53) of the four items from Furnham's (1984) *Effort/Ability* dimension were removed from the factor analyses of both groups early on, either due to poor item loadings, or loading onto a dimension whose items as a unit made no conceptual sense. However, considering that this dimension was the least well-developed of Furnham's six dimensions, it is probably not surprising the dimension was absent in this study. Upon examining the item content (# 33, 51, 53, & 54) of Furnham's dimension, it was apparent that this combination of items did an inadequate job of capturing the *Effort/Ability* concept.

Further, as Furnham (1984) reported no reliability tests for internal consistencies on his dimensions, it called into question how acceptable the Cronbach's alpha for *Effort/Ability* would have been to begin with. Although Bailey and Gustafson (1986) and Wilhelm and Varcoe (1991) identified this concept in their respective factor analyses of the MBBS, the only items which loaded on this dimension in their studies were # 51 and 53, suggesting that

Effort/Ability was a weak dimension overall.

With regards to the hypothesized dimension *Inadequacy*, this factor was found for both the Chinese and Caucasian samples, albeit with an item content that differed somewhat for each group. The Chinese sample had ten items on this dimension, while the Caucasian sample's dimension had six items. Five of the items (# 46, 52, 54, 55, and 56) matched across the two groups, and these five items were used to create a scale in order to compare means and test the hypothesis that the Chinese sample would score higher on this dimension than the Caucasian sample. Also, the reliability of these five items as a unit was acceptable in order to justify further analysis (See Table 9).

Table 9

'Inadequacy' Scale Used in t test (N = 530)

Items
46. I am worse off than most my friends think.
52. Most of my friends have more money than I do.
54. I believe that I have very little control over my financial situation in terms of my power to change it.
55. I think about money much more than most people I know.
56. I worry about finances much of the time.
<u>Cronbach's alpha = .68</u>

The average score for the Chinese sample on this dimension was 13.1 ($SD = 5.2$) and for the Caucasian sample, the average score was 11.7 ($SD = 5.7$), where the scores ranged from 0 - 30. The t statistic was - 2.81, significant at $p < .01$. Thus, the hypothesis that the

Chinese sample would score higher on the *Inadequacy* dimension was confirmed.

While not originally hypothesized, one other comparable dimension (*Obsession*) presented itself upon examination of each group's four-factor solution. The *Obsession* dimension had nine items that matched across the two groups. Further, the nine items as a unit had a strong enough internal reliability in order to warrant further statistical analysis. These nine items (Table 10) were used to create an *Obsession* dimension in order to compare means.

Table 10

'Obsession' Scale Used in t Test (N = 529)

Items
3. I sometimes buy things that I don't need or want to impress people because they are the right things to have at the time.
15. If I have money left over at then end of the month (week), I often feel uncomfortable until it is all spent.
17. I often feel inferior to others who have more money than myself, even when I know they have done nothing of worth to get it.
18. I often use money as a weapon to control or intimidate those who frustrate me.
19. I sometimes feel superior to those who have less money than myself, regardless of their ability and achievements.
28. I feel that money is the only thing that I can count on.
36. I believe that time not spent in making money is time wasted.
45. I am proud of my financial victories– pay, assets, savings, and investments– and let my friends know about them.
50. I believe that a person's salary is very revealing in assessing his/her intelligence.

Cronbach's alpha = .82

A *t* test was conducted to assess the differences between the Chinese and Caucasian samples on *Obsession*. The average subscale score for the Chinese group was 15.0 (*SD* = 8.9), and for the Caucasian group the average score was 10.1 (*SD* = 8.2), where the scores ranged from 0 – 47. The *t* statistic was - 6.52, significant at $p < .001$. The Chinese sample scored higher on this dimension than the Caucasian sample, although the Caucasian sample score was significantly positively skewed (towards lower scores).

Regression Analysis

Table 11 presents the results of regressing *Obsession* and *Inadequacy* onto *gender*, *age*, *education*, *income*, and *ethnicity* (see Table E1 [appendix] for the intercorrelations between these dimensions and the demographic variables.) Regression of *Obsession* onto the four demographic variables— *gender*, *age*, *education*, and *income*— indicated that these variables accounted for 7% of the explained variance on this dimension. With the addition of *ethnicity*, a further 5% of the variance was explained, bringing the total amount of variance accounted for by this model to 12%. The change in R^2 indicated that *ethnicity* contributes beyond the control variables, and that being Chinese was associated with higher scores on this dimension. *Gender*, *age*, and *education* had significant coefficients, and were negatively related to *Obsession*. Those who were male, younger, and had less education, scored higher on *Obsession* than those who were female, older, and had more education.

The same procedure was taken with regards to the *Inadequacy* dimension. In this case, the addition of *ethnicity* increased the variance explained by 2%, from 3% to 5%. Again, being Chinese was associated with having higher scores on this dimension. The only other variable to have a significant coefficient on this dimension was *income*. Those who had lower incomes scored higher than those with higher incomes on *Inadequacy*.

Table 11

Standardized Regression Coefficients for Predictors of 'Obsession' and 'Inadequacy' for the Combined Samples

Variable	Dimension			
	Obsession		Inadequacy	
	N = 496		N = 497	
	Step 1	Step 2	Step 1	Step 2
Gender (Female)	-.11*	-.09*	-.09	-.07
Age (Younger)	.23***	.17***	.04	.01
Education (Higher)	-.09*	-.10*	-.01	-.02
Income (Higher)	-.01	-.03	-.14**	-.15***
Ethnicity (Chinese)		.24***		.14**
R^2	.07***	.12***	.03**	.05**
Change in R^2		.05***		.02**
F	9.60***	13.93***	4.11**	5.30***

* $p < .05$ * $p < .01$ ** $p < .001$ ***

Separate regression analyses were then conducted for each ethnic group using a one-step model (*gender, age, education, and income*) to determine if the Chinese and Caucasian samples could be differentiated in terms of which variables were significant in influencing responses on their respective money beliefs and behavior scales. Table 12 shows the results of the regression analysis for the Chinese sample (see Table E2 [appendix] for the intercorrelations between the dimensions and the demographic variables).

The results of the regression analysis for the Chinese sample indicated that two of the demographic variables had significant coefficients. *Education* was significant on both the *Inadequacy* dimension, and the *Retention* dimension. In both cases, the association was negative, indicating that those with less education scored higher than those with more education on these two dimensions. The other variable that was significant was *age* on the *Cautious* dimension. The relationship between age and *Cautious* was negative. Those who were older scored higher than those who were younger on this dimension.

With regards to the Caucasian sample, the regression analysis indicated that all of the demographic variables were significant on at least one of the dimensions (see Table 13 for the results of the regression analysis, and Table E3 [appendix] for the intercorrelations between the dimensions and the demographic variables). *Gender* was significant on *Obsession* and *Security/Conservative*. However, the effect was different, as men scored higher than women on *Obsession*, and women scored higher than men on *Security/Conservative*. *Age* was also significant on two dimensions: *Obsession* and *Overcompensation*. In both cases, those who were younger scored higher on these dimensions than those who were older.

Education had one significant coefficient; this was on the *Security/Conservative* dimension. Those with less education scored higher on this dimension than those with more

Table 12

*Standardized Regression Coefficients for Predictors of Money Beliefs and Behaviors**Dimensions for the Chinese Sample*

Independent Variables	Dimensions			
	Obsession <i>n</i> = 186	Inadequacy <i>n</i> = 190	Retention <i>n</i> = 191	Cautious <i>n</i> = 190
Gender (Female)	-.12	-.11	-.10	.11
Age (Younger)	.14	.10	.14	-.23**
Education (Higher)	-.12	-.17*	-.19**	-.01
Income (Higher)	-.02	-.07	.01	-.03
<i>R</i> ²	.05	.06*	.07*	.06*
<i>F</i>	2.23	3.08*	3.29*	2.91*

Note. All variables were entered together in one step for each analysis

* *p* < .05 ** *p* < .01

Table 13

*Standardized Regression Coefficients for Predictors of Money Beliefs and Behaviors**Dimensions for the Caucasian Sample*

Independent Variables	Dimensions			
	Obsession <i>n</i> = 305	Overcompensation <i>n</i> = 306	Security/Conservative <i>n</i> = 310	Inadequacy <i>n</i> = 305
Gender (Female)	-.14*	.05	.13*	-.09
Age (Younger)	.19***	.27***	-.01	-.03
Education (Higher)	-.09	-.04	-.13*	.00
Income (Higher)	-.05	.04	.03	-.18**
<i>R</i> ²	.07***	.07***	.03*	.04*
<i>F</i>	5.85***	5.90***	2.70*	2.80*

Note. All variables were entered together in one step for each analysis

* $p < .05$ ** $p < .01$ *** $p < .001$

education. *Income* also had one significant coefficient on the *Inadequacy* dimension. Those with lower incomes scored higher on this dimension than those with higher incomes.

In summary, the regression results showed that for the combined sample, *ethnicity* was a key variable in the models used to explain the variance on *Obsession* and *Inadequacy*. Further, *gender*, *age*, *education* and *income* were also significant on one or the other of these two dimensions.

As for the Chinese sample, three of the money beliefs and behavior dimensions had one significant variable— either *age* or *education*. However, the *Obsession* dimension had no significant variables, and the demographic variables *gender* and *income* were not significant on any of the dimensions for the Chinese sample.

In contrast, each of the demographic variables for the Caucasian sample was significant on at least one dimension, and each dimension had at least one variable that was significant. Despite the significance of the demographic variables across samples, however, the overall variance explained by the *gender*, *age*, *education*, and *income* model for any one of the dimensions was low, ranging from only 3% to 7%.

Chapter V

Discussion

The purpose of this study was to examine the money beliefs and behaviors of Chinese and Caucasian Canadians. This was achieved by factor analyzing the Money Beliefs and Behavior Scale for each ethnic group, examining mean scores across the two groups on comparable dimensions, and assessing the effect of demographic variables on the combined samples and also each group's respective dimensions.

Chinese and Caucasian Money Beliefs and Behaviors

In comparing the money beliefs and behaviors of Chinese and Caucasian Canadians, the primary analysis was to determine whether the factor solution of the Money Beliefs and Behavior Scale was similar for both groups. Some commonalties in dimensions were expected, based on the findings of Bailey et al. (1994), but it was also suggested that due to a difference in ethnicity (and all that this embodies), the factor solutions of the two groups could be somewhat different.

With regards to similarities, the Chinese sample and the Caucasian sample each have a four-factor solution, two dimensions of which are similar (the item content differs to some degree, but the items are similar enough that the dimensions can be given the same labels). These two dimensions are *Obsession* and *Inadequacy*.

The *Obsession* dimension is the dominant factor for both the Chinese and Caucasian samples. This dimension has the highest internal reliability and also accounts for the most variance among each group's four factors. This result is consistent with previous research (Bailey & Gustafson, 1986, 1991; Bailey & Lown, 1992; Furnham, 1984; Wilhelm & Varcoe, 1991) which found that the *Obsession* dimension was also the primary factor for the

Caucasian respondents. Further, Lim and Teo (1997) have identified *Obsession* and *Power* as dominant factors with their Singaporean university student sample.

The idea of having an 'obsession' with money, and associating money with power is particularly relevant in the context of Western society, therefore the prominence of this concept in previous studies, as well as the present study, is logical. As Yablonsky (1991) points out, in most societies money is a significant measure of a person's success. Further, with the focus on individualism and competitiveness in North American culture (Engel et al., 1986; Mahatoo, 1985), personal power seems to be measured in dollars, thereby creating an atmosphere where people become focused on, and seduced by, what money has come to represent.

The other similarity across the two groups is the *Inadequacy* dimension. The *Inadequacy* dimension has been identified with Caucasian samples in previous studies (Bailey & Gustafson, 1986, 1991; Furnham, 1984; Wilhelm & Varcoe, 1991). Lim and Teo (1997) have also identified like-minded but separate factors (*Anxiety* and *Evaluation*) with their Singapore sample. Considering that having money is not only necessary for an individual's survival, but that it is also used as a measure of comparison in North American society (Yablonsky, 1990), finding that respondents relate to feelings of anxiety and inadequacy about their financial circumstances might be expected.

The Chinese and Caucasian factor solutions are different in that there is a *Retention* and *Cautious* dimension for the Chinese sample, and an *Overcompensation* and a *Security/Conservative* dimension for the Caucasian sample. These unique factors stem from using different items for each group in the final analysis. The combination of items for each respective group resulted in the remaining two factors of each solution being conceptually

different to some degree.

A *Retention* dimension has been identified by Leo and Tim (1997) with their Singaporean sample. This is consistent with the research findings in the literature that says the Chinese have a strong urge to save and that they value thrift (Tse, 1996). *Retention* has also been identified in previous studies with Caucasian respondents (Bailey & Gustafson, 1991; Wilhelm & Varcoe, 1991), but sometimes in combination with *Security* (Bailey & Gustafson, 1986; Bailey & Lown, 1992).

On the other hand, *Overcompensation* presents a new concept, and is unique to the Caucasian sample. This is an interesting finding, albeit the internal reliability of the dimension is not particularly strong. It is possible the concept has never been found before, due to four of the items not loading high enough to be included on Furnham's shortened 47-item scale, and thereby causing the items to be ignored. In the present study, however, the researcher began the analysis with Furnham's original 60 items, thus presenting an opportunity for these items to band together to form a dimension.

The *Overcompensation* dimension did not emerge from the Chinese data. Being thrifty, and inclined to save money (Doran, 1994; Tse, 1996), this result may be expected. Although the Chinese do engage in behavior such as gift-giving to reinforce social relationships, this occurs mainly among family relations, where reciprocity is expected (Tse, 1996). Behaviors such as overcompensating someone who is a waiter (therefore not a member of one's social circle) may carry a different meaning for the Chinese and Caucasian respondents.

The second dimension that differs between the two groups is attributed to the Chinese *Cautious* dimension, and the Caucasian *Security/Conservative* dimension. The concepts

behind these two dimensions are not necessarily at odds with each other; in fact, both dimensions indicate a tendency to be security-minded with money to some degree. However, behaviors and/or attitudes associated with being security-minded differ for each ethnic group, and since the *Security/Conservative* dimension for the *Caucasian* sample more closely resembled Furnham's (1984), a different label was needed for the Chinese dimension. Therefore, the dimensions are labeled accordingly.

The *Cautious* dimension that was identified for the Chinese is consistent with the findings in the literature. Chinese people have traditionally been encouraged to save because of the importance of looking after one's family members (Tse, 1996). As well, there is a generalized mistrust towards people outside the family in the Chinese culture (Bond & Hwang, 1986). The items which convey a belief that it is rude to inquire about another's wage, and that it is desirable to conceal personal financial information, could be capturing this 'mistrust' in their statements. The reluctance to divulge personal financial information is perhaps best illustrated with an example from the present study, wherein 16 (7.5 %) of the Chinese respondents did not report their family income. This is in contrast to the six (1.8%) Caucasian respondents who did not report their family income.

With regards to the Caucasian *Security/Conservative* dimension, this factor has only been identified by Wilhelm and Varcoe (1991). In previous studies (Bailey & Gustafson, 1986; Bailey & Lown, 1992) researchers have used the label (*Security*) in combination with *Retention*. Items such as "I prefer to use money rather than credit cards" call into question their relevance in North American society, especially among younger people, and perhaps irrelevance of items is part of the reason that this dimension has not been identified more often.

Results of the factor analysis are to be taken with caution, with regards to two of the factors for the Chinese (*Retention* and *Cautious*), and for three of the Caucasian factors (*Overcompensation*, *Security/Conservative*, and *Inadequacy*). This is due to weaker internal reliabilities on these dimensions. Ideally, a reliability of $> .70$ is preferred, indicating good internal consistency (Tabachnick & Fidell, 1996). However, Nunnally (1978) has suggested $.60$ as being acceptable for exploratory research. Therefore, the aforementioned dimensions are acceptable statistically. As well, the dimensions appear to make sense conceptually, thus justifying their validity as aspects of money attitudes, or at the very least, dimensions that could be better developed for future scales.

Despite the limitation imposed by the low reliabilities on some of the dimensions, the findings suggest that there are aspects of money attitudes (*Obsession* and *Inadequacy*) which people can relate to, despite differences in culture. On the other hand, there are also factors which are unique for each group, indicating that cultural differences may also play a role in how people conceptualize money beliefs and behaviors.

Variables Associated with Money Beliefs and Behaviors

Regression results for the total sample. The regression of *Obsession* and *Inadequacy* (the comparable dimensions) onto *gender*, *age*, *education*, *income* and *ethnicity* demonstrated that *ethnicity* does in fact contribute beyond the control variables to the variance explained. Culture appears to have an influence on an individual's money beliefs and behaviors, as this study had proposed.

The Chinese sample was shown to be more obsessed with money as a means of power, and feeling more anxious about money, which were not unexpected results. First, it was hypothesized that the Chinese sample would score higher than the Caucasian sample on

the *Inadequacy* dimension based on previous research findings (Johnson & Bailey, 1997). Further, as the *Inadequacy* and *Obsession* dimensions have a moderately strong correlation (Spearman's coefficient = .43), it seems reasonable to infer that the Chinese sample would also score higher than the Caucasian sample on the *Obsession* dimension.

Moreover, enhancing one's social status (and one's family's social status) is particularly important in the Chinese culture, where there is value placed on achieving 'status' through education and work (Hofstede, 2001). The importance of status in the Chinese culture is illustrated by juxtaposing Maslow's (1971) hierarchy of needs (which places 'self-actualization' at the top of the pyramid in the Western culture) with the Asian equivalent, which places (social) 'status' at the top of its pyramid (Schutte & Ciarlante, 1998). If status is this important in the Chinese culture, and if money sometimes equals status, then having more of a preoccupation with money could be the result.

Higher scores for the Chinese on *Obsession* and *Inadequacy* could also be attributed to the sample's characteristics. The Chinese respondents were on average younger (and possibly less financially secure) than the Caucasian respondents. Further, more Caucasians than Chinese were married, which normally increases one's financial security. Thus, the age (younger) and the marital status (more 'single' respondents) of the Chinese sample could account for the increased scores on *Obsession* and *Inadequacy*.

The patterns for *gender*, *age*, and *education* with *Obsession*, and *income* with *Inadequacy*, are consistent to some degree with previous studies that have used Caucasian samples. For example, Furnham (1984) found that men were more obsessed by money than women were, and Bailey and Gustafson (1986) and Tang and Gilbert (1995) found that men more than women were more likely to use money as a tool to influence and impress.

The *age* effect is consistent with Furnham (1984) and Roberts and Sepulveda (1999) who found that younger people were more preoccupied with money, and more often used money as a means of power than did the older respondents. The *education* effect is also consistent with Furnham's (1984) findings that those with less education were more obsessed with money than those with more education. The effect of the *income* variable on the *Inadequacy* dimension is consistent with Furnham (1984), Bailey and Lown (1993), and Bailey and Johnson's (1997) results that as incomes increased, respondents worried less about losing their job or savings, having to sell their houses or their cars, and making ends meet.

With regards to the same effects for the Chinese sample, there are inconsistencies in previous research. On the comparable dimension *Obsession*, Chinese men were shown to be more obsessed with money as a means of power than were Chinese women. Lim and Teo (1997) did not find the same effect with their Singapore sample on either the *Obsession* or *Power* dimension. As Lim and Teo noted, it is possible that both Singaporean men and women recognize money as a valuable resource that can be used to influence (*Power*), and increase one's autonomy and authority in a relationship.

Regression results for the Caucasian sample and the Chinese sample. Regression analyses were carried out for each of the two samples separately. The patterns for *gender*, *age*, *education*, and *income* differed between the two groups. In fact, the pattern found on the two comparable dimensions (*Obsession* and *Inadequacy*) for the full sample is more closely reflected in the results for the Caucasian sample on their *Obsession* and *Inadequacy* dimensions. The same *gender* and *age* effects with *Obsession*, and the *income* effects with *Inadequacy* were not found on the Chinese sample's *Obsession* and *Inadequacy* dimensions.

However, the item content of the *Obsession* and *Inadequacy* dimensions for each group differed to a large degree, and this may have contributed to the lack of significance for the Chinese sample.

Gender, *age*, and *education* were also significant on other dimensions for the Caucasian sample. For example, women, and those with less education, were more conservative with their money than were males and those with more education. The *gender* result is consistent with Furnham (1984), who found that women were more security-minded and conservative with their money than were men. The *education* and *Security/Conservative* relationship has also been found by Furnham, however, the result in that study was non-linear— the two middle groups scored higher on this dimension than the least and the most educated groups.

One other *age* effect was also found for the Caucasian sample. Younger Caucasian respondents were more likely to engage in overcompensating behaviors than were older Caucasians. This seems to be consistent with the result that those (younger Caucasian respondents) who are obsessed with money use it as a tool to influence others.

Overcompensating behavior may be a way of overcoming one's lack of power, or lack of other resources, in much the same way as using money as a tool to influence others is.

Moreover, considering the value placed on money and youth in Western society (Crane & Clarke, 1994), it is probably not surprising that younger people have a preoccupation with money and use it as a means of overcompensating others.

Age and *education* were the only variables to have significant coefficients for the Chinese sample. As age increased, respondents became more cautious with their money, which is consistent to some degree with previous research. For example, Furnham (1984)

found that older (Caucasian) respondents were more security-minded and careful with money than were younger respondents, and Johnson and Bailey (1997) found that older Chinese respondents reported being the most worried about having to sell their house or car, thus implying that the older Chinese respondents would be more likely to use caution surrounding personal financial matters.

On the other hand, Tang (1993) found that younger Taiwanese respondents scored higher on *Budget* (which would be somewhat comparable to *Cautious*) than older Taiwanese respondents. However, Tang's sample consisted of students who were dependent on their parents' financial support, and who were therefore very careful with their money. In the present study, the Chinese respondents are older than an average student sample and may have families to support.

The significance of the *education* variable on *Inadequacy* and *Retention* for the Chinese sample presents some interesting findings. However, considering the importance of education in the Chinese culture (Fan, 1997), its influence might be expected. For the Chinese, education is the path to achievement and success (Hess et al., 1987), and it seems, to feeling financially secure. Those with less education (who may have less well-paying jobs and less opportunities for advancement) would likely feel more anxious and/or inadequate where personal finances are concerned, as well as retain their money rather than spend it.

In summary, the regression results revealed that *ethnicity* is a key variable in explaining money beliefs and behaviors. Beyond this, the influence of *gender* and *age* (particularly with the Caucasian sample) and *education* (particularly with the Chinese sample) seem to be significant in assessing attitudes towards money, and to a lesser degree *income* (which was more relevant to the Caucasian sample).

Limitations

A number of limitations exist in this study due to sampling methods, research design, and measurement. With regards to sampling methods, the same convenience sampling methodology used by Furnham (1984) was also utilized in this study; that is, data were collected based on a selection of university students in a particular course, who in turn distributed the questionnaires to friends and relatives. Therefore, the sample is not representative of the Canadian population in general. For example, the ethnic representation of the sample (60% Caucasian and 40% Chinese) does not accurately reflect the diversity of the country's population. In 1996, the Chinese in Canada represented only slightly more than 3% of the total population, although they represented about 15% of Vancouver's population. Meanwhile, the Caucasian population represented about 86% of the total population in Canada in 1996, and 67% of the population of Vancouver. In addition, the higher educated are over-represented in this study at 82.3%. In 1996, only 51% of the adult population reported having had some post-secondary education or higher.

With regards to research design, an important limitation exists in that there was no data collected on length of residence in Canada and/or one's immigrant status. What is known is only that a respondent has identified him/herself as 'Chinese', or 'Caucasian'. Respondents could be, variously, Canadian-born Chinese or Asian-born Chinese, who in turn may have immigrated recently, or not so recently, to Canada. It is unfortunate that the respondents' immigrant status is unknown, for it may be a factor contributing to differences in money beliefs and behaviors. Hypotheses and analysis in regards to acculturation were not possible.

The use of 'Caucasian' as an ethnic label is also problematic. Is 'Caucasian' an

ethnicity? The term 'Caucasian' is extremely broad, normally used to refer to the 'white race', and thereby encompassing anyone whose ancestry is European. It is difficult to generalize about such a diverse group. This is not to say that the Chinese are not also a diverse group; however, identifying oneself as 'Chinese' brings to mind a much more specific culture, unlike identifying oneself as 'Caucasian'.

Measurement concerns exist due to the size of the samples. Although the entirety of the combined sample is quite large (540), factor analyzing the Chinese and Caucasian samples (214 and 326, respectively) as individual groups presented concerns. As the Money Beliefs and Behavior Scale is a 60-item measurement, under ideal circumstances the number of respondents with which to carry out an analysis would be ten respondents per item. Both the Chinese and Caucasian samples fell considerably short of the ideal in this case, with the size of the Chinese sample falling particularly short.

Finally, as previous studies have indicated, concerns have been expressed regarding the internal reliability of Furnham's (1984) Money Beliefs and Behaviors Scale. As Bailey and Gustafson (1986) and Bailey and Lown (1992) have noted, Furnham did not report conducting tests for internal reliability on any of his subscales. In addition, several scale items loaded on more than one dimension in Furnham's analysis. Beyond this, researchers (Bailey & Gustafson, 1986; Bailey & Gustafson, 1991; Bailey & Lown, 1992; Bailey et al., 1994) in North America have not confirmed the same six dimensions, indicating that the scale may not perform as well as in the country of origin (Britain), possibly due to differences in economic, political and social climates.

This researcher's own concerns with Furnham's (1984) scale center mainly around the issue of dimensions that capture more than one concept – for example, *Obsession* (which

captures aspects of ‘obsession’ and ‘power’) and *Inadequacy* (which captures ‘anxiety’ as well), indicating that the factors are not well defined due, perhaps, to lack of clarity in the wording of items. This makes interpretation difficult, resulting in ambiguity.

It would, however, be worthwhile to work with the items on these dimensions, considering that similar dimensions have been found by Lim and Teo (1997), who extended the research on money attitudes using items from Furnham (1984), Tang (1992), and Yamauchi and Templer (1982) in order to develop a scale. Eight dimensions were identified: *Obsession, Power, Budget, Achievement, Evaluation, Anxiety, Retention, and Non-generous*. However, as Lim and Teo used a sample ($N = 152$) of Chinese university students from Singapore, and did not use another ethnic group as a comparison, it is difficult to know how applicable their scale would be for use cross-culturally, or if their results would be representative of older Chinese respondents. As well, the reliabilities of four of their eight dimensions were on the weak side. This points to a need to add items to relevant dimensions in order to improve reliabilities. Beyond this, as the present study has found two new concepts (*Overcompensation* and *Cautious*), these concepts need to be considered as worthy of developing and adding to a future money attitudes scale.

Conclusion and Implications

This study expanded the research on money attitudes by comparing two of Canada’s ethnic groups— the Chinese and the Caucasian Canadians. As far as the researcher is aware, this is the first study to have considered the money attitudes of a group of employed Chinese adults. Others who have used Chinese samples (Lim & Teo, 1997; Tang, 1993) or Asian samples (Masuo, Kim, Malroux, & Hanashiro, 2001) have focused on young student populations, and have compared their samples with respondents from the U.S. (Masuo et al.,

2001; Tang, 1993). The two ethnic groups in the present study live in the same country, and the respondents were employed adults.

The factor solutions of the Chinese sample and the Caucasian sample presented both similar and different concepts across the two ethnic groups, indicating that attitudes towards money are similar to some degree, despite differences in ethnicity and/or culture. Two of the four dimensions (*Obsession* and *Inadequacy*) had similar enough content that they could be identified with the same label. Therefore, being preoccupied with money and the power it can bring, and feeling anxious about one's financial situation, appear to be concepts people can relate to despite their cultural differences.

The findings of two unique dimensions (*Retention* and *Cautious* for the Chinese Canadians, and *Overcompensation* and *Security/Conservative* for the Caucasian Canadians) for each ethnic group also suggests that there are aspects of money attitudes that are distinctive based on culture. While both groups seem to relate to the idea of feeling hesitant about spending money on themselves, the Caucasian sample also seems to relate to the idea of using money to overcompensate others. Further, while both groups are security-minded when it comes to financial matters, the approaches taken by each group to ensure security differs.

This study has succeeded in confirming some of the dimensions (*Obsession*, *Inadequacy* [comparable to *Anxiety* and *Evaluation*], and *Retention*) that Lim and Teo (1997) have found with their Singaporean sample. Likewise, these dimensions have also been found with Caucasian samples in previous studies. These findings point to the possibility that there are concepts which people in Western society can relate to, regardless of differences in cultural backgrounds. It is therefore recommended that future researchers consider these

results and work to further develop a scale which assesses the aforementioned concepts and other aspects of money attitudes and behaviors (such as the new concepts of *Overcompensation* and *Cautious*), and improves on the reliabilities of the dimensions, in order to produce a measurement which could be used cross-culturally.

Findings of the present study could also benefit financial service providers who need to understand a population's values in order to serve their clientele. For example, if the Chinese have indicated a reluctance to divulge personal financial information (*Cautious*), it would be important for financial service providers to understand and be sensitive with regards to this issue, and to serve their customers accordingly. Different values call for different approaches, and it would be to the detriment of financial counselors, planners, and investment advisors, not to pay heed to their clients' concerns and/or values. Likewise, this finding could also be important for researchers who are trying to collect income information from Chinese samples.

Similarly, it would be useful for a financial counselor to understand a client's tendency to overcompensate others monetarily. If a client has gotten him/herself into a financial trouble through overspending, the counselor might suggest alternatives to using money to compensate others, or help the client understand the feeling behind the behaviors .

Understanding the proclivities of a population could also be of benefit to marketers who offer other services and products to consumers. If respondents have indicated that they associate money with power, and that status is important to them (particularly the Chinese), then products or possessions which would reinforce this belief would likely be important for them to acquire.

In conclusion, while the world economy is moving towards a global market, differences do exist in even basic values, both between and within cultures (Marshall et al., 1994). As Canada is distinctly multi-cultural in nature, and has a significant Chinese population in several parts of the country (primarily Ontario, Alberta, and British Columbia), this study was of particular importance and interest. As cross-cultural studies on money attitudes in Canada have been sparse, this paper has added to the Canadian literature on cross-cultural research. It has provided insights into how one's cultural background influences the money beliefs and behaviors of an individual and/or groups of individuals, demonstrating that there are both similarities and differences between ethnic groups. Further, it has been demonstrated that *ethnicity* is a key variable that should be considered, in addition to *gender*, *age*, *education*, and *income*, when it comes to examining money attitudes and behaviors within a nation.

References

- Abdel-Ghany, M., & Sharpe, D. L. (1997). Consumption patterns among ethnic groups in Canada. *Journal of Consumer Studies and Home Economics*, 21, 215-223.
- Bailey, W.C., & Gustafson, A.W. (1986). Gender and gender-role orientation differences in attitudes and behaviors towards money. In K. Kitt (Ed.), *Proceedings of the Fourth Annual Conference of the Association of Financial Counseling and Planning Educators*, 11-20.
- Bailey, W.C., & Gustafson, A.W. (1991). An examination of the relationship between personality factors and attitudes towards money. *Handbook of Behavioral Economics*. 271-285.
- Bailey, W. C., Johnson, P., Adams, C., Lawson, R.J., Williams, P.K., & Lown, J.M. (1994). An exploratory study of the money beliefs and behaviors scale using data from three nations. *Consumer Interests Annual*, 40, 178-185.
- Bailey, W. C., & Lown, J. M. (1992). Counting the coins: A cross-cultural evaluation of the Money Beliefs and Behavior Scale. In V. Haldeman (Ed.), *The Proceedings of the American Council on Consumer Interests 38th Annual Conference* (pp. 111-116). Columbia, MO: ACCI.
- Bailey, W. C., & Lown, J. M. (1993). A cross-cultural examination of the aetiology of attitudes towards money. *Journal of Consumer Studies and Home Economics*, 17, 391-402.
- Belk, R.W., & Wallendorf, M. (1990). The sacred meaning of money. *Journal of Economic Psychology*, 11, 35-67.
- Berry, J.W. (1984). Multicultural policy in Canada: A social psychological analysis. *Canadian Journal of Behavioral Science*, 16, 353-370.
- Bond, M. H., & Hwang, K. (1986). The social psychology of Chinese people. In M. H. Bond (Ed.), *The psychology of the Chinese people* (pp. 213-266). Hong Kong: Oxford University Press.
- Boyd, M., & Vickers, M. (2000). 100 years of immigration in Canada. *Canadian Social Trends*, 58, 2-12.
- Costa, R., & Renaud, V. (1995). The Chinese in Canada. *Canadian Social Trends*, 32, 22-27.
- Crane, F.G., & Clarke, T.K. (1994). *Consumer behavior in Canada: Theory and practice*. (2nd ed.). Toronto, ON: Holt, Rinehart and Winston.

- Doran, K. (1994). Exploring cultural differences in consumer decision making: Chinese consumers in Montreal. *Advances in Consumer Research*, 21, 318-322.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Orlando, Florida: Harcourt Brace Jovanovich.
- Engel, J., Blackwell, R. D., & Miniard, P. W. (1986). *Consumer behavior*. (5th ed.). New York: The Dryden Press.
- Esses, V. M., & Gardner, R. C. (1996). Multiculturalism in Canada: Context and current status. *Canadian Journal of Behavioral Science*, 28 (3), 145-152.
- Fan, J. X. (1997). Expenditure patterns of Asian Americans: Evidence from the U.S. Consumer Expenditure Survey, 1980-1992. *Family and Consumer Sciences Research Journal*, 25, 339-368.
- Fan, J. X. (1998). Ethnic differences in household expenditure patterns. *Family and Consumer Sciences Research Journal*, 26, 371-400.
- Furnham, A. (1984). Many sides of the coin: The psychology of money usage. *Personality and Individual Differences*, 5, 501-509.
- Furnham, A. (1996). Attitudinal correlates and demographic predictors of monetary beliefs and behaviors. *Journal of Organizational Behavior*, 17, 375-388.
- Furnham, A., & Argyle, M. (1998). *The psychology of money*. London: Routledge.
- Furnham, A., & Okamura, R. (1999). Your money or your life: Behavioral and emotional predictors of money pathology. *Human Relations*, 52, 1157-1177.
- Goldberg, H., & Lewis, R.T. (1979). *Money madness: The psychology of saving, spending, loving and hating money*. New York: William Morrow.
- Gresham, A.B., & Fontenot, G.F. (1989). The differing attitudes of the sexes toward money: An application of the money attitude scale. *Advances in Marketing*, 0, 380-384.
- Hanley, A., & Wilhelm, M. S. (1992). Compulsive buying: An exploration into self-esteem and money attitudes. *Journal of Economic Psychology*, 13, 5-18.
- Henry, W. (1976). Cultural values do correlate with consumer behavior. *Journal of Marketing Research*, 13, 121-127.
- Hess, R.D., McDevitt, T.M., & Chih-Mei, C. (1987). Cultural variations in family beliefs about children's performance in mathematics: Comparisons among People's Republic

- of China, Chinese-American, and Caucasian-American Families. *Journal of Educational Psychology*, 79, 179-188.
- Hofstede, G. (2001). *Cultural consequences: Comparing values, behaviors, institutions, and organizations across nations*. (2nd ed.). Thousand Oaks, CA.: Sage.
- Hong, G., & Kao, E.Y. (1997). Emergency fund adequacy of Asian Americans. *Journal of Family and Economic Issues*, 18 (2), 127-145.
- Jain, A. K., & Joy, A. (1997). Money matters: An exploratory study of the socio-cultural context of consumption, saving, and investment patterns. *Journal of Economic Psychology*, 18, 649-675.
- Johnson, P. J., & Bailey, W. C. (1997). The effects of sociodemographic variables on attitudes of Chinese and Caucasian Canadians towards money. *Canadian Home Economics Journal*, 47(1), 14-19.
- Katona, G. (1975). *Psychological economics*. New York: Elsevier.
- Lea, S., Tarpy, R., & Webley, P. (1987). *The individual in the economy: A textbook of economic psychology*. Cambridge, MA: Cambridge University Press.
- Lim, V. K.G., & Teo, T. S.H. (1997). Sex, money and financial hardship: An empirical study of attitudes towards money among undergraduates in Singapore. *Journal of Economic Psychology*, 18, 369-386.
- Lynn, R. (1993). Sex differences in competitiveness and the valuation of money in twenty countries. *The Journal of Social Psychology*, 133, 507-511.
- Mahatoo, W. H. (1985). *The dynamics of consumer behavior*. Toronto, ON: John Wiley.
- Marshall, R., Dong, X., & Lee, C. K. C. (1994). The development of basic values of a sub-culture: An investigation of the changing levels of individualism exhibited by Chinese immigrants to New Zealand. *Asia Pacific Advances*, 1, 91-96.
- Maslow, A.H. (1971). *The farther reaches of human nature*. New York: Viking.
- Masuo, D., Kim, J.K, Malroux, L., & Hanashiro, R. (2001). Money beliefs and behaviors: A comparison of Korean, Japanese and Asian American female college students. In Deanna L. Sharpe (Ed.), *Proceedings of the Conference of the Asian Consumer and Family Economics Association* (pp. 187-195). Columbia, MO: ACCI.
- Medina, J. F., Saegert, J., & Gresham, A. (1996). Comparison of Mexican- American and Anglo-American attitudes toward money. *The Journal of Consumer Affairs*, 30, 124-145.

- Merriam-Webster's Collegiate Dictionary*. (2001). (10th ed.) Springfield, MA.: Merriam-Webster.
- Moschis, G.P. (1987). *Consumer socialization: A life-cycle perspective*. Lexington, MA.: D.C. Heath and Company.
- Newcomb, M.D., & Rabow, J. (1999). Gender, socialization, and money. *Journal of Applied Social Psychology*, 29, 852-869.
- Nunnally, J. (1978). *Psychometric theory*. (2nd ed.). New York: McGraw-Hill.
- Pitts, R.E., & Woodside, A.G. (1984). *Personal values and consumer psychology*. Lexington, MA.: D.C. Heath and Company.
- Pleck, E.H. (2000). *Celebrating the family: Ethnicity, consumer culture and family rituals*. Cambridge, MA.: Harvard University Press.
- Renaud, V., & Badets, J. (1993). Ethnic diversity in the 1990's. *Canadian Social Trends*, 31, 17-22.
- Roberts, J. A., & Sepulveda, C. J. (1999). Demographics and money attitudes: A test of Yamauchi and Templer's (1982) money attitude scale in Mexico. *Personality and Individual Differences*, 27, 19-35.
- Rokeach, M. (1973). *The nature of human values*. New York: The Free Press.
- Rubenstein, C. (1980). Your money and your life. *Psychology Today*, 12, 47-57.
- Schutte, H., & Ciarlante, D. (1998). *Consumer behavior in Asia*. New York: New York University Press.
- Statistics Canada. (1996). *Census Nation Tables*. Ottawa, ON: Ministry of Industry, Catalogue No. 93F0023XDB96003.
- Stevenson, H., & Lee, S. (1996). The academic achievement of Chinese students. In M. H. Bond (Ed.). *The handbook of Chinese psychology* (pp.124-142). Hong Kong: Oxford University Press.
- Tabachnick, B., & Fidell, L. (1996). *Using multivariate statistics*. (3rd ed.). New York: Harper Collins.
- Tang, T. L. (1992). The meaning of money revisited. *Journal of Organizational Behavior*, 13, 197-202.
- Tang, T. L. (1993). The meaning of money: Extension and exploration of the money ethic

- scale in a sample of University students in Taiwan. *Journal of Organizational Behavior*, 14, 93-99.
- Tang, T. L., & Gilbert P. R. (1995). Attitudes toward money as related to intrinsic and extrinsic job satisfaction, stress, and work-related attitudes. *Personality and Individual Differences*, 19, 327-332.
- Tse, D. (1996). Understanding Chinese people as consumers: Past findings and future propositions. In M.H. Bond (Ed.), *The handbook of Chinese psychology* (pp.352-363). Hong Kong: Oxford University Press.
- Wernimont, P. F., & Fitzpatrick, S. (1972). The meaning of money. *Journal of Applied Psychology*, 56, 218-226.
- Yablonsky, L. (1991). *The emotional meaning of money*. New York: Gardner Press.
- Yamauchi, K. T., & Templer, D. L. (1982). The development of a money attitude scale. *Journal of Personality Assessment*, 46, 522-528.

APPENDIX-A : QUESTIONNAIRE

YOUR MONEY AND YOUR LIFE

Below are a number of statements about your attitudes towards money, how you spend or save money, and how open or secretive you are about money. Please indicate to what extent you either disagree or agree with each statement. Please answer all questions and be as honest as possible. Write the number corresponding to your answer in the space to the left of each statement.

Disagree

Agree

0 1 2 3 4 5 6

1. I often buy things that I don't need or want because they are on sale or reduced in price.
2. I put money ahead of pleasure.
3. I sometimes buy things that I don't need or want to impress people because they are the right things to have at the time.
4. Even when I have sufficient money I often feel guilty about spending money on necessities like clothes.
5. Every time I make a purchase I expect people to take advantage of me.
6. I often spend money, even foolishly, on others but grudgingly on myself.
7. I often say "I can't afford it" whether I can or not.
8. I know almost to the penny how much money I have in my purse, wallet, or pocket at all times.
9. I often have difficulty in making decisions about spending money regardless of the amount.
10. I feel compelled to argue or bargain about the cost of almost everything that I buy.
11. I often insist on paying more than my share of restaurant or entertainment costs in order to make sure that I am not indebted to anyone.
12. If I had the choice, I would prefer to be paid by the week rather than by the month.
13. I prefer to use cash rather than credit cards.
14. I always know how much money I have in my savings account (bank or credit union).
15. If I have money left over at the end of the month (week), I often feel uncomfortable until it is all spent.
16. I sometimes "buy" friendship by being very generous with those I want to like me.
17. I often feel inferior to others who have more money than myself, even when I know that they have done nothing of worth to get it.

Disagree

Agree

-
- 0 1 2 3 4 5 6
- ___18. I often use money as a weapon to control or intimidate those who frustrate me.
- ___19. I sometimes feel superior to those who have less money than myself regardless of their ability and achievement.
- ___20. I firmly believe that money can solve all of my problems.
- ___21. I often feel anxious and defensive when asked about my personal finances.
- ___22. In making any purchase, for any purpose, my first consideration is cost.
- ___23. I believe that it is rude to inquire about a person's wage/salary.
- ___24. I feel stupid if I pay more for something than a neighbor paid.
- ___25. I often feel disdain for money and look down on those who have it.
- ___26. I prefer to save money because I'm never sure when things will collapse and I'll need cash.
- ___27. The amount of money that I have saved is never quite enough.
- ___28. I feel that money is the only thing that I can really count on.
- ___29. I believe that money is the root of all evil.
- ___30. I believe that one only gets what one pays for.
- ___31. I believe that money gives one considerable power.
- ___32. My attitude toward money is very similar to that of my parents.
- ___33. I believe that the amount of money a person earns is closely related to his/her ability and effort.
- ___34. I always pay bills (telephone, water, electricity, gas) promptly.
- ___35. I often give large tips to waiters/waitresses that I like.
- ___36. I believe that time not spent in making money is time wasted.
- ___37. I occasionally pay restaurant/shop bills even when I think I have been overcharged because I am afraid the waiter/waitress might be angry with me.
- ___38. I often spend money on myself when I am depressed.
- ___39. When a person owes me money I am afraid to ask for it.
- ___40. I don't like to borrow money from others (except banks) unless I absolutely have to.
- ___41. I prefer not to lend people money.
- ___42. I am better off than most of my friends think.

Disagree

Agree

0 1 2 3 4 5 6

- ___43. I would do practically anything legal for money if it were enough.
- ___44. I prefer to spend money on things that last rather than on perishables like food or flowers.
- ___45. I am proud of my financial victories- pay, assets, savings, and investment, - and let my friends know about them.
- ___46. I am worse off than most of my friends think.
- ___47. Most of my friends have less money than I do.
- ___48. I believe that it is generally better to conceal the details of my finances from friends and relatives.
- ___49. I often argue with my partner (spouse, lover) about money.
- ___50. I believe that a person's salary is a good indicator of their intelligence.
- ___51. I believe that my present income is about what I deserve, given the job I do.
- ___52. Most of my friends have more money than I do.
- ___53. I believe that my present income is far less than I deserve, given the job I do.
- ___54. I believe that I have very little control over my financial situation in terms of my power to change it.
- ___55. I think about money much more than most people I know.
- ___56. I worry about finances much of the time.
- ___57. I often fantasize about money and what I could do with it.
- ___58. I very rarely give homeless people money when they ask for it.
- ___59. I am proud of my ability to save money.
- ___60. In this country, money is how we compare each other.

Now, we would like to ask a few questions about you for statistical purposes.

61. I am (Please circle number of your answer):

- 1 MALE
2 FEMALE

62. What year were you born? 19__.

63. What is your current marital status? (Circle one number)
- 1 NEVER MARRIED
 - 2 MARRIED: Circle A or B
 - A) FIRST MARRIAGE FOR BOTH SPOUSES
 - B) REMARRIAGE FOR ONE OR BOTH SPOUSES
 - 3 DIVORCED OR SEPARATED
 - 4 WIDOWED
 - 5 OTHER (PLEASE SPECIFY _____)
64. What is your primary employment status? (Circle one)
- 1 FULL TIME (30 HOURS/WEEK OR MORE)
 - 2 PART TIME (Employed less than 30 hours/week) or SEASONAL
 - 3 UNEMPLOYED
 - 4 RETIRED
 - 5 FULL TIME STUDENT
 - 6 FULL TIME HOMEMAKER
65. What is the highest level of education that you have completed? (Circle one number)
- 1 8TH GRADE OF LESS
 - 2 GRADES 9 THROUGH 11
 - 3 HIGH SCHOOL GRADUATE OR EQUIVALENT
 - 4 TECHNICAL OR TRADE SCHOOL BEYOND HIGH SCHOOL
 - 5 SOME COLLEGE OR UNIVERSITY (NO DEGREE EARNED)
 - 6 COMMUNITY (TWO YEAR) COLLEGE DEGREE OR CERTIFICATE
 - 7 UNIVERSITY DEGREE (BACHELOR'S)
 - 8 GRADUATE OR PROFESSIONAL DEGREE
66. Which of these categories describes your total family income before taxes last year?
(Please circle the number of the category.)
- 1 LESS THAN \$15,000
 - 2 \$15,000 TO \$29,999
 - 3 \$30,000 TO \$44,999
 - 4 \$45,000 TO \$59,999
 - 5 \$60,000 TO \$74,999
 - 6 \$75,000 TO \$89,999
 - 7 \$90,000 OR MORE
67. What is your ethnicity? (Please circle the number.)
- | | |
|---------------------|---------------------|
| 1 WHITE (CAUCASIAN) | 7 OTHER ASIAN _____ |
| 2 EAST INDIAN | 8 NATIVE CANADIAN |
| 3 CHINESE | 9 HISPANIC |
| 4 JAPANESE | 10 BLACK |
| 5 KOREAN | 11 OTHER _____ |
| 6 VIETNAMESE | |

APPENDIX B:
PRINCIPAL COMPONENTS FACTOR ANALYSIS OF THE MBBS- VARIMAX
ROTATION: FORCED SIX-FACTOR SOLUTION

Item (Using shortened item listing)	Chinese Factor Loading	Caucasian Factor Loading	MBBS Original Factor Loading
1. buy because on sale	F1 (.58)	-	F3 (.41)
2. put money ahead of pleasure	-	-	F1 (.46)
3. buy to impress	F1 (.57)	F1 (.62)	F2 (.52)
4. guilty about spending	F2 (.64)	-	F3 (.59)
5. expect people to take advantage	-	F1 (.44)	-
6. spend on others, not self	F5 (-.48)	F3 (.60)	-
7. say I cannot afford	F2 (.66)	-	F3 (.64)
8. know how much money I have in wallet	F4 (.44)	F2 (.53)	F4 (.50)
9. have difficulty making decisions	F2 (.54)	-	F3 (.58)
10. compelled to argue or bargain	F2 (.41)	F5 (.45)	F1 (.49)
11. pay more than my share	F6 (.48)	F3 (.59)	-
12. prefer weekly pay	-	F6 (-.41)	-
13. prefer cash to credit	-	-	F4 (.40)
14. know how much I have in savings account	F4 (.45)	F2 (.62)	F4 (.64)
15. am uncomfortable with leftover money	F1 (.62)	F1 (.46)	F2 (.42)
16. sometimes 'buy' friendship.	F6 (.43)	F1 (.55)	F2 (.53)
17. feel inferior to others with more money	F1 (.65)	F1 (.56)	F1/3 (.48/.41)
18. use money as a weapon to control others	F1 (.55)	F1 (.73)	F1 (.52)
19. feel superior to those with less money	F1 (.54)	F1 (.68)	F1 (.46)
20. believe money can solve all problems	F1 (.46)	F1 (.63)	F1 (.57)
21. feel anxious about personal finances	F3 (.51)	F5 (.57)	F1 (.48)
22. consider cost first when buying	F2 (.53)	-	F1 (.46)
23. believe that it is rude to inquire about wages	F5 (.62)	-	F4 (.48)
24. feel stupid if I pay more for something	-	-	F1 (.46)
25. look down on those who have money	F1 (.47)	-	F2 (.41)
26. prefer to save money	F5 (.56)	F2 (.62)	F3/4 (.42/.42)
27. amount of savings is never enough	F4 (.64)	F4 (.40)	F5 (.58)
28. money is the only thing I can count on	F1 (.55)	F1 (.74)	F1 (.71)
29. believe that money is the root of all evil	-	F5 (.48)	-
30. believe you get what you pay for	-	-	-
31. believe that money gives one power	F6 (.60)	-	-
32. my attitude is the same as my parents	F2 (.41)	F6 (.50)	F4 (.46)
33. believe that earning is related to effort	-	F6 (.43)	F6 (.45)
34. pay bills promptly	F6 (.45)	F2 (.44)	F4 (.40)
35. give large tips to waiters	F6 (.55)	F3 (.62)	F2 (.45)
36. time is wasted if not making money	F1 (.57)	F1 (.68)	F1 (.51)
37. pay even if overcharged	F1 (.55)	F3 (.42)	-
38. spend money when depressed	-	F3 (.41)	F2 (.42)
39. afraid to ask for what is mine	-	F3 (.60)	-

	Chinese Factor Loading	Caucasian Factor Loading	MBBS Original Factor Loading
40. do not like to borrow money	—	F2 (.45)	—
41. prefer not to lend people money	F5 (.53)	—	F2(-.47)
42. am better off than most think	F3(-.47)	—	F5(-.53)
43. would do anything legal for money	—	F1 (.54)	F1 (.57)
44. prefer to buy things that last	—	—	—
45. proud of financial victories	F1 (.55)	F1 (.58)	F1 (.58)
46. am worse off than friends think I am	F3 (.51)	F4 (.54)	F5 (.56)
47. friends have less money than I do	F3(-.52)	—	—
48. keep details of finances secret	F5 (.49)	F5 (.56)	—
49. partner and I argue about money	—	—	F5 (.42)
50. salary is an indicator of intelligence	F1 (.51)	F1 (.49)	F1 (.48)
51. my income is what I deserve	F4(-.57)	F5/6(-.42/54)	F6 (.67)
52. my friends have more than I do	F3 (.75)	F4 (.69)	F5 (.61)
53. my income is less than I deserve	F4 (.58)	F5/6(.52/- .48)	F6(-.60)
54. have no power to change finances	F3 (.43)	F4 (.53)	F6(-.58)
55. think about money more than others do	F1 (.46)	F1 (.52)	F1 (.53)
56. worry about my finances much of the time	F3/4(.44/.41)	F1/4(.41/45)	F1/5(.47/- .42)
57. fantasize what money can do	F1 (.43)	—	F1 (.41)
58. rarely give money to homeless people	—	F2 (.42)	F2(-.42)
59. am proud of ability to save money	F2/5(.47/.42)	F2 (.49)	F4/5 (.59-.42)
60. money is how we compare each other	—	—	F1 (.44)

APPENDIX C

CHINESE FIVE FACTOR SOLUTION (forced)**FACTOR 1**

16. I sometimes 'buy' friendship by being very generous with those I want to like me.
17. I often feel inferior to others who have more money than myself, even when I know they have done nothing of worth to get it.
20. I firmly believe that money can solve all my problems.
21. I feel anxious and defensive when asked about my personal finances.
28. I feel that money is the only thing that I can really count on.
31. I believe that money gives one considerable power.
39. When a person owes me money I am afraid to ask for it.
46. I am worse off than most my friends think.
52. Most of my friends have more money than I do.
54. I believe that I have very little control over my financial situation in terms of my power to change it.
55. I think about money much more than most people I know.
56. I worry about finances much of the time.
60. In Canada, money is how we compare each other.

FOUR FACTOR SOLUTION (forced)**FACTOR 1**

All items from F1 in five-factor solution,
plus # 18 from F2 of the five-factor solution

CHINESE SOLUTIONS CONTINUED**FACTOR 2**

1. I often buy things that I don't want or need because they are on sale or reduced in price.
3. I sometimes buy things that I don't need or want to impress people because they are the right things to have at the time.
15. If I have any money left over at the end of the month (week) I often feel uncomfortable until it is all spent.
17. I often feel inferior to others who have more money than myself even if they have done nothing of worth to get it.
18. I often use money as a weapon to control and intimidate those who frustrate me.
19. I sometimes feel superior to those who have less money than myself regardless of their ability and achievements.
25. I often feel disdain for money and look down on those who have it.
28. I feel that money is the only thing I can really count on.
36. I believe that time not spent making money is time wasted.
37. I occasionally pay restaurant/shop bills even when I think I have been overcharged because I am afraid the waiter/assistant might be angry with me.
42. I am better off than most of my friends think.
45. I am proud of my financial victories- pay, assets, savings, and investments-and let my friends know about them.
47. Most of my friends have less money than I do.
50. I believe that a person's salary is a good indicator of their intelligence.

FACTOR 2

All items from F2 in five-factor solution minus # 3, and plus # 4 from F3 of the five-factor solution

CHINESE SOLUTIONS CONTINUED**FACTOR 3**

- 4. Even when I have sufficient money I often feel guilty about spending money on necessities like clothes.
- 7. I often say 'I can't afford' whether I can or not.
- 9. I often have difficulty in making decisions about spending regardless of the amount.
- 10. I feel compelled to argue or bargain about the cost of almost everything I buy.
- 22. In making any purchase, for any purpose, my first consideration is cost.
- 59. I am proud of my ability to save money.

FACTOR 4

- 6. I often spend money, even foolishly on others but grudgingly on myself.
- 23. I believe it is rude to inquire about a person's wage/ salary.
- 26. I prefer to save money because I'm never sure when things will collapse and I'll need the cash.
- 34. I always pay bills (telephone, water, etc.) promptly.
- 41. I prefer not to lend people money.
- 48. I believe it is generally better to conceal the details of my finances from friends and relatives.
- 59. I am proud of my ability to save money.

FACTOR 5

- 8. I know almost to the penny how much money I have in my purse, wallet, or pocket at all times.
- 14. I always know how much money I have in my savings account (bank or credit union).
- 27. The amount of money I have saved is never quite enough.
- 51. I believe that my present income is about what I deserve given the job I do.
- 53. I believe that my present income is far less than I deserve given the job I do.

FACTOR 3

Items # 22 & 59 plus # 23, 26, 34, & 48 from F4 of the five-factor solution

FACTOR 4

All of the items from F5 of the five factor solution

CHINESE: APPENDIX C CONTINUED

From initial 60-item analysis:

Items removed that did not load high enough ($< .40$) for either ethnic group:

- 2. I put money ahead of pleasure.
- 12. If I had the choice, I would prefer to be paid by the week rather than by the month.
- 13. I prefer to use cash rather than credit cards.
- 29. I believe that money is the root of all evil.
- 30. I believe that one only gets what one pays for.
- 33. I believe that the amount of money a person earns is closely related to his/her ability and effort.
- 38. I often spend money on myself when I am depressed.
- 44. I prefer to spend money on things that last rather than on perishables like food or flowers.
- 51. I believe that my present income is about what I deserve, given the job I do. **(negative loading of item # 53)**
- 57. I often fantasize about money and what I could do with it.

Items removed that did not load high enough ($< .40$) for the Chinese sample:

- 5. Every time I make a purchase I expect people to take advantage of me.
- 11. I often insist on paying more than my share of restaurant or entertainment costs in order to make sure that I am not indebted to anyone.
- 24. I feel stupid if I pay more for something than a neighbor paid.
- 32. My attitude toward money is very similar to that of my parents
- 35. I often give large tips to waiters/waitresses that I like.
- 40. I don't like to borrow money from others (except banks) unless I absolutely have to.
- 43. I would do practically anything legal for money if it were enough
- 49. I often argue with my partner (spouse, lover) about money.
- 58. I very rarely give homeless people money when they ask for it.

Items removed because they comprised the "unclear" dimension in the Chinese five-factor and four-factor solutions:

- 8. I know almost to the penny how much money I have in my purse, wallet, or pocket at all times.
- 14. I always know how much money I have in my savings account (bank or credit union).
- 27. The amount of money I have saved is never quite enough.
- 53. I believe that my present income is far less than I deserve given the job I do.

Items retained for the final analysis were those 37 items that comprised F1 through F4 of the five-factor solution, and F1 through F3 of the four-factor solution. See Table 5 in the text for the final solution.

APPENDIX D

CAUCASIAN FIVE FACTOR SOLUTION (forced)

FACTOR 1

- 3. I sometimes buy things that I don't need or want to impress people because they are the right things to have at the time.
- 5. Every time I make a purchase, I expect people to take advantage of me.
- 10. I feel compelled to argue or bargain about the cost of almost everything I buy.
- 15. If I have any money left over at the end of the month (week) I often feel uncomfortable until it is all spent.
- 16. I sometimes 'buy' friendship by being very generous with those I want to like me.
- 17. I often feel inferior to others who have more money than myself, even when I know they have done nothing of worth to get it.
- 18. I often use money as a weapon to control and intimidate those who frustrate me.
- 19. I sometimes feel superior to those who have less money than myself regardless of their ability and achievements.
- 20. I firmly believe that money can solve all my problems.
- 24. I feel stupid if I pay more for something than a neighbour paid.
- 28. I feel that money is the only thing that I can really count on.
- 36. I believe that time not spent making money is time wasted.
- 43. I would do practically anything legal for money if it were enough.
- 45. I am proud of my financial victories- pay, assets, savings, and investments-and let my friends know about them.
- 49. I often argue with my partner (spouse, lover) about money.
- 50. I believe that a person's salary is a good indicator of their intelligence.
- 55. I think about money much more than most people I know.
- 56. I worry about finances much of the time.

FOUR FACTOR SOLUTION (forced)

FACTOR 1

All items on F1 of the five-factor solution, minus item # 56

CAUCASIAN SOLUTIONS CONTINUED**FACTOR 2**

- 7. I often say "I can't afford it, whether I can or not.
- 8. I know almost to the penny how much money I have in my purse, wallet, or pocket at all times.
- 14. I always know how much money I have in my savings account (bank or credit union).
- 22. In making any purchase, for any purpose, my first consideration is cost.
- 26. I prefer to save money because I'm never sure when things will collapse and I'll need the cash.
- 40. I do not like to borrow money from other (except banks) unless I have to.
- 48. I believe it is generally better to conceal the details of my finances from friends and relatives.
- 58. I rarely give homeless people money when they ask for it.

FACTOR 3

- 6. I often spend money, even foolishly, on others but grudgingly on myself.
- 11. I often insist on paying more than my share of restaurant or entertainment costs in order to make sure that I am not indebted to anyone.
- 35. I often give large tips to waiters/waitresses that I like.
- 37. I occasionally pay restaurant/shop bills even when I think I have been overcharged because I am afraid the waiter/assistant might be angry with me.
- 39. When a person owes me money I am afraid to ask for it.

FACTOR 2

All items from F2 of the five-factor solution

FACTOR 3

- All items from F3 of the five-factor solution, plus item # 7 from F2 of the five-factor solution, and in addition, items :
- # 1. I often buy things I don't want or need because they are on sale or reduced in price.
 - # 4. Even when I have sufficient money, I often feel guilty about spending money on necessities like clothes.
 - # 9. I often have difficulty making decisions about spending regardless of the amount.

CAUCASIAN SOLUTIONS CONTINUED**FACTOR 4**

- 32. My attitude toward money is very similar to that of my parents.
- 34. I always pay bills (telephone, water, etc.) promptly.
- 51. I believe that my present income is about what I deserve given the job I do.
- 53. I believe that my present income is far less than I deserve given the job I do.
- 59. I am proud of my ability to save money.

FACTOR 5

- 46. I am worse off than most my friends think.
- 52. Most of my friends have more money than I do.
- 54. I believe that I have very little control over my financial situation in terms of my power to change it.
- 56. I worry about finances much of the time.

FACTOR 4

All items from F4 and F5 of the five-factor solution, minus item # 54, and plus item # 27. The amount of money I have saved is is never quite enough.

CAUCASIAN : APPENDIX D CONTINUED

From initial 60-item analysis:

Items removed that did not load high enough ($< .40$) for either ethnic group:

- 2. I put money ahead of pleasure.
- 12. If I had the choice, I would prefer to be paid by the week rather than by the month.
- 13. I prefer to use cash rather than credit cards.
- 29. I believe that money is the root of all evil.
- 30. I believe that one only gets what one pays for.
- 33. I believe that the amount of money a person earns is closely related to his/her ability and effort.
- 38. I often spend money on myself when I am depressed.
- 44. I prefer to spend money on things that last rather than on perishables like food or flowers.
- 51. I believe that my present income is about what I deserve, given the job I do. **(negative loading of item # 53)**
- 57. I often fantasize about money and what I could do with it.

Items removed that did not load high enough ($< .40$) for the Caucasian sample:

- 21. I feel anxious and defensive when asked about my personal finances.
- 23. I believe it is rude to inquire about a person's wage/salary.
- 25. I often feel disdain for money and look down on those who have it.
- 31. I believe that money gives one considerable power.
- 41. I prefer not to lend people money.
- 42. I am better off than most of my friends think.
- 47. Most of my friends have less money than I do.
- 60. In Canada, money is how we compare each other.

Items removed because they comprised the "unclear" dimension in the Caucasian five-factor solution:

- 32. My attitude toward money is very similar to that of my parents.
- 34. I always pay bills (telephone, water, etc.) promptly.
- 53. I believe that my present income is far less than I deserve given the job I do.
- 59. I am proud of my ability to save money.

Items retained for the final analysis were those 38 items which comprised F1 through F3, and F5 of the five-factor solution, plus item # 27 from F4 of the four-factor solution, because it fit conceptually with those items from F5. See Table 7 in text for the final solution.

APPENDIX E

Table E1

Intercorrelations for the 'Obsession' and 'Inadequacy' Dimensions and Demographic Variables of the Combined Samples (N = 508)

Variable	1	2	3	4	5	6	7
<i>Dimension</i>							
1. Obsession	–						
2. Inadequacy	.43**	–					
<i>Demographic Variable</i>							
3. Gender	-.08	-.08	–				
4. Age	.26**	.09*	.04	–			
5. Education	-.08	-.05	-.07	-.09*	–		
6. Income	-.08	-.15**	-.05	-.31**	.17**	–	
7. Ethnicity	.29**	.13**	-.09*	.22**	.05	.04	–

* $p < .05$ ** $p < .01$

Table E2*Intercorrelations for the Dimensions and Demographic Variables of the Chinese Sample**(N = 192)*

Variable	1	2	3	4	5	6	7	8
<i>Dimension</i>								
1. Obsession	—							
2. Inadequacy	.45**	—						
3. Retention	.29**	.26**	—					
4. Cautious	.04	.09	.14*	—				
<i>Demographic Variable</i>								
5. Gender	-.03	-.07	-.07	.10	—			
6. Age	.15*	.12	.19**	-.21**	.08	—		
7. Education	-.14*	-.19**	-.20**	-.03	-.09	-.16*	—	
8. Income	-.05	-.12	-.07	.01	.04	-.14*	.23**	—

*p < .05 ** p < .01

Table E3***Intercorrelations for the Dimensions and Demographic Variables of the Caucasian******Sample (N = 310)***

Variable	1	2	3	4	5	6	7	8
<i>Dimension</i>								
1. Obsession	–							
2. Overcompensation	.36**	–						
3. Security/Conservative	.01	.16**	–					
4. Inadequacy	.44**	.26**	.14*	–				
<i>Demographic Variable</i>								
5. Gender	-.12*	.06	.14*	-.08	–			
6. Age	.25**	.27**	.04	.06	.04	–		
7. Education	-.06	-.08	-.15*	-.03	-.04	-.08	–	
8. Income	-.14*	-.08	.00	-.16**	-.10	-.42**	.13*	–

* $p < .05$ ** $p < .01$