

Predictors of Parental Psychological Control in Immigrant Chinese Canadian Families:  
Universal and Acculturation Stressors

by

Sheena Wen-Hsun Miao  
B.A., University of British Columbia, 2011

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**Supervisory Committee**

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## Abstract

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While extensive research has supported the negative impacts of psychological control (i.e., intrusive parenting behaviors that restrain a child's self-expression) on child adjustment (e.g., Barber et al., 2005), less has systematically investigated *predictors* of psychological control, especially in the context of immigrant families. Soenens and Vansteenkiste (2010) suggested that parents are more likely to engage in psychological control when their basic psychological needs are frustrated. According to Self-Determination Theory (SDT; Deci & Ryan, 2002), the need for autonomy, relatedness, and competence are essential for well-being. I hypothesized that lower satisfaction of the need for competence and relatedness, each indicated by a number of stressors, would predict increasing psychological control over time. Participants were 182 immigrant Chinese families (2/3 randomly recruited) with adolescent children. Family members were assessed two times, 18 months apart. Results of hierarchical multiple regressions revealed that, despite high stability in psychological control over time, low parent-child agreement, high perceived discrimination, and high language stress predicted increases in psychological control over time for mothers. In addition, low marital satisfaction predicted increasing psychological control for newcomer fathers, and high interpersonal acculturation stress predicted increasing psychological control for fathers who had been in Canada for a longer period. Implications for practice and policy are discussed.

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## Dedication

To my undergraduate mentor Sheila, who introduced me to Clinical Psychology over coffee and strolls in the beautiful UBC campus.

To my parents, who kept me persistent in pursuing my dream, and comforted me with their love during those times when it seemed impossible.

To my friends, each supports and loves me in his/her unique way, even when they didn't fully understand that I do and will be doing.

To C, who always believes in me even when I don't.

Canada's immigrant population has grown rapidly in the past few decades, and continues to grow (Statistical Canada, 2007). While extensive research has focused on improving the adaptation and well-being of immigrants, much of this research has studied immigrants and their adjustment in Canada as individuals. This is particularly true of the literature that is focused on immigrant adults. However, as most immigrants migrate as families, simply looking at how immigrants adjust individually in various settings cannot represent the whole picture of immigrant adjustment in the host culture. Rather, it is essential to study these issues in the context of family in order to better understand the adjustment process of immigrants in their most natural and important setting. Family dynamics can be strongly influenced as individuals move from one country to another. Individuals from interdependent cultural backgrounds may be most likely to experience shifting family dynamics as a result of immigration. This is because interdependent cultures emphasize group harmony and the importance of family (Oyserman, Coon, & Kemmelmeier, 2002), and the adaptation of one family member is closely connected to his or her relationships with the others.

Parenting behavior is an important aspect of family dynamics that is closely tied to the process of immigration and acculturation. As parents migrate to a culture that has different values from their own, their child-rearing goals and ideals may be challenged, which may result in changes in their own parenting beliefs, values, and behaviors (Bornstein & Cote, 2010; Cheah, Leung, & Zhou, 2013). Challenges that parents experience in a new cultural context may also impact parenting and parent-child relationships. The amount of control that parents exert on their children, for example, is one aspect of parenting behavior that may be under cultural influence. There are essentially two types of parental control: the direct disciplinary actions that parents have over their children's conduct (behavioral control), and the indirect manipulative attempts

parents engage in to restrain children's free self-expression of feelings, affect, and thoughts (psychological control). While the former has been widely associated with child's positive adjustment (e.g., Barber, Stolz, & Olsen, 2005; Barber & Xia, 2013), previous research has demonstrated a negative relationship between psychological controlling parenting and good adjustment outcomes in both Western and cross-cultural literature (e.g., Barber et al., 2005; de Kemp, Scholte, Overbeek, & Engels, 2006; Rogers, Buchanan, & Winchell, 2003). Although the effects of psychological control have been widely replicated, one limitation of existing research is the lack of systematic investigation of the *predictors* of psychological control, especially from a culturally-oriented perspective. The few cases where such relationships were explored lacked theoretically driven hypotheses that guided the research (e.g., Laird, 2011) and did not emphasize cultural factors that may contribute to higher psychological control. In a theoretical paper, Soenens and Vansteenkiste (2010) proposed a new perspective to study the antecedents of psychological control, which entails incorporating the concept of basic psychological needs from Self-determination Theory (SDT). These authors specifically hypothesized that when parents' basic psychological needs are not satisfied, they are more likely to engage in controlling parenting behaviors. These needs – autonomy, competence, and relatedness – are addressed in the following sections.

With a strong cultural emphasis, the current research aimed to test the validity of this hypothesis among Chinese immigrant parents, as this is one of the largest immigrant ethnic groups in Canada. Guided by the heuristic framework of SDT, I identified potential stressors that may frustrate Chinese immigrant parents' psychological needs, including those that apply to parents of all cultural backgrounds and those that are more specific to immigrant parents. I then examined the relationship between these stressors and parents' use of psychological control. A

longitudinal cross-lagged panel design was adopted to provide stronger support for the direction of effects between variables over time. Separate analyses were conducted for mothers and fathers, in order to test the extent to which the above hypotheses are supported for each gender. It was hypothesized that lower satisfaction of basic psychological needs will predict an increase in psychologically controlling parenting over time.

## Psychological Control

Psychological control refers to parenting behaviors that are intrusive and manipulative of children's thoughts and feelings; it is a form of socialization pressure that is non-responsive to the child's emotional and psychological needs (Barber & Harmon, 2002). For example, in order to achieve control over a child's conduct, parents may induce guilt in the child, with an intention to manipulate or control the child's self-expression. This manipulation could be in the form of emotion, feeling, or attachment. Common characterizations of psychological control include love withdrawal, constraining the child's verbal expression, invalidation of feelings, and personal attack. Love withdrawal is when the attention, interest, and care of parents for their child are contingent upon the child's attainment of certain standards set by the parents. Constraining verbal expression often refers to restricting verbal interactions to parental interests, or excessively distracting, withholding, and showing indifference in the child. Invalidating the child means to discount, misinterpret, or assign a value to feelings that are being expressed, such as responding to a child's expressed feelings with sarcastic or teasing comments. Invalidation also serves to constrain the child's spontaneous expression of thoughts and feelings. Finally, personal attack may involve parental attacks on the place or worth of the child in the family, questioning family loyalty, or blaming the child for other family member's problems. These common characterizations of psychological are of central interest in the current study.

First systematically examined in the 1990's (e.g., Barber, Olsen, & Shagle, 1994), the literature on psychological control is relatively young. Nonetheless, researchers consistently find that psychological control inhibits the optimal psychosocial functioning of the child, through impairing a secure sense of the self, independent self-expression, and autonomy (Barber & Harmon, 2002). Given this, it is not surprising that the most widely supported negative outcome

of psychological control on child adjustment is vulnerability for internalizing problems. The positive relationship between psychological control and internalizing problems, such as depression and anxiety, has been replicated in many studies, even when controlling for the effects of other parenting dimensions such as behavioral control and parental support (e.g., Barber, Stolz, & Olsen, 2005). Other research also provides evidence for the positive link between psychological control and externalizing problems such as aggression and delinquency (e.g., Rogers, Buchanan & Winchell, 2003). Finally, parental psychological control not only leads to problematic behaviors at the individual psychological level, its impact also extends to other areas of the child's functioning, such as social functioning and academic performance. For instance, higher psychological control has been shown to be associated with poorer school grades and performance (e.g., Aunola & Numi, 2004), lack of peer support (Karavasillis, Doyle, & Markiewicz, 2003), and higher social anxiety (Loukas, Paulos, & Robinson, 2005). Overall, it appears that the negative effects of psychological control are both intra- and inter-personal.

The literature reviewed thus far has been conducted mostly in Western context; however, psychological control has also been a topic of interest in cross-cultural parenting research. Specifically, much attention has focused on examining whether the detrimental effects of psychological control in the Western literature are equally valid and relevant in other cultural contexts. The Western culture is often understood to be more independence-oriented, in which open expression of the self and verbalization of one's internal states are typically encouraged. In such a context, psychological control is deemed harmful as it interferes with proper development of the child's individuation (Barber & Harmon, 2002; Fung & Lau, 2010). However, in many other cultures, greater priority is placed on accommodating others in the social world, and thus emotional restraint and self control are valued (e.g., Kim & Sherman, 2007). In such an

interdependent culture, it is possible that some aspects of psychological control are actually congruent with the desirable socialization goals of the given society. The Confucius ideals of socialization, which are adopted by many Asian cultures including the Chinese, emphasize the interdependence and social harmony within interpersonal relationships. In particular, achieving these ideals within the interactions among family members is highly desirable and valued. Therefore, children are expected to be devoted and obedient to their parents, and it is important for them to behave in a manner that brings honor to the family name (Tang, 1992). In such contexts, psychologically controlling parents may be primarily concerned with teaching their children to behave in ways that are consistent with interdependent values. Rather than an unhealthy manipulation of the parent– child relationship, evoking guilt or inducing a focus on the parent’s perspective may actually help the child to acquire empathy and attunement to others’ thoughts and feelings (Mascolo, Fischer, & Li, 2003), as well as honoring their family prestige. Therefore, the implications of practices such as shaming and guilt induction in families of interdependent cultural backgrounds may be better understood within these ideals of family interactions and moral socialization of children (Fung & Chen, 2001).

Given these different cultural contexts and ideals, some researchers have proposed that psychological control might not be associated with the same negative adjustment outcomes in interdependent societies, such as that of East Asian countries. This is indeed what some research has found (e.g., Olsen et al., 2002; Rudy & Halgunseth, 2005). On the other hand, other researchers have found psychological control to have the same negative developmental correlates within interdependent cultures as found in the Western literature (e.g., Barber, Stolz, & Olsen, 2005; Wang, Pomerantz, & Chen, 2007). Specifically, Barber and colleagues (2005) found significant associations between higher parental psychological control and poorer mental health

adjustment (indicated by depression and antisocial behaviors) in their Chinese sample.

Nevertheless, conflicting findings on the adjustment outcomes of psychological control in non-Western populations suggest that cultural variables may in fact make the conceptualization of psychological control more complicated than imagined.

Fung and Lau (2012) further attributed the inconsistent findings in part to differences in the measurement of psychological control across different studies. They observed that cross-cultural studies that found similar patterns of relations between psychological control and negative child adjustment outcomes tended to focus more on the extent to which parents attacked, invalidated, or constrained the expression of their child, and focused less on the use of guilt induction (Barber et al., 2005) or love withdrawal (Nelson & Crick, 2002). In contrast, when items of guilt induction and love withdrawal were included, no significant associations between psychological control and child adjustment were found among Chinese children (e.g., Olsen et al., 2002). Therefore, Fung and Lau (2012) concluded that the items and subscales selected to measure psychological control may have contributed to the mixed findings on cultural variation in the developmental correlates. It appears that guilt induction may exemplify a separate subclass of psychological control strategies, which have meanings and developmental outcomes that may be more adaptive in interdependent cultures. Love withdrawal, on the other hand, has been associated with negative outcomes in some cross-cultural studies (e.g., Barber et al., 2005), but no negative outcomes in others (e.g., Olsen et al., 2002). Thus, more empirical research is needed to explore the cultural meaning of love withdrawal in non-Western contexts. In the current research, it is important to note that the psychological control measure that was adopted (Barber et al., 2005) is identical to the way in which psychological control has been measured in previous research that had found negative adjustment outcomes across culturally



diverse samples (e.g. Barber et al., 2005). This specific measure includes items that have been consistently found to be related to negative adjustment across cultures (i.e., invalidating feelings, constraining verbal expressions, personal attack), as well as love withdrawal items, which sometimes are not found to have negative developmental correlates.

### **Self-determination Theory (SDT)**

While extensive research, both in the West and in cultures with a more collectivistic orientation, provides insight into how parental psychological control is associated with the psychological, academic, and social adjustment of children, relatively less research has addressed the factors that contribute to the development of psychologically controlling parenting practices. This small body of work has found that psychologically controlling parenting is associated with contextual stressors such as single parenthood (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987), lower parental education level (Mason, Cauce, Gonzales, & Hiraga, 1996), and low marital quality (e.g., Fauber, Forehand, McCoombs-Thomas, & Wierson, 1990; Krishnakumar, Buehler, & Barber, 2003). Higher psychological control has also been found to be associated with personality characteristics of parents that reflect a more controlled intrapersonal functioning, such as maladaptive perfectionism (Soenens, Elliot, et al., 2005), contingent self-worth (Eaton & Pomerantz, 2003), ego-involvement (Grolnick, Gurland, DeCoursey, & Jacob, 2002), proneness to shame (Mills et al., 2007), and sensitivity to hurt (Walling, Mills, & Freeman, 2007). Finally, research also increasingly documents the reciprocal relations between children's behavioral adjustment and the extent to which parents engage in psychological control. That is, psychological control is related to poorer child adjustment, as reviewed above, and poorer child adjustment is related to greater use of psychological control. Findings from longitudinal research have provided strong support for this opposite direction of effect. For example, children's externalizing problems (Pettit et al., 2001) and academic maladjustment (Pomerantz & Eaton, 2001) were both found to predict higher parental psychological control over time. Finally, longitudinal evidence has also found that distressed adolescents viewed their parents as becoming increasingly controlling (e.g., Barber et al., 2005;

Soenens, Luyckx, Vansteenkiste, Duriez, & Goossens, 2008). These studies suggest the importance of examining the reciprocal influences between child's negative adjustment and parental psychological control.

Although these scattered research findings have provided some basic insight into the types of risk factors that could lead to higher psychological control, the reasons why they contribute to the development of psychological control has rarely been grounded in a theoretical framework. Thus, it is still unclear why and how these variables were found to predict or to be associated with higher psychological control. Looking at the history of the development of psychological control as a parenting construct suggests that psychological control was first discovered through predominately inductive, or bottom-up research approach. Schaefer (1965) first narrowed in on the construct of psychological control as one of the empirically derived typologies of parenting behaviors resulting from large-scale factor analyses. Researchers such as Steinberg (2005) argued that while this inductive line of research has yielded much insight into our understanding of the meaning and consequences of psychological control, adopting a top-down or more theoretically driven research angle may allow us to better understand the specific processes that are involved in psychologically controlling parenting. Consequently, it is important to examine the predictors of psychological control based on a strong theoretical framework in order to develop a better understanding of the construct of psychological control.

One potential theory that may enrich our understanding of the development of psychological control is Self-determination Theory (or SDT; Deci & Ryan, 1985, 2000), a broad-based social theory of motivation that considers issues of control and autonomy as essential to individuals' well-being and adjustment. In a theoretical paper, Soenens and Vansteenkiste (2010) proposed to integrate SDT with the study of psychological control in order to better understand

the determinants of psychological control. Specifically, the authors proposed that psychological control could be best understood through the concept of basic need satisfaction, a core concept of SDT. According to SDT, individuals have an innate tendency for growth, particularly in the form of intrinsic motivation. Humans are born with a need to spontaneously explore their environment, to be curious, and to pursue activities that are challenging and satisfying (Deci & Ryan, 1985). However, this cannot be optimally achieved if the individual's basic psychological needs are frustrated in any way. Therefore, satisfaction of the basic needs is essential for one's optimal functioning, adjustment, and growth. SDT distinguishes three basic psychological needs that are considered to be crucial: autonomy, relatedness, and competence (Deci & Ryan, 2000). The need for autonomy suggests that individuals have a natural desire for freely chosen, or volitional, behaviors. The need for relatedness refers to individual's desire for connection with other people; specifically, to care for others and to feel cared by others, especially significant others. Finally, the need for competence is one's intrinsic desire to feel effective and skillful in the activities one pursues and commits to. Together, these three basic needs are proposed to be vital for ideal psychological functioning, and this has been supported by evidence from empirical research. Research from different disciplines, including education, development, therapy, and many others, has shown strong support for the link between satisfaction of these three basic needs and more positive well-being (e.g., Sheldon, Elliot, Kim, & Kasser, 2001).

SDT theorists view these basic needs as broad motivational tendencies that operate across life domains, and contend that satisfaction of all three needs is essential for the well-being of all individuals. In a recent cross-cultural study, Church and colleagues (2013) tested the validity of this claim using adult samples from eight countries (i.e., USA, Australia, Mexico, Venezuela, the Philippines, Malaysia, China, and Japan), and they found strong support for the claim: perceived

need satisfaction was found to predict overall well-being to a similar degree across all eight cultures. This evidence is in line with Deci and Ryan's notion that the effects of need satisfaction should generalize across cultures.

Interestingly, in the study by Church and colleagues (2013), Asian participants scored, lower on average, than non-Asian participants in their perceived satisfaction of autonomy and competence. These discrepancies were found to be accounted for by differences in dialecticism, which refers to Asian's higher acceptance of contradiction, expectations of complexity and change, and holistic thinking. In addition, Asians lower independence-oriented also contributed to the observed differences. These findings are not unexpected, as Deci and Ryan (2000) have suggested that cultural expressions or means of need satisfaction can vary, despite cross-cultural relevance of need satisfaction. The current study takes this into account by defining need satisfaction and frustration in the specific cultural context of the population studied (i.e., Chinese immigrant parents). That is, the assessment of need satisfaction and frustration includes constructs that are relevant to Chinese parents' acculturation experiences in Canada. Within this culturally-appropriate definition of basic needs, the broader hypothesis that need frustration is related to poorer well-being, can be argued to have universal applicability.

Basic needs satisfaction not only has an impact on the individual's psychological functioning and adjustment, it also extends outwards to impact the interaction between that individual and the surrounding others. Therefore, satisfaction of the basic psychological needs in the family context has important implications for family dynamics; in fact, it may play an important role in shaping parenting behaviors (Grolnick, 2003; Soenens & Vansteenkiste, 2010). For example, Bugental and colleagues (Bugental, Blue, & Cruzcosa, 1989; Bugental & Lewis, 1999) studied the behaviors of parents who are dissatisfied with their interpersonal relationships

and perceive themselves as lacking interpersonal power. These parents were found to be chronically vigilant to threats to their power, and thus are more inclined to react with an exaggerated use of control in their interaction with their children, especially when the interaction primes their perception of low power. Essentially, these parents feel anxious about losing control over their child's behavior, and thus react in a defensively controlling manner. The research findings by Bugental and colleagues demonstrates one way through which the frustration in one's basic need may lead to maladaptive controlling parenting behaviours. Soenens and Vansteenkiste (2010) further hypothesized that in general, when parents feel internally pressured due to the lack of satisfaction of their basic psychological needs, they are more likely to engage in pressuring and controlling parenting practices towards their children. In this thesis, I evaluated the validity of this hypothesis in order to develop a better understanding of the determinants and the processes behind the development of psychological control. In this research, stressors that may potentially frustrate parents' needs for relatedness and competence were examined, as these two basic needs appear to be the most applicable in the context of parenting. In contrast, the need for autonomy may be relatively less relevant in the context of parenting compared to one's academic or career performance, and was not one of the basic needs addressed in this research.

## **Stressors Experienced by Immigrant Parents**

### **Universal Stressors on Parenting**

Potential stressors that may frustrate parents' needs for relatedness and competence will be considered in two different categories: 1) those that are universal to parents of different cultural background, or universal parenting stressors, and 2) those that are more specific to the context of immigrant families, or acculturation-specific stressors. As previously defined, the need for relatedness refers to an individual's desire for connection with other people, especially one's significant others. Therefore, I measured this need for connection with two constructs: 1) parent-child congruence and 2) marital satisfaction. These constructs represent relationship quality, and thus the level of connectedness that parents have with their children and spouses, respectively. Parent-child congruence is an indicator of the level of agreement between parent and child (e.g., concordance in values). Higher parent-child congruence represents a better understanding and satisfaction with the parent-child relationship, from the perspective of the parent (Ying, Lee, & Tsai, 2004). Higher parent-child congruence has been found to be associated with lower levels of parent-child conflict (Lin, 2008). Conversely, lack of congruence has been linked to negative psychological functioning in parents, such as depression and anger (Hernandez-Guzman & Sanchez-Sosa, 1996). Thus, it can be argued that lower congruence may indicate the frustration of relatedness. Marital satisfaction is the extent to which parents are satisfied with the quality of their marriage. Higher marital satisfaction has been linked to better stress coping and conflict resolution in the marital relationship, and those who report higher marital satisfaction typically report higher psychological well-being (e.g., Dush, Taylor, & Kroeger, 2008; Proulx, Helms, & Buehler, 2007). In contrast, marital dissatisfaction is associated with decreases in positive marital elements such as couple cohesion, spousal dependability, and

intimacy (Beach, Katz, Kim, & Brody, 2003). Together, parent-child congruence and marital satisfaction provide a good picture of how much a parent's need for relatedness is satisfied within the family context. Testing the relationship between these two constructs and psychological control will evaluate whether frustration of relatedness is related to more psychologically controlling parenting behaviors.

The other basic psychological need of interest, the need for competence, is defined as one's intrinsic desire to feel effective and skillful in the activities one pursues. In the realm of parenting, the concept of need for competence is addressed by the construct of parenting self-efficacy, the degree to which parents perceive themselves as capable of performing the varied tasks associated with this highly demanding role (Coleman & Karraker, 1997). Strong research evidence has supported the positive link between parenting self-efficacy and parental competence. For example, parents with high parenting self-efficacy confidently acquire and exercise effective parenting skills; in contrast, parents with low parenting self-efficacy find it more difficult to parent effectively in the face of challenging child situations (Jones & Prinz, 2005). In fact, research has shown that parents who perceive themselves as lacking power tend to feel threatened and use higher levels of coercive or abusive force in their interactions with children when compared to parents who perceive themselves as having power (Bugental et al., 1989). Finally, there is a modest linkage between parenting self-efficacy and better parental psychological functioning (Jones & Prinz, 2005). Thus, it is reasonable to consider parenting self-efficacy as an indicator of the basic need "competence," and the lack of parenting self-efficacy as an indication that the need for competence has not been satisfied. It is expected that lower parenting self-efficacy, which represents lower perceived competence level, will be associated with more psychological control among immigrant parents.



### **Acculturation Stressors on Parenting**

As previously discussed, the focus of the current research is on the predictors of psychological control in the context of immigrant families, and therefore it is critical to consider the role of potential stressors associated with the process of acculturation or immigration in impacting parenting behaviors. Studying these stressors is in fact quite vital to understanding parenting in families who have not always lived in the same culture. As the immigrant population has been increasing rapidly in many countries including Canada, more and more family relationships and dynamics are under the influence of acculturation. Therefore, a background understanding of acculturation and the stress that accompanies the process of acculturation is very crucial before we further examine how these acculturation-related stressors may impact parenting, and more specifically psychological control, in immigrant families.

When individuals migrate to a new country, they typically go through acculturation, which is the process of understanding and adapting to a new culture (Berry, 1980). Acculturation plays a significant role in the adjustment and socialization of immigrants. However, while many positively adapt to their new host cultures, the challenges that immigrants typically face in the new host country often make this transition stress-provoking (Berry, 1980), and this stress is typically termed “culture shock” or “acculturative stress” (Yakushko, 2010). Immigrants may experience acculturative stress in various domains, such as economic pressure, learning a new language and customs, as well as long-term stressors such as discrimination and the threat of social and economic marginalization (Pumariega & Rothe, 2010). Given that acculturation is a major component of immigrant parents’ social experience after they migrate to the host country, stressors related to the process of acculturation often have strong impacts on these individuals’ psychological functioning. For instance, in a sample of adult Pakistani American immigrants,

Jibeen (2011) confirmed that acculturation stress predicted lower psychological functioning in various dimensions, including self-acceptance, positive relations with others, autonomy, and personal growth.

Acculturation stress may have negative impacts on the adjustment and well-being of not only the individual, but also the whole family. Thus, in order to develop a full understanding of the predictors of psychological control among immigrant parents, it is essential to consider the role of acculturation stress as a potential stressor on parenting behaviors. Even though no previous literature has addressed the direct link between acculturation stress and psychological control, some preliminary evidence supports the influence of acculturation stress on parent-child relationships. In their research on Chinese American immigrant families, Fung and Lau (2010) found that acculturation stress was significantly associated with higher parent-child conflict; similar findings were also replicated in other cultural samples such as Latin American families (e.g., Buchanan & Smokowski, 2009). Other research suggests that specific domains of acculturative stress may influence immigrant parents' child rearing. For example, in a study of Mexican American immigrant families, financial hardship negatively predicted warmth and consistent discipline (White, Roosa, Weaver, & Nair, 2009). Together, these research studies suggest that the stress associated with acculturation and immigration may have a substantial impact on how parents interact with their children. Thus, as previously mentioned, for the current research on immigrant families, I included not only parenting stressors that may be universally relevant, but also those that are more specific to the process of acculturation. Acculturation stress can be measured in various domains, such as interpersonal stress and perceived discrimination (Padilla et al., 1985). For the purpose of this research, specific dimensions of acculturation stress were measured as potential stressors that may frustrate immigrant parents' need for relatedness

and competence: interpersonal acculturation stress, perceived discrimination, limited Chinese social network, and language-related stress.

One key domain of acculturation stress that may potentially frustrate the need for relatedness for immigrant parents is interpersonal stressors (Padilla et al., 1985). Immigrants often face challenges in their social interactions with other individuals from the host culture. For example, individuals may feel excluded in their social circle due to their cultural background or customs, or they may experience difficulties interacting with people from the host culture in a natural and comfortable manner. A second form of interpersonal acculturation stress is the perceived or actual racial discrimination, which is defined as the negative attitude, judgment, or unfair treatment of members of a particular ethnic group (Williams, Spencer, & Jackson, 1999). Previous literature has consistently found discrimination to be a commonly experienced stressor for immigrants from different backgrounds (e.g., Choi & Dancy, 2009; Roche & Kuperminc, 2012). While not universal, many immigrants report experiencing discrimination in the host country, and thus this stressor is relevant for many individuals, including Chinese immigrants (e.g., Xiao, Xu, & Stanley, 2010; Qin, Way, & Rana, 2008). Overall, the fears and feelings of being racially rejected, alienated or even discriminated against by members of the host culture are definitely stress-provoking. Both types of interpersonal acculturation stressors can impair one's sense of social connectedness in the host culture. For example, research has found strong positive correlations between acculturation stress in the social context and feelings of loneliness and isolation in Asian immigrant samples (Han et al., 2007; Myers-Walls et al., 2011). Perceived discrimination specifically has been found to be associated with higher psychological distress and poorer psychological adjustment in Chinese American adults (e.g., Benner & Kim, 2009; Grossman & Liang, 2008). Therefore, since the need for relatedness refers to the development

and maintenance of good social connections with others, it is reasonable to include both interpersonal acculturation stress and discrimination as potential stressors that indicate a failure to meet the need for relatedness. It was hypothesized that parents who experienced higher interpersonal acculturation stress and perceived discrimination, and thus a sense of frustration in relatedness, would engage in more psychologically controlling behaviors over time.

A third construct that indicates the frustration of need for relatedness is related to the concept of ethnic density, which refers to the percentage of individuals of same ethnicity living within an individual's community. Higher ethnic density has been associated with less perceived discrimination and higher social support for some groups of immigrants in Britain, including some from Asian countries such as India and Pakistan (Das-Munshi et al., 2010). Therefore, immigrants may have a more difficult time meeting their need for relatedness in a less ethnically dense context. However, it is important to note that higher ethnic density does not necessarily imply higher level of interpersonal interaction with intra-ethnic group members in one's community. Ethnic density measures are often proxy variables for the more immediate experiences individuals have in their social network. An understanding of the level and depth of interaction between Chinese immigrant parents and other Chinese individuals in the community is a more direct measure of individuals' social contacts within their ethnic community. Evaluating the size of parents' Chinese social network provides additional information regarding how well parents' need for relatedness is met. I expected parents who report a more limited Chinese social network would engage in more psychologically controlling parenting over time, because their need for relatedness is not satisfied.

While interpersonal acculturation stress, discrimination, and a small within-group social network are potential stressors that may frustrate immigrant parents' needs for relatedness,

acculturation stress in the *language* and *communication* domain may serve as an acculturation stressor that indicates frustration of immigrant parents' need for competence. Difficulties speaking English is often a major challenge for immigrants coming from countries where English is not a primary language, and immigrants typically experience a lot of stress in trying to cope with the challenges that they encounter in social, academic, and work settings due to the lack of language proficiency. Research has consistently suggested that immigrants who are lower in their English proficiency tend to report higher stress (e.g., Cervantes & Cordova, 2011), and this has been replicated in Chinese American immigrants (e.g., Casado & Leung, 2002). Lower second language proficiency has been found to be associated with feelings of inadequacy, isolation, and lower self-esteem in various immigrant populations (e.g., Noels, Pon, & Clement, 1996; Myer-Walls et al., 2011), including Chinese immigrants (e.g., Chan & Leong, 1994). These findings suggest that the inability to be proficient in the official language of the host country can greatly impair immigrants' sense of competence in that given cultural context. Thus, examining the relationship between parents' reported language stress and the psychological control of their children evaluated the hypothesis that the frustration of the need for competence is associated with more psychologically controlling parenting.

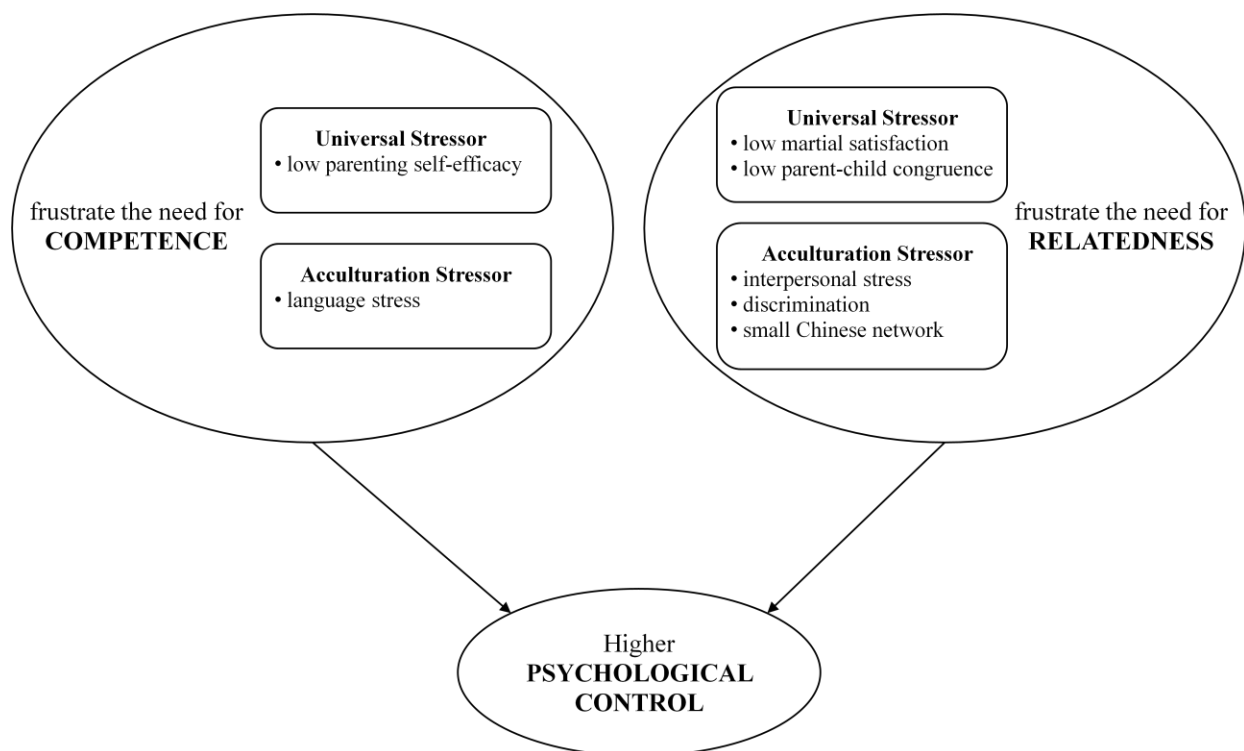
In general, acculturation stress may be especially pronounced when the cultural distance between one's heritage culture and the settlement culture is large, and this cultural distance tends to create many barriers that can be stressful for immigrants as they settle down and attempt to integrate to the host society. It is also possible that certain acculturation stressors are exacerbated by specific contextual variables. For instance, the experience of acculturation stress may be especially pronounced among immigrants with lower socioeconomic background (SES). For one thing, lower SES may represent more limited resources and fewer opportunities that facilitate a

smooth adjustment process (Ying, Han, & Tseng, 2012); for another, lower SES may underlie another variable that is a more proximal contributor to higher acculturation stress, such as poor language proficiency. Indeed, previous research has demonstrated the importance of contextual variables such as education and income in understanding Chinese immigrants' within-group differences in acculturation stress (e.g., Shen & Takeuchi, 2001). Ultimately, however, the experiences of interpersonal stress, discrimination, and language stress are all considered to be common elements of acculturation stress, and they do not appear to be uniquely associated with immigrants of any specific ethnic heritage or demographic background. Previous research has supported the existence and relevance of these specific acculturation stressors in Chinese immigrants in both Canada and the United States, as reviewed in many of the studies above (e.g., Casado & Leung, 2002; Chan & Leong, 1994).

Finally, with consideration to both universal and acculturation-specific stressors for immigrant parents, it is important to note that the connection between parenting stress and negative parenting practices is comparable across different cultures, including Chinese immigrants. In a study comparing Chinese Canadian immigrant mothers, European Canadian mothers, and mainland Chinese mothers, Sue and Hynie (2011) found a positive correlation between parenting stress and punitive parenting across all three groups. This suggests that stress generally has an effect on parenting style, regardless of cultural background. Even though Sue and Hynie did not examine psychological control and the specific parenting stressors that are of interests in the current study, their findings provide some support for the generalizability of results from Western literature to the population of Chinese Canadian immigrants. Thus, it is reasonable to assume that these stressors that are assessed in the Chinese Canadian sample used in the current study have real world implications for this specific immigrant group.

### **Research Objectives and Hypothesis**

Guided by the three basic psychological needs nested within the theoretical framework of SDT, the current research aims to investigate constructs that predict the level of immigrant Chinese parents' psychologically controlling parenting behaviours. Specifically, various parenting and acculturation stressors that can potentially frustrate the parents' need for relatedness and competence were evaluated, as illustrated by the conceptual model depicted in Figure 1. In line with SDT, I hypothesized that the parents would be more likely to engage in psychologically controlling parenting when their two basic needs were frustrated. Multiple measures of each psychological need, relatedness and competence, were assessed. Lower parent-child congruence and marital satisfaction, smaller Chinese social networks, and higher interpersonal acculturation stress and discrimination were hypothesized to predict higher psychological control, as these stressors likely frustrate parents' need for relatedness. Similarly, I expected lower parenting self-efficacy and higher language acculturation stress to predict higher psychological control, as these two stressors potentially prevent the need for competence from being satisfied.



*Figure 1.* Conceptual theoretical framework of the relationship between basic need frustration (represented by relevant constructs) and parental psychological control over time.

I studied these issues using a sample of Chinese immigrant parents for two main reasons. First, the role of acculturation stress in impairing immigrant parents' needs for competence and relatedness is an essential component of this study. Chinese culture is strongly collectivistic and family oriented (Oyserman, Coon, & Kemmelmeier, 2002), and the impact of acculturation stress may be especially pronounced within families who immigrate from a collectivistic cultural background (Dyal & Dyal, 1981; Fung & Lau, 2010). Thus, parental acculturation stress is likely to have a strong impact on Chinese immigrants' family dynamics. In addition, as the second largest subgroup among all immigrants in Canada, and the largest in British Columbia (BC Stats, 2006; Statistics Canada, 2007), studying the predictors of psychological control in Chinese immigrant families will provide a better understanding of one of Canada's major and fast-growing immigrant groups.



**Direction of effects.** One major limitation of previous research on psychological control is the lack of theoretical representation of the direction of effects between variables. The current research adopted a two-wave longitudinal design, utilizing data from Chinese immigrant families at two different points of time. Specifically, perceived parental psychological control was measured at two time points, and the relationship between these two measures (i.e., the stability of psychological control across time) was evaluated. The Wave 1 concurrent relationships between the predictors (i.e., frustrated competence and relatedness) and outcome (i.e., psychological control) were accounted for by controlling for Wave 1 psychological control in testing these relationships. In other words, measuring psychological control at two points of time allowed one to confirm that the relationship between the hypothesized predictors and outcome was not simply correlational. In addition, I incorporated a cross-lagged panel design, which is a longitudinal model that is typically employed to increase confidence in making inferences about causal relations between variables measured at two different time points. Adopting such a design allowed me to test not only the impact of the proposed predicting variables (e.g., parent-child congruence) on changes in psychological control over time, but also the other way around in instances where it was theoretically meaningful to do so. For example, I hypothesized that parent-child congruence is a stressor that would lead to higher use of parental psychological control. At the same time, previous research has also found that higher psychological control is associated with lower parent-child closeness and lower satisfaction in parent-child relationships (Urry, Nelson, & Padilla-Walker, 2011). Similarly, higher maternal psychological control has been found to predict more mother-child conflicts (Steeger & Gondoli, 2012), and higher levels of conflict are often associated with lower levels of parent-child congruence (Lin, 2008). In other words, not only is lower parent-child congruence a predictor of psychological control, it is also

likely a product of high psychological control. In cases like this, adopting a cross-lagged panel design allows the examination of both potential relationships simultaneously. Evaluating reciprocal relationships like this makes it more possible to make statements about causal relationships.

**Length of residence as a moderator.** Parents' length of residence in Canada was considered to be a factor that could potentially moderate the relationship between the hypothesized stressors and parental psychological control. Specifically, it was hypothesized that recent immigrant parents would be more vulnerable to the impacts of the acculturation stressors (e.g., language stress, interpersonal acculturation stress) because this is the stage where immigrants are just starting to adapt to the new host culture. Experiencing these stressors at this time may be more debilitating to parents' overall sense of competence or relatedness (depending on the stressor). In addition, I also hypothesized that immigrant parents with a shorter length of residence would be more vulnerable to the impacts of universal stressors (e.g., marital satisfaction, parent-child congruence) as well, because having intact and supportive family relationships might be especially important during the earlier stage of immigration, when things outside of the family are unfamiliar and stressful. In sum, it was hypothesized that length of residence would significantly moderate the strength of relationship between competence and relatedness frustration, and psychological control.

**Separate analyses for fathers and mothers.** The relationship between potential stressors that may frustrate immigrant parents' needs for competence and relatedness and their use of psychologically controlling parenting practices was evaluated separately for mothers and fathers. Some research on Chinese samples has suggested that mothers in general are more likely to engage in psychological control, compared to fathers (e.g., Shek, 2008). Thus, this higher

baseline among mothers may be evident in the current sample as well. Grolnick (2003) also suggested that mothers in general may be especially vulnerable to the undermining effects of stress on their parenting behaviors, because they are more likely to be the child's primary caretaker, and thus spend more time with the child. This implies that the relationship between some of the stressors investigated and psychologically controlling parenting may be stronger for mothers than fathers. However, it is important to note that Grolnick's assumptions were made regarding stress in general, while the stressors of interest here are domain specific (e.g., marital stress, acculturation stress, etc.). Also, as fathers have become more involved in parenting than in the past (Ponnet, Mortelmans, Wouters, Van Leeuwen, Bastaits, & Pasteels, 2013), it is questionable whether Grolnick's speculations still hold true. In fact, some researchers have made reference to the fathering-vulnerability hypothesis, which suggests that fathering and father-child relationships might be more vulnerable to marital stress compared to those of mothers, because there is less distinction between the role of father and husband, compared to that of mother and wife (e.g., Belsky, Gilstrap, & Rovine, 1984; Cummings, Goeke-Morey, & Raymond, 2004). Mixed empirical evidence on the father-vulnerability hypothesis (Ponnet et al., 2013) adds to the complexity of understanding whose parenting may be more vulnerable to stress. Therefore, analyses were conducted separately among mothers and fathers in an effort to help resolve some of this uncertainty. Based on previous research, I hypothesized that mothers in the current sample will engage in higher psychological control on average, compared with fathers. However, no specific hypothesis was made regarding the comparative strength of relationship between need frustration and psychological control for mothers and fathers, given the limited and mixed research evidence.

## Method

### Participants

In the current study, I utilized a two-wave longitudinal dataset collected for the Intercultural Family Study (IFS), a larger project that focuses on the adaptation and adjustment of Chinese Canadian immigrant families. Families were considered to be eligible for the IFS if they self-identified as ethnically Chinese, if both parents in the family were born outside of Canada and came to Canada after the age of 18, and if there was at least one child between the age of 12 and 17 years old during the time of recruitment. At the first wave of the study (Wave 1), families were recruited from a mid-sized city and a large metropolitan area in British Columbia, Canada. The final sample was consisted of 165 fathers, 179 mothers, and 181 children from a total of 182 families.

At Wave 1, participating mothers were on average 44.79 years old ( $SD = 4.74$ ), fathers were on average 47.16 years old ( $SD = 5.71$ ), and children were on average 14.95 years old ( $SD = 1.70$ ). Mothers' mean length of residence in Canada was 10.56 years ( $SD = 6.52$ ), and fathers' was 11.01 years ( $SD = 7.07$ ). The families emigrated from either the People's Republic of China (66.1%), Taiwan (20.4%), or Hong Kong (13.5%). Slightly more than half children (54.7%) were foreign-born and immigrated at the age of 6 or older, while the remaining children (45.3%) were either Canadian born, or immigrated prior to the age of 6. The child sample was approximately equal in terms of gender (51.9% females and 48.1% males). Most of the participating families (93.4%) were two-parent families, and the parents had been married for an average of 19.02 years ( $SD = 4.18$ ). Only a small portion of the families reported being divorced and currently single (12 families, 6.6%). In terms of education level, 19.5% of the fathers completed elementary, junior or senior high school (20.7% for mothers), 20.1% completed vocational

school or college (33.0% for mothers), 27.4% completed a 4-year university degree (31.8% for mothers), and 32.9% completed graduate or professional school (14.5% for mothers). The majority (79.2%) of the parents were employed at the time of recruitment, with more fathers (88.5%) than mothers (69.8%) reported as employed.

Of the Wave 1 sample, 151 families (83.0%) participated in a follow-up assessment 18 months after the Wave 1 assessment. Of the 30 families who did not participate at Wave 2, 10 families had refused participation, 11 were not contacted based on their indicated preference at Wave 1, 8 could not be located, and 1 had moved back to China. Differences on demographics between families that participated at both waves and those that did not participate at Wave 2 were further explored in the preliminary analyses.

### **Procedure**

The IFS project was approved by the Human Research Ethics Committee of the University of Victoria. Potential participants were recruited from two cities in British Columbia. The largest proportion (67.0%) of participants was recruited randomly using a survey research centre to identify and contact individuals with Chinese surnames listed in telephone directories. Families who met the inclusion criteria and expressed interest in participating were then sent a letter providing more detailed information about the study, and contacted by phone to schedule an appointment to complete data collection. The remaining participants (33.0%) came from referrals primarily from families who had participated.

All but one of the participating families chose to complete the study in their own homes versus at the university. During each appointment, two research assistants, at least one able to speak the family's native language, were always present. Each family member (father, mother, and target child) completed a package of self-report measures independently, and all family

members had the option of completing the measures in English or Chinese script. The majority of parents chose to complete the measures in Chinese, while all participating children completed the measures in English. The measures were originally developed in English, and then translated into Chinese by a team of bilingual individuals from China, Taiwan, and Hong Kong. In order to ensure cross-language equivalency, the Chinese versions were then back-translated by another team of bilingual individuals, and the back-translated English measures were compared to the original English measures. The few discrepancies were resolved by discussion. All families received small monetary compensation (\$50 at Wave 1 and \$60 at Wave 2) for their participation. Identical procedures were followed at Wave 2 assessment.

## **Measures**

**Demographic information.** Parents were asked to indicate their age, marital status, education level, details about employment, family income, and relevant information about their immigration history (e.g., length of residency in Canada). A complete list of items included is listed under Appendix H.

**Parental psychological control.** Adolescents' perceptions of parental psychological control were assessed using the 8-item Psychological Control Scale - Youth Self Report (PCS-YSR; Barber et al., 2005). This scale is a shortened version of the 16-item measure developed by Barber (1996). The original 16-item measure was based on an analysis of the psychological control/psychological autonomy subscale items of Schaefer's Children's Report of Parental Behavior Inventory (CRPBI; 1965a) and another set of items written to more adequately tap the hypothesized dimensions of parental psychological control. The final 8-item version of the scale includes 2 items on constraining verbal expression (e.g., My mother "often interrupts me"), 1 item on invalidating feelings (My mother "is always trying to change how I feel or think about

things”), 2 items on personal attack (My mother “blames me for other family member’s problems”), and 3 items on love withdrawal (e.g., My mother “is less friendly with me if I do not see things her way”). Children in the current study were asked to indicate the level of perceived psychological control they received from each parent. Parallel questions were asked about mothers and fathers. Children responded on a three-point Likert scale from 1 (*not like her/him*) to 3 (*a lot like her/him*), as to how well items described their mothers and fathers. Higher scores indicated higher levels of perceived parental psychological control. The scale showed excellent reliability in the current sample for children’s Wave 1 reports of both fathers’ psychological control ( $\alpha = .81$ ) and mothers’ psychological control ( $\alpha = .80$ ). Similar reliability was obtained at Wave 2 (.79 for fathers and .76 for mothers).

**Marital satisfaction.** Parents’ level of marital satisfaction was assessed with the 3-item Kansas Marital Satisfaction Scale (KMS; Schumm, Paff-Bergen, Hatch, Obiorah, Copeland, Meens, et al., 1986). This scale was designed to be a brief measure of marital relationship satisfaction. Parents were asked to indicate how satisfied/dissatisfied they were with the quality of their marriage (“How satisfied are you with your marriage?”, “How satisfied are you with your husband or wife as a spouse?”, and “How satisfied are you with your relationship with your husband or wife?”), on a scale of 1 (*extremely dissatisfied*) to 7 (*extremely satisfied*). Higher scores indicated higher levels of marital satisfaction. Schumm and colleagues (1986) reported high internal consistency of the Kansas Marital Satisfaction Scale ( $\alpha = .93$ ). In addition, the KMS has been demonstrated to have good construct validity (Schumm, Crock, Likcani, Akagi, & Bosch, 2008) and discriminant validity (e.g., Crane, Middleton, & Bean, 2000). In the current sample, the scale showed excellent reliability for both fathers ( $\alpha = .98$ ) and mothers ( $\alpha = .97$ ). The KMS was only administered at the first wave of data collection.

**Parenting self-efficacy.** Parenting self-efficacy was assessed with the 10-item Parenting Self-Agency Measure (Dumka, Stoerzinger, Jackson, & Roosa, 1996). This scale evaluates parents' confidence in their parenting role, feelings of helplessness in the face of challenging child behavior, and degree of parenting effort and persistence (e.g., "I know I am doing a good job as a mother/father," "I can solve most problems between my child and I."). Parents rated the items on a Likert scale from 1 (*never*) to 7 (*always*), with higher scores indicating greater parenting self-efficacy. Parents were instructed to consider the target child in this study when completing this measure. The scale was developed and validated with two samples: 1) non-immigrant European American mothers and 2) immigrant Mexican American mothers (Dumka et al., 1996). The Parenting Self-Agency Measure has shown good reliability ( $\alpha = .81$ ) and construct validity, demonstrated through correlations with other measures of generalized efficacy and parenting efficacy that ranged from .50 to .78 (e.g., Coleman & Karraker, 2000). Internal consistency in the current sample was .80 for fathers and .75 for mothers at Wave 1, and similar at Wave 2 (.80 for fathers and .79 for mothers).

**Parent-child congruence.** The level of congruence between parents and children was assessed with the 8-item Intergenerational Congruence in Immigrant Families – Parent Scale (ICIF-PS; Ying & Tracy, 2004). The ICIF-PS was developed to assess the degree of parent-child agreement in values and behaviors across various life domains, from the perspective of the parent. The first five items of the scale were adapted from the Locke-Wallace Marital Adjustment Scale, developed to assess the level of congruence between couples (Locke & Wallace, 1959). Examples include: "My child and I agree on the aims, goals, and things believed to be important in life"; and "My child and I generally talk things over together." Two items were added to assess agreement on behavior in the U.S. setting (Canadian in the current study),



and in the immigrant's ethnic heritage setting (Chinese in the current study). The last item measures parent's overall satisfaction with the parent-child relationship. Items were rated on a Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher score indicating greater parent-child congruence. The scale was developed and validated with a sample of Chinese American immigrant parents (Ying & Tracy, 2004), and it showed excellent internal reliability ( $\alpha = .90$ ;  $N = 787$ ). Internal consistency for the current sample was .88 for fathers and .87 for mothers at Wave 1, and slightly lower at Wave 2 (.75 for fathers and .78 for mothers).

**Acculturation stress – language.** Acculturation stress in the language domain was assessed with items originally from the 21-item Social, Attitudinal, Familial, and Environmental Acculturative Stress Scale (SAFE; originally developed by Padilla et al., 1985, and later shortened by Mena et al., 1987). Two items assessed the level of acculturation stress in the language domain (e.g., “I have trouble understanding others when they speak”). The original SAFE scale asked participants to indicate the extent to which the given scenarios were stressful to them on a Likert-type scale (from “not stressful” to “extremely stressful”). The expression of the scale was slightly modified in the current study, where parents were asked to indicate the frequency of feeling stressed by the given situation on a Likert scale from 1 (*never*) to 5 (*very often*). Internal consistency for language stress was .77 for fathers and .80 for mothers. This measure was only assessed during Wave 1.

**Acculturation stress – interpersonal.** Acculturation stress in the interpersonal domain was also assessed with items originally from the SAFE (Padilla et al., 1985; Mena et al., 1987). Four items from the SAFE measured acculturation stress in the social domain (e.g., “Because of my ethnic background, I feel that others often exclude me from participating in their activities”). Similar to the language items, parents were asked to indicate the frequency of feeling stressed by

the given interpersonal situation from 1 (*never*) to 5 (*very often*). Internal consistency across the interpersonal stress items selected for the current sample was .75 for fathers and .76 for mothers. This measure was also only assessed during Wave 1.

**Perceived discrimination.** The level of perceived discrimination was assessed with three items used by Gil, Vega, & Dimas (1994) to measure the level of perceived discrimination in a group of Hispanic adolescent boys (e.g., “How often do people dislike you because of your ethnicity?”). Words referring to specific ethnic heritage in the original items were adjusted to fit the ethnicity of the current sample. Similar to the acculturation stress measures, parents were asked to indicate the frequency of encountering the given situation or feeling the given emotion on a Likert scale from 1 (*never*) to 5 (*very often*). Internal consistency across the items selected for the current sample was .86 for fathers and .87 for mothers at Wave 1, and .80 for fathers and .78 for mothers at Wave 2.

**Chinese social network.** The level of social interaction between Chinese immigrant parents and other Chinese individuals in the community was assessed with seven items developed for the IFS study. The first three items asked parents to rate the amount of time they spend with other Chinese families in three types of activities (e.g., “How often do you spend time with other Chinese parents in activities for children?”). These items were rated on a Likert scale from 1 (*almost never*) to 5 (*almost always*). The other four items evaluated the extent to which parents were friends with other Chinese individuals (e.g., “How many of your close friends are Chinese?”; “How many of your friends that you talk to about parenting are Chinese?”). These items were also rated on a Likert scale from 1 (*almost none*) to 5 (*almost all*). These items showed good reliability in the current sample for both fathers ( $\alpha = .85$ ) and mothers ( $\alpha = .87$ ) at Wave 1.

## Results

### Analyses of the Psychological Control Scale

Before launching into the preliminary analyses, some previous research has suggested that the use of love withdrawal in the context of Chinese families, unlike other psychologically controlling parenting behaviors, may be adaptive, or at least not negatively related to children's mental health (e.g., Barber et al., 2005; Olsen et al., 2002). If this were the case in the current sample, one could question the validity of including love withdrawal items in the psychological control measure. Therefore, preliminary analyses were conducted to evaluate whether the three love withdrawal items on the psychological control measure form a factor that is distinct from the other five non-love withdrawal items, suggesting that they should be analyzed separately for the current sample.

**Individual model fit evaluation.** First, structural equation model analyses were conducted to determine whether a two-factor model of psychological control was a better fit over the original one-factor model. Using AMOS 21.0, a series of confirmatory factor analyses examined model fit separately for mothers' and fathers' psychological control. Model fit was evaluated using the chi-square goodness-of-fit test, the comparative fit index (CFI; Bentler, 1990), and the root-mean-square error of approximation (RMSEA; Steiger, 1990). Good model fit is indicated by a non-significant chi-square value, a  $\chi^2/df$  ratio less than 3.0, a CFI of .95 or greater, and an RMSEA of less than .05. Adequate fit is indicated by a CFI value between .90 and .95 (Kline, 2010), and an RMSEA between .05 and .08 (Byrne, 2010). Results of individual model fit are summarized in Table 1.

Table 1  
*Goodness-of-fit Indicators of Models for Parental Psychological Control*

Model	$\chi^2$	df	$\chi^2/df$	CFI	RMSEA	BIC
Mothers (N = 177)						
Single-factor	74.71**	20	3.74	.86	.13 (.10-.16)	157.53
<b>Single-factor with modification</b>	37.46**	19	1.97	.95	.07 (.04-.11)	125.46
<b>Two-factor with modification</b>	34.81**	18	1.93	.96	.07 (.04-.11)	127.99
Fathers (N = 177)						
<b>Single-factor</b>	45.07**	20	2.25	.91	.08 (.05-.12)	127.89
Single-factor with modification	23.57	19	1.24	.98	.04 (.00-.08)	111.56
Two-factor with modification				n/a		
<b>Two-factor</b>	44.99**	19	2.37	.90	.09 (.06-.12)	132.99

*Note.* Bolded models are the ones that were entered into model comparison in the end  
 \* $p < .05$ ; \*\* $p < .01$

The standardized loadings for the models being compared are summarized in Table 2. The Bayesian Information Criterion (BIC; Kass & Raftery, 1995) was used to compare the fit between one-factor and two-factor models. Although the chi-square difference test is usually the preferred model comparison statistics, it is only meaningful when comparing nested models, which contain the same observed and latent variables. When comparing non-nested models (i.e., with different latent variables), however, the BIC difference test is recommended, as the BIC takes model complexity into account when measuring goodness-of-fit (Raftery, 1995). To compare models, the smaller BIC value is subtracted from the larger BIC value, and a BIC difference greater than 10 indicates a “very strong support” that the model with the smaller BIC fits better than the one with the larger BIC, at a probability level of  $p$  less than .05 (Raftery et al., 1995, p. 139). A BIC difference between 6 and 10 indicates “strong support” (Raftery et al., 1995, p. 139).

Table 2  
*Standardized Loadings for the Finalized One- and Two-Factor Models of Psychological Control*

Item	Mothers' Psychological Control		Fathers' Psychological Control	
	One-Factor	Two-Factor	One-Factor	Two-Factor
1	.45	.45	.40	.40
2	.69	.70	.37	.37
3	.76	.77	.44	.45
4	.64	.65	.65	.65
5	.48	.47	.52	.53
6	.72	.79	.69	.69
7	.50	.54	.60	.61
8	.34	.35	.61	.62

For mothers' psychological control, the initial one-factor model showed a poor model fit. Based on the modification recommendations provided by AMOS, the errors of two love withdrawal items were manually correlated to improve model fit (i.e., the items "(my parent) will avoid looking at me when I have disappointed him/her" and "If I have hurt her/his feelings, (my parent) stops talking to me until I please her/him again"). The modified model still had a significant chi-square value, but was judged to be adequate based on  $\chi^2/df$ , CFI and RMSEA criteria (see Table 1). Next, a two-factor model with the same error modification was evaluated. This two-factor model separated out the three love withdrawal items to form one latent factor, which was correlated with the latent factor formed by the five non-love withdrawal items. This two-factor model also had an adequate fit (see Table 1). For mothers' psychological control, a comparison was made between the single-factor model with modification, and the two-factor model with modification. Result of the BIC difference test failed to show a significant difference between the one- and two-factor models ( $\Delta BIC = 2.53$ ).

For fathers' psychological control, the initial one-factor model showed a poor fit, and AMOS recommended the same modification as with mothers (i.e., correlating the errors of the two love withdrawal items). The modified one-factor model showed a good fit based on the indices, with a non-significant chi-square value (see Table 1). Next, a two-factor model with the same modification was evaluated; however, the covariance matrix of this analysis was not positive definite, suggesting potential problems in interpreting the model fit indices provided. Therefore, a decision was made to evaluate a two-factor model *without* any modification, and compare this model to the original one-factor model without modification, in order to keep the structure of the models compared consistent. For fathers' psychological control, a comparison was made between the single-factor model without modification, and the two-factor model without modification. Similarly, there was a lack of significant difference between the two models ( $\Delta \text{BIC} = 5.10$ ). These results suggest that for both mothers and fathers, the two-factor model of psychological control did not have a significantly better fit compared to the original one-factor model of psychological control.

**Reliability across items.** In addition to the confirmatory factor analyses reported above, the viability of creating scale scores for the three love withdrawal items ("LW") separate from the five non-love withdrawal items ("NLW") was assessed. Internal consistency reliability was evaluated using Cronbach's alpha. Marginally acceptable reliability was found for both father's ( $\alpha = .68$ ) and mother's ( $\alpha = .67$ ) LW items. Acceptable reliability was also found for the NLW items for mothers ( $\alpha = .73$ ). However, for fathers, the reliability of these five items was rather poor ( $\alpha = .60$ ).

**Association with mental health adjustment.** Lastly, the pattern of association between the child's mental health outcomes and each of LW, NLW, and the full psychological control

measure was examined. Child's mental health was indexed by their level of internalizing and externalizing symptoms at Wave 1. Results are summarized in Table 3. As expected, the full scale psychological control measure was significantly associated with poor mental health. Significant positive correlations were also found between LW and mental health symptoms, as well as between NLW and the same mental health outcomes. Thus, there was no evidence that the LW items were differentially related to child adjustment. These results provided further support for a lack of need to analyze love withdrawal as a separate construct in the current sample. Therefore, I proceeded with my preliminary analyses using the full psychological control scale.

Table 3

*Correlation between Psychological Control and Child's Wave 1 Mental Health Adjustment*

	Full Scale		Love Withdrawal (LW)		Non Love-withdrawal items (NLW)	
	Father	Mother	Father	Mother	Father	Mother
Child internalizing	.42**	.35**	.35**	.32**	.40**	.30**
Child externalizing	.38**	.35**	.34**	.32**	.34**	.30**

\*\* $p < .01$

### **Preliminary Analysis**

A one-way between subjects ANOVA was conducted to compare differences in demographics between families who participated at both waves, and those who did not complete Wave 2. Families that participated at both waves were not significantly different from those who only participated at Wave 1 in terms of parental age (both fathers' and mothers'), length of parental marriage, and parental education level (both fathers' and mothers'). However, families who participated only at Wave 1 had a significantly longer length of residence in Canada ( $M = 14.24$ ,  $SD = 7.89$ ), compared with families who participated at both waves ( $M = 9.76$ ,  $5.73$ ),  $F(1, 157) = 11.65$ ,  $p = .001$ . In addition, families who participated only at Wave 1 had a child that

was significantly older ( $M = 15.71$ ,  $SD = 1.56$ ) than those in families who participated at both waves ( $M = 14.76$ ,  $SD = 1.72$ ),  $F(1, 157) = 6.75$ ,  $p = .01$ . In these analyses, mothers' data were used. In short, families who participated at both waves had been in Canada for a shorter time and had a younger child than families who participated at Wave 1 only.

**Analyses of normality.** The means and standard deviations for the main study variables are presented in Table 4. Measures of normality were computed to understand the variability of the main study variables (i.e., psychological control at both waves, and parent-child congruence, parenting efficacy, marital satisfaction, discrimination, interpersonal stress, language stress, and Chinese network at Wave 1). The standardized skewness and kurtosis of these variables were compared against zero at the .001 significance level. As expected in a community sample, results suggested a lack of normality for psychological control, marital satisfaction, and perceived discrimination. Psychological control was positively skewed for both fathers (skewness = .81,  $SE = .18$ ) and mothers (skewness = .80,  $SE = .18$ ) at Wave 1 and for fathers at Wave 2 (skewness = .85,  $SE = .20$ ). Perceived discrimination was also positively skewed (fathers: skewness = .70,  $SE = .19$ ; mothers: skewness = .56,  $SE = .18$ ). Marital satisfaction was negatively skewed for both fathers (skewness = -1.31,  $SE = .19$ ) and mothers (skewness = -.97,  $SE = .19$ ). In addition, the kurtosis of paternal marital satisfaction (kurtosis = 2.50,  $SE = .38$ ) and discrimination (kurtosis = 1.30,  $SE = .38$ ) were significantly different from zero.



Table 4  
*Descriptive Data for Demographic and Main Study Variables*

	Fathers (N = 165)		Mothers (N = 179)	
	Mean (SD)	Range	Mean (SD)	Range
<b>Demographic Variables</b>				
Age	47.16 (5.71)	37-68	44.79 (4.74)	35-61
Length of residence	11.01 (7.07)	2.00-35.58	10.56 (6.52)	2.00-35.08
Age of arrival	36.18 (6.40)	18.17-53.17	34.11 (5.85)	18.92-49.42
Education	4.63 (1.32)	1-6	4.32 (1.14)	1-6
Marriage length	19.02 (4.18)	10.00-38.00		
Child's age	14.95 (1.70)	11.75-17.99		
<b>Predictor Variables</b>				
Parent-child congruence	3.81 (.54)	2.25-5.00	3.97 (.51)	2.25-5.00
Marital satisfaction	5.79 (.95)	2.00-7.00	5.50 (1.09)	1.67-7.00
Parenting efficacy	5.10 (.68)	3.60-6.60	5.18 (.63)	3.60-6.90
Interpersonal stress	1.77 (.62)	1.00-3.75	1.73 (.60)	1.00-3.50
Language stress	2.68 (.92)	1.00-5.00	2.60 (.91)	1.00-4.50
Chinese friends	3.80 (.98)	1.00-5.00	3.82 (.97)	1.00-5.00
Discrimination	1.94 (.69)	1.00-4.67	1.95 (.70)	1.00-4.67
<b>Psychological control</b>				
Wave 1	1.52 (.42)	1.00-2.75	1.61 (.45)	1.00-3.00
Wave 2	1.52 (.43)	1.00-2.88	1.62 (.43)	1.00-2.75

Note: Education was scored as followed; elementary (1), junior high (2), high school (3), vocational school/college (4), university (5), and graduate/ professional (6)

The above results suggested a need to transform the scores of psychological control (Wave 1 and 2), marital satisfaction (Wave 1), and perceived discrimination (Wave 1) for both fathers and mothers in order to achieve better normality, and see whether the results of subsequent analyses differ when using transformed and when using the original non-transformed variables. Given that the non-normality observed was mostly mild in nature, a square root transformation was used. After transformation, no significant skewness was observed for the distribution of Wave 1 psychological control (fathers: .57, SE = .18; mothers: .53, SE = .18), Wave 2 psychological control (fathers: .58, SE = .20; mothers: .24, SE = .20), Wave 1 marital satisfaction (fathers: .61, SE = .19; mothers: .45, SE = .19), and Wave 1 discrimination (fathers: .15, SE = .19; mothers: .10, SE = .18). In addition, no significant kurtosis was observed for Wave 1 paternal marital satisfaction (kurtosis = .72, SE = .38) and discrimination (kurtosis = -.07, SE = .38) after the transformation. Analyses from this point on were carried out first to include non-transformed variables, then again to include transformed variables. Since the results of these analyses were similar for both approaches, data that was obtained from the original non-transformed variables are reported throughout the results section.

**Demographic variables.** Several demographic variables were considered as potential variables to be controlled, including parents' age, length of residence in Canada, age when arrived in Canada, and education level. In addition, child's age, gender, and generational status were also considered. For the continuous demographic variables (e.g., parents' age), those that were significantly correlated with the main outcome variable (i.e., psychological control at Wave 2) *and* with at least one main predictor variable were candidates for statistical control. The correlations between Wave 2 psychological control and the demographic variables are summarized in Table 5. As shown, none of the continuous demographic variables tested were

significantly correlated with either maternal or paternal psychological control at Wave 2. For the demographic variables that were categorical (i.e., child gender and generational status), independent samples t-test was carried out to compare the level psychological control between groups. Children's generational status was defined as first-generation if they came to Canada after the age of 6, and as second-generation if they were born in Canada or came before the age of 6. No significant difference was found in perceived paternal and maternal control between boys and girls (paternal control:  $t = -.54, p = .59$ ; maternal control:  $t = -1.12, p = .27$ ). Similarly, first- and second-generation Chinese children did not perceive significantly different levels of psychological control (paternal control:  $t = -.59, p = .56$ ; maternal control:  $t = -.67, p = .49$ ). Given the above findings, no demographic variables were controlled for in the main analyses.

Table 5

*Correlation between Demographic Variables and Wave 2 Psychological Control*

	Fathers' Psychological Control	Mothers' Psychological Control
Age	.07	.08
Length of residence	.02	-.07
Age of arrival	.04	.12
Education	-.09	-.08
Child's age	.08	.14

**Inter-correlations among predictor and outcome variables.** The inter-correlations among all predictor variables (parenting efficacy, language stress, marital satisfaction, parent-child congruence, interpersonal acculturation stress, discrimination, and Chinese social network) and between predictors and outcome (psychological control) were computed. Results are presented in Table 6. No correlation above .90 was found among the predictor variables, which indicates no concern over co-linearity across predictors at Wave 1. For both fathers and mothers, the non-culturally related predictors were significantly correlated. The culturally related

predictors were generally correlated, with the exception of Chinese friends, which was related to the non-cultural predictors for mothers but not related to any predictor in general for fathers. Finally, parenting efficacy was found to be correlated with a couple of cultural predictors (discrimination and interpersonal stress), but for fathers only. Overall, there were few significant relations between the predictors and psychological control at both Wave 1 and 2.

**Psychological control across waves.** Paired-samples t-tests were conducted to compare parental psychological control at Wave 1 and at Wave 2, separately for fathers and mothers. Results indicated no significant difference in the scores for fathers' psychological control at Wave 1 ( $M = 1.52$ ,  $SD = .43$ ) and Wave 2 ( $M = 1.52$ ,  $SD = .43$ );  $t(141) = .07$ ,  $p = .95$ . Similarly for mothers, Wave 1 psychological control ( $M = 1.61$ ,  $SD = .45$ ) was not significantly different from Wave 2 ( $M = 1.62$ ,  $SD = .43$ );  $t(145) = -.12$ ,  $p = .91$ . Given that this analysis only revealed the *average* W1 to W2 psychological control change *across all participating parents*, and could potentially mask specific individual changes, the absolute value of the W1 to W2 psychological control difference was computed for each participant, and examined in a frequency distribution. These results also suggested that there were few participants with large changes in psychological control over time. On a scale from 1 to 3 (i.e., possible range of change over time was 0 to 2), the majority of the parents (77.5% fathers and 80.8% mothers) were reported by their children to show a psychological control level change that was less than .5. In contrast, only six fathers (3.5%) and four mothers (1.4%) were reported to show a change in psychological control that was rated higher than 1 (maximum change reported was 1.25 for fathers and 1.38 for mothers). Therefore, there was no evidence for a significant change in psychological control over time across the sample as a whole or specifically for individual participants.

Table 6  
*Correlation among Main Study Variables*

	Parenting Efficacy	Parent- Child Congruence	Marital Satisfaction	Perceived Discrimin- ation	Interpersonal Stress	Language Stress	Chinese Friends	Psych. Control (W1)	Psych. Control (W2)
Parenting Efficacy	—	.62**	.30**	-.20*	-.21**	-.08	.19*	-.20*	-.18*
Parent-Child Congruence	.42**	—	.24**	-.06	-.02	-.06	.22**	-.13	-.01
Marital Satisfaction	.26**	.28**	—	-.08	-.14	-.04	.23**	-.12	-.03
Perceived Discrimination	-.02	-.09	-.01	—	.66**	.26**	-.04	-.001	-.02
Interpersonal Stress	-.08	-.09	-.09	.66**	—	.12	.001	.04	.03
Language Stress	-.07	.01	.03	.38**	.35**	—	.24**	-.06	-.09
Chinese Friends	.10	.11	.06	.04	-.08	.11	—	-.08	-.16
Psychological Control (W1)	-.17*	-.06	-.11	-.09	.00	-.08	.06	—	.57**
Psychological Control (W2)	-.02	-.14	-.09	.03	.02	.02	.07	.65**	—

*Note.* Correlations for fathers are presented above the diagonal and correlations for mothers are presented below the diagonal  
 \* $p < 0.05$  (2-tailed), \*\* $p < 0.01$  (2-tailed)

**Paternal versus maternal psychological control.** Paired-samples t-tests were conducted to compare fathers' and mothers' psychological control levels, separately at Wave 1 and Wave 2. Results indicated significant differences in paternal and maternal psychological control at both waves. At Wave 1, maternal psychological control ( $M = 1.61$ ,  $SD = .45$ ) was significantly higher than paternal psychological control ( $M = 1.52$ ,  $SD = .42$ );  $t(176) = -3.35$ ,  $p = .001$ . The same difference persisted at Wave 2, where maternal psychological control ( $M = 1.62$ ,  $SD = .43$ ) was again significantly higher than paternal psychological control ( $M = 1.52$ ,  $SD = .43$ );  $t(141) = -2.90$ ,  $p = .004$ . In general, it can be concluded that children perceived consistently higher levels of psychological control from mothers than from fathers throughout the 18 months.

I then proceeded with my main analyses to test whether frustration of parents' competence and relatedness needs each predicted an increase in psychological control over time using the full psychological control scale. The hypothesized predictors (representing either frustration in competence or relatedness) were tested to see whether they predicted change in parental psychological control across the two waves of study, first using hierarchical multiple regression, then using structural equation modeling.

### **Multiple Hierarchical Regression Analyses**

The predictors representing frustration of parental competence (i.e., low parenting efficacy and language stress) were evaluated in one regression, and those representing frustration of parental relatedness (i.e., marital dissatisfaction, parent-child incongruence, interpersonal acculturation stress, discrimination, and limited Chinese network) were evaluated together in a separate regression model. Analyses were done separately for fathers and mothers. Therefore, in total, four multiple hierarchical regression analyses were conducted (two for predicting paternal psychological control; two for predicting maternal psychological control). In the first step of the

hierarchical regression, parental psychological control at Wave 1 was entered. The hypothesized predictors for each regression were then entered in the second step. Results are presented in Tables 7 and 8.

Table 7

*Regressions Predicting Changes in Psychological Control over Time (Competence Predictors)*

	Father	Mother
Step 1		
W1 Psychological Control	.54***	.65***
Step 2		
W1 Psychological Control	.52***	.69***
W1 Parenting Efficacy	-.10	.10
W1 Language Stress	-.04	.12 <sup>a</sup>
R <sup>2</sup> change	.01	.02 <sup>a</sup>

<sup>a</sup>  $p < .10$ ; \*\*\*  $p < .001$

Table 8

*Regressions Predicting Changes in Psychological Control over Time (Relatedness Predictors)*

	Fathers	Mothers
Step 1		
W1 Psychological Control	.55***	.64***
Step 2		
W1 Psychological Control	.54***	.65***
W1 Marital Satisfaction	.01	-.01
W1 Parent-child Congruence	.02	-.15*
W1 Interpersonal Stress	.07	-.05
W1 Discrimination	-.02	.16 <sup>a</sup>
W1 Chinese Friends	-.13	.02
R <sup>2</sup> change	.02	.04 <sup>a</sup>

<sup>a</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*\*  $p < .001$

**Frustration of competence.** For both paternal and maternal psychological control, the stability of psychological control between Wave 1 and 2 resulted in a high percentage variance accounted for by W1 psychological control in the model ( $R^2 = 28.7\%$  for fathers and  $42.8\%$  for mothers). The two competence frustration predictors did not account for a significant amount of additional variance for fathers, but accounted for an additional  $2.1\%$  ( $F = 2.59, p < .10$ ) of variance for mothers. More specifically, higher language stress reported by mothers at Wave 1 predicted an increase in their psychologically controlling behaviors at a trend level ( $\beta = .12, p = .07$ ), while parenting efficacy did not predict any significant change in maternal psychological control. Neither variable predicted a significant change in paternal psychological control over time.

**Frustration of relatedness.** Similarly, the stability of psychological control across time was reflected in the high variance accounted for by W1 psychological control before entering the relatedness frustration predictors ( $R^2 = 29.8\%$  for fathers and  $40.8\%$  for mothers). The hypothesized relatedness frustration predictors did not account for a significant amount of the total variance that explained change in psychological control over time for fathers, but accounted for an additional  $4.1\%$  ( $F = 1.97, p < .10$ ) variance for mothers. Specifically, mother-child congruence predicted a significant decrease in maternal psychological control ( $\beta = -.15, p < .05$ ). In addition, higher discrimination reported by mothers predicted an increase in their psychological control at a trend level ( $\beta = .16, p < .10$ ). However, the other hypothesized predictors (i.e., marital dissatisfaction, interpersonal acculturation stress, limited Chinese network) did not predict a significant change in maternal psychological control over time. Finally, change in paternal control across waves was not significantly predicted by any of the hypothesized variables.



## **Length of Residence**

Parents' length of residence in Canada was examined as a potential moderator of the relationship between the hypothesized predictors and psychological control. These analyses evaluated the hypothesis that lower length of residence significantly influences the strength of the relationship between the hypothesized predictors and change in psychological control over time. Before the moderation could be tested, length of residence and each predictor variable was "centered" by subtracting the mean of that variable from each individual score. Next, a new variable was created by computing the product of the centered predictor and the centered length of residence. To test for moderation, a multiple hierarchical regression was carried out for each individual predictor. In the first step of the regression, psychological control at Wave 1 was entered into the regression, followed by the predicting variable and length of residence. In the final step of the regression, the interaction term (i.e., the product of the two) was entered. These analyses were carried out separately for fathers and mothers.

For mothers, there were no significant interactions between the predictors and length of residence. For fathers, two significant interactions were found, between length of residence and 1) interpersonal acculturation stress and 2) marital satisfaction. Results of these multiple regressions are summarized in Table 9. As shown, fathers' length of residence significantly interacted with marital satisfaction in predicting psychological control ( $\beta = .21, p = .01$ ). Similarly, fathers' length of residence interacted with their interpersonal acculturation stress in predicting psychological control at a trend level ( $\beta = .15, p = .05$ ).

Table 9  
*Regression of Fathers' Marital Satisfaction and Interpersonal Acculturation Stress on Psychological Control, with Length of Residence as a Moderator*

	B	Std. Error	$\beta$
Step 1			
W1 Psychological Control	.56***	.08	.55***
Step 2			
W1 Psychological Control	.57***	.08	.55***
W1 Marital Satisfaction	-.01	.03	-.02
W1 Interpersonal Stress	.05	.05	.07
W1 Length of Residence	.00	.01	.01
Step 3			
W1 Psychological Control	.62***	.08	.60***
W1 Marital Satisfaction	.02	.03	.04
W1 Interpersonal Stress	.07	.06	.09
W1 Length of Residence	-.00	.01	-.03
W1 Length of Residence x Marital Satisfaction	.01*	.01	.21*
W1 Length of Residence x Interpersonal Stress	.02 <sup>a</sup>	.01	.15 <sup>a</sup>
R <sup>2</sup> change			

<sup>a</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*\*  $p < .001$

The nature of the two significant interactions for fathers was tested by looking at the direction and strength of the relationship between each predictor (marital satisfaction, interpersonal acculturation stress) and the outcome (psychological control) at three different levels of the moderator (length of residence): one standard deviation above the mean (“high length of residence”), mean level, and one standard deviation below the mean (“low length of residence”). The regression lines for high and low length of residence are graphed in Figure 2 for marital satisfaction, and in Figure 3 for interpersonal stress. As shown, marital satisfaction and psychological control are positively related at high lengths of residence ( $\beta = .31$ ,  $p < .05$ ) and

negatively related at low lengths of residence ( $\beta = -.20, p < .05$ ). Fathers' interpersonal acculturation stress and psychological control are positively related at high lengths of residence ( $\beta = .27, p < .05$ ). However, they are not significantly related at low lengths of residence.

Therefore, these results showed that relatedness frustration, when indicated by high interpersonal stress, predicted increases in paternal psychological control only for fathers who had been in Canada for a longer period of time. However, when indicated by low marital satisfaction, relatedness frustration predicted increases in paternal psychological control only for fathers who had immigrated to Canada more recently.

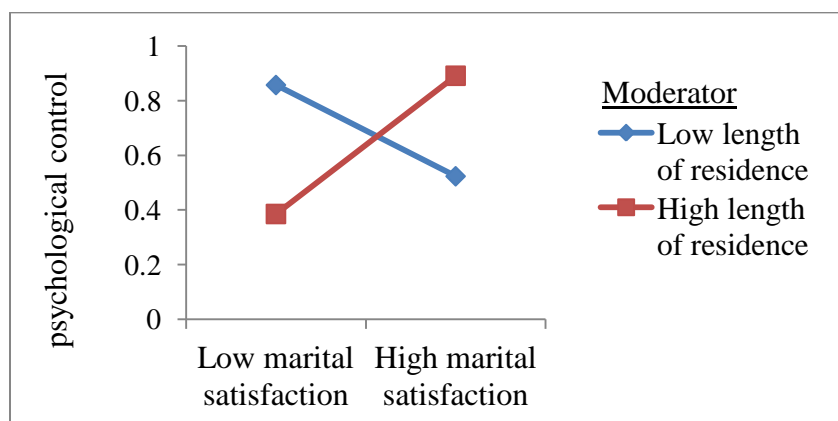


Figure 2. Length of residence moderating the predicting relationship of fathers' marital satisfaction on psychological control.

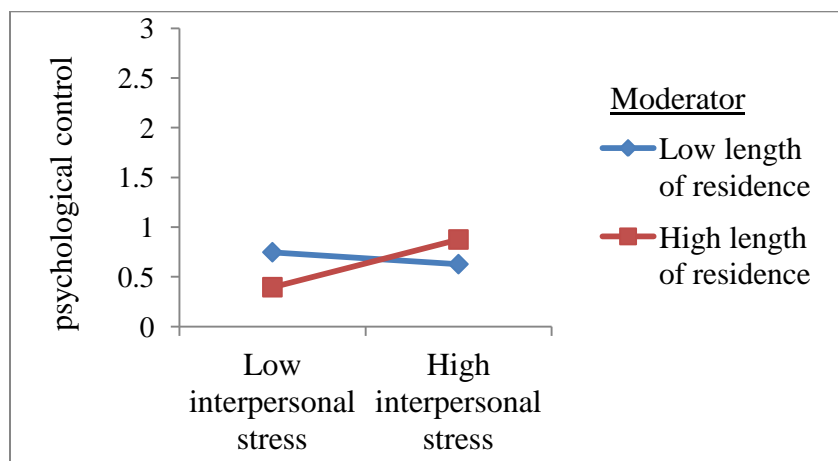
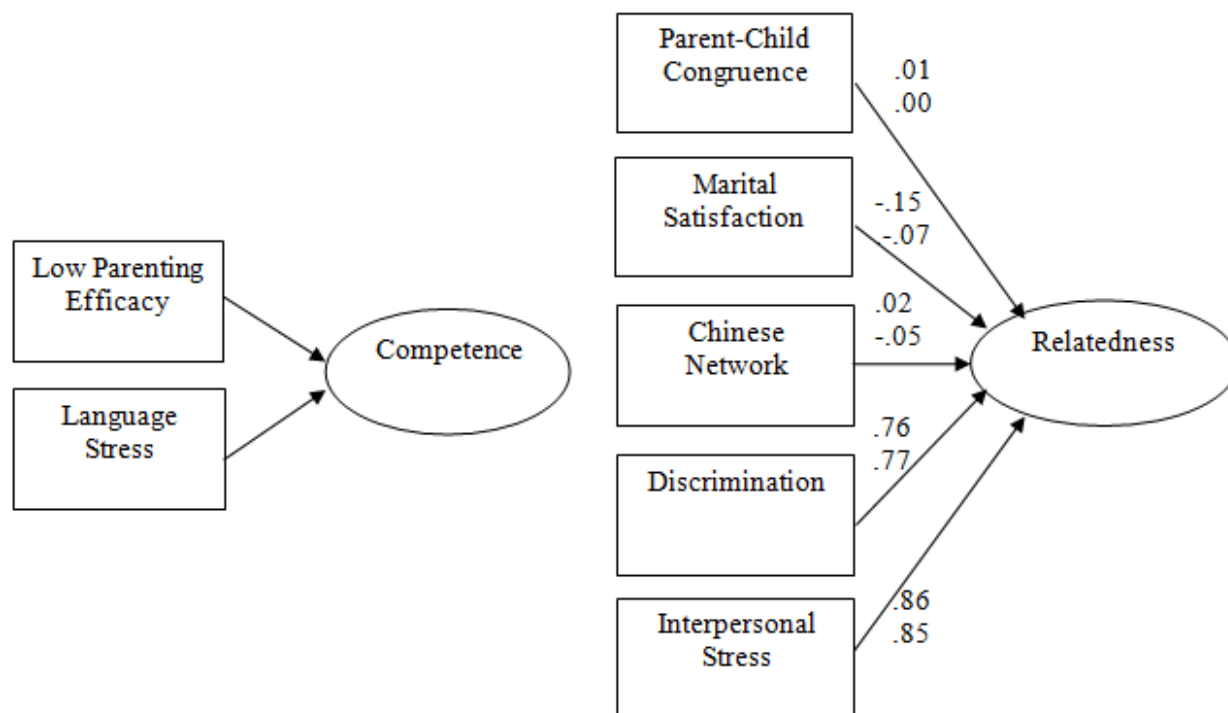


Figure 3. Length of residence moderating the predicting relationship of fathers' interpersonal acculturation stress on psychological control.

## Structural Equation Modeling Analyses

The main hypotheses were tested again using structural equation modeling (SEM) to allow for more accurate parameter estimates as SEM also considers the error variances of the predictors. Analyses were conducted using AMOS 21.0. The overarching structural model included two latent constructs (i.e., competence and relatedness) predicting change in psychological control; each latent construct contains an individual measurement model. The hypothesized predictors from the regression analyses now became the observed variables for the measurement models in the SEM analyses. In other words, competence had two indicators, and relatedness had five indicators (see Figure 4). Models were created and evaluated separately for fathers and mothers.



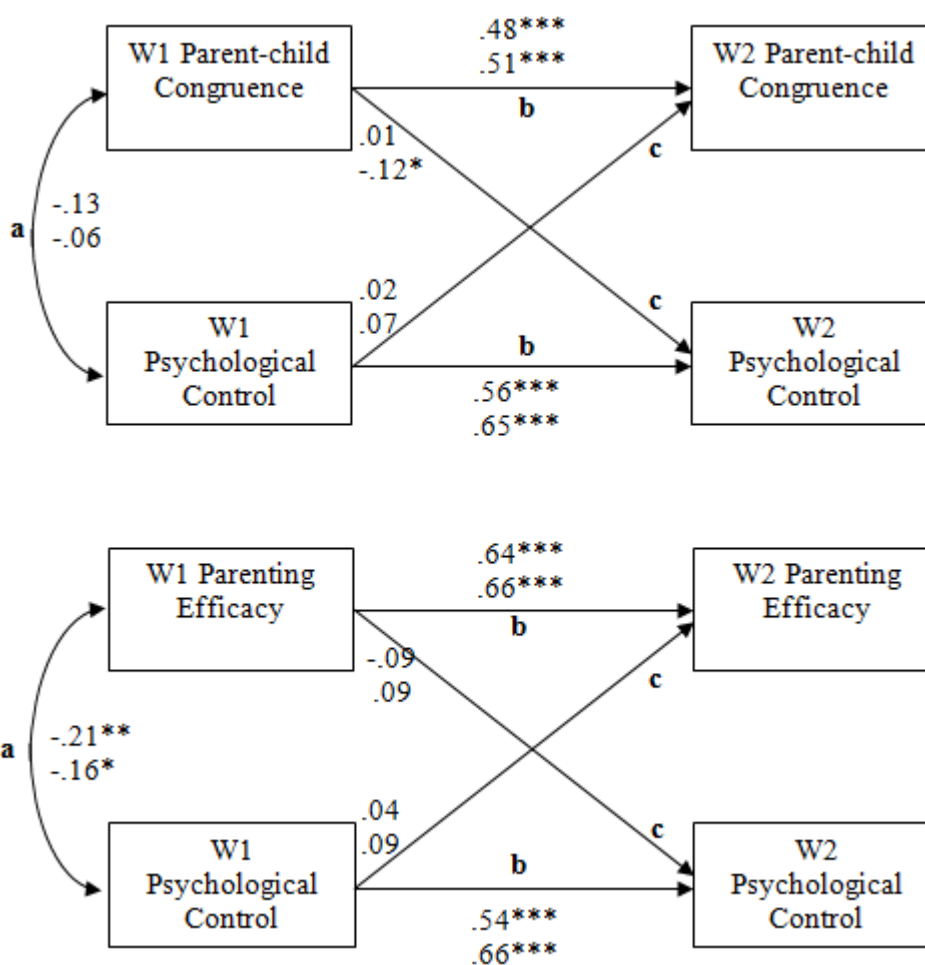
*Figure 4.* Measurement model for competence and relatedness. On each path, the standardized path coefficients for fathers are presented on top, with the standardized path coefficients for mothers presented below.

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

**Testing the measurement models.** Before the overall structural model (i.e., the hypothesized predicting relationship) could be tested, the validity of individual measurement models needed to be confirmed. A measurement model was determined to be valid if the standardized regression weights (or factor loadings) of its indicators onto the latent construct were significant and were higher than 0.3. With only two indicators, the measurement model of competence was under-identified, and thus its parameters could not be estimated. The parameters, or regression weights, of the relatedness measurement model are summarized in Figure 4. As shown, none of the indicators significantly loaded on their corresponding latent constructs, and thus this measurement model was determined to be unacceptable for further hypothesis testing. Results were similar for fathers and mothers.

**Cross-lagged relationships.** A cross-lagged panel design was carried out to evaluate not only the impact of the proposed predictors on changes in psychological control over time, but also the other way around. Such a design allows one to make better inferences about causal relations between variables measured at two different time points. Two of the seven hypothesized predictors were selected to be evaluated in these cross-lagged analyses: parent-child congruence and parenting efficacy. Using SEM, the concurrent, longitudinal and cross-lagged paths between each of these two predictors and psychological control were tested (see Figure 4). These two variables were selected because they were both measured at two waves, and because testing cross-lagged relationships between these variables and psychological control was conceptually meaningful. Variables that were repeatedly measured but would not be meaningful in a cross-lagged context, such as discrimination and Chinese social networks, were not included in these analyses. Analyses were carried out separately for fathers and mothers. These analyses evaluated the hypotheses that parent-child congruence (or parenting efficacy) at Wave 1 predicts

change in psychological control, and psychological control at Wave 1 predicts change in parent-child congruence (or parenting efficacy). Results are summarized in Figure 5.



*Figure 5.* Cross-lagged model for potential predictor (parent-child congruence, parenting efficacy) and psychological control. On each path, the standardized path coefficients for fathers are presented on top, with the standardized path coefficients for mothers presented below.

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

**Parent-child congruence and psychological control.** For both fathers and mothers, results revealed high stability in parent-child congruence over time (significant “b” paths), and a lack of correlation between parent-child congruence and psychological control at Wave 1 (non-significant “a” path). For fathers, neither of the two cross-lagged relationships was found to be significant (non-significant “c” paths). For mothers, however, mother-child congruence at Wave

1 was positively related to maternal psychological control at Wave 2 (one of the “c” paths). This was consistent with my previous finding in the multiple regression analysis, that lower mother-child congruence significantly predicted higher maternal psychological control across waves. However, note that the cross-lagged relationship in the opposite direction was not significant for mothers (i.e., W1 maternal control → W2 mother-child congruence), suggesting that higher maternal control at Wave 1 did not lead to lower mother-child congruence over time.

**Parenting efficacy and psychological control.** For both fathers and mothers, results revealed high stability in parenting efficacy across time (significant “b” paths). Also, parenting efficacy and psychological control was negatively related at Wave 1 (significant “a” path), which suggests that parents who perceived higher parenting efficacy were engaged in lower psychological control at Wave 1. However, neither of the two cross-lagged (“c” paths) relationships was found to be significant between parenting efficacy and psychological control. Results were similar for fathers and mothers.

### **Post-hoc SEM Analyses**

Since the originally proposed structural model contained a measurement model that lacked validity, I re-grouped the hypothesized predictors in an alternative way to see whether this would produce stronger measurement models that would allow testing the overall structural model. That is, the same seven predictors were grouped together using different criteria. Rather than forming groups of predictors that represented the frustration of different basic needs (i.e., competence vs. relatedness), the predictors were grouped based on whether they represented *acculturation stress* or *family adjustment*. Acculturation stress captures the level of stress that individuals experience as immigrants. Family adjustment refers to individuals’ perceptions of the overall functioning of relationships in the family context. The two latent constructs (acculturation

stress and family adjustment) each formed an individual measurement model. Acculturation stress had four indicators (language stress, interpersonal stress, limited Chinese network, and discrimination); family adjustment had three indicators (parenting efficacy, marital satisfaction, and parent-child congruence). The following SEM analyses evaluated the hypothesis that parents who reported higher acculturation stress and poorer family adjustment would become more psychologically controlling over time.

**Testing the measurement models.** The validity of individual measurement models was evaluated. Model fit was evaluated using the same criteria described earlier (i.e.,  $\chi^2/df < 3.0$ , CFI  $\geq .95$ , RMSEA  $< .05$ ). Results are presented in Figure 6. For both fathers and mothers, three of the four indicators loaded significantly on acculturation stress. Model fit was poor for fathers ( $\chi^2/df = 4.33$ , CFI = .91, RMSEA = .14), but close to adequate for mothers ( $\chi^2/df = 3.13$ , CFI = .97, RMSEA = .11). Limited Chinese network had a non-significant regression weight for both fathers and mothers on the acculturation stress latent variable. Therefore, this indicator was removed from the acculturation stress measurement model. The factor loadings for the other three indicators did not change after limited Chinese network was removed. The model fit after this removal could not be evaluated because there were now only three indicators in the model, which formed a just-identified measurement model.

For the family adjustment measurement model, all three indicators loaded significantly on the family adjustment latent variable. As with the acculturation stress model above, the fit of the family adjustment model could not be evaluated because there were only three indicators, which formed a just-identified measurement model. Overall, both measurement models appeared to be acceptable with three indicators each. I then proceeded with the main structural analyses to



test whether acculturation stress and family adjustment each predicted a significant change in parental psychological control over time.

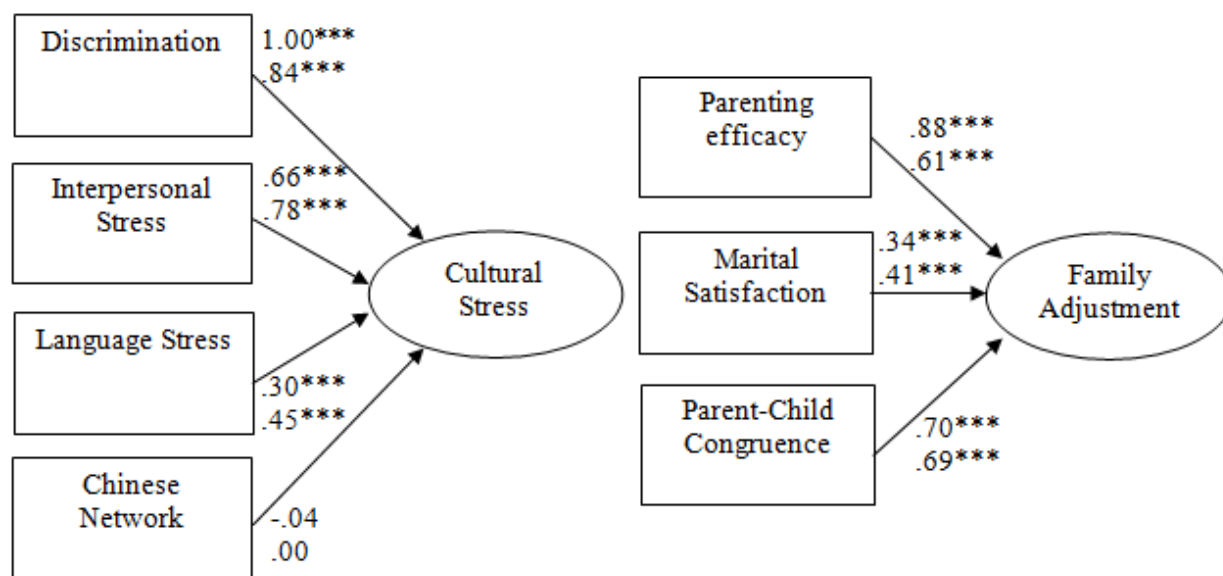


Figure 6. Measurement model for cultural stress and family adjustment. On each path, the standardized path coefficients for fathers are presented on top, with the standardized path coefficients for mothers presented below.

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

**Testing the overall structural model.** Analyses were done separately for fathers and mothers. Results are presented in Figure 7. For fathers, this overall structural model showed good model fit ( $\chi^2/df = 1.02$ , CFI = 1.00, RMSEA = .01). However, for fathers, neither acculturation stress nor family adjustment at Wave 1 significantly predicted psychological control at Wave 2, controlling for their level of psychological control at Wave 1. However, the two latent constructs were found to be negatively correlated, which suggested that fathers who perceived higher acculturation-related stress also experienced lower levels of family adjustment. The structural model for mothers also had a good fit ( $\chi^2/df = 1.48$ , CFI = .97, RMSEA = .05). Consistent with expectations, for mothers, acculturation stress predicted higher maternal psychological control over time at a trend level. Family adjustment, on the other hand, was not a

significant predictor of change in psychological control. Unlike fathers, however, the two latent constructs were not significantly related for mothers.

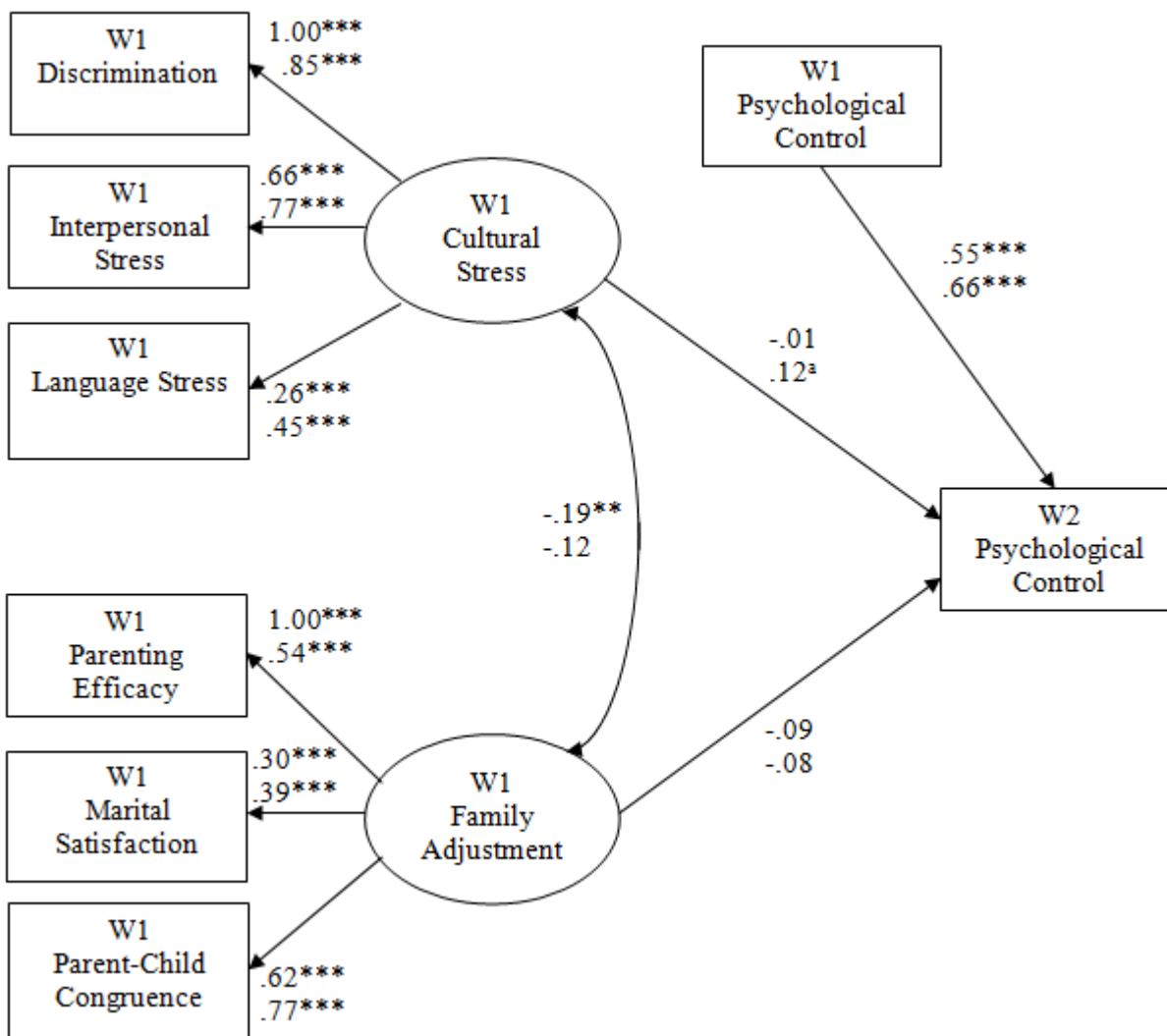


Figure 7. Structural model. On each path, the standardized path coefficients (i.e., regression weights or correlation) for fathers are presented on top, with the standardized path coefficients for mothers presented below.

<sup>a</sup> $p < .10$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

## Discussion

Parental psychological control has been widely found to be associated with negative child adjustment in the parenting literature (e.g., Barber et al., 2005; Rogers et al., 2003). However, relatively less research had focused on exploring the determinants and the processes behind the development of such parenting behaviors. Of those that have examined the predictors of psychological control, few have studied potential predictors within a theoretical framework, and none have examined these questions in a non-Western or immigrant population. In this thesis, I incorporated the basic psychological need concept outlined by Self-Determination Theory (SDT; Deci & Ryan, 1985, 2000) to better conceptualize potential antecedents of parental psychological control, focusing specifically on the basic need for competence and relatedness. Using a two-wave longitudinal data set collected from a sample of Chinese immigrant families, I evaluated the validity of the hypothesis proposed by Soenens and Vansteenkiste (2010), that parents are more likely to engage in pressuring and controlling parenting practices when their basic psychological needs are frustrated. Frustration in competence and frustration in relatedness were each operationalized by a set of stressors, including those that were universal for all parents and those more specific to immigrant parents. This hypothesis was tested separately for mothers and fathers. As expected, mothers engaged in significantly higher psychological control than fathers. This is consistent with previous research on Chinese families that had found that mothers in general are more likely to engage in psychological control (e.g., Shek, 2008).

### Predictors of Mothers' Psychological Control

**Frustration of need for competence.** The hypothesis that frustrated competence, as indicated by high language stress and low parenting-efficacy, would predict increasing psychological control over time was tested. Results of the multiple regression analyses provided

partial support for this hypothesis when it was evaluated for mothers. Mothers' frustration of competence accounted for some variance (at a trend level) in the change in psychological control over time, which suggests that the two indicators together predicted how maternal psychological control changed over time.

As expected, mothers who were more stressed about their language abilities increased their psychologically controlling behaviors over time. This is consistent with past research that suggested a link between immigrants' inability in the official language of the host country and their sense of competence in that cultural context (e.g., Chan & Leong, 1994). Immigrants who experience more language difficulties may feel inadequate and powerless to adjust to life in the host country, which can greatly impair their self-esteem and contribute to a sense of incompetence. In the current sample, mothers who experienced more language difficulties may have felt associated feelings of incompetence, which fostered more psychologically controlling behaviors over time. The fact that the effect was only at a trend level could be related to the nature of the measure, which contained only two items to assess language stress (i.e., "I have trouble understanding others when they speak" and "People think I am unsociable when in fact I have trouble communicating in English"). Ideally, more items could be included to capture a wider range of language difficulties, such as stress arising from lack of abilities to read and write English, language stress in the work setting, or feelings of discomfort and embarrassment due to miscommunication, among others.

Unexpectedly, mothers who experienced lower parenting efficacy did not display a change in their use of psychological controlling parenting. This was inconsistent with previous research, as low parenting efficacy has been linked to difficulties in parenting that imply a sense of incompetence for the parents (e.g., Jones & Prinz, 2005), which was hypothesized to predict

increasing parental psychological control. Since the same null finding was also revealed for fathers, one potential explanation for this unexpected result can be related to the nature of this sample. It is possible that immigrant parents expected some difficulties in parenting their children in a different cultural context, and so experiences of ineffective parenting might not necessarily impair their sense of competence in the same way that they would for parents who do not have these expectations. Parents who raise their children in a country that has different parenting values and ideals from their own will likely foresee challenges that can occur due to these differences. For example, Chinese parents might become aware that compared with North American parents, they are more accustomed to a higher level of parental protection (Chen et al., 1998). Research has shown that Chinese parents are more likely to request their children to stay physically close to them, and they tend to engage in behaviors that foster less autonomy outside of home, through means such as mediating their children's peer contacts (e.g., Hart et al., 1998). Knowing such differences, Chinese immigrant parents would probably expect to experience some difficulties in being as firm in their discipline as they would like to be in Canada. Such expectations may mentally prepare the parents for setbacks or the lack of effectiveness in their parenting practices. Consequently, parents with this mindset are more likely to attribute ineffective parenting to the acculturation challenges, rather than to their inability as effective parents. In such cases, perceived parenting efficacy might not be such a strong indicator for frustration in competence for these immigrant parents.

**Frustration of need for relatedness.** Frustrated relatedness was indicated by lower marital satisfaction, lower mother-child congruence, higher interpersonal-related acculturation stress, higher perceived discrimination, and limited Chinese network. It was hypothesized that frustration of relatedness would predict an increase in psychological control over time. This

hypothesis was also partially supported when tested on mothers. For mothers, these five factors as a group accounted for an increase in the total explained variance in psychological control, which suggested that the combination of these indicators was related to how maternal psychological control changed across time. However, when these five relatedness variables were grouped together in structural equation modelling, they did not form a strong enough latent construct, which implies that the five variables are not collectively the best representation of frustration of relatedness for the mothers in this sample.

As expected, mothers who reported lower relationship congruence with their children increased their tendency for psychologically controlling parenting over time. This is consistent with previous research, as parent-child congruence has been shown to represent a better understanding and satisfaction of the parent-child relationship from the parents' perspective (Ying et al., 2004). Specifically, parenting in the Chinese culture is deeply influenced and guided by the ideology of Confucianism, which emphasizes maintaining harmony within the interpersonal relationships among family members, and that children are expected to be devoted and obedient to their parents (Tang, 1992). Relationship congruence between parent and child is very important in the Chinese culture, and the current research suggests that violation in relationship quality might be especially problematic for Chinese mothers. Specifically, the robust finding that lower mother-child congruence led to higher use of psychological control despite the high stability of psychological control across the two waves suggests that low congruence may be an important indicator of mothers' frustration of relatedness. More specifically, the level of agreement between Chinese immigrant mothers and their children may be significantly influential to the mothers' perceived relatedness in the family context, and can greatly impact their use of controlling parenting practices on their children. In contrast, mothers who experience

a higher sense of congruence with their children may be more fulfilled in their relatedness need, and are thus less likely to engage in psychologically controlling parenting.

Interestingly, the cross-lagged analyses revealed a lack of the reverse relationship over time. In other words, while disagreement between mother and child led to increasing psychological control from mother, such controlling parenting behavior from mother did *not* result in higher incongruence within the dyad, which was unexpected based on findings from previous research (e.g., Steeger & Gondoli, 2012; Urry et al., 2011). However, more exploration may be needed to address this apparent inconsistency because previous research, despite looking at indicators that were close to parent-child congruence (e.g., high relationship satisfaction, low conflict), did not examine the extent to which parent and child agree with each other. Furthermore, while the current study incorporated a mix of parent- and child-report data, both the study by Steeger and Gondoli (2012) and by Urry and colleagues (2011) collected their data on parent-child relationship and psychological control solely from the perspective of the children. Using the same source of report is subject to more biases in the data, which might not fully capture the “real relationship”.

It was also hypothesized that higher perceived discrimination, which was also conceptualized to represent feelings of relatedness frustration, would contribute to increasing psychologically controlling parenting over time. This was supported by the mothers’ data. As expected, mothers who perceived higher levels of discrimination showed a trend towards increasing psychological control of their children. This is consistent with previous literature that suggests that the feelings of rejection and alienation by individuals from the dominant culture due to one’s ethnic or racial background can greatly impair ethnic minority individuals’ sense of connectedness with others. The spillover impacts of this frustration of interpersonal relatedness

was especially pronounced for the mothers in this sample, as those who perceived higher discrimination gradually became more psychologically controlling over time despite the high stability in maternal psychological control.

The other three indicators of relatedness frustration (low marital satisfaction, interpersonal acculturation stress, and limited Chinese network) did not show links to increased psychological control over time. Explanations for the lack of significant findings related to these predictors might be more measurement-related rather than conceptual. For example, with respect to marital dissatisfaction, the current sample of participating mothers generally reported high levels of marital satisfaction. Perhaps the measure lacked sensitivity because it was designed as a more global measure of relationship satisfaction. More pronounced differences in the degree of satisfaction may arise if a more specific measure were adopted. For example, one could assess individuals' satisfaction with different aspects of the marriage, such as communication, demonstration of intimacy and affection, or emotional support. Measuring these specific aspects of marital satisfaction may provide a more nuanced picture of relationship satisfaction between married couples, and thus reveals some low levels of satisfaction that have impacts one's perceived relatedness.

With respect to interpersonal acculturation stress, it could be that mothers' frustration in relatedness that is more culturally related is better captured by a more extreme form of interpersonal stress. In this case, discrimination was more "intense" compared to general interpersonal stress that was experienced in a cross-cultural context. This could be one reason why perceived discrimination predicted mothers' increasing psychological control, but the milder form of interpersonal cultural stress did not. Finally, even though the measure of Chinese network may have captured the amount of "opportunities" that mothers had to develop a sense of



intra-group relatedness, it did not necessarily capture the actual level of interpersonal connection that individuals subjectively perceive from these friendships. Thus could be one possible explanation for why the number of Chinese friends was unrelated to mothers' psychological control. Note that these measure-oriented explanations may also explain the lack of significant findings for fathers as well.

### **Predictors of Fathers' Psychological Control**

In general, the hypothesis that frustrated competence and relatedness would lead to an increase in paternal psychological control was partially supported for fathers who had been in Canada for a longer time. When all fathers were evaluated, none of the hypothesized predictor variables were associated with a significant change in psychological control, and the indicators as a group also failed to create an impact on the total variance of change in psychological control. These null findings have three potential explanations: 1) For fathers, frustration in relatedness and competence does not have an impact on the extent to which they engage in psychologically controlling parenting practices, 2) the selected indicators did not fully represent frustration of their corresponding basic need, or 3) at least some, if not all of the indicators do impact paternal psychological control, but only when certain conditions are met – in other words, potential moderators may be involved (which was also supported by the findings on fathers' length of residence). Each of these three cases is further discussed as follows.

First of all, need frustration might not have the same impact on fathers' and mothers' parenting, because men and women tend to exhibit differences in their reactions to stress. Previous literature supports the generalization that under stressful circumstances, women, compared to men, show elevated levels of psychological symptoms, such as depression and anxiety (Ben-Zura & Zeidnerb, 2012). When facing a similar number of stressful life events,

women were also found to be higher on psychological distress than men (Matud, 2004). In addition, women and men also tend to have different stress coping mechanism. Previous research has generally found that women often use emotional coping or seek social support in response to stressful situations, while men are more likely to engage in direct problem solving to cope with stress (e.g., Tamres, Janicki, & Helgeson, 2002). Given these gender differences in stress response and coping, it is possible that fathers in the current sample were not as psychologically impacted by need frustration, when compared with mothers. Another possibility is that the fathers were impacted, but perhaps had adopted coping mechanisms that prevented them from letting the frustration impact their interactions with their children.

Even if need frustration does have an impact on both fathers and mothers, it could be reflected on different areas of their functioning or different aspects of their lives. Given that mothers are typically more involved in their children's day-to-day activities comparing to fathers, it is possible that the negative impact of frustrated needs are less evident in fathers' parenting or their relationships with their children. On the other hand, even though recent literature has pointed out the increasing parenting involvement of Chinese fathers due to socioeconomic changes (e.g., Chen, Rubin, Liu, Chen, Wang, Li et al., 2003), Chinese fathers and mothers still differ in the nature of their parenting involvement. Research has shown that Chinese mothers are the primary source of emotional support for their children, whereas Chinese fathers play the facilitating role of their children's social functioning and school performance (see review by Chen, Liu, & Li, 2000). These authors further explained that in Chinese families, children are more likely to turn to their mothers for emotional support, their everyday physical needs, and to seek help for problems that they need to deal with in the daily life. In contrast, the primary child-rearing role of Chinese fathers is to help their children achieve in school, learn

social values, and behave in ways that correspond with these values. These gender differences in Chinese parents' child-rearing roles are important to consider, as they can provide the context in which we interpret the impacts of need frustration on each parent's parenting. For example, it is possible that because Chinese mothers are overall more "emotionally involved" in their interactions with their children, such relationships are more vulnerable to the spillover of need frustration, which also tends to be quite emotionally-driven. In contrast, the main child rearing roles of Chinese fathers, as the literature suggests, might be less vulnerable to the impacts of frustrated needs.

Finally, some of the measurement considerations that were discussed previously for mothers may also apply to fathers. It is possible that the measures adopted in this study did not provide the most accurate estimate of fathers' internal experiences of relatedness frustration. However, given that even those variables that did predict increasing psychological control for mothers (i.e., language stress, parent-child incongruence, discrimination) were still not significant in predicting fathers' control, it is a weaker statement to argue that none of the indicators used adequately represent fathers' need frustration. This brings us into the final potential explanation: possible moderation.

**Length of residence as a moderator.** This last possibility was partially supported by the current data with respect to fathers' length of residence, as fathers who had been in Canada for a longer period of time responded to specific stressors differently than those who were more recent immigrants. However, while length of residence was clearly an important moderator, the direction of its moderating impact was more challenging to interpret. It was hypothesized that parents who were more recent immigrants to Canada would be more vulnerable to the negative impact of competence and relatedness frustration, and thus more likely to show increasing

psychological control over time when experiencing need frustration. This hypothesis was supported by the length of residence interaction with fathers' marital satisfaction, but not by the interaction between length of residence and fathers' acculturation stress. Consistent with my hypothesis, for fathers who were more recent immigrants to Canada, lower marital satisfaction predicted an increase in paternal psychological control. This suggests that high marital satisfaction is especially important to immigrant fathers who have settled in the host country more recently. Perhaps the support from satisfying spousal relationships is crucial for newcomer fathers to maintain a sense of security and connectedness, given that this may be the time where they can get limited social support outside of the family. Therefore, having good marital relationships is very central to newcomer fathers' overall sense of relatedness, and experiencing low levels of marital satisfaction can make newcomer fathers more vulnerable to engaging in psychologically controlling parenting.

Unexpectedly, for fathers who had been in Canada for a longer time, as their levels of marital satisfaction increased, the extent to which they engaged in psychologically controlling parenting also increased. The direction of the relationship is somewhat puzzling, given that the experience of high marital satisfaction was used to represent a stronger sense of relatedness, and it is counter-intuitive that more relatedness would lead to more psychologically controlling behaviors from the parents. However, this unexpected finding may suggest that the extent to which high marital satisfaction is central to fathers' overall sense of relatedness can vary at different times in the settlement process. Compared with newcomer fathers, marital satisfaction may be less salient to a sense of relatedness among long-term immigrant fathers, as they now have other social resources on top of their marital relationships. For these fathers, then, marital satisfaction may instead be an indicator of one's involvement in parenting, or in the family life

overall. Thus, having low marital satisfaction may actually signal these fathers' overall withdrawal from their family relationships. In such cases, the fathers are likely less engaged in parenting in general, including the extent to which they engage in psychologically controlling parenting behaviors. In contrast, fathers who are happier in their marriages may be more involved in parenting, and thus more prone to show increases in psychologically controlling parenting. Overall, these findings suggest that the impact of marital satisfaction on paternal psychological control may vary depending on the amount of time that fathers have been in Canada. However, more research would be needed to replicate these findings in order to draw a firm conclusion.

Another interesting finding that further emphasized the importance of looking at length of residence as a moderator was its interaction with fathers' interpersonal acculturation stress. It was hypothesized that the strength of acculturation stressors in predicting increasing psychological control would be stronger for more recent immigrants, as acculturation stress in general is more salient or influential for individuals who were newly exposed to the host culture. Contrary to this expectation, experiencing higher levels of acculturation stress in the interpersonal context was not associated with changes in psychological control for newcomer fathers. Instead, those who had been in Canada for a longer time actually showed a trend toward higher psychological control when experiencing higher levels of interpersonal acculturation stress. At first glance, it may seem counter-intuitive that long-term, rather than short-term fathers were more vulnerable to the negative spillover from interpersonal acculturation stress. However, it is possible that when immigrants first landed, their social circles were still comprised of mostly people of the same ethnic background. This was especially likely to be the case in cities where there is a relatively larger group of Chinese immigrants, such as Vancouver. In such regions, it

might take some time after landing for immigrants to be exposed for the first time to some of the interpersonal difficulties that are described in the measure, such as being excluded from others' activities because of one's ethnic background, or being pressured to assimilate. These stressors may develop over a period of time rather than immediately after immigration. A "chronic" stressor like interpersonal acculturation stress may undermine fathers' sense of relatedness, and thus impact their parenting behaviors in the long run. Also, experiencing such stressors long after immigrants have landed contradicts with the social expectation that immigrants should be more successfully adapted as they have been in the host country longer. Such discrepancy may further exacerbate the negative impacts of these interpersonal stressors. Consequently, the effect was the most pronounced for those who had been in Canada for a longer time.

**Post-hoc findings.** Finally, results of the post-hoc analyses suggest an alternative way to think about how psychologically controlling parenting develops over time, given that the hypothesized stressors formed stronger latent constructs when they were grouped together based on whether they were relevant only to immigrant families or universal for all families. Rather than saying that these stressors impact immigrant parents' parenting practices through frustrating their specific needs, a more general statement could be made in suggesting that the stressors simply have negative consequences on parents' well-being, which can be reflected on their relationships with their children.

More specifically, the post-hoc results revealed that family adjustment was not significant in predicting change in parents' psychological control tendency over time. In contrast, acculturation-related stress predicted an increase in psychologically controlling behaviors, but for mothers only. Together, these results suggested that acculturation-related stressors were more strongly linked to parenting than more global factors that indicate challenges in one's family

relationships The acculturation-related stressors may have been more salient in impacting their lives (and thus parenting) because the parents were all immigrants. Also, the gender difference revealed by the post-hoc results highlights Chinese immigrant mothers' higher vulnerability to the spillover of acculturation-related stressors to their parenting, compared with fathers. This gender difference could be attributed to the type of labour division that is often seen between immigrant couples, that fathers focus more on supporting the family financially, and mothers are more likely to take charge of child-rearing responsibilities. This type of division of labour has two implications that can potentially explain the observed gender difference. First, given that the wives are less likely to work outside of home, they might have less exposure to the new culture and fewer opportunities to adapt. This may make it more difficult to successfully cope with acculturation related stressors. Second, because the mothers probably interact with their children more than fathers, they may be more likely to bring the negative impacts of acculturation stress into their interactions with their children.

### **Limitations and Directions for Future Research**

The current study had several limitations. As shown, psychological control was quite stable across the 18 months of study, both at the group level and the individual level. Given that my primary analyses looked at the strength of association between the various predictors and the *change* in psychological control over time, many of the null findings were not surprising, since there was limited change to start with. This may be attributed to the fact that the time lapse between the two waves data collection was only 18 months. However, this period of time might not be long enough for the impacts of some of the examined stressors on parenting to fully emerge. Even though stressors might be present at the first wave of data collection, their initial impacts on parents' psychologically controlling behaviors might be quite subtle. Therefore, it might take a longer time for more substantial impacts, specifically changes in one's psychological control, to surface. Future longitudinal research may take this into consideration, and perhaps design a longer time span between waves of data collection in order for the impacts of need frustration on parenting to be fully emerged.

Another limitation of this thesis is the fact that analyses were done on an existing dataset. Consequently, the measures that were used to assess the main constructs were sometimes not the most ideal representations of those constructs in light of the broader theory. For example, as discussed previously, the Chinese network measure captured only the objective "number of Chinese friends," but not the subjective experience of closeness derived from these friendships, which would have more closely represented an individual's sense of relatedness satisfaction. This lower construct validity could have contributed to some of the null findings. To achieve higher construct validity in future research, two improvements could be made: 1) select other



indicators that can better represent frustrated need of competence and relatedness, and at the same time 2) include more proximal indicators of frustrated needs as potential mediators.

First, future research should include some other variables that may better indicate feelings of frustration of competence and relatedness. This should be done especially for frustration in competence, given that the current thesis only included two indicators (language stress and low parenting efficacy) to represent competence frustration, which was fairly minimal. Additional variables can be used to further capture immigrant Chinese parents' sense of competence, such as parents' job performance, their self-perceived integration to the Canadian society, and their children's academic performance (which is highly emphasized in Chinese families and can contribute to a sense of parental competence). These indicators are not necessarily more representative of competence compared to language stress and/or parenting efficacy, but adding them to the model can help to capture parents' level of perceived competence in a wider range of settings and relationships, and not restricting "competence" to simply the context of language and/or parent-child relationships. Similarly, some other indicators may add to (or replace some of) the current variables in describing relatedness. For instance, one may include variables such as the quality of coparenting, which captures relatedness in the spousal relationship but in a different way than marital satisfaction. Also as mentioned, the Chinese network indicator could be replaced by another variable that more proximally measures interpersonal closeness in friendships, such as parents' perceived quality and satisfaction with their close friendships. These friendships need not be limited to Chinese friends in future research.

Not only should future research add more indicators to more broadly capture need frustration, more proximal indicators of the impacts of need frustration, which may serve as

potential *mediators* between need frustration and psychological control, should also be incorporated into the model. For example, proximal indicators of competence frustration may include feelings of powerlessness, which often arise from the type of stressors that were examined in this thesis (e.g., language stress, lower parenting efficacy) and can lead to controlling parenting behaviors. Studying whether and how such proximal indicators of need frustration mediate the relationship between the cultural/universal stressors and psychological control can shed light on the underlying processes through which psychological control is developed, as well as further confirm that the hypothesized indicators truly impacted parents' controlling behaviors through frustrating their basic psychological needs.

One possible candidate for measuring need frustration in a more proximal manner is the Psychological Well-being scale (PWB) developed by Ryff and Keyes (1995). This measure was designed to assess psychological well-being in six inter-correlated dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. More specifically, the environmental mastery subscale measures individuals' sense of mastery and competence in managing the environment, ability to control a wide range of external activities, effectively utilize available opportunities, and choose or create contexts that fulfill one's personal needs. This subscale can be a good proximal measure for parents' sense of competence. The positive relation subscale evaluates the extent to which individuals maintain warm, satisfying, and trusting relationships with other people, as well as their capability for strong empathy, affection, and intimacy, and their level of understanding for giving and taking care of relationships. This subscale can be a good proximal measure for parents' perceived overall relatedness.

Finally, future research should consider other variables beyond the basic need framework that may increase parents' vulnerability for psychologically controlling behaviors. One possibility is to look at how parents' psychological functioning and personality features may put them more at risk for psychological control. For example, Soenens and colleagues (2005) found that specific personality features, such as maladaptive perfectionism, are associated with more psychologically controlling parenting behaviors. Characteristics such as maladaptive perfectionism could heighten the risk of using controlling parenting. In other words, it is possible that parents with certain personality features and functioning are more likely to engage in controlling parenting overall. In addition, child characteristics and the reciprocal connections between psychological control and children's problem behaviors may also make parents more vulnerable to using psychologically controlling parenting. Recent research has documented the role of pressures from child behavior and adjustment in influencing parenting behaviors. For instance, Pettit and colleagues (2001) found that children who displayed higher externalizing problems at age 3 predicted mothers' use of psychological control at age 12, and this is just one example among several others that have documented the contribution of child characteristics to psychological control (e.g., Albrecht, Galambos, & Jansson, 2007; Loukas, 2009). However, these child factors have not been examined in this thesis. Overall, future studies should consider the role of specific parent and child characteristics in increasing parents' vulnerability to psychologically controlling behaviors.

## Conclusions and Implications

Overall, these results confirm the importance of incorporating the basic needs of relatedness and competence in examining why immigrant parents engage in psychologically controlling behaviors. Given the high stability of psychological control (both maternal and paternal) over the two waves, the predicting power of the indicators that were found to be significant can be considered to be quite robust. This research also emphasized the need to consider the broader context of immigration and acculturation when conceptualizing need frustration, such as looking at the amount of stress that immigrants experience in the interpersonal context, or from the challenges they face learning a new language. Significant gender differences were also observed. In general, the effects of frustrated needs were especially pronounced in relation to Chinese immigrant mothers' psychologically controlling parenting behaviors, whereas the vulnerability of Chinese fathers to specific relatedness frustration indicators was dependent on their length of residence. Fathers who had been in Canada longer were vulnerable to higher interpersonal acculturation stress; newcomer immigrant fathers were vulnerable to low marital satisfaction.

Results of this thesis have important practice and policy implications. The findings of this thesis stress the need to provide support to immigrant parents in coping with specific stressors that may be related to a lower sense of relatedness and competence, and make them more vulnerable for psychologically controlling parenting, given that such parenting has been shown to have harmful consequences on children's overall adjustment. More specifically, support should target different stressors for immigrant mothers and fathers. For example, existing settlement programs should be tailored to the specific needs of immigrant mothers, such as helping them to cope with experiences of discrimination and language difficulties. This is

because immigrant mothers, compared to fathers, are more vulnerable to the spillover impacts of these two stressors in their parenting. Having a program designed to support immigrant mothers to cope with the negative feelings that arise from perceived discrimination and language-related stress will potentially reduce the extent to which mothers engage in psychologically controlling behaviors, and thus improve the overall mother-child relationship. In the clinical setting, practitioners should explore how mother-child congruence impacts immigrant mothers' parenting behaviors in their case conceptualization, and may focus on improving mother-child congruence (e.g., in family counselling sessions) when the dyad experiences difficulties due to mothers' use of psychological control. For immigrant fathers, the focus of support may be different depending on their length of residence. Settlement programs and clinical practice with newcomer fathers should be sensitive to the role of marital relationships. For example, one emphasis could be helping newcomer fathers to cope with the conflict and distress in their spousal relationships. On the other hand, support programs are equally crucial for fathers who have been in Canada longer, but perhaps with a different focus. These programs should aim to help long-term resident fathers to deal with feelings of social exclusion and isolation due to their ethnic background. In general, by adapting the focus of settlement programs and clinical treatments to the needs of different subgroups of immigrant fathers, we can potentially reduce immigrant fathers' psychologically controlling practices with their children.

Overall, immigration policy should shift in a direction that considers the welfare of immigrants in the context of family, as well as continue to support long-term immigrant families rather than focus on supporting newcomers only. Current Canadian immigration policies and relevant research are fairly individually-oriented. For example, the economic benefits of immigration are typically evaluated on the basis of principal applicants for immigration, and

ignore the contribution of other family members (e.g., Creese, Dyck, & McLaren, 2006). Research on the adjustment and welfare of immigrants rarely adopts a focus that considers the adjustment of immigrant *families* as a complex unit. Many support programs for immigrants emphasize assisting individual immigrants in adapting to life in Canada, such as improving language proficiency or providing employment opportunities, but less has focused on helping immigrants to cope with the various changes that they experience in their family relationships. In general, there is a lack of support for immigrants to adjust as a family. Finally, this thesis highlights the vulnerability of long-term immigrants (at least a subgroup) to certain stressors. Current immigration policies and settlement programs mainly focus on supporting the newcomers and often consider long-term immigrants to be well adapted and integrated to the mainstream society. However, this research shows a need to provide continuous support to immigrant families even long after they landed.

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### Appendix A: Parental Psychological Control (Adolescent Report)

How well do the following statements describe your mother and father?

	My MOM			My DAD		
	Not like her	Somewhat like her	A lot like her	Not like him	Somewhat like him	A lot like him
1. Is always trying to change how I feel or think about things.	1	2	3	1	2	3
2. Changes the subject whenever I have something to say.	1	2	3	1	2	3
3. Often interrupts me.	1	2	3	1	2	3
4. Blames me for other family members' problems.	1	2	3	1	2	3
5. Brings up past mistakes when he/she criticizes me.	1	2	3	1	2	3
6. Is less friendly with me if I do not see things her/his way.	1	2	3	1	2	3
7. Will avoid looking at me when I have disappointed him/her.	1	2	3	1	2	3
8. If I have hurt her/his feelings, stops talking to me until I please her/him again.	1	2	3	1	2	3

### Appendix B: Marital Satisfaction

	<b>Extremely dissatisfied</b>	<b>Very dissatisfied</b>	<b>Somewhat dissatisfied</b>	<b>Mixed</b>	<b>Somewhat satisfied</b>	<b>Very satisfied</b>	<b>Extremely satisfied</b>
1. How satisfied are you with your marriage?	1	2	3	4	5	6	7
2. How satisfied are you with your husband or wife as a spouse?	1	2	3	4	5	6	7
3. How satisfied are you with your relationship with your husband or wife?	1	2	3	4	5	6	7

### Appendix C: Parenting Self-Efficacy

How often do you feel this way about your parenting?

	Never	Rarely	Once in a while	About Half the Time	More often than not	Most of the time	Always
1. I feel sure of myself as a mother/father.	1	2	3	4	5	6	7
2. No matter what I try, my child will not do what I want.	1	2	3	4	5	6	7
3. When something goes wrong between me and my child there is little I can do to correct it.	1	2	3	4	5	6	7
4. I know I am doing a good job as a mother/father.	1	2	3	4	5	6	7
5. I feel useless as a mother/father.	1	2	3	4	5	6	7
6. My child usually ends up getting his/her way.	1	2	3	4	5	6	7
7. I know things about being a mother/ father that would be helpful to other parents.	1	2	3	4	5	6	7
8. When my child gets upset with me, I usually give in.	1	2	3	4	5	6	7
9. I can solve most problems between my child and I.	1	2	3	4	5	6	7
10. When things are going badly between my child and me, I keep trying until things begin to change.	1	2	3	4	5	6	7



### Appendix D: Parent-Child Congruence

How much do you agree with these statements about your *relationship with your child*?

	<b>Strongly disagree</b> 1	<b>Somewhat disagree</b> 2	<b>Neither agree nor disagree</b> 3	<b>Somewhat agree</b> 4	<b>Strongly agree</b> 5
1. My child and I agree on the aims, goals, and things believed to be important in life.	1	2	3	4	5
2. My child and I agree on friends.	1	2	3	4	5
3. My child and I agree on the amount of time we spend together.	1	2	3	4	5
4. My child and I agree on how we demonstrate our affection for each other.	1	2	3	4	5
5. My child and I generally talk things over together.	1	2	3	4	5
6. My child and I agree on how to behave in a predominantly Canadian setting.	1	2	3	4	5
7. My child and I agree on how to behave in a predominantly Chinese setting.	1	2	3	4	5
8. I am satisfied with my relationship with my child.	1	2	3	4	5

### Appendix E: Acculturation Stress (Language & Interpersonal)

During the past 6 months, how often have you felt this way?

	Never	Rarely	Some- times	Often	Very often
1. Many people have stereotypes about my culture or ethnic group and treat me as if they are true.	1	2	3	4	5
2. Because of my ethnic background, I feel that others often exclude me from participating in their activities.	1	2	3	4	5
3. It bothers me when people pressure me to assimilate.	1	2	3	4	5
4. People look down upon me if I practice customs of my culture.	1	2	3	4	5
5. Loosening the ties with my country is difficult.	1	2	3	4	5
6. I have trouble understanding others when they speak.	1	2	3	4	5
7. People think I am unsociable when in fact I have trouble communicating in English.	1	2	3	4	5

Interpersonal stress: items 1-4

Language stress: items 6, 7

### Appendix F: Discrimination

In general, how often do you experience the following?

	<b>Never</b>	<b>Rarely</b>	<b>Some- times</b>	<b>Often</b>	<b>Very often</b>
1. How often do people dislike you because of your ethnicity?	1	2	3	4	5
2. How often are you treated unfairly because of your ethnicity?	1	2	3	4	5
3. How often have you seen friends treated badly because of their ethnicity?	1	2	3	4	5

### Appendix G: Chinese Social Network

1. How often do you spend time with other Chinese families...

	<b>Almost never</b>	<b>Not very often</b>	<b>Some- times</b>	<b>Quite a bit</b>	<b>Almost always</b>
in activities for children	1	2	3	4	5
in activities for adults	1	2	3	4	5
in activities for families	1	2	3	4	5

2. About your friends:

	<b>Almost none</b>	<b>A few</b>	<b>Some</b>	<b>A lot</b>	<b>Almost all</b>
a) How many of your close friends are Chinese?	1	2	3	4	5
b) How many of your friends that you talk to about parenting are Chinese?	1	2	3	4	5
c) How many of your friends that you can talk to about things that are bothering you are Chinese?	1	2	3	4	5
d) How many of your friends that you participate in activities with are Chinese?	1	2	3	4	5

### Appendix H: Demographic Information (Parents)

1. Age \_\_\_\_\_
2. Date of Birth: Month\_\_\_\_\_/Day\_\_\_\_\_/Year\_\_\_\_\_
3. Your marital status is...
  - Married/commonlaw – married how long? \_\_\_\_\_ years
  - Divorced and currently single – single how long? \_\_\_\_\_ years
  - Divorced and currently remarried – remarried how long? \_\_\_\_\_ years
  - Other (Please explain \_\_\_\_\_)
4. How would you describe your ethnic background? \_\_\_\_\_
5. Do you or your spouse maintain a home or employment outside of Canada?  
 \_\_\_\_ I do      \_\_\_\_ my spouse does      \_\_\_\_ neither (we both live in Canada full time)
6. What is the highest level of education you have completed? (check one)
  - \_\_\_\_ Elementary (Grade 6)
  - \_\_\_\_ Junior High (Grade 8)
  - \_\_\_\_ High school (Grade 12)
  - \_\_\_\_ Vocational school or college
  - \_\_\_\_ 4-year University
  - \_\_\_\_ Graduate/ Professional
7. Are you currently employed?    No \_\_\_\_    Yes \_\_\_\_
8. What is your current occupation? \_\_\_\_\_
9. If you are currently unemployed, would you consider yourself
  - \_\_\_\_ unemployed and looking for work
  - \_\_\_\_ not employed by choice (homemaker, raising children, do not need income, etc.)
10. Current yearly *family* income
 

____ below \$10,000	____ \$10,000-\$25,000	____ \$25,000-\$40,000
____ \$40,000-\$50,000	____ \$50,000-\$75,000	____ \$75,000-\$100,000
____ \$100,000 +		

**Immigration History**

1. When did you immigrate to Canada? Year \_\_\_\_\_ Month \_\_\_\_\_
2. Where did you emigrate from? Mainland China \_\_\_\_\_ Taiwan \_\_\_\_\_ Hong Kong \_\_\_\_\_
3. Was the region you emigrated from: Urban\_\_\_\_ Rural\_\_\_\_
4. What is your immigration class?  
 family class  
 independent class  
 business class  
 refugee class
5. In terms of economic standing, how does your life in Canada compare to your life in your home country?  
 our economic circumstances have improved by immigrating to Canada  
 we have made economic sacrifices in order to immigrate to Canada  
 our economic circumstances have not been strongly affected  
 I came to Canada as a teenager/young adult
6. In terms of social standing, how does your life in Canada compare to your life in your home country?  
 our social circumstances have improved by immigrating to Canada  
 our social circumstances are less good in Canada  
 our social circumstances have not been strongly affected  
 I came to Canada as a teenage/ young adult