# ENMESHMENT AND ACCULTURATIVE STRESS IN CHINESE IMMIGRANT FAMILIES IN CANADA

by

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## Abstract

While the first entry of Chinese immigrants to Canada dates back to more than a century, in 1967 when the Canadian immigration policy changed, Chinese immigrants from China, Hong Kong and Taiwan became the top source of migration. Over the past few decades, the process of acculturation and mental health of Chinese immigrants has received attention in cross-cultural research. Researchers are particularly interested in investigating the stress experienced by immigrants during the process of acculturation and the ways of dealing with such stress. The thesis reports on a study that explores acculturative stress, length of residence, and cohesion of Chinese immigrants in Canada. The results from this study showed that enmeshment (a high level of family cohesion or family togetherness) and flexibility (a high level of adaptability to change family rules and roles) are related to a lower level of acculturative stress in Chinese immigrant mothers in Vancouver, British Columbia. Of particular interest was the effect of cohesion and adaptability on the social dimension of acculturative stress. Additionally, the results showed that length of residence did not predict acculturative stress in Chinese immigrant families. Limitations, contributions, and implications of the present study for future acculturation research are discussed.

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Enmeshment and Acculturative Stress in Chinese Immigrant Families in Canada

The first entry of Chinese immigrants to Canada dated back to the mid-nineteenth century (Skeldon, 1994). Those migrants were attracted by the "gold rush" in western Canada and served as miners and railway builders (Skeldon, 1994). With Canada's implementation of a point system for appraising potential immigrants and the coincidence of riots in Hong Kong, the first wave of recent Chinese immigration started in 1967 (Man, 1996). The second wave started at around 1985 with the approach of 1997 – the change of sovereignty from the British government to the Chinese government in Hong Kong (Man, 1996). Recent immigrants are more skillful and usually have higher educational achievement than early settlers (Skeldon, 1994). Moreover, most recent Chinese immigrants come in family groups while earlier migrants were single males who traveled alone for employment opportunities (Skeldon, 1994).

In 1996, thirty-one percent of the total population in Greater Vancouver can be characterized as a visible minority. About 50% of this visible minority are persons of Chinese ethnic origin. Immigrants make up 35% of the total population in Greater Vancouver and 30% of these immigrants trace their heritage to Chinese groups from Hong Kong, Mainland China, and Taiwan (BC Stats, 2000). As the number of Chinese immigrants increased in North America, research on acculturation and psychosocial adjustment became established (Ryder, Alden, & Paulhus, 2000). Yet, with the extensive number of Chinese immigrants in the Greater Vancouver region, relatively little attention has been devoted to the acculturation experience of Chinese immigrants in British Columbia. Therefore, the present study aims to explore the dynamics of Chinese immigrants' acculturation experience in Vancouver, B.C. and to investigate the relationship between the immigrants' perception of the family environment and their process of adaptation.

The experience of migration is similar to moving into a place with different codes and symbols. In conceptualizing this study, I drew upon Symbolic Interaction theory which characterizes our social world as constructed by symbols with different actors perceiving such symbols in various ways (Boss, Doherty, LaRossa, Schumm, & Steinmetz, 1993). Immigrants face the challenge of understanding those symbols and dealing with their ethnic identities as they adapt to the new country (Gil & Vega, 1996; Padilla, Wagatsuma, & Lindholm, 1985). On one hand, immigrants face the stress of leaving their homeland behind and losing ties with the extended families. On the other hand, immigrants must deal with the stress of adapting to the new country, probably without much social support (Balcazar, Peterson, & Krull, 1997; Gilbar, 1997).

Anything that produces a change to the pre-established habit or behavioural pattern of family members is stressful. Holmes and Rahe (1967) developed a social readjustment rating scale to measure the stress associated with different life change events and to predict change of illness in the following year (as cited in Goldsmith, 1996). Adding the scores in this tool yields a life change score in a particular year. A score between 100 and 200 is considered to be common, 300 plus is high. In what follows I provide examples of scores that Holmes and Rahe would assign to events associated with the migration experience; the life event scores are reported in the brackets. Moving from one place to another probably includes the following events: change in financial state (38), change in different line of work (36), change in number of arguments with spouse (35), foreclosure of mortgage or loan (30), change in responsibilities at work (29), spouse begins or stops work (26), change in living conditions (25), revision of personal habits (24), change in work hours or conditions (20), change in residence (20), change in schools (20), change in recreation (20), change in social activities (19), change in number of family get-

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togethers (15), and change in eating habits (15). The total score of these events is 372, which when interpreted by Holmes and Rahe, means that immigrants are very likely to experience high stress when moving to a new place and have a 80% chance of getting ill in the following year.

In face of stressful experiences, Watson and Protinsky (1988) proposed that minority families often become more enmeshed to overcome hardships. Enmeshment is a very high level of family cohesion, which is the "emotional bonding that family members have toward one another" (Olson, 1993, p. 105). Unlike the traditional impression that enmeshment is dysfunctional (Olson, 1993), enmeshment may serve as a buffer to acculturative stress for immigrant families (Ben-David, 1995; Ben-David & Erez-Darvish, 1997; Lam, Chan, & Leff, 1995). Contrary to this view, Miranda and Matheny (2000) found that enmeshment is associated with an increase in acculturative stress. Miranda and Matheny (2000) claimed that a high degree of cohesiveness holds back the process of acculturation and thus contributes to increased acculturative stress.

To clarify the relationship between enmeshment and acculturative stress, the first goal of this study is to examine whether enmeshment serves as a buffer that alleviates acculturative stress or creates a barrier to acculturation that increases acculturative stress among Chinese immigrant families in Vancouver, B.C.

Previous research (Gil & Vega, 1996; Zheng & Berry, 1991) noted that immigrants experience different levels of stress at different times of residence in the society of settlement. However, the aforementioned studies (Ben-David, 1995; Ben-David & Erez-Darvish, 1997; Lam, Chan, & Leff, 1995; Miranda & Matheny, 2000) have either left out the information on length of residence or have not directly assessed the impact of length of residence on the relationship between enmeshment and acculturative stress. Therefore, the second goal of the

present study is to investigate how length of residence relates to acculturative stress and to explore whether it moderates the effect of enmeshment on acculturative stress, thereby offering an explanation for the previous inconsistent findings.

Acculturation Framework

When two different ethnic groups come into contact with one another, acculturation takes place in both groups (Berry, 1992). Acculturation is defined as "the general processes and outcomes (both cultural and psychological) of intercultural contact" (Berry, 1997, p. 8). In this sense, acculturation is a two-way road – both the people of the host culture and the immigrants are affected by the other group. For the purposes of this study, only the immigrants' experience was investigated.

To acculturate implies that changes happen in the individuals' cultural identities. Ryder et al. (2000) compared the two major models of acculturation – the unidimensional model and the bidimensional model. The unidimensional model assumes that a change in cultural identity occurs along a continuum – from heritage culture (or culture at birth) to mainstream culture (or culture in the host society). Based on this assumption, acquisition of the mainstream culture requires detachment from the heritage culture. On the other hand, the bidimensional model treats heritage culture and mainstream culture as two independent constructs. In other words, acquisition of the mainstream culture does not necessarily erase the heritage culture.

Berry is one of the researchers who supports the bidimensional view. Berry (1992) proposed that immigrants employ different acculturation strategies when they come into contact with the host society. Four acculturation strategies can be derived from their attitudes towards the issues of cultural maintenance and contact with host culture. Barry's four acculturation strategies are integration, assimilation, separation/segregation, and marginalization. Integration

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includes people who value both ethnic identity maintenance and contact with the host culture. On the other extreme, marginalized individuals value neither of these issues. Assimilated immigrants value contact with the host culture more than sustaining ethnic identities of the culture of origin. Unlike assimilated migrants, separated/segregated individuals value cultural maintenance of the culture of origin more than contact with host culture.

After reviewing and drawing upon the research conducted on acculturation and adaptation from the past decades, Berry (1997) theorized an overall framework for acculturation research and noted that the long-term psychological outcomes of acculturation are highly variable and are dependent on many factors. Berry's complex framework is divided into group level (situational variables) and individual level (person variables) that encompass both structural factors and psychological acculturation process. The situational variables include factors in the societies of origin, the societies of settlement and their influences on group acculturation. Specifically, political context, economic situation, and demographic factors in the societies of origin and attitudes and social support in the society of settlement are all seen to affect the process of group acculturation. On the other hand, the individual variables include the psychological acculturation process (from acculturation experience to long term consequences) and structural variables (moderating factors prior to and during acculturation). As noted by Berry (1997), no single study has incorporated all the variables in this framework. Instead, this complex framework intends to point out the key variables for conducting acculturation research. Through accumulating the results from numerous studies, this framework yields a more comprehensive view of acculturation. Based on this framework, the present study aimed to focus on acculturative stress (individual's psychological acculturation process) and to investigate how one's perception of the family environmental context affects acculturative stress. Moreover, the

moderating effect of length of residence in Canada was assessed. The results from this study contribute to Barry's composite framework for better understanding the psychological acculturation process of immigrants.

Acculturative Stress

In the literature addressing the reactions to acculturation, three views regarding the level of difficulty in adapting to the new country can be identified (Berry, 1997). The first view regards acculturation as relatively easy for the acculturating individuals and the terms that reflect this view are "behavioral shifts" (Berry, 1980), "culture learning" (Brislin, Landis, & Brandt, 1983), and "social skill acquisition" (Furnham & Boschner, 1986). The second point of view sees acculturation as more difficult for the individuals and some serious conflicts may arise. The older term "culture shock" (Oberg, 1960) and the new term "acculturative stress" coined by Berry (1970) best reflect this view. Acculturative stress is "the particular kind of stress in which the stressors are identified as having their source in the process of acculturation" (Sam & Berry, 1995, p. 10). The third view denotes that the individuals may experience major difficulties and the perspectives of "psychopathology" and "mental disease" side with this view (Malzberg & Lee, 1956; Murphy, 1965; WHO, 1991; as cited in Berry, 1997). This study incorporates the second view of acculturative stress because migration is a challenging experience for immigrants (Thomas, 1995). The larger the cultural distance between the host culture and the culture of origin, the higher the acculturative stress experienced by the immigrants (Berry, 1986; as cited in Thomas, 1995). Canadian culture is very different from Chinese culture. For example, English language acquisition is one of the biggest challenges that non-English speaking immigrants encounter. Another challenge arises from the difference in values, in which the Western culture values individual autonomy while the Chinese culture places an emphasis on collective interests

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(the well-being of the group). Thus, the acculturation process of Chinese immigrants may not be as easy as "behavioural shifts" and "culture learning" and the first point of view is deemed less relevant for this study. While some Chinese immigrants may experience mental illness subsequent to migration, this is not the experience for the majority of Chinese immigrants (J. Lynam, personal communication, June 28, 2001). Therefore, the present study focuses on immigrants with no known mental illnesses and the third view is not taken.

Research has shown that assimilated individuals tend to have a lower level of psychosocial stress for the unidimensional view (Ryder et al., 2000). If a bidimensional view is taken, integrated people show the lowest level of stress while marginalized immigrants exhibit the greatest level of stress (Sam & Berry, 1995; Sands & Berry, 1993).

Thomas (1995) reviewed the concept of acculturative stress in immigrants' families in the United States and identified five stressors – language, employment and economic status, education, family life, and immigration status. Several studies indicated that fluency in English is related to lower acculturative stress for Asian-Canadians (Pawliuk et al., 1996) and Chinese sojourners in Canada (Zheng & Berry, 1991). The stressors of employment and education are part of socioeconomic status (SES). Families with higher SES tend to be fluent in English and have more resources, they also encounter lower acculturative stress (Thomas, 1995). In addition, social support that comes from family life acts as a buffer to acculturative stress (Balcazar et al., 1997). In this study, the variables of present acculturation, fluency in English, SES, and social support were controlled. Immigration status (or generation level of immigrants and their descendants) is not included because the sample in this study only included first generation immigrants. To measure present acculturation, the use of a unidimensional scale will be discussed in the measure section.

## Enmeshment as a Predictor

Enmeshment is a very high level of family cohesion, which is "the emotional bonding that family members have toward one another" (Olson, 1993, p. 105). Some of the characteristics of enmeshment are an extreme amount of emotional closeness, demands for loyalty and consensus, and sacrifices of individual needs for the well being of the group. The concept of family cohesion originates from Olson's Circumplex Model (OCM), which was first conceptualized in 1970's. In his Model, Olson proposed a family-functioning typology that is derived from two dimensions: cohesion and adaptability. Family adaptability is "the amount of change in its leadership, role relationships, and relationship rules" (Olson, 1993, p. 107). Along the cohesion dimension, families can range from disengaged (low) to enmeshed (high). Along the adaptability dimension, families can range from chaotic (high) to rigid (low). The combination of these two continua yields 16 types of families that can be conceptualized as a descriptive map for locating the families in OCM (Olson, 1993). In addition, family type taps into the concept of balance in the two dimensions of family cohesion and adaptability. The optimal types, called the balanced types, are the ones that occupy the center positions on both dimensions. An example is a flexibly connected family. The less optimal types, called the mid-range families, include a middle value on one of the continuums and an extreme value from the other (e.g., structurally disengaged). The least optimal types are called extreme families, with extreme scores on both continua (e.g., rigidly enmeshed). Enmeshed families can either be mid-range or extreme, depending on the scores on the adaptability dimension. For example, the two types of mid-range families are structurally enmeshed and flexibly enmeshed because of the middle values on the adaptability dimension. Rigidly enmeshed and chaotically enmeshed are examples of the extreme type because of the extreme value for adaptability.

During 1980's, as research continued to show that family cohesion and adaptability are related to family functioning in a positive linear fashion, some researchers criticized the occurrence and conceptualization of the extreme types in non-clinical families (Anderson & Gavazzi, 1990; Cluff, Hicks, & Madsen, 1994). Olson (1993) responded to these criticisms by stating that extreme types of family are not necessarily problematic. As long as all the family members accept this type of system, extreme types can work just as well as balanced type of families. Furthermore, Olson revised his theory and claimed that linear relationships between cohesion/adaptability and family functioning are present in non-clinical families, but not in clinical families (Cluff et al., 1994).

The naming of the types in the instrument (FACES II) developed to assess cohesion, adaptability, and family types characterized by OCM was also altered (in Italics). Along the cohesion dimension, families can now range from disengaged (low) to enmeshed/*very connected* (high). Along the adaptability dimension, families can range from rigid (low) to chaotic/*very flexible*. OCM and FACES were developed using North American samples (Olson, 1993) and have been applied to non-Caucasian families including Chinese families (Philips, West, Shen, & Zheng, 1998; Tang & Chung, 1997; Wang, Zhang, Li, & Zhao, 1998; Zhang et al., 1995), migrants from the former Soviet Union to Israel (Ben-David & Gilbar, 1997; Gilbar, 1997), Ethiopian migrants (Ben-David & Erez-Darvish, 1997), and Black adolescents (Watson & Protinsky, 1988). For Chinese families, Philips et al. (1998) noted that family cohesion is a "valid construct for assessing Chinese families" (p. 103) because Confucian teachings value family togetherness.

Miranda and Matheny (2000) found that enmeshment is associated with higher levels of acculturative stress in Latino immigrants in the United States. These researchers claimed that a

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high degree of cohesiveness holds back the process of acculturation and thus contributes to an increase in acculturative stress. Contrary to this view, several studies (Ben-David, 1995; Ben-David & Erez-Darvish, 1997; Lam, Chan, & Leff, 1995; Watson and Protinsky, 1988) found that minority families become more enmeshed to overcome hardships when facing stressful experiences. Thus, not only can enmeshment work well for families with agreement from all members, enmeshment can also serve as a buffer for new immigrants to maintain healthy interactions among family members. In order to extend research on cohesion and acculturative stress, the present study assessed whether the relationship between enmeshment and acculturative stress was influenced by families' length of residence in Canada.

Direct Effect and Moderating Effect of Length of Residence

Over time, the level of acculturative stress experienced by immigrants changes. Gil and Vega (1996) reported a curvilinear relationship between length of residence and acculturative stress in their study of Cuban and Nicaraguan families in the United States. Specifically, their results showed that higher stress is experienced during the first 2 years of residence in the United States followed by lower stress from the third to the tenth year. Then, stress rises again to a higher level after 11 years of residence. Zheng and Berry (1991) reported an inverted curvilinear relationship between length of residence and acculturative stress with Chinese sojourners in Canada. The seemingly contradictory shape of curves can perhaps be explained by examining the temporal periods chosen in these studies. Zheng and Berry (1991) measured acculturative stress in three periods: pre-departure to 3-4 months, 5 to 12 months, and 1 year to 5 years after-arrival; the highest level of stress is present at around 5-12 months after-arrival. When the time periods are adjusted, both studies found a high stress level during the first year followed by a

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decrease in stress level in subsequent years. However, Zheng and Berry (1991) only examined the length of residence for up to 5 years, therefore the stress level in later years is not addressed.

In their research, Gil and Vega (1996) attributed high acculturative stress during the initial years of immigration to a limited social network and support and a lack of information on how to get help. However, they did not explain the increase in stress observed after 11 years of residence. Balcazar et al. (1997) speculated that over time, as immigrants begin to increase their interactions with the host society (such as job search), immigrants may experience barriers in job advancement or encounter discrimination, thus their acculturative stress increases.

I postulate that length of residence acts as a moderator and can change the direction of the relationship between enmeshment and acculturative stress. Unfortunately, previous research is not available to support this proposition of the moderating effect of length of residence. The rationale behind this proposition is that when acculturative stress is high during the first two years, enmeshment may serve as a buffer to acculturative stress for immigrant families. Some studies (Ben-David, 1995; Ben-David & Erez-Darvish, 1997; Lam, Chan, & Leff, 1995; Watson and Protinsky, 1988) would support the proposition that enmeshment serves as a buffer. As acculturative stress becomes lower after the second year, enmeshment is no longer needed as a buffer to alleviate acculturative stress. Thus, the same level of enmeshment during the first two years is considered as excessive starting from the third year. The same level of enmeshment will then bring about negative consequences (i.e., higher stress) to immigrant families. This reasoning leads to Miranda and Matheny's claim (2000) that a high degree of cohesiveness holds back the process of acculturation and thus contributes to increased acculturative stress.

Model and Hypotheses

Based on the aforementioned literature, a model with 3 hypotheses was developed for the present study (see Figure 1). The 3 hypotheses are:

H1. Enmeshment has a direct effect on acculturative stress. The relationship is linear but the direction is not hypothesized because some research denoted a positive relationship while others reported a negative relationship.

H2. Length of residence has a direct effect on acculturative stress and the relationship is curvilinear. Shorter length of residence is associated with higher stress followed by lower stress during intermediate years and higher stress during later years again.

H3. Length of residence has a moderating effect on the relationship between enmeshment and acculturative stress. Specifically, enmeshment helps to buffer high stress experienced by immigrants during the initial years. As stress decreases in subsequent years, enmeshment increases the acculturative stress and loses its buffering role in the long run.

Apart from the hypothesized relationships, control variables included fluency in English, socioeconomic status, present acculturation, and perceived social support.

<div align="center">Method</div>

<u>Sample</u>

The present study was part of a joint research project – "Parenting Techniques in Chinese Immigrant Families" -- of three graduate students. The target population was Chinese immigrants in Vancouver, British Columbia. Two criteria were used to recruit participants for this research project. First, the immigrant should have come to Canada from Mainland China, Taiwan or Hong Kong since 1985. This criterion was set because this study examines the length of residence in Canada from 0 to 15 years and its effect on acculturative stress. Second, the

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participant should have an adolescent whose age is between 13 and 18. This criterion was set because the present study was part of a research project in which the other two graduate students were interested in parent-child relationships in Chinese immigrant families.

Procedures

The study participants volunteered to join the study and a snowball sampling strategy was used. Throughout the recruiting process, referrals from the participants were considered to obtain more participants. Chinese Community Advisory Committee of OPTIONS (a community organization) and Chinese Language Association of British Columbia (CLABC) offered help to obtain participants. Initially, flyers were posted in Chinese schools and were given out to students and their parents in Lower Mainland. In addition, advertisements were placed on the daily community bulletin on Chinese TV stations, Chinese radio stations, and in Chinese newspapers.

In the flyers and advertisements, the potential participants were asked to phone the research telephone number. The participants could choose to have a research assistant visit their home or to have the survey mailed to them. The research assistant made appointments or obtained relevant information from the participants. If the research assistant was not available, the participants were asked to leave their names and phone numbers on an answering machine with English, Cantonese, and Mandarin greetings. The research assistants then called the potential participants back to check on eligibility for participation (e.g. date of immigration) and to set up a meeting time or to get addresses so that surveys could be mailed to the families' houses.

For the participants who chose the home-visit option, a research assistant visited the participants' houses and stayed while they filled out the survey. Researchers were present to

clarify any questions about the survey and to make sure that the participants completed the survey alone. Moreover, the respondents were asked if their spouses would be interested in participating in the study. If their spouses were interested, survey booklets and pre-paid envelopes were left with the respondents. Spouses then completed the survey and sent it back to the researchers. The meetings and discussions related to the study were conducted in English, Cantonese, or Mandarin, depending on the linguistic preference of the participants. If the participants chose the mailing option, surveys with direction sheets and pre-paid envelopes were sent to the participants' houses. At any point in the process, the participants could call the research telephone number if they had any questions. Estimated time of completing the survey was about 1 hour.

Ethics approval was obtained from the University of British Columbia's Ethics Board. The participants received a cover letter explaining the purpose of the study and were assured of the confidentiality of the data. Furthermore, the participants were informed that their participation was voluntary and they could withdraw their participation at any time without any consequences. By filling out the questionnaires and returning them to the researchers, the adult participants gave active consent.

Measures

The English version and the Chinese version of the survey booklet contained 14 and 15 double-sided pages respectively. The Societal, Attitudinal, Familial, and Environmental (SAFE) Acculturation Stress Scale (Mena, Padilla, and Maldonado, 1987), FACES II (Olson, 1993), the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA) (Suinn, Rickard-Figueroa, Lew, & Vigil, 1987), Hollingshead's Two Factor Index of Social Status (1958), the Multidimensional

Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), and some demographic questions were employed.

The questionnaire was translated into Chinese by one of the bilingual assistant researchers and back translated into English by another bilingual assistant researcher. To ensure both languages (Chinese and English) were conceptually consistent with one another, a third assistant researcher compared the original items with the back-translated items. The final versions of the three packages (traditional Chinese, simplified Chinese, and English) were given to the advisory committee members of OPTIONS for further suggestions, such as appropriateness of wording. In addition, a pilot test was conducted with 5 parent volunteers to check the wording and face validity of the measures. The volunteers recorded their suggestions on the booklets. Their comments were addressed and corresponding changes were made. The respondents had the choice of selecting traditional Chinese, simplified Chinese, or English questionnaires.

Demographic, gender, and fluency in English. Demographic information on age, gender, current marital status, country of origin, and length of residence was obtained from each participant (refer to Appendix A). Special attention was given to the month and year because Mainland Chinese and Taiwanese immigrants may use different calendars (the ones that correspond to the establishment of the Nationalist government in Taiwan and the Republic of China in Mainland China respectively). Therefore, instructions for using the western calendar (e.g. 19XX) were given to respondents in the surveys and when they filled out the questionnaires in order to ensure that the answers were standardized. Moreover, two multiple-choice questions that tapped into the fluency to communicate in English prior to and after immigration were included. "Can you communicate to people in other groups in English fluently?" was inquired.

If the respondents answered "yes" to this question, they were asked, "did you acquire the language prior to immigration or after immigration?" The response set included "prior to immigration" and "after immigration".

Acculturative stress.    The Societal, Attitudinal, Familial, and Environmental (SAFE) Acculturation Stress Scale derived by Mena et al. (1987) was used to measure the dependent variable, acculturative stress (refer to Appendix B). The SAFE Acculturation Stress Scale measures the acculturative stress of the immigrants in four broad contexts in the new country: quality of immigrants' social life, attitude of immigrants toward homeland, family relations of immigrants, and quality of environment (Fuertes & Westbrook, 1996; Mena et al., 1987). Four statements tap into the social dimension. Example items are "I have trouble understanding others when they speak," and "I don't have any close friends." Another four items reflect the attitudinal dimension. Examples are "loosening ties with my country is difficult," and "I often think about my cultural background." Three items tap into the familial dimension, such as "it bothers me that family members I am close to do not understand of my new values," and "close family members and I have conflicting expectations about my future." For the environmental dimension, some of the examples out of the ten items are "because I am different, I do not get enough credit for what I do," and "I often feel that people actively try to stop me from advancing." The original scale has 24 items; three items were dropped in this study because their loadings were lower than .40 and did not belong to the 4 factors of the scale in Fuertes and Westbrook's study (1996).

The tool was also adjusted by adding the "relevant experience" box beside each item and the participants were asked to check the box and circle the answer if they had a similar experience. This change was made because participants may not necessarily have experienced

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all the situations described by the statements. For instance, housewives and retired individuals may not encounter stress in workplace. The response set is a 5-point likert-type scale that ranges from 1 = not very stressful to 5 = extremely stressful. Mena et al. (1987) reported a Cronbach alpha of .89 with 17 items in the scale. With 21 items, Fuertes and Westbrook (1996) reported a Cronbach alpha of .89. In the present study, the Cronbach alphas were .90 for the female sample and .95 for the male sample.

Enmeshment. The independent variable, enmeshment, was measured by the cohesion scale in FACES II (Olson,1993). FACES II measures family functioning with respect to two constructs – family cohesion and adaptability. Family cohesion is "the emotional bonding that family members have toward one another" (Olson, 1993, p. 105) while family adaptability denotes "the amount of change in its leadership, role relationships, and relationship rules" (Olson, 1993, p. 107). Items were separately summed for the cohesion and the adaptability dimensions in the present study. For cohesion, the scores can range from 15 to 80 and can be used to classify the families into 4 sub-types: a score of 15-50 is classified as disengaged, 51-59 as separated, 60-70 as connected, and 71-80 as enmeshed/very connected. For adaptability, the score can range from 15 to 70 and can be used to classify the families into 4 sub-types: rigid (15-39), structured (40-45), flexible (46-54), and chaotic/very flexible (55-70).

To calculate the family type, Olson assigned new values to each of the sub-types of cohesion and adaptability. The four sub-types of cohesion, with scores reported in brackets, are: disengaged (1-2), separated (3-4), connected (5-6), and enmeshed/very connected (7-8). The four sub-types of adaptability, with scores reported in brackets, are: rigid (1-2), structured (3-4), flexible (5-6), and chaotic/very flexible (7-8). The sub-types of cohesion and adaptability were summed and divided by 2 to yield a family type. As a result, families can be classified ordinally

as: extreme (1-2), mid-range (3-4), moderately balanced (5-6), and balanced (7-8). FACES II is a 30-item scale with a 5-point likert-type response set (refer to Appendix C). A response of 1 equals "never," 3 equals "sometimes," and 5 equals "always". For the cohesion dimension, some examples of the items are "family members are supportive of each other during difficult times," "it is easier to discuss problems with people outside the family than with other family members," and "our family gathers together in the same room." For the adaptability dimension, some examples of the items are "each family member has input regarding major family decision," "children has a say in their discipline," and "it is difficult to get a rule change in our family." FACES II was chosen because its alpha reliability and concurrent validity are higher than FACES III (see Olson, 1995). Moreover, the Cronbach alpha for cohesion, adaptability, and total scale were .87, .78, and .90 respectively (Olson, 1995). For the female sample in the present study, the Cronbach alphas were .84, .75, and .88 for cohesion, adaptability, and total scale correspondingly. For the male sample in this study, the Cronbach alphas were .81, .69, and .86 for cohesion, adaptability, and total scale respectively.

Present acculturation.    Present acculturation was measured by the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA) (Suinn et al., 1987). This scale reflects the multidimensionality of acculturation in the following areas: language, identity, friendship choice, behaviours, generation/geographic history, and attitude (refer to Appendix D). Some examples of the items are "what language can you speak," "whom do you associate with in the community," "what is your music preference," "where were you raised," and "how would you rate yourself?" The multiple choices in the response set range from low level of acculturation (1) to high level of acculturation (5). With respect to scoring, an averaged score was obtained by summing the scores for all items and dividing the total score by the total number of items. The

original scale includes 22 multiple-choice questions. For the present study, only 15 items were incorporated from the original scale because the dropped items are not relevant to this study. Specifically, the items about the participants' generation and their parents' ethnic identities were dropped because the recruiting strategy only included first generation Chinese immigrants. Moreover, SL-ASIA is initially designed for Asian groups in the United States, thus some items were reworded so that they were more appropriate to the Chinese sample in this study. When referring to written and spoken language, the word "Asian" was changed to "Chinese". In addition, "Asian-Americans" was modified to "Asian-Canadians". SL-ASIA has a unidimensional approach to acculturation and offers parsimonious explanation for acculturation. Alternatively, Vancouver Index of Acculturation (VIA) has a bidimensional approach and may offer broader explanation for acculturation (Ryder et al., 2000). VIA was developed recently and was used in 3 studies by Ryder and his colleagues. Although VIA provides more complex explanations, the psychometric properties of the Heritage subscale still needs improvement. On the other hand, SL-ASIA is specifically designed for Asians and is widely tested. As shown by research, SL-ASIA is a reliable and valid measure with the Asian population (Ownbey & Horridge, 1998; Ponterotto, Baluch, & Carielli, 1998; Suinn et al., 1987). Across several studies, the Cronbach alpha ranges from .68 to .91 (Kodama & Canetto, 1995; Ownbey & Horridge, 1998; Ponterotto et al., 1998; Suinn et al., 1987; Suinn, Ahuna, & Khoo, 1992; Suinn, Khoo, & Ahuna, 1995). Research also shows that SL-ASIA has moderate criterion-related validity, concurrent validity and factorial validity (Ponterotto et al., 1998; Suinn et al., 1992). In the present study, the Cronbach alphas were .62 for women and .63 for men.

Socioeconomic status. Socioeconomic status (SES) was assessed by Hollingshead's Two Factor Index of Social Status (1958). Hollingshead's Two Factor Index of Social Status

measures socioeconomic status with regard to two dimensions – occupation and education. Since Hollingshead's Two Factor Index of Social Status is an index, internal reliability as measured by Cronbach alpha is not relevant. This index has been used extensively over the years across cultures (see Dillard, & Perrin, 1980; Shiloh, Waisbren, Cohen, St. James et al., 1993; Terrell, Terrell, & Miller, 1993). In the survey, information about SES prior to and after immigration was gathered. Questions about education are "before you immigrated to Canada, what was your highest level of education?" and "after you have immigrated to Canada, what was your highest level of education?" Questions about occupation are "before you immigrated to Canada, what was your occupation?" and "in Canada, what is your current occupation?" (See items 8a, 9a, 10a, and 11a in Appendix A). The participants were instructed to write down their answers in the space provided. The assistant researchers classified the answers according to Hollingshead's scheme and scoring. Hollingshead ranked education as follows: professional (1), college or university graduate (2), some college or university (3), high school graduate (4), 10 to 11 years of high school (5), 7 to 9 years of high school (6), and under 7 years of school (7). For occupation, the categories were ranked as follows: higher executives/major professionals (1), business mangers/lesser professionals (2), administrative personnel/minor professionals (3), clerical/technicians/small business owners (4), skilled manual employees (5), semiskilled employees (6), and unskilled/unemployed (7). Subsequent calculations (discussed in the measures section) were made to obtain a SES class.

Social support.    The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988) measures perceived social support from 3 sources: family, friend, and significant other (see Appendix E). Some examples of the items are "my family really tries to help me," "I can count on my friends when things go wrong," and "there is a special person who

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is around when I am in need." Social support may come in various types, such as information, affect, network, and actual aid (J. Lynam, personal communication, June 28, 2001). Most of the items in this scale measure the affect component of social support, but not the network or actual aid received by the recipients (J. Lynam, personal communication, June 28, 2001). MSPSS is a 7-point likert-type scale with 1 equals "very strongly disagree" to 7 equals "very strongly agree". To match the response set of other scales in this study, minor modification was made to the scale. The 7-point likert type scale was changed to a 5-point likert-type scale, ranging from strongly disagree (1), neutral (3), to strongly agree (5). The scores were summed and divided by the number of items to obtain averaged scores. This 12-item scale is reliable, with an overall alpha of .88 and .91, .87, and .85 for the significant other, family, and friend subscales respectively (Zimet et al., 1988). Moreover, research shows that this scale has construct validity (Zimet et al., 1988). In the present study, the Cronbach alpha of the total scale for women and men were .89 and .87 correspondingly.

## Results

<u>Sample Description</u>

The sample was recruited through Chinese language schools in the Lower Mainland of Vancouver, British Columbia with the aid from Chinese Language Association of British Columbia (CLABC). Despite the huge effort and time spent in the recruitment of participants, the response rate was not high. The total number of participants was 61 women and 22 men who immigrated to Canada from 1983 to 1999. Of these 22 men, twenty men were husbands of the women who participated in the study. The other two men participated without their spouses.

The sample size for women was small ($\underline{N} = 61$), therefore one should be cautious in interpreting the results. For the female sample, 33 women came from Taiwan (54.1%), 23

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women came from Hong Kong (37.7%), and 4 women came from China (6.6%). The mean age of the women was 44 ($\underline{SD}$ = 3.47) and the mean number of year of residence in Canada was 5.16 years ($\underline{SD}$ = 3.14). Thirty-two women (52.5%) were married and living with their partners and 27 of them (44.3%) came from astronaut families in which the husbands traveled between the country of origin and Canada. The female respondents had achieved relatively high level of education. Before immigration, 5 women (8.2%) had professional training, 32 women (52.5%) had received education from college or university and 19 of them (31.1%) graduated from high school. With respect to employment, 14.8% of the women were higher executives/major professionals, 16.4% were business managers/lesser professionals, 24.6% were administrative personnel/minor professionals, 27.9% were clerks/technicians/small business owners, 1.6% were skilled manual employees, 3.3% were semiskilled employees, and 9.8% were unskilled/unemployed before immigration. After immigration, the employment status changed dramatically for women. Only 17.5% of the women held jobs in the professional and business manager fields and 11.5% of them were clerks, technicians, or small business owners. A majority of the women (63.9%) could be characterized as unemployed/unskilled. During data collection, an observed explanation for this trend was that most women were housewives after they had immigrated to Canada.

Since the male sample was small ($\underline{N}$=22), caution is needed when interpreting the results. For the male sample, 10 men came from Taiwan (45.5%), 7 men came from Hong Kong (31.8%), and 5 men came from China (22.7%). The mean age of the men was 47 ($\underline{SD}$ = 4.35) and the mean number of year of residence in Canada was 6 years ($\underline{SD}$ = 4.22). The majority of men (81.8%) were married and living with their partners and only 2 (9.1%) came from astronaut families. All men in the sample were at least high school graduates. Three men (13.6%) had

professional training, 15 men (68.2%) had received education from college or university and the remaining 4 men (31.1%) graduated from high school. With regard to employment status, six men (27.3%) were higher executives/major professionals, 8 men (36.4%) were business managers/lesser professionals, 2 men (9.1%) were administrative personnel/minor professionals, 4 men (18.2%) were clerks/technicians/small business owners, and 2 men (9.1%) were skilled manual employees before immigration. However, the employment status again changed dramatically after immigration. Two men (9.1%) were higher executives/major professionals, 4 men (18.2%) were business managers/lesser professionals, 3 men (13.6%) were administrative personnel/minor professionals, 5 men (22.7%) were clerks/technicians/small business owners, 4 men (18.2%) were skilled manual employees, and 4 men (18.2%) were unemployed after immigration.

To address the yoked nature of the sample, one-way analysis of variance (ANOVA) or t-tests were performed to examine possible difference(s) for the following groups: (1) the wives whose husbands participated in this study and the wives whose husbands did not participate, (2) the wives and husbands who both participated in this study, (3) the Chinese groups from Hong Kong, Mainland China, and Taiwan, (4) the astronauts families versus the "married, living with spouse" families, and (5) the families that chose home visits versus the families that chose mailing option.

By comparing the demographic data on age, length of residence, and fluency in English using t-tests, the women with spousal participation were not significantly different from the women whose spouses did not participate in this study.

For the 20 pairs of wives and husbands who both participated in this study, the only demographic difference between the couple was their age. The wives were 2.75 years younger

than the husbands, $t(20) = 2.42$, $p < .05$. The explanation for this difference is that men usually marry younger women.

With respect to the immigrants that came from the three geographical areas, a one-way ANOVA showed that the 3 groups of women were not significantly different from one another except for their length of residence. A subsequent Dunnett-C test revealed that women from China came for the longest period of time, followed by Hong Kong women and then Taiwanese women. As length of residence is a proxy measure for acculturation, I further examined if the difference existed in their acculturation level. The one-way ANOVA showed that there was no significant difference in the acculturation level for the women in these three groups, $F(2, 57) = 2.30$, $p > .10$. In addition, the men from these three geographical areas were not significantly different from one another in terms of their demographic data.

For astronaut families and "married, living with spouse" families, the men in these two groups were not significantly different in terms of their demographic data. For the two groups of women, they were not significantly different in terms of their age and fluency in English. However, women in the astronaut families arrived approximately 2 years later than the women in the "married, living with spouses" families. The astronaut families have arrived for about 4 years while the "living with spouses" families have arrived for about 6 years. Again, their levels of acculturation were compared and no significant difference was present, $t(59) = -1.09$, $p > .20$.

Thirty-two women chose the mailing option and 29 women had home visits. With an alpha level of .05, women who chose the mailing option were not significantly different from the women who had home visits with respect to their age, spousal participation, marital status, length of residence, and fluency in English. Equal number of men ($n = 11$) chose the mailing or home

visit options. By examining the same demographics for men, the two groups were not significantly different from one another.

Description of Measures

The English version and the Chinese version of the survey booklet contained 14 and 15 double-sided pages respectively. The Societal, Attitudinal, Familial, and Environmental (SAFE) Acculturation Stress Scale (Mena et al., 1987) measured the dependent variable, acculturative stress. Enmeshment, the independent variable, was measured by the cohesion scale in FACES II (Olson, 1993). The Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA) (Suinn et al., 1987), Hollingshead's Two Factor Index of Social Status (1958), the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988), and some demographic questions were employed to measure the control variables. Refer to Table 1 for means and standard deviations for all variables.

Demographics and Fluency in English. Demographic information on age, gender, current marital status, country of origin, occupation, and education is reported in the sample section. Regarding fluency in English, fifty-six women (91.8%) are fluent in English and five women (8.2%) are not. Of these 56 women, 70.5% mastered the language prior to immigration to Canada. Twenty men (90.9%) are fluent in English and 15 of them acquired the language prior to immigration to Canada. Since most of the participants have received education from college or university, the finding that most of them are fluent in English was not surprising.

Dependent Variable: SAFE. The Societal, Attitudinal, Familial, and Environmental (SAFE) Acculturation Stress Scale derived by Mena et al. (1987) was used to measure the dependent variable, acculturative stress. The SAFE Acculturation Stress Scale measures the acculturative stress that the immigrants experience in four broad contexts in the new country:

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quality of immigrants' social life, attitude of immigrants toward homeland, family relations of immigrants, and quality of environment (Fuertes & Westbrook, 1996; Mena et al., 1987). This instrument has 21 items and the response set includes a "relevant experience" box beside each item and a 5-point likert-type scale that ranges from 1 = not very stressful to 5 = extremely stressful. The participants were asked to check the box and circle the answer if they had similar experience. A value of zero was assigned to responses that were not relevant to the respondents and a value of 1 was assigned to responses that were relevant but not stressful to the respondents. The scoring of the remaining responses was shifted. A value of 2 was given to 1 = not very stressful, a value of 4 was given to 3 = somewhat stressful, and a value of 6 was given to 5 = extremely stressful. The items in the scale were summed and the score could range from 0 to 126 with 21 items. Lower scores denoted lower acculturative stress while higher scores denoted higher acculturative stress experienced by the immigrants.

In the present study, the mean score for women was 38.87 with a standard deviation of 22.16. The median and the mode were 37.00 and 51.00 respectively. The range of scores was 91.00. The distribution of this variable was approximately normal with a skewness of .279, a standard error of skewness of .306, a kurtosis of -.822, and a standard error of kurtosis of .604.

For men, the mean score was 44.91 with a standard deviation of 26.97. The median was 42.00 and multiple modes existed. The range was 86.00 and the variable appeared to be normally distributed. The skewness was .116 with a standard error of skewness of .491. The kurtosis was −1.347 with a standard error of .953. The scores for both women and men in the sample were not high. In other words, both men and women were experiencing a relatively low level of acculturation stress. In the present study, the Cronbach alphas were .90 for the female sample and .95 for the male sample. With such high alphas for both samples, dimensionality

was not examined because a high alpha usually denotes that the scale has a single dimension. Moreover, the small sample size did not allow a very informative factor analysis. For the couples who both participated in this study, their reported scores for SAFE were not significantly different, $t(20) = -1.33$, $p > .05$.

Independent Variable: FACES II.   Enmeshment was measured by the cohesion subscale in FACES II (Olson,1993). FACES II measures family functioning with respect to two constructs -- cohesion and adaptability. Items were separately summed for the cohesion and the adaptability scales in the present study. Family cohesion is "the emotional bonding that family members have toward one another" (Olson, 1993, p. 105). The scores can range from 15 to 80 and can be used to classify the families into 4 sub-types. A score of 15-50 is classified as disengaged, 51-59 as separated, 60-70 as connected, and 71-80 as enmeshed/very connected. For the women sample in this study, the mean score was 61.72 with a standard deviation of 8.21. The mean in Olson's North American sample was 64.9 and the standard deviation was 8.4 (Olson, 1993). Thus, the cohesion level of the female sample was similar to the level of the North American sample. The median was 62.00 and the mode was 58.00. The skewness was -.692 with a standard error of .309. The kurtosis was .629 and the standard error of kurtosis was .608. Therefore, family cohesion appeared to be normally distributed.

Regarding the family sub-types according to the women's responses, 9.8% of the families fell into the disengaged type, 24.6% were separated, 52.4% were connected, and 11.5% were enmeshed/very connected. For North American families with adolescents, sixty percent of the families could be characterized as separated (disengaged plus separated) and 40% could be characterized as connected (connected plus enmeshed). The results from this sample showed a

reverse pattern, in which approximately 60% of the families could be classified as connected while 40% of the families could be classified as separated.

For the male sample in this study, the mean score was 67.68 and the standard deviation was 6.05. Compared to the mean of the North American sample discussed previously, the two means of cohesion were similar. The median and the mode were 67.00 and 62.00 respectively. Again, family cohesion was normally distributed with a skewness of .508, standard error of skewness being .491 and a kurtosis of -.755, standard error of kurtosis being .953. The family sub-types according to the men's responses were as follows: 9.1% were separated, 68.2% were connected, and 22.7% were enmeshed. Again, a higher proportion of connected families was found in the male sample than in the North American sample. For the couples who both participated in this study, their reported scores for cohesion were not significantly different, $t(20)$ = -.30, $p > .05$.

Adaptability denotes "the amount of change in its leadership, role relationships, and relationship rules" (Olson, 1993, p. 107). The score can range from 15 to 70 and can be used to classify the families into 4 sub-types: rigid (15-39), structured (40-45), flexible (46-54), and chaotic/very flexible (55-70). For the female sample in this study, the mean score was 50.95 with a standard deviation of 6.34. The mean in Olson's North American sample was 49.9 and the standard deviation was 6.6 (Olson, 1993). Thus, the adaptability level of the female sample was similar to the level of the North American sample. The median was 52.00 and the mode was 51.00. The skewness was -.690 with a standard error of .309. The kurtosis was .596 and the standard error of kurtosis was .608. Therefore, family adaptability appeared to be normally distributed.

Regarding the family sub-types according to the women's responses, 3.3% of the families fell into the rigid classification, 18% were structured, 47.6% were flexible, and 29.5% were chaotic/very flexible. For North American families with adolescents, forty-five percent of the families could be characterized as structured (rigid plus structured) and 55% could be characterized as flexible (flexible plus chaotic). In the present study, approximately 77% of the families could be classified as flexible while 23% of the families could be classified as structured. Although the mean scores of adaptability were similar for both the Chinese immigrant sample in this study and the North American sample, a higher proportion of Chinese immigrants in this sample could be classified as flexible than in the North American sample.

For the male sample in this study, the mean score was 50.86 and the standard deviation was 5.36. Compared to the mean of the North American sample discussed previously, the two means of adaptability were similar. The median and the mode were 49.50 and 49.00 respectively. Again, family adaptability was normally distributed with a skewness of .343, standard error of skewness being .491 and a kurtosis of .994, standard error of kurtosis being .953. The family sub-types according to the men's responses were as follows: 4.5% were rigid, 9.1% were structured, 63.7% were flexible, and 22.7% were chaotic/very flexible. Again, a higher proportion of flexible families was found in the male sample than in the North American sample. For the couples who both participated in this study, their reported scores for adaptability were not significantly different, $\underline{t}(20) = .57$, $\underline{p} > .05$.

Family types are derived by incorporating the four sub-types of cohesion and adaptability. The four sub-types of cohesion are: disengaged (1-2), separated (3-4), connected (5-6), and enmeshed/very connected (7-8). For adaptability, the four sub-types are: rigid (1-2), structured (3-4), flexible (5-6), and chaotic/very flexible (7-8). The sub-types (scores in the

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brackets) of cohesion and adaptability were summed and divided by 2 to yield a family type. Families can be classified ordinally as: extreme (1-2), mid-range (3-4), moderately balanced (5-6), and balanced (7-8).

According to women's perception, 3.3% of their families could be classified as extreme, 26.2% as mid-range, 57.4% as moderately balanced, and 11.5% as balanced. According to men's perception, two families (9.1%) can be classified as mid-range, 16 families (72.7%) were moderately balanced, and 4 families (18.2%) were balanced. For the wives and husbands who both participated in this study, their family types were not significantly different, $t(20) = 0.00$, $p > .05$. In fact, the mean difference was zero.

For the female sample in the present study, the Cronbach alphas were .84, .75, and .88 for cohesion, adaptability, and total scale respectively. For the male sample in this study, the Cronbach alphas were .81, .69, and .86 for cohesion, adaptability, and total scale respectively. Again, dimensionality was not investigated because of the high alphas reported in both samples.

Length of Residence.    Length of residence, the moderator, was assessed by the year of arrival. For women, the mean number of year of residence in Canada was 5.16 years ($SD = 3.14$) and the range was 13 years. The median was 4 years and the mode was 3 years. For men, the mean number of year of residence in Canada was also 5.77 years ($SD = 4.22$) and the range was 16 years. Both the median and the mode were 4 years.

SL-ASIA.    Present acculturation, a control variable, was measured by the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA) (Suinn et al., 1987). This scale reflects acculturation in the following areas: language, identity, friendship choice, behaviours, generation/geographic history, and attitude (refer to Appendix D). With respect to scoring, an averaged score was obtained by summing the scores for all items and dividing the total score by

the total number of items. The scale has 15 items and classification of the averaged score ranges from Chinese (1), mostly Chinese (2), bicultural (3), mostly Canadian (4), to Canadian (5).

For the female sample, the mean score was 2.29 with a standard deviation of .30. The median was 2.36 and the mode was 2.43. These scores reflected that the women could be classified as "mostly Chinese".

For men, the mean score was 2.37 with a standard deviation of .26. The median and the mode were 2.36 and 2.14 respectively. Similar to the women sample, the male participants could be classified as "mostly Chinese".

The distributions for the two samples were approximately normal. For women, the skewness was -.974 and the standard error of skewness was .306 while the kurtosis was .910 with a standard error of .604. For men, the skewness was .151 and the standard error of skewness was .491. The kurtosis was -.816 with a standard error being .953. In the present study, the Cronbach alphas were .62 for women and .63 for men. Although these relatively low alphas suggest that this scale may be multidimensional, factor analysis was not performed because of the small sample size.

Two Factor Index of Social Status.   Socioeconomic status (SES) was assessed by Hollingshead's Two Factor Index of Social Status (1958). Hollingshead's Two Factor Index of Social Status measures socioeconomic status with regard to occupation and education. Since Hollingshead's Two Factor Index of Social Status is an index, internal reliability as measured by Cronbach alpha is not relevant. Hollingshead ranked education as follows: professional (1), college or university graduate (2), some college or university (3), high school graduate (4), 10 to 11 years of high school (5), 7 to 9 years of high school (6), and under 7 years of school (7). For occupation, the categories were ranked as follows: higher executives/major professionals (1),

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business mangers/lesser professionals (2), administrative personnel/minor professionals (3), clerical/technicians/small business owners (4), skilled manual employees (5), semiskilled employees (6), and unskilled/unemployed (7). Socioeconomic status (SES) was calculated by adding weights to the education and occupation categories. Specifically, the index score for occupation was multiplied by 7 and the education score was multiplied by 4. The two scores were then summed to yield the Index of Social Position (ISP) Score. ISP scores was divided into SES classes (in brackets): scores 11 – 17 (1), 18 – 31 (2), 32 – 47 (3), 48 – 63 (4), and 64 – 77 (5). Class 1 denotes the highest status class whereas class 5 denotes the lowest status class. For the female sample, the mean SES class was 3 ($\underline{SD}$ = .76) after immigration. For the male sample, the mean SES class was 2.86 ($\underline{SD}$ = 1.06) after immigration.

MSPSS. The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988) measures social support from 3 sources: family, friend, and significant other (see Appendix E). The scores were summed and divided by the number of items to obtain averaged scores. Lower scores denote lower level of social support while higher scores denote higher level of social support. For the female sample, the mean score was 3.87 with a standard deviation of .86. The median was 4 and the mode was 4.42. For the male sample, the mean score was 3.88 and the standard deviation was .62. Both the median and the mode equaled to 3.75. These scores reflected that both groups received moderately high level of social support. The skewness and the standard error of skewness in the female sample were –1.30 and .31. Thus the distribution is skewed toward higher scores. The kurtosis and the standard error of kurtosis for in the female sample were 3.12 and .61. The distribution in the female sample again is not normally distributed. The male sample was normally distributed: the skewness was .126 with a standard error of .491 while the kurtosis was -.39 with a standard error of .95. In the present

study, the Cronbach alphas of the total scale for women and men were .89 and .87 respectively. Dimensionality of the scale was not further examined because a high value of Cronbach alpha is usually a sign of single dimensionality.

Hypothesis One

Hypothesis 1 stated that enmeshment, as measured by family cohesion, has a direct linear effect on acculturative stress. The direction was not hypothesized as some researchers claimed that enmeshment increases acculturative stress while others reported that enmeshment is related to a lower level of acculturative stress. The following tests were separately conducted for the male and female samples. As a preliminary step to visually explore the relationship between family cohesion and acculturative stress, a scatterplot was produced. A bivariate correlation coefficient was also produced to examine the relationship.

The results from these two tests showed that there was a negative relationship between family cohesion and acculturative stress. The Pearson correlation coefficient was -.231, $p$ = .076 (2-tailed), $N$ = 60 (refer to Table 2). Since the direction was not hypothesized, a two-tailed significant level was chosen and the relationship was not significant. However, if we examine this relationship with a hypothesized direction just as previous research did, the relationship between cohesion and acculturative stress was significant. The Pearson correlation coefficient was -.231, $p$ = .038 (1-tailed), $N$ = 60. In other words, the higher the family cohesion, the lower the acculturative stress. Since the relationship is statistically significant with a one-tailed significance level, a simple bivariate regression was done to explore the main effect of family cohesion on acculturative stress. Family cohesion was entered into the regression equation with acculturative stress being the dependent variable. With an alpha level of .05, the main effect of family cohesion on acculturative stress was not significant. Therefore, a test of spuriousness by

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entering the controls was not performed. For the male sample, the scatterplot and the bivariate correlation coefficient showed that there was no relationship between family cohesion and acculturative stress, see Table 2. Thus, the bivariate regression was not pursued.

The relationship between adaptability and acculturative stress was also examined. The same tests were employed to explore the relationship between the two variables. For women, the Pearson correlation coefficient was -.222, $p$ = .088 (2-tailed), $N$ = 60 (refer to Table 2). Similar to family cohesion, the correlation was significant with a one-tailed significance level, $r$ = -.222, $p$ < .05. In other words, the higher the family adaptability, the lower the acculturative stress. Again, a simple bivariate regression was conducted to determine the main effect of family adaptability on acculturative stress. Family adaptability was entered into the regression equation with acculturative stress being the dependent variable. The main effect of family adaptability on acculturative stress was not significant with an alpha level of .05. A test of spuriousness by entering the controls was not performed because the main effect was not significant. For the male sample, both visual examination and bivariate correlation coefficient showed that there was no relationship between family adaptability and acculturative stress, see Table 2. Therefore, further testing was not conducted for the male sample.

Family cohesion and adaptability were used to classify the family into 4 ordinal family types. The relationship between family type and acculturative stress was investigated. The same tests were employed to examine the relationship between the two variables. Family type was significantly correlated with acculturative stress for women, but not for men (refer to Table 2). As a result, further examination was undertaken for the female sample. A simple bivariate regression was conducted to determine the main effect of family type on acculturative stress. Family type was entered into the regression equation with acculturative stress being the

dependent variable. The main effect of family type on acculturative stress was significant with an alpha level of .05, see Table 3. In other words, a higher level of family type predicted a lower level of acculturative stress. R square was .086, thus family type explained approximately 8 percent of the variability of acculturative stress. As a result, 92% of the variability of acculturative stress were unexplained. As a PRE measure, R square showed that we only improved our prediction by 8% by knowing family type than by just having acculturative stress alone. Since present acculturation was marginally correlated with acculturative stress for women, a test of spuriousness was performed. Present acculturation was entered with family type with the dependent variable being acculturative stress. Family type was still significant after present acculturation was entered but present acculturation was not significant (refer to Table 3). Therefore, spuriousness for model 1 (predicting acculturative stress by family type) was controlled.

Hypothesis Two

Hypothesis 2 stated that length of residence has a direct effect on acculturative stress and such relationship is curvilinear. I postulated that shorter length was associated with higher stress followed by lower stress during intermediate years and higher stress during later years. For both women and men, a scatterplot and a bivariate correlation coefficient were produced to examine the relationship. The results from these two tests showed that there was no relationship between length of residence and acculturative stress for both samples. For women, the Pearson correlation coefficient was .129, $p$ = .321 (2-tailed), $N$ = 61. For men, the Pearson correlation coefficient was -.136, $p$ = .546 (2-tailed), $N$ = 22 (refer to Table 2). Since the relationships were not significant, further tests were not performed.

Hypothesis Three

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Hypothesis 3 stated that length of residence also has a moderating effect on the relationship between enmeshment and acculturative stress. Since the relationship between length of residence and acculturative stress was not statistically significant for both men and women, a moderator model could not be tested.

Apart from the hypothesized relationships, a scatterplot matrix was produced to examine the relationships between the control variables (fluency in English, socioeconomic status class, present acculturation, and perceived social support) and acculturative stress for the two samples, see Table 2. For the female sample, only present acculturation was marginally correlated with acculturative stress. All the other control variables were not significantly correlated with acculturative stress. For the male sample, socioeconomic status class was significantly correlated with acculturative stress and perceived social support was marginally correlated with acculturative stress. None of the other control variables were significantly correlated with acculturative stress.

Analysis Incorporating Sub-Dimensions of Acculturative Stress

The SAFE acculturation stress scale includes items that measure acculturative stress in four contexts: social, attitudinal, familial, and environmental. Different people may experience stress from different sources. For example, the majority of housewives in the female sample may not experience stress that is related to the working environment (environmental acculturative stress). Therefore, relatively low scores were found when we just examined the total scale. Since utilizing only the scores obtained from the total scale may mask some important information, an analysis incorporating the sub-dimensions of the SAFE acculturation stress scale was performed.

As a first step, a scatterplot matrix and a correlation matrix were produced among the variables of cohesion, adaptability, family type, length of residence, acculturative stress (social),

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acculturative stress (attitudinal), acculturative stress (familial), and acculturative stress (environmental). The correlations were reported in Table 4. For women, cohesion, adaptability, and family type were negatively correlated with acculturative stress in the social context. The higher the cohesion, the lower the social acculturative stress. In addition, the higher the adaptability, the lower the social acculturative stress. A higher level of family type was correlated with a lower level of social acculturative stress. Family type was also negatively correlated with familial acculturative stress. In other words, a higher level of family type was correlated with a lower level of familial acculturative stress. Once again, length of residence was not correlated with any of the sub-dimensions of acculturative stress.

For men, adaptability was the only variable that was correlated with acculturative stress in the social context, see Table 5. Namely, the higher the adaptability, the lower the social acculturative stress.

For the female sample, four simple bivariate regressions were used to test the main effects of each significant relationship. First, social acculturative stress was regressed on cohesion. The main effect of cohesion on social acculturative stress was significant, Beta = -.35, $t(59) = -2.85$, $p < .01$. R square was .12, which means 12% of the variability of social acculturative stress can be explained by cohesion and 88% of the variance was unexplained. As a PRE measure, cohesion improved our prediction of social acculturative stress by 12% than by just knowing social acculturative stress. To test the spuriousness of this model, control variables that have significant relationships with social acculturative stress (see Table 4) were entered. In this case, fluency in English and present acculturation were entered with cohesion. With these two variables controlled, cohesion was still a significant predictor of social acculturative stress, Beta = -.31, $t(59) = -2.61$, $p = .012$. Therefore, this model was not spurious.

Second, social acculturative stress was regressed on adaptability. The main effect of adaptability on social acculturative stress was significant, Beta = -.33, $t(59)$ = -2.62, $p$ < .01. R square was .11, which means 11% of the variability of social acculturative stress can be explained by adaptability and 89% of the variance was unexplained. As a PRE measure, adaptability improved our prediction of social acculturative stress by 11% than by having social acculturative stress alone. To test the spuriousness of this model, fluency in English and present acculturation were again entered with adaptability. With these two variables controlled, adaptability was still a significant predictor of social acculturative stress, Beta = -.28, $t(59)$ = -2.31, $p$ < .05. Therefore, this model was not spurious.

Third, social acculturative stress was regressed on family type. The main effect of family type on social acculturative stress was significant, Beta = -.42, $t(59)$ = -3.48, $p$ < .01. R square was .17, which means 17% of the variability of social acculturative stress can be explained by family type. On the other hand, eighty-three percent of the variability was unexplained in this model. As a PRE measure, family type improved our prediction of social acculturative stress by 17% than by just having social acculturative stress. To test the spuriousness of this model, fluency in English and present acculturation were entered with family type. With these two variables controlled, family type was also a significant predictor of social acculturative stress, Beta = -.35, $t(59)$ = -2.98, $p$ < .01. Again, this model was not spurious.

Lastly, familial acculturative stress was regressed on family type. The main effect of family type on familial acculturative stress was significant, Beta = -.27, $t(59)$ = -2.11, $p$ < .05. R square was .07, which means only 7% of the variability of familial acculturative stress can be explained by family type and 93% of the variance was unexplained. As a PRE measure, family type improved our prediction of familial acculturative stress by 7% than by just knowing social

acculturative stress. To test the spuriousness of this model, the control variable that has a significant relationship with familial acculturative stress (see Table 4) was entered. In this case, fluency in English was entered with family type. When fluency in English was controlled, family type was not a significant predictor of social acculturative stress, Beta = -.22, $t(59)$ = -1.78, $p$ = .08. Therefore, this model was spurious.

Only the three predictors of cohesion, adaptability, and family type had significant main effects on social acculturative stress. At this point, I would examine if cohesion and adaptability taken together contribute to a better prediction of social acculturative stress. Note that family type was not incorporated as a predictor because it was calculated from the scores of cohesion and adaptability. When cohesion and adaptability were entered together as the predictor variables, the main effects of two variables were not significant. For cohesion, Beta = -.24, $t(59)$ = -.90, $p$ > .05 and for adaptability, Beta = -.16, $t(59)$ = .90, $p$ > .05. This result could be due to a high correlation found between cohesion and adaptability, $r$ = .70, $p$ < .01. In other words, these two variables explained more or less the same portion of the variability of social acculturative stress. As a result, the prediction of social acculturative stress did not improve much by combining cohesion and adaptability.

For men, recall that only adaptability was significantly correlated with social acculturative stress. A simple bivariate regression was performed to test the main effect of adaptability on social acculturative stress. The main effect was significant, Beta = .44, $t(20)$ = 2.19, $p$ < .05. R square was .19, which means 19% of the variability of social acculturative stress can be explained by adaptability. As a PRE measure, adaptability improved our prediction of social acculturative stress by 19% than by just having social acculturative stress. To test the spuriousness of this model, control variables that have a significant relationship with social

acculturative stress (see Table 5) were entered. SES class and social support were entered with adaptability and social acculturative stress was the dependent variable. With these two control variables, the main effect of adaptability on social acculturative stress was not significant, Beta = .22, $\underline{t}(20) = .74$, $\underline{p} > .05$. Therefore, the model with adaptability as the predictor for social acculturative stress was spurious.

## Discussion

The first aim of the present study was to find out if enmeshment (a high level of family cohesion) serves as a buffer that alleviates acculturative stress or creates a barrier that increases acculturative stress for Chinese immigrants in British Columbia. Consistent with previous results (Ben-David, 1995; Ben-David & Erez-Darvish, 1997; Lam, Chan, & Leff, 1995; Watson and Protinsky, 1988), this study showed that a high level of family cohesion was significantly related to a lower level of acculturative stress for women if a one-tailed significance level were chosen. However, with a two-tailed significance level, the relationship between family cohesion and acculturative stress became modest. On the other hand, this result was not found in the male sample. As mentioned in the sample section, the sample size for men was small ($\underline{N} = 22$), therefore caution is needed for the interpretation of the results. If the sample size for men were larger, the effects of cohesion and other independent variables on acculturative stress might be found.

Moreover, adaptability was also examined to explore the family functioning of Chinese immigrants. Similar to family cohesion, a negative relationship was found between adaptability and acculturative stress for women with a one-tailed significance level. In other words, the higher the adaptability, the lower the acculturative stress. When a two-tailed significance level was chosen, the relationship between adaptability and acculturative stress was reduced to a trend.

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This result is partially consistent with the studies conducted with non-clinical families, in which adaptability has a positive linear relationship with family functioning (see Cluff, Hicks, & Madsen, 1994 for a review). Adaptability in immigrant families may enable immigrants to flexibly deal with the changes in the new society; hence, they may experience lower acculturative stress.

Family cohesion and adaptability were used to derive family types for immigrant families. According to Olson (1993), family types are ordinal in which a higher level of family type denotes better family functioning in normal North American families. For the Chinese immigrant families in this sample, the result showed that a higher level of family type was related to a lower level of acculturative stress. Therefore, this result is consistent with and provides cross-cultural support to Olson's family types. Although family type was a predictor of acculturative stress, one should note that only 8% of the variability of acculturative stress could be explained by family type. In other words, 92% of the variability of acculturative stress was still unexplained.

The second aim of this study was to examine if length of residence is related to acculturative stress and plays a role in moderating the effect of enmeshment on acculturative stress. Contrary to Gil and Vega (1996) and Zheng and Berry (1991), the results from this study showed that length of residence was not related to acculturative stress. As a result, the moderating effect could not be tested. This finding might be due to self-selection bias in the sample. First, recent immigrants may not know about this research because they have limited avenues that reach out to the local society. This possibility is not high because we had placed advertisements in the Chinese media and delivered flyers to most Chinese schools in Lower Mainland. Furthermore, the data collection process lasted for one year and referrals were

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encouraged throughout the process. Second, recent immigrants may know about this research, but they are not willing/cannot participate. The comments received throughout the data collection process may provide some insights to the response rate. Some immigrants did want to participate but they claimed that they did not have time. Others complained that the questionnaire was too long and too "intrusive". Another observation in a Chinese school in a lower SES area was that parents were all at work and the children were taken care of by their grandparents. Therefore, the families that could/chose to participate may not have a high level of stress and most of our participants had been living in Canada for 2-6 years, which was the hypothesized lower-stress group. These comments and observations have implications for future research with the Chinese immigrants in British Columbia and will be discussed in the conclusion section. A third possibility deals with the conceptualization of length of residence. Acculturative stress varies with length of residence because the acculturation experience changes over time (Berry, 1997). However, immigrant families do not encounter the same acculturation experience at the same fixed time points in the host society. That is, the experience of the immigrants may change by the time of immigration (cohort) and the political and economic era in which they migrate (period). Therefore, length of residence may not be an accurate representation of acculturation phase. In conceptualizing the relationship between acculturation phase and acculturative stress, Berry (1997) suggests that researchers should consider the specific nature of the experience immigrants encounter. For example, immigrants who first acquire a new language may experience different stress levels and sources than those who try to obtain employment. Longitudinal design may also enhance understanding of acculturative stress in different phases of the acculturation process.

Of particular interest was the correlation between the chosen control variables (present acculturation, fluency in English, SES class, social support) and the dependent variable, acculturative stress. Although Thomas (1995) identified these variables as major stressors for migrants and Berry (1997) conceptualized these variables as important factors in his acculturation framework, the control variables were not significantly correlated with acculturative stress. For present acculturation, the use of SL-ASIA (a unidimensional scale) might fail to capture the complex dynamics of acculturation, albeit its wide usage with the Chinese sample. Recall that 92% of the women and 90% of the men are fluent in English and most of them were highly educated, such high educational achievement might bias the use of fluency in English and SES class as control variables. As for social support, the items in MSPSS mainly tap into the affect component of social support and do not take into account the actual help obtained by the immigrants. Therefore, MSPSS may fail to capture the different types of social support, which may have different effects on acculturative stress (J. Lynam, personal communication, June 28, 2001).

Not only do immigrants experience different stress levels when they face various acculturation events, they may also experience stress that come from different contexts. The analysis examining the sources of acculturative stress showed important findings between cohesion, adaptability, family type and the contexts of acculturative stress. The results showed that higher levels of cohesion, adaptability, and family type are predictors of a lower level of social acculturative stress for women. Moreover, a higher level of family type was also related to a lower level of familial acculturative stress for women. Despite a small sample size, adaptability was related to a lower level of social acculturative stress for men. First, it appeared that social acculturative stress carries special meaning for Chinese immigrants in British

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Columbia. One may explain these findings with respect to the collectivistic nature of the Chinese culture. Since collectivism emphasizes the well-being of a group, the social aspect of acculturation may be more salient to Chinese immigrants. Thus, changes in events that are related to the social aspect of acculturation may be more stress provoking for Chinese immigrants. As a result, cohesion, adaptability, and family type have an opportunity to function as a buffer to alleviate social acculturative stress. Nonetheless, one should be cautious in using cohesion, adaptability, and family type as predictors because they only explained 12%, 11%, and 17% of the variability of acculturative stress respectively. Moreover, cohesion and adaptability, when taken together, failed to improve the prediction of social acculturative stress. Second, it was surprising that the familial acculturative stress only correlates with family type, but not cohesion and adaptability. This finding might arise from a methodological limitation of this study. Despite cohesion, adaptability, and acculturative stress are different constructs, the overlapping item content in the family context might explain this finding. Third, the majority of the female sample was housewives, therefore acculturative stress that comes from the working environmental context may not be relevant and thus no significant relationships were found. Indeed, the mean scores for this sub-dimension is the lowest among the four dimensions.

## Conclusion

The study of acculturation and acculturative stress is challenging because the experience of acculturation is highly variable and is dependent on many factors (Berry, 1997). Referring to Berry's overall framework of acculturation research, the present study examines Chinese immigrants' perception of the family environmental context and its effect on psychological process of acculturation.

As discussed above, one of the limitations of the present study was nonresponse bias and the resulting selection effect in the data. The participants might experience different types and levels of acculturative stress than those who did not participate. The majority of the sample graduated from high school and is fluent in English. The immigrants may then experience less acculturative stress than those who have limited English knowledge because language is often one of the major stressors for immigrants (Thomas, 1995). Caution is also needed when interpreting the results because of the small sample size.

Since the present study had a convenience sample, the results have limited generalizability. The results can only be generalized to Chinese immigrants who have adolescent children. As discussed in the Measure section, the finding on the reverse pattern of cohesion has implications for future research. Does such pattern mean that Chinese immigrants are more cohesive as a result of the migration experience? The finding on adaptability also calls for research to further investigate the relationship between adaptability and acculturative stress in Chinese immigrant families. For example, do immigrants generally have a higher level of adaptability and how would adaptability affect their acculturation experience?

A methodological limitation of the present study was the use of a unidimensional scale (SL-ASIA) to measure present acculturation, as discussed previously. Even though SL-ASIA was well tested with various Chinese samples, it did not take into consideration the independent nature between the constructs of acquisition of the host culture and heritage culture maintenance (Ryder et al., 2000). Future research might further investigate if VIA is a more inclusive measure than SL-ASIA, thus might be more appropriate for examining present acculturation.

Despite the aforementioned limitations, the results from this study have several contributions to the field of acculturation research. Although the present study fails to extend on

previous research by incorporating length of residence, the results of this study offer insights in conceptualizing length of residence and acculturation experience. Future research may need to examine the specific events that are associated with acculturation instead of length of residence because length of residence is not an accurate proxy measure for acculturation.

Another important finding of this study is the high internal consistency found in FACES II, SAFE Acculturation Stress Scale, and MSPSS. Although FACES II and MSPSS were developed with North American sample, the high Cronbach alpha in this study adds to the support that these scales can be utilized with Chinese immigrants. Furthermore, SAFE Acculturation Stress Scale was developed for Latinos in the United States (Fuertes & Westbrook, 1996; Mena et al., 1987). This study was one of the first to use this scale with Chinese immigrants in Canada because no acculturative stress scale was specifically designed for Chinese immigrants. This study showed that the items were conceptually relevant and internally consistent. With respect to the dimensions of this scale, interesting results emerged. It appeared that the social and the familial contexts of acculturative stress were more salient for Chinese immigrants. If this scale were to be used with Chinese population, future research may need to factor analyze the items with a large Chinese sample and to determine if these two contexts of acculturative stress are more salient to Chinese immigrants. Open-ended questions may also be asked to obtain more information about different aspects of the acculturative stress immigrants may face.

This research offers insights in conducting research with Chinese immigrants in Canada. To obtain information about a sensitive topic such as stress, an open and trusting relationship is important. In this sense, researchers may expand the recruiting strategies and obtain help from settlement service providers (for example, SUCCESS). The possible advantage is that

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researchers may be able to get more recent immigrants who ask for settlement services. Another advantage is that immigrants may be more willing to participate since they are familiar with the agencies, they maybe more comfortable in giving out information. To recruit participants who have lived in Canada for more than 10 years, researchers may try local community centers and place advertisements in English newspaper. By doing so, the researchers may examine different phases of acculturation and its effect on acculturative stress.

The findings from this study also have implications for family counselors and settlement officers in developing programs for Chinese immigrants in Vancouver, British Columbia. Since a high level of cohesion and adaptability is related to lower acculturative stress, counselors may develop programs that promote "connectedness" and "flexibility" in Chinese immigrant families. Results from this study will be used to generate pamphlets and will be available at the offices of community organizations. Knowledge empowers individuals when facing acculturative stress in the host society and promotes understanding and ways of coping to the general public.

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Figure 1. Model and Hypotheses
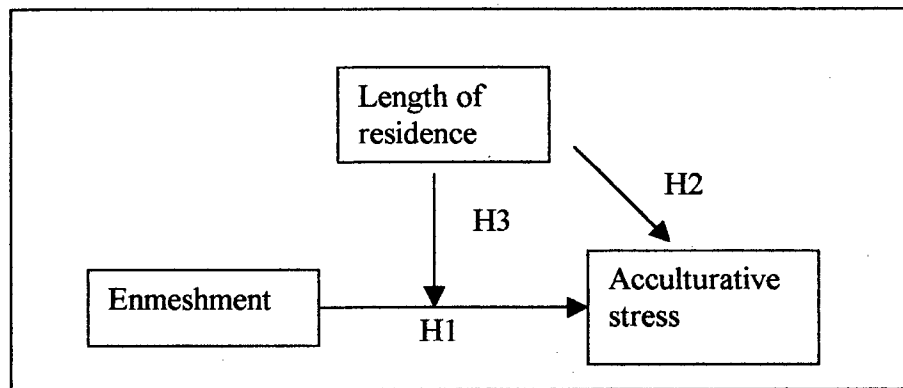
Table 1

Means and Standard Deviations

| | Women (N = 61) | | Men (N = 22) | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Cohesion | 61.72 | 8.21 | 67.68 | 6.05 |
| Adaptability | 50.95 | 6.34 | 50.86 | 5.36 |
| Family Type | 2.78 | .69 | 3.09 | .53 |
| Length of Residence | 5.16 | 3.14 | 5.77 | 4.22 |
| Acculturative stress | 38.87 | 22.61 | 44.91 | 26.97 |
| Present Acculturation | 2.29 | .30 | 2.37 | .26 |
| Social Support | 3.87 | .86 | 3.88 | .62 |
| Socioeconomic status in Canada | 3 | .76 | 2.86 | 1.06 |

Note: Socioeconomic status ranges from 1 to 5, 1 being the highest status class and 5 being the lowest status class.

Table 2

Correlations between Independent Variables, Moderator, Control Variables and Dependent

Variable (Acculturative Stress)

|  | Acculturative Stress | |
| --- | --- | --- |
|  | Women ($\underline{N}$ = 61) | Men ($\underline{N}$ = 22) |
| Cohesion | -.23† | .04 |
| Adaptability | -.22† | .04 |
| Family Type | -.29* | .19 |
| Length of Residence | .13 | -.14 |
| Present Acculturation | -.23† | -.34 |
| Social Support | -.01 | .38† |
| Socioeconomic status class | -.08 | .47* |
| Fluency in English | -.20 | -.10 |

* $\underline{p}$ < .05.   † $\underline{p}$ < .10 , two-tailed.

Table 3

Summary of Hierarchical Regression Analyses for Family Type and Present Acculturation

Predicting Acculturative Stress

| | Beta | $R^2$ | $R^2 \Delta$ | df |
|---|---|---|---|---|
| Step 1 | | | | |
| Family Type | -.29* | .09 | N/A | 1, 58 |
| Step 2 | | | | |
| Family Type | -.26* | | | |
| Present acculturation | -.19 | .12 | .03 | 2, 57 |

* $p < .05$, two-tailed.

Table 4

Correlations among Sub-Dimensions of Acculturative Stress, Independent Variables, Moderator, and Controls for Women

|  | Acculturative Stress | | | |
|  | Social | Attitudinal | Familial | Environmental |
| --- | --- | --- | --- | --- |
| Cohesion | -.35** | -.17 | -.25† | -.11 |
| Adaptability | -.33** | -.13 | -.16 | -.16 |
| Family Type | -.42** | -.23† | -.27* | -.17 |
| Length of Residence | -.06 | .09 | .09 | -.20 |
| Present Acculturation | -.32* | -.23 | -.18 | -.13 |
| Social Support | -.12 | .08 | -.09 | .03 |
| Socioeconomic status class | .13 | -.04 | -.04 | -.23 |
| Fluency in English | -.28* | -.19 | -.31* | -.05 |

** $p < .01$.  * $p < .05$.  † $p < .10$, two-tailed.

Table 5

Correlations Among Sub-Dimensions of Acculturative Stress, Independent Variables, Moderator, and Controls for Men

|  | Acculturative Stress | | | |
|  | Social | Attitudinal | Familial | Environmental |
| --- | --- | --- | --- | --- |
| Cohesion | .23 | .09 | -.01 | -.07 |
| Adaptability | -.44* | .34 | .15 | .22 |
| Family Type | .37† | .26 | .07 | .07 |
| Length of Residence | -.08 | -.08 | -.33 | -.11 |
| Present Acculturation | -.30 | -.46* | -.12 | -.31 |
| Social Support | .50* | .39† | .10 | .33 |
| Socioeconomic status class | .44* | .53* | .47* | .36 |
| Fluency in English | .20 | -.11 | -.13 | -.01 |

* $p < .05$. † $p < .10$, two-tailed.

Appendix A

Demographics

The following are general questions about you:

1. Your date of birth:              19_____ (year) _____ (month) _____ (day)

2. Your gender/sex (Please circle)        Female          Male

3. What is your current marital status? (Please check one response that best fits your

circumstance)

       __ Never married

       __ Common law

       __ Married, living with partner

       __ Married, astronaut family

       __ Married, not living with partner

       __ Legally separated, widowed, divorced

4. City and country you come from:        _____

5. Date you left your country of origin:   19_____ (year) _____ (month)

6. Date of your arrival in Canada:        19_____ (year) _____ (month)

7. Five years from now, which country do you see yourself living in? _____

8. Before you immigrated to Canada,

   a) what was your highest level of education? _____

   b) if applicable, what was your partner's highest level of education? _____

9. After you have immigrated to Canada,

   a) what was your highest level of education? _____

   b) if applicable, what was your partner's highest level of education? _____

10. Before you immigrated to Canada

    a) what was your occupation? _____

    b) if applicable, what was your partner's occupation? _____

11. In Canada

    a) what is your current occupation? _____

    b) if applicable, what is your partner's occupation? _____

12. What is your religious preference? _____

13. In terms of ethnic group, you consider yourself to be _____

14. What is your postal code?     _____

Appendix B

SAFE Acculturation Stress Scale (Mena et al., 1987)

The following statements are about your life in Canada. If you have similar experience,

please check the corresponding "relevant experience" box and then indicate the answer that

best describes how you feel by circling the appropriate number.

| | Relevant Experience | Not very Stressful | Somewhat stressful | Extremely stressful | |
|---|---|---|---|---|---|
| a) It bothers me that family members I am close to do not understand my new values............................ ☐ | | 1 | 2 | 3 | 4 5 |
| b) I often feel ignored by people who are supposed to assist me. ........................................................ ☐ | | 1 | 2 | 3 | 4 5 |
| c) Loosening the ties with my country is difficult. ............ ☐ | | 1 | 2 | 3 | 4 5 |
| d) Many people have stereotypes about my culture or ethnic group and treat me as if they are true. .............. ☐ | | 1 | 2 | 3 | 4 5 |
| e) People think that I am unsociable when in fact I have trouble communicating in English ...................... ☐ | | 1 | 2 | 3 | 4 5 |
| f) I feel uncomfortable when others make jokes about or put down people of my ethnic background. .............. ☐ | | 1 | 2 | 3 | 4 5 |
| g) I often think about my cultural background .................. ☐ | | 1 | 2 | 3 | 4 5 |
| h) Because of my ethnic background, I feel that others often exclude me from participating in their activities .... ☐ | | 1 | 2 | 3 | 4 5 |
| i) It bothers me when people pressure me to assimilate .... ☐ | | 1 | 2 | 3 | 4 5 |
| j) My family does not want me to move away but I would like to........................................................ ☐ | | 1 | 2 | 3 | 4 5 |
| k) I often feel that people actively try to stop me from advancing ..................................................... ☐ | | 1 | 2 | 3 | 4 5 |
| l) I don't have any close friends ................................ ☐ | | 1 | 2 | 3 | 4 5 |
| m) I have more barriers to overcome than most people .... ☐ | | 1 | 2 | 3 | 4 5 |
| n) It is hard to express to my friends how I really feel ....... ☐ | | 1 | 2 | 3 | 4 5 |
| o) I have trouble understanding others when they speak.... ☐ | | 1 | 2 | 3 | 4 5 |
| p) It bothers me that I cannot be with my family .............. ☐ | | 1 | 2 | 3 | 4 5 |
| q) In looking for a job, I sometimes feel that my ethnicity is a limitation. ...................................... ☐ | | 1 | 2 | 3 | 4 5 |
| r) I don't feel at home........................................... ☐ | | 1 | 2 | 3 | 4 5 |

s) Because I am different, I do not get enough credit

for the work I do..............................................□.............1    2    3    4    5

t) Close family members and I have conflicting
expectations about my future...........................□.............1    2    3    4    5

u) People look down upon me if I practice customs of
my culture .......................................................□.............1    2    3    4    5

Appendix C

FACES II (Olson, 1993)

Each person has their own ideas or feelings about their family. The statements listed below are about the way you feel about being a member in your family. For each statement, please tell us how much each statement is like your family.

|  | Never | | Sometimes | Always | |
|---|---|---|---|---|---|
| a) Family members are supportive of each other during difficult times........................................... | 1 | 2 | 3 | 4 | 5 |
| b) In our family, it is easy for everyone to express his/her opinion........................................... | 1 | 2 | 3 | 4 | 5 |
| c) It is easier to discuss problems with people outside the family than with other family members. ............. | 1 | 2 | 3 | 4 | 5 |
| d) Each family member has input regarding major family decisions. ........................................... | 1 | 2 | 3 | 4 | 5 |
| e) Our family gathers together in the same room. ......... | 1 | 2 | 3 | 4 | 5 |
| f) Children has a say in their discipline........................ | 1 | 2 | 3 | 4 | 5 |
| g) Our family does things together. ............................. | 1 | 2 | 3 | 4 | 5 |
| h) Family members discuss problems and feel good about the solutions. ............................................. | 1 | 2 | 3 | 4 | 5 |
| i) In our family, everyone goes his/her own way.......... | 1 | 2 | 3 | 4 | 5 |
| j) We shift household responsibilities from person to person........................................... | 1 | 2 | 3 | 4 | 5 |
| k) Family members know each other's close friends. .... | 1 | 2 | 3 | 4 | 5 |
| l) It is hard to know what the rules are in our family.... | 1 | 2 | 3 | 4 | 5 |
| m) Family members consult other family members on personal decisions........................................... | 1 | 2 | 3 | 4 | 5 |
| n) Family members say what they want. ....................... | 1 | 2 | 3 | 4 | 5 |
| o) We have difficulty thinking of things to do as a family. | 1 | 2 | 3 | 4 | 5 |
| p) In solving problems, the children's suggestions are followed........................................... | 1 | 2 | 3 | 4 | 5 |
| q) Family members feel very close to each other........... | 1 | 2 | 3 | 4 | 5 |
| r) Discipline is fair in our family................................. | 1 | 2 | 3 | 4 | 5 |
| s) Family members feel closer to people outside the family than to other family members.................. | 1 | 2 | 3 | 4 | 5 |

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| | | | | | |
|---|---|---|---|---|---|
| t) Our family tries new ways of dealing with problems. | 1 | 2 | 3 | 4 | 5 |
| u) Family members go along with what the family decides to do. | 1 | 2 | 3 | 4 | 5 |
| v) In our family, everyone shares responsibilities. | 1 | 2 | 3 | 4 | 5 |
| w) Family members like to spend their free time with each other. | 1 | 2 | 3 | 4 | 5 |
| x) It is difficult to get a rule changed in our family. | 1 | 2 | 3 | 4 | 5 |
| y) Family members avoid each other at home. | 1 | 2 | 3 | 4 | 5 |
| z) When problems arise, we compromise. | 1 | 2 | 3 | 4 | 5 |
| aa) We approve of each other's friends. | 1 | 2 | 3 | 4 | 5 |
| bb) Family members are afraid to say what is on their minds. | 1 | 2 | 3 | 4 | 5 |
| cc) Family members pair up rather than do things as a total family. | 1 | 2 | 3 | 4 | 5 |
| dd) Family members share interests and hobbies with each other. | 1 | 2 | 3 | 4 | 5 |

Appendix D

Suinn-Lew Asian Self-Identity Acculturation Scale (Suinn et al., 1987)

For the following statements, please circle the ONE answer which BEST describes you.

a) What language(s) can you speak?

    i)   Chinese only
    ii)  Mostly Chinese, some English
    iii) Chinese and English about equally (bilingual)
    iv) Mostly English, some Chinese
    v)   English only

b) What language(s) do you prefer?

    i)   Chinese only
    ii)  Mostly Chinese, some English
    iii) Chinese and English about equally (bilingual)
    iv) Mostly English, some Chinese
    v)   English only

c) Whom do you now associate with in the community?

    i)   Almost exclusively Asians and Asian-Canadians
    ii)  Mostly Asians and Asian-Canadians
    iii) About equally Asian groups and Anglo or other non-Asian ethnic groups
    iv) Mostly Anglos or other non-Asian ethnic groups
    v)   Almost exclusively Anglos or other non-Asian ethnic groups

d) If you could pick, whom would you prefer to associate with in the community?

    i)   Almost exclusively Asians and Asian-Canadians
    ii)  Mostly Asians and Asian-Canadians
    iii) About equally Asian groups and Anglo or other non-Asian ethnic groups
    iv) Mostly Anglos or other non-Asian ethnic groups
    v)   Almost exclusively Anglos or other non-Asian ethnic groups

e) What is your music preference?

    i)   Only Asian music (for example, Chinese, Japanese, Korean, etc.)
    ii)  Mostly Asian
    iii) Equally Asian and Western
    iv) Mostly Western
    v)   Western only

f) What is your movie preference?

    i)   Asian-language movies only
    ii)  Asian-language movies mostly
    iii) Equally Asian and Western

iv) Most Western

v) Western only

g) Where were you born?

i) Mainland China

ii) Taiwan

iii) Hong Kong

iv) Other, please specify: _____

h) Where were you raised?

i) In Asia only

ii) Mostly in Asia, some in Canada

iii) Equally in Asia and Canada

iv) Mostly in Canada, some in Asia

v) In Canada only

i) What contact have you had with Asia (Mainland China, Taiwan, or Hong Kong)?

i) Raised one year or more in those areas

ii) Lived for less than one year in those areas

iii) Occasional visits to those places

iv) Infrequent communications (letters, phone calls, etc.) with people there

v) No exposure or communications with people in Asia

j) What is your food preference at home?

i) Exclusively Asian food

ii) Mostly Asian food, some Western

iii) About equally Asian and Western

iv) Mostly Western food

v) Exclusively Western food

k) What is your food preference in restaurants?

i) Exclusively Asian food

ii) Mostly Asian food, some Western

iii) About equally Asian and Western

iv) Mostly Western food

v) Exclusively Western food

l) Do you

i) Read only Chinese

ii) Read Chinese better than English

iii) Read both Chinese and English equally well

iv) Read English better than Chinese

v) Read only English

m) Do you

i) Write only Chinese
ii) Write Chinese better than English
iii) Write both Chinese and English equally well
iv) Write English better than Chinese
v) Write only English

n) How would you rate yourself?

i) Very Chinese
ii) Mostly Chinese
iii) Bicultural
iv) Mostly Anglicized
v) Very Anglicized

o) Do you participate in Chinese occasions, holidays, traditions, etc.?

i) Nearly all
ii) Most of them
iii) Some of them
iv) A few of them
v) None at all

Appendix E

Multidimensional Scale of Perceived Social Support (Zimet et al., 1988)

The following statements refer to feelings and experiences that occur to most people at one time or another in their relationships with family members and friends. Please circle the one response that best reflects how you feel about each of the following statements.

|  | Strongly Disagree | | Neutral | | Strongly Agree |
|---|---|---|---|---|---|
| a) My family really tries to help me | 1 | 2 | 3 | 4 | 5 |
| b) I can talk about my problems with my family | 1 | 2 | 3 | 4 | 5 |
| c) I have a special person who is a real source of comfort to me | 1 | 2 | 3 | 4 | 5 |
| d) My friends really try to help me | 1 | 2 | 3 | 4 | 5 |
| e) There is a special person in my life who cares about my feelings | 1 | 2 | 3 | 4 | 5 |
| f) I get the emotional help and support I need from my family | 1 | 2 | 3 | 4 | 5 |
| g) There is a special person with whom I can share my joys and sorrows | 1 | 2 | 3 | 4 | 5 |
| h) I can count on my friends when things go wrong | 1 | 2 | 3 | 4 | 5 |
| i) There is a special person who is around when I am in need | 1 | 2 | 3 | 4 | 5 |
| j) My family is willing to help me make decisions | 1 | 2 | 3 | 4 | 5 |
| k) I have friends with whom I can share my joys and sorrows | 1 | 2 | 3 | 4 | 5 |
| l) I can talk about my problems with my friends | 1 | 2 | 3 | 4 | 5 |