

Longitudinal Effects of Congruence and Incongruence between Ideal and Actual Functioning on
Chinese Immigrants' Psychological Adjustment

by

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B.A., University of British Columbia, 2011
M.Sc., University of Victoria, 2014

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in the Department of Psychology

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University of Victoria

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Supervisory Committee

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Abstract

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The adjustment of immigrants has been an important area of research over the past few decades. The current literature on immigrants' psychological adjustment typically focuses on identifying specific contextual, interpersonal, and intrapersonal risks that contribute to negative adjustment. However, the mechanisms through which maladjustment occurs are less well-understood. In addition, less research has focused on understanding immigrants' hopes, aspirations, and expectations for themselves and the extent to which they are meeting these ideals. According to existing literature on psychological incongruence, failure to fulfill one's ideals can trigger dejection-related feelings, such as shame, and these feelings are closely connected with negative psychological adjustment. In collectivistic cultures such as the Chinese culture, where much of an individual's identity is dependent on close relationships, incongruence can be conceptualized both within an individual (e.g., I failed to achieve my ideals) and in relation to one's significant other (e.g., My child failed to achieve my ideals for him/her). Informed by theories of psychological incongruence, this dissertation aimed to study Chinese immigrant parents' psychological adjustment, focusing on incongruence in two broad domains: 1) occupational and educational achievement; and 2) cultural adjustment, as well as incongruence within oneself and in relation to one's child. The general hypothesis was that incongruence between ideal and actual functioning across the domains studied would predict a decrease in psychological adjustment over time, as represented by lower self-esteem and higher

depressive symptoms. Participants were 182 Chinese immigrant families (mothers, fathers, and adolescent-aged children) residing in British Columbia, assessed twice with 18 months apart. A combination of polynomial regression with response surface analysis and linear multiple regression methods were used to evaluate the extent to which the direction and magnitude of congruence and incongruence between ideal and actual functioning predicted change in parents' psychological adjustment over time. Results provided partial support for the hypothesized relations, particularly within the domains of Chinese parents' own Canadian acculturation and their children's academic functioning. Support was also found within the domain of parents' own occupational functioning, but this was the case only for mothers. The hypothesized relations within the domain of children's Chinese cultural orientation were generally not supported. Overall, the results highlight the importance of understanding immigrant adults' adjustment process using a goodness-of-fit, family-oriented approach. Clinicians and settlement workers are encouraged to consider cultural and personal ideals when supporting immigrants in their adjustment process, as well as fostering successful coping with the incongruence that can arise in parent-child dyads. Finally, immigration policies should continue to address structural barriers that prevent immigrants from achieving their ideals, such as in the domain of employment.

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Acknowledgements

First, I would like to express the deepest gratitude to my supervisor, Dr. Catherine Costigan, who has supported and guided me throughout the years of my graduate study with her patience, encouragement, and expertise.

Thank you to my committee members, Dr. Erica Woodin and Dr. Karen Kobayashi, for their helpful and timely comments and advice on this dissertation.

I would also like to thank my fellow students in the IFS lab and in my cohort for their generous feedback to my presentations and analyses, as well as their encouragement and support over the years.

The aim of this dissertation is to investigate the psychological adjustment of Chinese Canadian immigrants, which makes up a substantial portion of the immigrant population in both Canada and British Columbia (BC). Canada is a major receiving country of immigrants from all over the globe. According to data from the 2016 National Household Survey, Canada had over 7.5 million immigrants, representing 21.9% of the total population, which reflects the highest percentage of immigrant population in nearly a century (Statistics Canada, 2017). Simply put, at least one in five people in Canada is foreign-born. Canada's current rate of population growth is largely attributed to these newcomers, and the population of immigrants is expected to continue to increase over time. Between 2011 and 2016, approximately 1.2 million foreign-born individuals immigrated to Canada, which accounts for 3.5% of the total Canadian population (Statistics Canada, 2017). These demographic projections suggest that Canada's population growth will increasingly rely on immigration in the coming years. On a provincial level, BC has the second largest proportion of immigrants in Canada (17.1%), second only to Ontario (51.1%) (Statistics Canada, 2017). Accounting for more than one quarter of BC's total population in 2011 (28.3%), immigrants undoubtedly play a vital role in the population growth in this province (Statistics Canada, 2017).

A closer examination of our national and provincial immigration trends reveals that Asia has remained Canada's largest source of immigrants. Among the 1.2 million recent immigrants who arrived in Canada between 2011 and 2016, more than one quarter of them were born in Asian countries (Statistics Canada, 2017). This includes individuals of Chinese heritage migrating from East Asian countries such as the People's Republic of China, Taiwan, and Hong Kong. The People's Republic of China continues to be one of the leading source countries of newcomers to Canada, contributing 10.8% of total immigrants arrived between 2011 and 2016

(Statistics Canada, 2017). Many of these Chinese immigrants have chosen to settle in BC, given its relative proximity to Asia and its well-established Chinese communities. Chinese immigrants have contributed significantly to steady population growth, and their numbers are expected to continue to increase (Chui, Tran & Flanders, 2005). Given these immigration trends, I focus on studying the adjustment of Chinese Canadian immigrants in the current dissertation.

Immigration and Immigrants' Psychological adjustment

Understanding the psychological adjustment of immigrants is essential in light of the challenges and stressors that come with the resettlement and acculturation process. Acculturation refers to the cultural, psychological, and behavioural changes which occur as a result of navigating between an individual's heritage culture and the culture of the country of settlement (Berry, 2006; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). During the process of resettlement and acculturation, immigrants often face many challenges, such as communication difficulties because of language and cultural differences, changes in family structure and process, intergenerational conflicts, and lack of acceptance by the receiving society (Kirmayer et al., 2011; Lui, 2015). These challenges can have substantial impacts on immigrants' employment, social status, and integration, as well as making the resettlement experience stressful and mentally taxing (Pumariega & Rothe, 2010).

Research on immigrant adjustment has paid much attention to the challenges associated with resettlement and cultural adjustment. However, the majority of this research focuses on broadly identifying the particular contextual, demographic, and social risk factors contributing to poor psychological adjustment (e.g., Hendriks & Bartram, 2016; Kim, Kang, & Kim 2015). These studies are informative in the sense that they identify the many barriers to successful and healthy adjustment for immigrants as a group. With that said, each individual immigrant has a

different immigration experience, and even with similar demographic profiles, immigrants may still adjust differently in the process of resettlement. Less research attention has been paid to the underlying psychological processes that may be experienced in resettlement, rendering some immigrants more vulnerable than others to poor adjustment. To address this gap in previous research, one of the major aims of this dissertation is to better understand the psychological processes that increase the likelihood of negative psychological outcomes as immigrants resettle. Before moving into a discussion of these proposed psychological processes that may create risk, I first review two primary indicators of psychological adjustment: self-esteem and depressive symptoms.

Indicators of Psychological adjustment: Self-esteem and Depressive Symptoms

The challenging process of resettlement may deplete immigrants of important psychological resources, which can heighten their risks for mental health concerns and impair their abilities to cope with distress. One example of such psychological resources is self-esteem, or the sense of personal self-worth. Self-esteem is widely recognized as a central aspect of an individual's psychological adjustment. It has been found to be strongly related to indicators of psychological adjustment, such as happiness (e.g., Cheng & Furnham, 2004), high positive affect and low negative affect (e.g., Orth, Robins, & Widaman, 2012), life satisfaction (e.g., Nesdale & Mak, 2003), and low levels of psychological symptoms such as depression (e.g., Sowislo & Orth, 2013). Furthermore, research supports that high self-esteem protects individuals against emotional distress following failure (Brown, 2010), as well as against the development of psychological symptoms such as depression (Orth & Robins, 2013).

Self-esteem as a psychological resource has important implications for immigrants' mental health. For example, low self-esteem has been shown to be correlated with negative

psychological outcomes, such as externalizing behaviours and problematic behaviours among Asian immigrant youths (Rousseau, Hassan, Measham, & Lashley, 2008). Research also shows that low self-esteem is associated with less adaptive coping with acculturation related stressors, such as discrimination (e.g., Seery & Quinton, 2015). In a study of female Korean immigrants who encountered major life stressors (e.g., losses from war, difficulties associated with immigration), self-esteem was found to be a significant predictor of resilience (Lee, Brown, Mitchell, & Schiraldi, 2008). Finally, low self-esteem has been shown to predict lower life satisfaction in immigrants (e.g., Neto, 2001).

In addition, distress related to the difficulties that immigrants encounter on a daily basis often place them at higher risk for mental health issues (e.g., Jang, Kim, & Chiriboga, 2005; Wong & Miles, 2014). Depression in particular is an important indicator of psychological adjustment, as well as a major health concern around the world (Moussavi et al., 2007). Depressive disorders are among the leading contributors of mental illnesses (Mathers, Fat, & Boerma, 2008). For example, Major Depressive Disorder has a life-time prevalence of 16.6% and is highly recurrent (e.g., Kessler et al., 2005). In general, depression is associated with impairments in social and intimate relationships (e.g., Davila, Karney, Hall, & Bradbury, 2003; Wade & Pevalin, 2004), work (e.g., Adler et al., 2006; Kessler et al., 2006), and physical health (e.g., Räikkönen, Matthews, & Kuller, 2007). It is also a major risk factor for suicide (e.g., Berman, 2009).

Depressive symptoms impair immigrants' psychological adjustment, just as they do for the general population. Studies of immigrants have found that depressive symptoms are correlated with subjective stress (e.g., Peer, Soares, Levitan, Streiner, & Steiner, 2013), low quality of life (e.g., Chae, Park, & Kang, 2014), and lack of social support (e.g., Chae et al.,

2014; Peer et al., 2013). Moreover, depressive symptoms among immigrants are linked to poor physical health, in terms of their association with perceived health, general health status, and level of chronic illness (e.g., review by Kuo, Chong, & Joseph, 2008; Peer et al., 2013). In older immigrant populations, depressive symptoms are also associated with more severe functional impairment (e.g., Ahn & Kin, 2015) and negative attitudes toward mental health services (e.g., Jang, Kim, Han, & Chiriboga, 2007).

Self-esteem and depressive symptoms are in fact closely associated with each other. Previous research has consistently demonstrated a negative link between the two constructs. There has been continuous debate about the causal relation between the two, and there are research providing support for both directions of effect. Tracing back to Beck's cognitive theory of depression (1967), those who support the "vulnerability model" assert that an individual's negative evaluations of the self is a causal risk factor for developing symptoms of depression (e.g., Whisman & Kwon, 1993). A recent meta-analysis of 77 studies by Sowislo and Orth (2013) supported this direction of effect. On the other hand, some researchers support the "scar model," which conceptualizes low self-esteem as a consequence of depressive symptoms, based on the reasoning that episodes of depression can leave permanent "scars" in an individual's self-concept (e.g., Coyne, Gallo, Klinkman, & Calarco, 1998). While clarifying the causal relationship between these two constructs can be important in another research context, this is not a primary focus of the current study. Instead, I focus on using both self-esteem and depressive symptoms as indicators of psychological adjustment in my investigation of Chinese immigrants. Apart from being generic indicators of psychological adjustment for individuals of various cultural backgrounds, both of these two constructs are important to examine when studying *Chinese immigrants*, as they are both related to the concept of *shame*, which has

significant cultural relevance when trying to understand why psychological distress may develop in the Chinese cultural context.

Shame in the Chinese Culture

Although shame is a universally recognized emotion, it is especially relevant in the Chinese cultural context, and therefore self-esteem and depression (both related to shame) also have unique cultural relevance when studying Chinese immigrants. Shame is a type of self-conscious emotion characterized by a sense of feeling small and inferior, as well as the inclination to avoid, escape, and hide from other people (Gruenewald, Kemeny, Aziz, & Fahey, 2004). As a “self-oriented” emotion, shame involves a global and negative self-evaluation that is associated with feelings of helplessness (Anolli & Pascucci, 2005). Shame also has strong social implications. Often the “negative judgement” that initiates the shameful feeling is related to the fear of losing one’s social standing (either in the eyes of oneself or significant others), as well as the fear of losing significant social relationships. Most importantly, shame can occur as the result of a failure to live up to internal or external expectations of one’s role or status, and therefore damaging the reputation and social standing of not just oneself, but also one’s family (Bedford & Hwang, 2003). Therefore, individuals often experience shame when they believe or feel that they have not met the expectations of other people, or have not met important social standards (Orth, Berking, & Burkhardt, 2006).

While shame appears to be universally recognized and experienced (e.g., Tracy, Robins, & Tangney, 2007), research shows that the propensity to feel shame, or “shame proneness,” is higher among Asians or Asian Americans, compared to their “Western” or Caucasian counterparts (e.g., Furukawa, Tangney, & Higashibara, 2012; Miller, 2002). Moreover, some research also suggests that the experience of shame is more intense and persistent in Asian

individuals (Anolli & Pascucci, 2005). To understand these cultural differences in shame proneness, it is important to consider cultural differences in how individuals relate to others and define one's role in the social context.

Markus and Kitayama (1991) described that individuals from Asian cultures, including the Chinese, tend to have "interdependent self-construal." This refers to a low degree of distinction or separation between the individual and the larger social context, such as their family and/or community. Under this definition, an individual is more connected and less differentiated from other people, especially one's significant others. The individual is also more motivated to "fit in," to fulfill obligations (often to others), and to maintain harmonious interpersonal relationships. Compared with the more "independent" Western self-construal, in an interdependent cultural context, a greater proportion of an individual's identity is dependent on or attributed to the individual's relationships with other people, and the roles that the individual plays among his or her social group. Under such cultural ideals, an individual is often raised to be very self-aware and sensitive to others' views or judgements about them, as these judgements are important social information that the individual uses to define their identity. These differences in definition of the self remain similar to this date, as shown in more recent research (e.g., Cross, Hardin, & Gercek-Swing, 2011; Nisbett & Masuda, 2003).

These cultural ideals are also reflected in the socialization strategies of parents from interdependent cultures. For instance, the use of "shaming" as a parenting strategy is commonly seen in the Chinese culture (Fung & Chen, 2001). Shaming refers to the disciplinary strategy of making children feel ashamed or inadequate, using parenting behaviours that are meant for evoking a child's feelings of shame, in order to teach them right from wrong (Fung & Chen, 2001). Examples of shaming behaviours include critical and unfavourable comparisons (often to

a peer or a sibling of the child; e.g., Fung & Chen, 2001), explicit statements about feeling embarrassed and ashamed of the child's misbehaviour (e.g., Camras, Sun, Li, & Wright, 2012), or expression of disappointment (e.g., Losoncz & Tyson, 2007). While parents across different cultural backgrounds may use shaming as a parenting strategy, this parenting approach is more commonly adopted and used in cultures that are highly interdependent, such as Chinese cultures (Camras et al., 2012). Chinese parents have been found to use shaming in their socialization efforts in order to achieve desirable behaviours from their children (e.g., Fung, Lieber, & Leung, 2003; Kim, Wang, Orozco-Lapray, Shen, & Murtuza, 2013). Shame and shaming in the Chinese culture, therefore, seems to be rather "culturally congruent" (i.e., consistent with the culturally desirable ideals) and tend to be more socially accepted constructs (Fung & Chen, 2001).

Shame, Self-Esteem, and Depression

Although shame may be more socially acceptable and sometimes even desirable in the Chinese culture, when it comes to the *psychological consequences* of shame, research suggests similar patterns across cultures. Feelings of shame are associated with negative psychological adjustment outcomes even in cultures that value shame and shaming (e.g., Furukawa et al., 2012; Wong & Tsai, 2007). Specifically, empirical evidence supports a negative link between shame and self-esteem. For instance, a recent study by Wong and colleagues on Asian American university students confirmed a negative link between shame (in particular, concern about negative evaluation from others) and self-esteem (Wong, Kim, Nguyen, Cheng, & Saw, 2014). This association is not surprising, given that shame and self-esteem both largely involve an individual's subjective interpretation or evaluation of the self. Thus, it makes sense that the two constructs share some overlap. Shame is also found to be an important correlate of depressive symptoms (e.g., Furukawa et al., 2012; Kim, Thibodeau, & Jorgensen, 2011). A recent meta-

analysis of 108 studies demonstrated that shame was moderately related to depressive symptoms ($r = .43$), and several studies included in this meta-analysis were conducted with East Asian samples (Kim et al., 2011). Nevertheless, systematic examination of the link between shame, depressive symptoms, and self-esteem in the immigrant literature is rather limited, with the few exceptions of qualitative studies that have alluded to shame's association with depression in Korean and Mexican immigrant samples (Bernstein, Lee, Park, & Jyoung, 2008; Ornelas, Perreira, Beeber, & Maxwell, 2009).

Not only do both shame and depressive symptoms involve perceiving the self as “inferior,” the two constructs also share the commonality of submissive behaviours, such as social withdrawal and avoidance. These behaviours and their psychological correlates (e.g., feelings of loneliness) have been shown to have negative health implications. For instance, social withdrawal is one of the defining features of depression (Gilbert, 2000), and loneliness has been found to be an important social determinant for poor physical and psychological health, particularly in older adults (e.g., Wright-St Clair, Neville, Forsyth, White, & Napier, 2017). Finally, the relation between shame, self-esteem, and depressive symptoms was further demonstrated with an experimental study conducted by Gruenewald and colleagues (2004). In this study of undergraduate students, participants in the experimental condition were given critical feedback for their performance on a challenging and demanding task. Pre-post measures were obtained to evaluate shame, self-esteem, and cortisol level. Results of this study revealed that in the experimental (or “critical feedback” condition), participants showed an increase in feelings of shame, decrease in self-esteem, and increase in cortisol level (a typical stress response that also tends to show up in depressed individuals).

These research findings provided strong support for shame being a correlate of self-esteem and depressive symptoms across different cultures. While there might be cultural differences in “shame proneness” as many researchers have suggested, shame impairs psychological adjustment in similar ways, regardless of the cultural orientation. In order to understand why Chinese individuals may experience poor psychological adjustment, it is worthwhile to consider how feelings of shame develop. As previously mentioned, shame typically involves negative judgements about the self, as well as the perception of having failed to meet some form of social expectation or standard and therefore potentially bringing disgrace to one’s social group (e.g., family) (Orth et al., 2006). Under such conditions, an individual’s sense of self is threatened, as there is an unacceptable discrepancy between perceived external expectations and the perceived reality (i.e., not meeting the expectations). In other words, shame appears to be an emotional reaction to experiencing an internal sense of “incongruence” between one’s “expected self” and “real self” (Bagozzi, Verbeke, & Gavino, 2003).

Gap in previous research. To understand the psychological adjustment of Chinese immigrants, therefore, it is essential to understand the ways in which immigrants may experience “incongruence” in their sense of self. However, previous research on immigrants’ adjustment in general, and on Chinese immigrants’ adjustment specifically, rarely consider the concept of psychological incongruence. The few studies that did include ideas of incongruence were either 1) qualitative in nature, or 2) specifically comparing pre-migration expectations to post-migration perception. For instance, in Li’s (2012) qualitative study of two Chinese immigrant elders in New Zealand, the author suggested how experiencing a decrease in one’s social status may have detrimental psychological implications for Chinese immigrant elders, especially those who are well-educated professionals back in China (Li, 2012). Two studies (one quantitative and

one qualitative) compared immigrants' ideas about life in the receiving country prior to immigration with their actual experiences after immigrating, and suggested a link between such discrepancy and emotional distress (Bhattacharya & Schoppelrey, 2004; Negy, Schwartz, & Reig, Ferrer, 2009). Together, these studies provide some preliminary understanding about how incongruence may emerge within the broader context of immigration, as well as its potential link to psychological distress. However, there are a few gaps to be addressed with further research.

First, a link to existing theories of psychological incongruence has been lacking, and therefore the argument that immigration-related discrepancy (as the studies reviewed above have implied) can have adverse psychological outcomes are not well-grounded in theories of psychological distress, and it is not entirely clear why such discrepancy may be psychologically impairing. In addition, when it comes to studying immigrants from an interdependent culture such as the Chinese culture, the cultural relevance of shame and interdependent self-construal are often not explicitly discussed or considered. This is another gap to be addressed, as the cultural context is very important in shaping why the specific domains of functioning may have pronounced psychological impacts on an individual from that specific culture. Also, although the comparison of pre- vs. post- migration experiences is an interesting question in its own right, there has been a lack of research on how not meeting one's *current* ideals or expectations for oneself can be psychologically impairing, after immigrants have migrated. Finally, in terms of methodology, there appears to be a lack of quantitative analyses that systematically examine the relationship between immigration related incongruence and negative psychological outcomes, and no research has been done to look at these relations using a longitudinal design.

In my attempt to address these gaps in previous research on Chinese immigrants' adjustment, I first will summarize our current understanding of the construct of psychological

incongruence, by reviewing existing theories of incongruence in the next section. In doing so, I will discuss how incongruence is defined and conceptualized. Several theories from different fields of psychology have argued that humans experience cognitive and motivational incongruence, which is associated with negative outcomes such as psychological distress or dissatisfaction. Furthermore, human beings are naturally inclined to reduce these discrepancies (Paul & Moser, 2006). In particular, I will review two major theories: Rogers' humanistic approach to conceptualizing psychopathology and psychotherapy, and Higgins' Self-discrepancy theory. These two theories share many similarities in attempting to define and explain the formation of incongruence, and both are therefore helpful for understanding the "roots" of psychological maladjustment. In the next section, I discuss some of the main concepts of these theories, followed by a discussion of potential sources of incongruence in the lives of immigrant parents.

Incongruence: Theories and Empirical Support

Rogers' theory of personality. Rogers' (1957, 1992) theory of personality and psychopathology suggests that the more overlap there is between an individual's ideal self and the individual's actual perception of the self, the more consistent and *congruent* this individual is. In other words, *incongruence* refers to any discrepancy between the actual experience of an individual and the ideal self-picture of the individual (Rogers, 1992). Rogers theorized that individuals experiencing incongruence tend to feel distressed and perceive low self-worth, which tend to contribute to psychological symptoms. In contrast, when there is convergence between one's self-image and the actual experience, the individual is more congruent and integrated, which is correlated with optimal psychological functioning (Rogers, 1992).

One construct that is closely related to the concept of incongruence is the idea of “conditions of worth,” which is crucial in understanding how internal incongruence is linked to external expectations and standards (Rogers, 1957, 1992). Conditions of worth refer to standards and expectations that individuals perceive are placed upon them externally by those around them. These are also conditions that individuals believe need to be in place in order for them to be seen as worthy. An individual is considered valuable *only if* the individual matches with or otherwise achieves these specific conditions or criteria. If not, the individual is considered rejected and devalued. Rogers believes that such “conditions of worth” explain much of the emotional distress experienced by individuals, and can have substantial influence on one’s self-concept (Rogers, 1959). Although conditions of worth are typically external to the self (i.e., coming from other people), Rogers’ theory suggests that an individual can also “internalize” these external conditions of worth. Expectations that originated from significant others can become an individual’s own internal expectations for the self. When there is a discrepancy between the reality and such standards, the individual is more likely to experience psychological distress. Therefore, the development of “incongruence” can be understood as originating from conditions of worth that were initially imposed by others.

Rogers further theorized that the purpose of psychotherapy is to effectively reduce the incongruence that exists between the reality and the ideal (Rogers, 1992). The role of a psychotherapist, according to Rogers, is to foster “unconditional positive regard” within the client, which refers to the warm acceptance of each aspect of a client’s experience as being a part of that client (Rogers, 1992). Unconditional positive regard involves acceptance of the client’s expression of “bad,” negative, painful, fearful, and defensive feelings, as much as acceptance of the client’s expression of “good,” positive, mature, and confident feelings. This process allows

clients to accept and take responsibility for themselves, which facilitates the reduction of incongruence between the real self and the ideal self. Achieving a state of congruence is seen as essential for promoting optimal psychological functioning.

Higgins' Self-Discrepancy Theory. In the field of social psychology, Higgins (1987) also developed a theoretical model that centred on the idea of internal congruence, which he named Self-Discrepancy Theory (SDT). Similar to Rogers, Higgins stated that individuals tend to compare themselves to certain internalized standards, which he called "self-guides" (Higgins, 1987). Also like Rogers, Higgins suggested that a large discrepancy between these "self-guides" and an individual's current state (i.e., how the individual views him/herself in reality) can result in emotional distress and psychological maladjustment.

Although Rogers' and Higgins' theories share many similarities, Higgins was more nuanced in his definition of self-guide and discrepancy. He proposed that there are different types of discrepancies, and offered specific hypotheses regarding the type of negative emotion that would be associated with each specific type. Higgins proposed two main domains of discrepancies, one between an individual's "real self" and "ideal self" ("RI discrepancy"), and the other between an individual's "real self" and "ought self" ("RO discrepancy"). Here, the "ideal self" refers to hopes, aspirations, or wishes that individuals have for themselves, whereas the "ought self" refers to duties, obligations, or responsibilities that an individual has (Higgins, 1987). Higgins further noted the importance of considering "standpoint," namely the perspective on the self, which can be applied to both RI and RO discrepancy. The two basic standpoints are 1) an individual's own personal standpoint (or "own"), and 2) the standpoint of the individual's significant others (or "other"). Together, the 2 x 2 combination of domain and standpoint creates

four specific possible types of discrepancy. To clarify on the nuances among these different types of discrepancies, they are summarized and illustrated with examples in the Table 1.

Table 1
Higgins' Four Types of Discrepancies

		Domain	
		Ideal self	Ought self
Standpoint	Own	<p><i>“RI-own”</i> Discrepancy when the current state* of an individual does not match the ideal state that the individual hopes or wishes to attain.</p> <p>Example: Sally would like to juggle both family and her professional career, but she doesn't think she has accomplished this goal.</p>	<p><i>“RO-own”</i> Discrepancy when the current state an individual does not match the state that the individual believe should be attained due to his/her duty or obligation.</p> <p>Example: Sally believes she should both be a good mother and have a successful career, but she doesn't think she has fulfilled this obligation.</p>
	Others	<p><i>“RI-other”</i> Discrepancy when the current state of an individual does not match with the ideal state that the person believes some significant other(s) hopes or wishes this individual would attain.</p> <p>Example: Sally thinks her husband hopes she could successfully juggle both family and career, but she doesn't think she has fulfilled his wishes.</p> <p>*proposed linked to shame</p>	<p><i>“RO-other”</i> Discrepancy when the current state of an individual does not match the state the individual thinks is demanded by some significant other(s).</p> <p>Example: Sally thinks her husband believes that she is obligated to be both a good mom and a successful businesswoman, but she doesn't think she has fulfilled these duties.</p>
<p><i>Note.</i> The current state (or “real self”) of the individual is always considered to be based on the individual's own personal standpoint.</p>			

Higgins argued that different types of discrepancy can produce different emotional experiences. For instance, he theorized that RO discrepancy (from both standpoints) is associated with *agitation-related emotions*, such as fear, threat, and edginess (Higgins, 1987). In contrast, he suggested that RI discrepancy in general (from both standpoints) is uniquely associated with *dejection-related emotions*, such as dissatisfaction, disappointment, and sadness. He specified that RI discrepancy based on the “other” standpoint (i.e., “RI-other”) can be associated with feelings of shame, as this type of discrepancy involves the belief that one has failed to obtain some significant others’ hopes or wishes for oneself. In this situation, the individual tends to believe that the significant other is disappointed and/or dissatisfied with the individual, thus increasing this individual’s vulnerability to feeling shameful and embarrassed. These are feelings that naturally occur when people feel that they have lost standing or esteem in the eyes of others. Higgins believes that the link between RI-other discrepancy and shame is consistent with previous operationalization of shame in the literature, many of which saw shame as being associated with the standpoint of other people, and involve the idea of discrepancy from some form of external standard (Higgins, 1987). Higgins acknowledged that some theories, such as what was proposed by Lewis (1979), consider shame as involving the “ought” domain discrepancy, in addition to the “ideal” domain. Theories like this would predict that not only RI-other, but also RO-other discrepancy, can induce shame. However, in Higgins’ theory, shame was theorized as being the most relevant to RI-other discrepancy.

Research evidence in support of a clear “RI-RO” distinction appears to be mixed (see summary by Watson, Bryan, & Thrash, 2014), which seems to make sense as both “RI-other” and “RO-other” discrepancies can be considered to be an individual’s evaluation of how well they are able to achieve certain standards or expectations that they have potentially

“internalized” from significant others. The individual might not have these ideals or standards for themselves at first. However, given that these ideals are highly valued and desired by the people they deeply care about, the individual will likely take them on as their own standards for themselves, and failure to achieve them could result in feelings of dejection. In a way, “ought” can be argued to simply be a more extreme form of “ideal.” Using the example in Table 1, when Sally’s husband “hopes” she could successfully juggle both family and career (i.e., referring to the “ideal self”), it is *preferable* that she acts in this way. If Sally’s husband believes that behaving this way is Sally’s obligation (i.e., referring to the “ought self”), it is not simply preferable, but *required*, that she behaves this way. To Sally, however, the message she receives from her husband in both cases can be very similar, especially because this is (presumably) someone whose opinions and perspectives she values deeply (i.e., a significant other). In either case, Sally would feel the external pressure to behave in a certain way, regardless whether the significant other “requires” her or simply “prefers” her to do so. In this dissertation, the type of discrepancy I am interested in examining (as will be discussed in further details in upcoming sections) appear to be the most similar to 1) Higgins’ “other” oriented discrepancies, and 2) Higgins’ RI-self discrepancy. However, Higgins’ categorization of discrepancies is not be a focus of this dissertation, as I am primarily interested in examining dejection-related outcomes (e.g., depressive symptoms), which by theory are common correlates of the above different types of discrepancies.

Parallel between the two theories. Rogers’ and Higgins’ theories are in many ways quite similar to each other. The conditions of worth put forth by Rogers, in a way, can be seen as a broader concept that includes, but is not limited to, both of Higgins’ “other” oriented discrepancies (as discussed above). Moreover, Rogers (1992) theorized that individuals may

often “internalize” the conditions of worth imposed by others, resulting in a sense of internal incongruence within the individual. The idea of internal incongruence parallels the RI-own discrepancy proposed by Higgins, namely the discrepancy between one’s current state and the state one hopes to achieve.

Combining the two theories, it can be concluded that “conditions of worth” (or some form of other-oriented discrepancy) can serve as the basis for an individual’s internalized incongruence. When experiencing incongruence, an individual tends to feel psychologically distressed, including feeling shameful. In many cases, the individual would feel motivated or pressured to reduce the amount of psychological discrepancy or incongruence and the associated emotional discomfort. This is often done in order to fulfill the expectations of others, which the individual eventually takes on as part of his/her own personal expectations for the self. Note that this is under the implicit assumption that the individual values and cares about the other person’s viewpoint and perspective, even though the individual may not be having these opinions without the perceived external influence of these significant others.

Both Rogers’ and Higgins’ work emphasized the role of incongruence or discrepancy in creating psychological distress, and Higgins additionally proposed shame as a likely emotional outcome when one is failing to meet an externally imposed standard. The concept of incongruence or discrepancy is crucial in understanding how poor psychological adjustment outcomes, such as low self-esteem and depressive symptoms, may develop over time. Quite a few studies have demonstrated the direct effects of experiencing a sense of incongruence or discrepancy on individuals’ psychological adjustment. For the sake of consistency, the rest of this dissertation will use the term “incongruence” when referring to this concept of perceived gap

between one's real self versus ideal self; however, note that Higgins' choice of term "discrepancy" can be used interchangeably.

Empirical link between incongruence, depression, and self-esteem. Much research has examined the link between incongruence and psychological adjustment. In the following sections of the literature review, I focus on studies that investigated the association between incongruence and two specific indicators of psychological adjustment that I used in this dissertation:

depressive symptoms and self-esteem. However, note that other studies have examined the association between incongruence and other outcomes of psychological adjustment, such as anxiety (e.g., Johns & Peters, 2012; Watson et al., 2014).

Methodology considerations. In the 1990's, the majority of the studies that examined incongruence used the Selves Questionnaire developed by Higgins and colleagues (1986) (or an adapted version of this measure) to measure the construct of incongruence (in most cases, based on Higgins' conceptualization of RI and RO discrepancy). The Selves Questionnaire was designed to measure each of the four types of discrepancies theorized by Higgins (see Table 1). Participants are asked to provide a set of adjectives (or personal traits) to describe themselves, in terms of 1) who they actually are (actual/own), 2) who they would ideally like to be (ideal/own), 3) who others would ideally like them to be (ideal/other), 4) who they ought to be (ought/own), and 5) who others think they ought to be (ought/other). Next, independently trained judges compared each of the actual/own adjectives with each of the ideal/own, ideal/other, ought/own, and ought/ other responses. For each single comparison, the rater(s) decided whether the adjectives were a "match" (i.e., synonyms, such as "happy" and "cheerful"), a mismatch (i.e., antonyms, such as "shy" and "outgoing"), or a non-match (i.e., neither synonyms nor antonyms, such as "happy" and "shy"). In most of these studies, a final score was calculated across the

different standpoints for each domain of discrepancy (i.e., a total RI score and a total RO score), and thus the standpoint did not matter as much in the end.

A review of more recent literature shows that this method of operationalizing incongruence has continued in the vast majority of contemporary research. Most of these studies measure incongruence by asking their participants to provide some form of personality traits or characteristics that 1) describe their real selves and 2) describe their ideal selves. Discrepancy scores are then calculated based on how congruent the real and ideal selves are. Two recent studies included more novel ways of measuring incongruence. Watson and colleagues (2014) created a more abstract way of measuring incongruence that did not involve generating specific personality characteristics. Participants in their study were presented nine sets of two squares that intersect from 0% to 100%, with one square representing the real self and the other square representing the ideal self. The participant then selects the pair of squares with the intersection that best shows how much the two selves are alike in general. In another study by Ferguson, Hafen, and Laursen (2010), Jamaican adolescents were asked to allocate a pie chart into various domains (i.e., friendships, dating, schoolwork, family, religion/spirituality, and sports), giving a visual representation of the relative size of each domain based on the each domain's salience to the participant. Participants were to allocate two "Identity Pies," one for their "ideal self" and one for their "real self," and the discrepancy between the two was calculated based on the size difference of the specific domain.

Incongruence and depressive symptoms. Depression is one of the most commonly examined psychological correlate or outcome of incongruence, perhaps due to Higgins' original proposal of depression being uniquely associated with RI discrepancy. Studies of this nature were prominent in the late 1990's, and many were treatment outcome studies that aimed to

examine the effectiveness of specific models of psychotherapy in reducing incongruence in a participant's self-concept. As previously discussed, the measures used mostly focused on capturing general personality traits. Quite a few studies using clinical samples found significant associations between incongruence in personality traits and depression (e.g., Fairbrother & Moretti, 1998; Kinderman & Bentall, 1996; Weilage & Hope, 1999), and that incongruence significantly decreased after specific psychotherapy treatment (e.g., Strauman et al., 2001). The link between incongruence in personality traits and depressive symptoms was replicated in non-clinical samples as well (e.g., Tangney, Niedenthal, Covert, & Barlow, 1998). More recent research has been slightly more diverse in capturing the many possible ways that incongruence may occur, such as the study by Ferguson and colleagues (2010). In general, recent findings also consistently support the link between incongruence and depressive symptoms (e.g., Bentall, Kinderman, & Manson, 2005; Ferguson et al., 2010; McDaniel & Grice, 2008; Watson et al., 2014). The samples in these studies covered a wide range of populations, including psychiatric outpatients and individuals receiving counselling services (Bentall et al., 2005; Watson et al., 2014), and community samples of college students (McDaniel & Grice, 2008) and adolescents (Ferguson et al., 2010). This range supports the generalizability of these findings across different age groups, and across clinical and nonclinical populations. To my knowledge, no research of similar nature has been done with an immigrant population.

Incongruence and self-esteem. A few recent studies examined the link between incongruence and self-esteem, and provided support for a negative relation between the two constructs (e.g., Ferguson et al., 2010; McDaniel & Grice, 2008; Sollaro & Sollaro, 2010). Again, the majority of these studies followed the tradition of examining incongruence in personality traits. For example, in the study by Sollaro and Sollaro (2010), the authors

specifically examined incongruence of identity in the interpersonal domain. Participants (i.e., administrative workers in a government agency) were assessed for their “psychological integration,” which was defined by the level of discrepancy between their “desired” and “actual” rating for each of the surveyed interpersonal characteristics (e.g., assertive, introverted, friendly). The smaller the discrepancy, the more “integrated” (i.e., congruent) the participant. Results indicated that less discrepancy (and thus high integration) was associated with higher self-esteem. Similarly, the study by McDaniel and Grice (2008) showed the same negative association between personality incongruence and self-esteem in undergraduate students. Finally, Ferguson and colleagues (2010) demonstrated a negative link between incongruence in specific domains of Jamaican youths’ adjustment (particularly in the domains of friendship, dating, and schoolwork) and self-esteem. To my knowledge, no research has directly examined how incongruence in relation to one’s functioning (general or specific domains) is linked to self-esteem in an immigrant sample.

Limitation of incongruence research. The majority of existing research has taken an approach to measuring incongruence that is similar to the one developed by Higgins. These studies provide good measures of incongruence based on broad descriptions of an individual’s self-concept (i.e., in terms of personal characteristics), which evaluates incongruence on a general level. This line of research can be informative as they demonstrate how incongruence regarding broad personal characteristics can be associated with an individual’s psychological adjustment, and therefore is important to study. However, human beings are complex creatures, and an individual’s view of the self tends to be more complex and fluid than the generalized and often stable personality traits. For instance, one’s self-view may alter depending on the specific context or domain of functioning, such as work, academic, or social functioning. Furthermore,

researchers such as Lui and Rollock (2011) have highlighted the importance of understanding immigrants' adjustment within the specific domains in which immigrants subjectively view as important. However, experiences of psychological incongruence that are "domain-specific" have not received much research attention in the general and/or immigration literature.

Furthermore, previous incongruence research has rarely considered the role of cultural factors in identifying the domains of functioning in which incongruence may be especially salient. Culture plays an essential role in determining what is conventionally valued, desired, and expected from an individual in a given society. As a result, incongruence in relation to a specific domain of functioning may have different implications and psychological consequences in two different cultures. Without understanding the broader cultural context, research is not sensitive to the unique dynamics within specific populations. In the context of this dissertation, considerations of the specific cultural context of Chinese immigrants, such as the meaning and implications of shame and interdependent cultural ideals, add valuable cultural salience to the overall conceptualization of what type of incongruence may or may not be relevant. In this dissertation, therefore, I examined incongruence among immigrant Chinese parents in specific domains of functioning (and the psychological consequences of the incongruence), with attention to the broader cultural context when conceptualizing incongruence.

Beyond Incongruence in Relation to the Self

A review of existing literature on incongruence reveals that researchers have conventionally focused on looking at incongruence that occurs in relation to one's *own functioning* (e.g., participants' own self-image). Following that tradition, in this dissertation, I first looked at incongruence in one's own functioning relative to standards in achievement and acculturation as sources of distress. Unlike previous research, however, I additionally considered

incongruence related to the functioning of one's child (versus oneself) as a potential source of distress. In the following paragraphs, I provide my rationale for considering children's functioning in addition to one's own functioning in my examination of incongruence.

In my investigation of the ways in which Chinese immigrants' psychological adjustment may be compromised by incongruence, I proposed that it is important to consider not just sources of incongruence in relation to the self, but also sources of incongruence that are related to the family members of these immigrants. Specifically, I examined incongruence in relation to immigrants' *children*, looking at how perceived incongruence in relation to one's child may impact the *parent's* psychological adjustment. This is based on the understanding of the Chinese culture being highly interdependent, and that identity of Chinese individual is greatly dependent on the individual's relationships with significant others (e.g., family and close friends). If an individual's self-worth is strongly influenced by these relationships, it is reasonable to argue that, when there is incongruence between the "expected" and "actual" functioning of a significant other, the individual might internalize this incongruence as meaningful to his/her own view of the self. This type of incongruence experience (i.e., which is about another individual closely related to the self) has not been examined in previous research. However, it is potentially a culturally-relevant source of incongruence that can have significant impact on Chinese immigrants' psychological adjustment.

The idea that incongruence may be based on the functioning of other people has been alluded to in the shame literature. In their discussion of specific triggers of shame, Wong and Tsai (2007) explained that individuals coming from an interdependent culture can experience shame for not just their own actions, but also actions of their significant others. Generally speaking, people coming from an interdependent culture can feel shameful for their significant

others' behaviours and/or attributes. In a qualitative study that involved interviewing Korean American participants, several examples of such "other-based" shame were revealed as being typical in an interdependent society. For instance, parents may feel ashamed for having a child with learning disabilities or low intellectual abilities; an individual may feel ashamed for having a spouse or partner with a low prestige job, and family members may feel ashamed when their loved ones commit a criminal act or suffer from a serious mental health condition (Smith & Kobayashi, 2002; Yang & Rosenblatt, 2001). These examples suggest how much individuals from interdependent cultures, including Chinese culture, can "internalize" the real-ideal incongruence of a significant other. Once internalized, just like a source of incongruence relative to one's own functioning, this type of incongruence can also create distress and discomfort in the individual.

Sources of Incongruence in Immigrants

When immigrants resettle in a new culture, they are required to adapt and adjust to cultural experiences that are significantly different from their own heritage culture. They are also required to cope with the practical challenges that are involved in moving to a different country, such as learning a new language, making social connections with individuals from a different cultural background, and coping with potential discrimination. Under such circumstances, the likelihood of an individual experiencing incongruence may increase, as these adjustment stressors may impose additional challenges for the immigrants in achieving their "ideal self" in this new context. Knowing that incongruence and its associated emotions (such as shame) may be linked to negative psychological adjustment, it is important to consider and examine culturally-relevant sources of incongruence and their links to immigrants' adjustment. There are many domains of immigrants' day-to-day lives in which they could potentially experience a

sense of incongruence. To narrow down the scope for this current study, areas of functioning that are ground in one's cultural upbringing, and those that were related to current cultural adjustment, were chosen as the primary focus of this study.

Specifically, I examined two aspects of functioning in which incongruence can potentially occur among Chinese immigrants: 1) achievement and 2) cultural orientation. In selecting these two domains of functioning, I considered the broader cultural context of immigration, which makes incongruence in these two domains of functioning particularly relevant. Table 2 provides an overview of the different areas of incongruence I examined in this dissertation. As shown, for each of the two domains of functioning, I evaluated incongruence that occurs in relation to immigrants' own functioning (i.e., their actual state versus ideal state), as well as incongruence that occurs in relation to these immigrants' children (i.e., their ideals for their children versus their children's actual state). The two different domains of functioning, achievement and cultural orientation, are discussed in further detail in the following paragraphs

Table 2
Domains of Functioning Examined

		Incongruence in Relation to...	
		Self	Child's
Domains of Functioning where Incongruence may be Experienced	Achievement	<input type="checkbox"/> Occupational achievement	<input type="checkbox"/> Child's academic achievement
	Cultural Orientation	<input type="checkbox"/> Canadian behavioural acculturation	<input type="checkbox"/> Child's Chinese behavioural enculturation <input type="checkbox"/> Child's endorsement of interdependent values

Incongruence in Achievement

As previously mentioned, the internal experience of incongruence is often rooted in failure to achieve some form of external expectation (the "ideal" and "ought" from others'

standpoint). This is the type of incongruence that is the most explicitly associated with shameful feelings, along with other psychological correlates like depressive symptoms and low self-esteem. Although theories such as Rogers' and Higgins' tend to define these conditions as being imposed by an individual's significant others, the *broader culture* may also play an important role in shaping what is desirable and even required. Such "culturally imposed" standards are important sources of incongruence to consider, especially with respect to the population of interest in this dissertation.

Like many other Asian cultures, Chinese culture highly values occupational and academic achievement. This is reflected in the career choice and aspirations of Chinese students, which are often shaped by strong motivations to achieve prestigious occupational status (e.g., Fouad et al., 2008). In their study of mainland Chinese families with high-school age children, Hou and Leung (2011) compared the ideal career choice of Chinese parents and the career aspirations of their adolescent children. They found that Chinese parents tend to expect their children to consider occupations that are higher in prestige than what their children plan for themselves. Extensive research in the parenting literature suggests a similar pattern, revealing high motivation from Chinese parents to get their children to achieve in school (e.g., Kim & Fong, 2013; Wei, 2012). Furthermore, there is a lot of stigma associated with lack of achievement, often represented by a less prestigious job, low education attainment, and poor social status. Such stigma extends beyond the individual level and can have consequences for the whole family. That is, individual achievement in both academic and occupational contexts strongly reflects on one's whole family, not just oneself (Abdulla & Brown, 2011). As a result, an individual with low social status or a less prestigious job is often stigmatized and seen as bringing shame to the whole family, similar to the stigma associated with mental illnesses, HIV,

and developmental disability (e.g., Yang, Philips, & Lo, 2010). In all of these cases, an individual is perceived to bring shame to the family because he/she is seen to have some form of “defect,” or is otherwise less competent (Chiu, Yang, Wong, & Li, 2015). Under such social pressure, it makes sense that even as early as childhood, Chinese individuals are taught to internalize the culture’s ideal of high educational and occupational achievement.

Adult immigrants’ occupational achievement. Based on the above cultural considerations, a source of incongruence that may be especially relevant when studying Chinese immigrants is incongruence in relation to the domain of achievement. When studying adults, achievement is often represented in the occupational domain, given the relevance of job and career at this developmental stage. Research has illustrated that failing to achieve one’s ideals for occupational goals is a source of distress. For example, a career goal discrepancy is defined as the perceived gap between individuals’ set career goals (i.e., future self or situation) and their career goal progress (i.e., current self or situation; Creed & Hood, 2015). A review of literature reveals that such career goal discrepancies are linked to negative outcomes such as feelings of failure and dissatisfaction (e.g., Creed, Wamelink, & Hu, 2015). The larger the perceived discrepancy, the more severe the resulting distress (Fejfar & Hoyle, 2000). For example, in one experimental study, employed university students were assigned to different conditions of “career compromise” (i.e., asked to consider a career option that they did not find desirable). It was found that students reporting more “compromise” also reported more negative affect and less predicted job satisfaction (Tsaousides & Jome, 2008). Altogether, these studies suggest that negative psychological outcomes may be associated with incongruence between one’s career aspirations and one’s current occupational performance.

Incongruence in occupational achievement may be especially relevant to consider when studying immigrants. In the process of resettlement, it is often very difficult for immigrants to maintain the same level of occupational achievement or performance, as immigrants often need to cope with the many challenges associated with working in an unfamiliar country and culture. In 2016, the unemployment rate for recent immigrants between 25 and 54 years old was nearly 11%, compared to the 5% unemployment rate for non-immigrant Canadians (Statistics Canada, 2018). The unemployment rate was particularly high in recent immigrants, compared to those who had been in Canada for a longer period of time. In addition to experiencing more challenges in finding jobs, Asian immigrants in particular also tend to be underrepresented in corporate management, despite having the traits and management skills necessary for such leadership positions (e.g., Zane & Song, 2007).

Guerrero and Rothstein (2012) argued that skilled immigrants' job seeking in Canada is often hindered by factors such as low language fluency, lack of local social support, and limited cultural knowledge of the mainstream culture. Furthermore, structural challenges in the job market, such as devaluing foreign education credentials and job experiences, as well as discrimination within the employee recruitment and selection process, can create additional challenges for immigrants to settle into jobs that match well with their qualifications. Much research shows that Canadian employers tend to value and prefer Canadian education and work experience over foreign experience and education, often due to employer's unfamiliarity with foreign credentials and the type of training experience involved (see review by Oreopoulos, 2009). In fact, recent statistics shows that only 24% of foreign-educated immigrants were working in an occupation corresponding to their field of study, compared to 62% of Canadian-born individuals (Zietsma, 2010). Discrimination also appears to interfere with immigrants' job

search process, and can occur as early as the paper application process. For instance, in an experimental study by Oreopoulos (2009), a resume with a common English name (of the applicant) received 40% more employer contact, compared to an identical resume but with a common Indian, Chinese, or Pakistani name. These challenges create additional barriers for immigrants in the job search market, and can greatly contribute to undesirable job search outcomes such as lower earnings (e.g., Ferrer & Riddell, 2008), underemployment (e.g., Guerrero & Rothstein, 2012), more limited opportunities for promotion (e.g., Chen & Fouad 2013), and lower quality of employment (e.g., Zikic & Klehe, 2006).

Although no research thus far have directly examined career-related incongruence in immigrant adults and its association with psychological adjustment, some has demonstrated the psychological effects of underemployment in immigrants. Underemployment is defined as the degree to which individuals' education, skills, and abilities are underutilized in their current job (Bolino & Feldman, 2000). It is a central issue confronting newcomers in Canada and has been well documented in several studies and reports (e.g., Van Ngo & Este, 2006; Wayland, 2006). In a way, underemployment can be seen as a form of achievement incongruence for immigrants, in cases where immigrants expect their jobs to match with the type of training, educational background, and professional qualifications they have. When an immigrant with such an expectation is "underemployed" for any reason, there is likely a sense of psychological incongruence, as the "actual state" does not match up to the "ideal."

A few studies have suggested negative psychological outcomes associated with underemployment. In a study of immigrants and foreign workers in the United States, underemployment was found to be negatively related to participants' general mental health (Bolino & Feldman, 2000). In a qualitative study of Sudanese and Russian immigrant fathers,

participants expressed feeling distressed and frustrated being underemployed, and reported that underemployment has impacted their self-esteem and self-worth (Este & Tachble, 2009). In another qualitative study, Chinese Canadian immigrants with prominent and medically unexplained fatigue and weakness reported that underemployment was one of the stressors that contributed to their feelings of demoralization and their symptoms (Lee, Rodin, Devins, & Weissm, 2001). It is possible that the incongruence between these immigrants' ideals about their career and their actual employment state and conditions is the underlying reason why psychological distress arises. Together, these research findings suggest that negative psychological consequences can accompany underemployment, and call for further examination of occupational achievement incongruence as a potential underlying mechanism through which immigrants' psychological adjustment is negatively impacted.

Children's academic achievement and achievement motivation. As previously mentioned, incongruence may also stem from the mismatch between how an immigrant's child is functioning compared to the immigrant's hopes and expectations for their child. Under the cultural ideals of high achievement, Chinese parents are often heavily invested in their children's education and expect their children to perform well at school (Kim & Fong, 2013). The educational values and systems of the Chinese culture, among many other Asian cultures, have been historically rooted in Confucian ideology. The implications of Confucian ideology include the important role of education in raising children, the idea that anybody can learn by working hard, the process of finding people with talent through national examinations, and the belief that educational attainment is an important way for individuals to upgrade their social status through more prestigious employment (Lee & Morrish, 2012). Chinese people consider academic performance a primary factor that influences their children's future success. Research studying

parents from mainland China revealed that parents tend to see their children's school achievement as their "top priority," because they view educational achievement as a ladder to a better life (Li, 2004). Such a view is often also shared by their children. There is a general trend of expecting one's child to study hard, enter university, and engage in high-status careers (Leung & Shek, 2011). These strong educational goals remain prominent (if not stronger) as individuals from these cultures migrate to Western countries. Research consistently shows that Asian immigrants in the United States perceive educational success as the primary pathway for social mobility (e.g., Xie & Goyette, 2003). Finally, many parents choose to immigrate in order for their children to receive a better education (Costigan, Lehr, & Miao, 2016).

These ideals and trends suggest the possibility that a Chinese child's underachievement or lack of motivation in schooling and academic achievement can be quite incompatible with the broader achievement-oriented cultural values. Such inconsistency can therefore become a potential source of distress for their parents, if they endorse those cultural values. Furthermore, the construct of *parenting efficacy* may play an important role in how such incongruence may contribute to negative psychological adjustment. Bandura (1997) defined perceived self-efficacy as the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments." Parenting efficacy can then be defined as a parent's beliefs about his or her own competence to parent and raise their child successfully. Parenting efficacy is an essential part of an individual's identity, and thus the idea of "not being an effective parent" can be threatening to a parent's sense of self. Previous research has supported this with links between low parenting efficacy to various outcomes of psychological maladjustment, such as depressive symptoms (e.g., Heerman et al., 2017). Incongruence can threaten their parental identity, or their self-image as an "effective parent." When children are markedly different from them in terms of

how important they view academic achievement and how well they achieve, mothers can experience more depressive symptoms and a poor sense of self. Currently, little research has examined the direct links between children's academic achievement and immigrant parents' psychological adjustment. In this dissertation, I examined if incongruence between children's academic performance and their parents' expectations about such performance is a source of distress for these immigrant parents (i.e., associated with low self-esteem and symptoms of depression).

Incongruence in Cultural Orientation

Although psychological incongruence often arises due to an individual's failure to meet some form of expectations or standards imposed by others (i.e., significant others or the broader culture/society), incongruence can sometimes occur simply because one does not meet one's own hopes and goals for the self. This is consistent with Higgins' (1987) theorization of the Real-Ideal (RI) discrepancy from the "self" standpoint. According to Higgins, this type of incongruence might not have a strong association with shame due to the lack of an "audience," and therefore lacks the associated fear that one is "failing" others. Nonetheless, this form of incongruence can still create feelings of dejection, such as hopelessness and sadness (Higgins, 1987), and therefore can be expected to have an association with poor psychological adjustment.

After individuals immigrate to a different country, they go through a process of cultural adaptation and adjustment process that involves changes in behaviours, identity, and values (Kim & Abreu, 2001). These changes arise as a result of the need to navigate between two different cultures: the heritage culture and the new mainstream culture (Berry, 2006; Schwartz et al., 2010). In the heritage cultural dimension, immigrants vary in the extent to which they maintain aspects of their culture of origin, or *enculturate*. In the new cultural dimension, they vary in the

extent to which they adopt behaviours and values consistent with the settlement culture, or *acculturate* (Berry, 1997, 2003). Each immigrant's cultural adaptation experience is unique, as every immigrant adopts and retains cultures in their own way, and copes with unique acculturation-related challenges differently. In many cases, the experience of adjusting to a new culture can be stressful, and issues may arise in relation to navigating different cultures. In this dissertation, I examined the adoption of the Canadian culture and the retention of the Chinese culture as domains of functioning where incongruence between actual functioning and one's ideals for the self may lead to feelings of distress.

Adult immigrant's behavioural acculturation. Specifically, I examined incongruence in relation to immigrants' engagement in culturally relevant behaviours. Behavioural acculturation refers to the more "overt and observable characteristics" of an individual's cultural practices (Shim & Schwartz, 2007). For instance, this domain includes cultural behaviours such as speaking, reading and writing a language, eating foods belonging to a specific culture, dressing in clothes indicative of a culture, and celebrating certain national or cultural holidays. Behavioural acculturation is not the only way through which an individual adopts the mainstream culture. Rather, many measures of acculturation assess other domains of acculturation, such as identity and values (e.g., Portes & Rumbaut, 2001; Schwartz, Zamboanga, & Jarvis, 2007). However, items about behavioural practices typically take up a large portion of acculturation measurements (Schwartz et al., 2010), and therefore behavioural acculturation is doubtlessly an important domain of acculturation that is closely related to immigrants' overall adjustment and integration in Canada.

Barriers to Canadian acculturation. The acculturation process can introduce new ways in which an individual might experience incongruence. Immigrants often have certain hopes,

aspirations, and expectations of what their new life would look like in Canada. However, due to the diversity of acculturation experience and the many challenges associated with resettlement, the extent to which an immigrant adjusts to the Canadian culture may not be what was originally hoped for or expected. Berry (1997) theorized that the process of acculturation is an interaction between the mainstream society and the individual that is adjusting to the new culture, rather than determined solely by either one of the two. A wide variety of social and demographic factors can influence the extent to which an individual adopts a new culture, as well as the psychological experience of this process (e.g., how difficult or stressful it is for the individual). Simply put, immigrants' adoption of the Canadian culture is highly dependent on the interaction among a large number of individual, group, and structural variables. These factors are discussed in the following paragraphs.

Important individual factors that affect an individual's adoption of Canadian culture may include demographic variables such as level of education and employment. Note that these variables are often inter-related. The process of adapting to a new culture often involves tasks that demand an individual to draw from their intellectual resources (e.g., learning a new language). With higher education, an immigrant tends to have more resources to cope with problems and changes that are associated with immigration (Lueck & Wilson, 2010). The nature and environment of immigrant's job and/or their employment status may also affect the extent to which the immigrant is exposed to the mainstream culture. For instance, certain jobs may provide more opportunities for social interaction with individuals from the mainstream Canadian culture, whereas other jobs may be limited to interacting with one's own heritage group.

Other variables that may create barriers in adoption of the Canadian culture go beyond the individual level, and often are related to broader Canadian society. Experiences with racism,

discrimination, and limited community resources can greatly affect immigrants' opportunities to integrate into Canadian culture (Costigan & So, 2017). Immigrants often experience stress from racial discrimination, such as being insulted, being made fun of, or being treated rudely or unfairly (e.g., Banks, Kohn-Wood, & Spencer, 2006). There are also more subtle forms of discrimination such as micro-aggressions, demeaning comments, profiling by security personnel, and unequal access to basic needs such as housing and health care (Chung, Bemak, Ortiz, & Sandoval-Perez, 2008). Research shows that discrimination is a significant life stressor, and it can cause adverse impacts on immigrants' overall adjustment (e.g., Banks et al. 2006; Lueck & Wilson, 2010). Most importantly, these negative social experiences are potential obstacles that prevent immigrants from engaging with the broader Canadian society. Experiencing discrimination or social rejections of any form may deprive immigrants of the courage and determination that is crucial in their culture adoption (Costigan & So, 2017). Research has shown that immigrants who are or feel discriminated against by the mainstream culture are more likely to reject the larger society than those who perceive acceptance (e.g., Berry, Phinney, Sam, & Vedder, 2006; Lee, 2005).

Immigrants may also experience challenges in their acculturation if they have limited access to a Canadian community, or when there are limited resources that support them to integrate to these communities. As newcomers, immigrants often do not have strong social networks when first moving to the new country, and many have limited connections with individuals from the Canadian culture. The type of community that immigrants settle down in can also play an important role in immigrants' acculturation process. For example, someone who is geographically restricted to working and living in an ethnic enclave – geographic areas with high population concentration of a particular ethnic group – may have less exposure to the

mainstream culture's practices, social network, language, along with other aspects of the culture (Schwartz et al., 2010). Finally, due to reduction in Canadian government funding in the recent years (Prosser, 2011), immigrant settlement agencies in Canada may be less equipped with resources to support new and existing immigrants in their integration process. Together, it appears that many individual, social, and structural challenges may prevent immigrants who would like to adopt the Canadian culture from reaching the goals they may have for themselves.

Given that behavioural acculturation is such a salient aspect of immigrants' overall adjustment process, incongruence experienced in relation to one's behavioural acculturation may have an impact on immigrants' psychological adjustment. More specifically, when immigrants feel that the extent to which they are able to navigate the new culture does not match up with what they were hoping to achieve, a sense of incongruence may arise. For example, an immigrant with an expectation of making many friends in the mainstream culture may end up feeling quite distressed when realizing that he cannot make friends as easily in this new cultural context, compared to in his own culture. Such behavioural acculturation incongruence may contribute to negative psychological outcomes, such as feelings of low self-worth and distress. To my knowledge, there has only been one research study that directly examined the link between incongruence that arises from behavioural acculturation and its relation with one's psychological adjustment. In this recent study of Polish immigrants in the United Kingdom, Ramos and colleagues investigated whether incongruence between immigrants' "desired" and "actual" social contact was linked to psychological adjustment (Ramos, Cassidy, Reicher, & Haslam, 2015). The authors studied discrepancies around both "intra-group" contact with Polish immigrants, as well as "inter-group" contact with local British individuals. Results indicated a moderated effect. Incongruence in intra-group contact was related to low self-esteem only when

there was also a high incongruence in inter-group contact, and vice versa. In other words, incongruence in this behavioural acculturation domain was shown to relate to Polish immigrants' psychological adjustment under certain conditions. This study represents a preliminary step in examining the possibility that acculturation-related incongruence can be aversive; there is a need for further investigation of how incongruence in behavioural acculturation is linked to immigrants' psychological adjustment.

Immigrant children's Chinese enculturation. In addition to adults' Canadian acculturation, I also examined incongruence related to children's retention of the heritage Chinese culture. In most cases, Chinese immigrant adults have more first-hand exposure to the Chinese culture, due to their extensive exposure prior to immigration. In contrast, the children of these immigrants often have relatively limited, if any, first-hand exposure to their heritage culture, especially those who were born in Canada, or the "second generation" (Costigan & Su, 2004). In many cases, immigrant children's endorsement of heritage culture behaviours, values, and identity, therefore, is highly dependent on the extent to which they are "socialized" to Chinese cultural practices and values. Retention of the Chinese heritage culture can be a task that many Chinese immigrants hope for and try to accomplish for their children. Children's failure to adhere to Chinese cultural practices and values to a degree that parents would like can become a source of incongruence for the parent, which may be associated with psychological maladjustment.

Parents, grandparents, and other family members play an important role in passing on heritage cultural knowledge to immigrant children (Umaña-Taylor, Bhanot, & Shin, 2006). This process has been referred to by labels such as family ethnic socialization, cultural socialization, and enculturation (Costigan, Taknint, & Miao, 2017). In the rest of this dissertation, I will use

the term “enculturation” when referring to this construct. Kim and Abreu (2001) described enculturation as the process of retaining the norms of one’s heritage group. This process is relevant for immigrant children’s overall adjustment and development. During enculturation, immigrants transmit to their children the history, values, and practices of their cultural background, as well as a sense of connection to the heritage culture (Hughes et al., 2006). Previous research, including studies of Chinese immigrants, has consistently linked enculturation to positive adjustment in immigrant children, such as in areas of academic competence and ethnic identity development (e.g., Hughes, Witherspoon, Rivas-Drake, & West-Bey, 2009; Su & Costigan, 2009). In particular, enculturation is associated with higher ethnic identity pride, cultural knowledge, ethnic identity exploration, and ethnic identity resolution among adolescents (e.g., Umaña-Taylor, Zeiders, & Updegraff, 2013). In a recent review, Evans and colleagues (2012) highlighted ways in which parents’ enculturation efforts can benefit other areas of a child’s development, such as leadership, civic engagement, agency, and prosocial attitudes.

While parents may have certain ideas about how enculturated they want their children to be, these ideals around the extent to which the children keep the heritage culture may not always be achieved. In this dissertation, I examined potential incongruence (as experienced by immigrant parents) within two domains of children’s enculturation: 1) children’s Chinese behavioural practices, and 2) children’s interdependent cultural values.

Behavioural enculturation. Immigrant parents may have ideals about how “Chinese” their children should be. Although there are various ways through which children can embrace their heritage culture (e.g., identity, values, and behaviours), “behaviours” are often the most overt dimension of cultural orientation (e.g., language, food preferences, friendships). As a result, the extent of behavioural enculturation is most likely to be easily observed by parents. In

the context of this study, behavioural enculturation refers to the extent to which Chinese immigrant children engage in Chinese cultural behaviours. Previous research has documented the importance of enculturation in immigration children's well-being. For example, a study of Asian American adolescents found that behavioural enculturation was positively associated with general self-efficacy, cognitive flexibility, and collective self-esteem of the adolescents (Kim & Omizo, 2010), suggesting behavioural enculturation as an important domain of cultural orientation to examine. The extent to which Chinese immigrant children engage in Chinese cultural behaviours, however, may not always be congruent with their parents' ideals about how "Chinese" the children should be. In instances like this, a sense of incongruence may emerge for the parents, which can potentially result in feelings of distress.

Interdependent cultural values. In addition to Chinese behavioural enculturation, Chinese immigrants may also want their children to embrace aspects of traditional Chinese values. As previously mentioned, Chinese culture is highly interdependent, which emphasizes considering (or sometimes even sacrificing for) one's "group," as opposed to acting in accordance with individual needs and interests. Such values also serve as the foundation for the culture's emphasis on family obligation. It is highly encouraged that individuals prioritize their duties and responsibilities for the family over their individual needs. Existing research supports the notion that family obligations are strongly emphasized in Chinese culture. For instance, a study comparing family obligation expectations among adolescents from five different ethnic cultures found that Chinese adolescents were the group that most highly endorsed family obligations (Fuligni, Tseng, & Lam, 1999). Even among adults and non-immigrant youth, family obligation is valued more among Chinese individuals than among individuals from European backgrounds (Tseng, 2004). These culturally driven beliefs and expectations serve a practical

function in the lives of immigrants, such as shaping immigrant parents' expectations about how much assistance their adolescents should provide to the family (Chance, Costigan, & Leadbeater, 2013). Instilling a strong sense of family obligation, such as being respectful of parents' wishes, may also be important for immigrant parents in order to preserve the family hierarchy, which can often be disrupted during the process of immigration (Su & Costigan, 2009). In sum, when a child does not behave in accordance with these interdependent and often family-oriented values that are often endorsed and preferred by the parents, immigrant parents may experience a sense of incongruence.

Barriers to enculturation. Although enculturation contributes to successful adolescent development, children of immigrants may not embrace their heritage culture, such as participating in ethnic cultural behaviours and endorsing ethnic cultural values. Thus, children in Chinese immigrant families may not always meet the enculturation goals that their parents have for them. These goals can be explicit or implicit. Barriers to enculturation include factors that are related to the parents and the whole family, and those that are related to the children themselves.

As previously discussed, because parents are the primary source of knowledge about heritage culture, the extent to which they emphasize and promote their heritage background to their children would likely impact their children's enculturation (Costigan, Su, & Hua, 2009). For instance, in a study of Chinese Canadian immigrant families, Su (2011) found that the more parents explicitly engage in teaching their children about Chinese history and traditions, the stronger the children endorsed a Chinese identity. For various reasons, however, parents might not always be able to successfully transmit their cultural knowledge to their children. In cases where parents expect or desire their children to endorse Chinese culture, barriers to cultural transmission may create a sense of incongruence for the parents. Often a successful transmission

requires parents themselves to be embedded in their heritage social networks, to practice ethnic behaviours (e.g., media, food, language), and to deliberately put in effort in transmitting the culture to their offspring. These activities may not always be feasible due to the time and resources that parents have (Sabatier & Berry, 2008). For instance, a Chinese immigrant mother who would like her son to be proficient in the Chinese language may find this less likely to be achieved when there is no Chinese language class or school available in their community, and when the parents do not have time to teach the son.

Moreover, enculturation may be dependent on the parent-child relationship and the parenting practices adopted by the immigrant parents. For example, some research shows that the transmission of family-focused values is facilitated by a parenting style that is more authoritative (Schönplflug, 2001). In contrast, when the quality of family relationships is poor, immigrant children are less likely to be attuned to the qualities that their heritage culture values and promotes. Consistently, in a study of Arab Canadian families, lower levels of trust and communication among parents and children was linked to higher relational conflicts. Most importantly, these relationship dynamics were also associated with youth's higher "internal conflict" about their Arab cultural identity (Rasmi, Daly, & Chuang, 2014).

In addition to the influence of parents, other factors may shape the extent to which immigrant children enculturate or encounter challenges in enculturation. Generational status is one important demographic variable to consider. Due to the timing of departure from home country, children who were born and raised in the mainstream culture (i.e., second generation) typically have less heritage culture exposure compared to those who were born in their heritage country (i.e., first generation). Previous research has found that first generation immigrant children generally have a stronger knowledge of their heritage language and culture, compared

with second generation (e.g., Cheng & Kuo, 2000; Pyke, 2005). In other words, the “baseline” level of cultural knowledge can vary quite substantially before any external enculturation effort is made. In addition, learning about one’s heritage culture is especially challenging for children who live in an area with few other individuals from the same ethnic background (Schwartz et al., 2010). Szecsi and Szilagyi (2012) summarized in their paper that enculturation can be complicated by a number of community-level factors, such as whether the child has regular visits to the home country and/or visits from relatives from the home country, as well as the child’s proximity to ethnic community, churches, and schools. Finally, how the particular ethnic group is perceived and treated by the larger society may also influence a child’s willingness or motivation to hold on to the heritage culture. In a study of second-generation Chinese and Korean American children, participants indicated that they were often assumed by the larger society to be “generic Asians” or “all the same,” while perceived as “foreigners” and “not Americans” (p. 86). These views from the large society contributed to attempts from the participants to try to “escape” their ethnic identities (Kibria, 2000).

In summary, children of immigrants, for many reasons, may not reach the enculturation ideals of their parents. In the context of the current research, incongruence in this domain refers to when Chinese immigrant parents’ ideals for the extent to which their children retain Chinese behavioural practices and values does not match with how the children are actually doing. Although there is a large literature on the *importance* of enculturation in immigrant children’s development (e.g., Kiang, Andrews, Stein, Supple, & Gonzalez, 2013), to my knowledge, no research has looked at the incongruence between immigrant parents’ expected versus their children’s actual enculturation, nor the psychological impacts of such incongruence on the parents.

Summary of Research Objectives and Hypotheses

The existing literature on incongruence and psychological adjustment has primarily emphasized incongruence in general personality traits and characteristics. Little is known about incongruence in specific domains of an individual's functioning, and very few studies examine these relations in immigrants, or consider the unique cultural context in which immigrants may experience incongruence between their ideals and actual functioning. In this dissertation, I investigated the psychological impact of incongruence in various domains of functioning (both immigrants' own functioning and their children's functioning). Specifically, I looked at whether different types of incongruence are associated with a change in depressive symptoms and self-esteem over time among adult immigrants. A longitudinal design was used to evaluate the relations between psychological incongruence and adjustment outcomes. The rationale for controlling for parents' psychological adjustment at Time 1 was to ensure that psychological incongruence was evaluated in terms of its relation with *change* in psychological adjustment over time, thus enhancing our ability to draw inferences about potential causal relations. This methodology was a strength as an individual's psychological adjustment may also have effects on their experience with incongruence, which would not be accounted for by a cross-sectional correlational study design. My proposed model is presented in Figure 1. The major research objectives and their corresponding hypotheses are detailed in the next paragraphs.

Goal 1: Investigate how immigrants' perceived incongruence in relation to their occupational achievement is linked to change in their psychological adjustment over time.

Given the cultural emphasis on academic and occupational achievement, failure in achieving one's ideals in academic and achievement domains may result in feelings of distress. As discussed, such ideals often originate from the broader cultural ideals of achievement, and

can also be reinforced by one's significant others. Such incongruence between ideal and actual functioning often lead to shameful feelings. However, little is known about how this type of incongruence is linked to negative psychological adjustment in Chinese immigrants. Therefore, one goal of this dissertation was to examine the longitudinal effects of incongruence around occupational achievement on Chinese immigrants' psychological adjustment. It was predicted that incongruence between immigrants' shame-oriented achievement ideals and their self-rated occupational success would lead to a *decrease* in self-esteem and an *increase* in depressive symptoms over time (Hypothesis 1).

Goal 2: *Investigate how immigrants' experienced incongruence in relation to their children's academic functioning is linked to change in their psychological adjustment over time.*

Incongruence may also exist between immigrants' ideals with respect to their children's academic achievement versus the children's actual performance, as well as their children's attitudes about the importance of achievement. In this dissertation, I examined how such incongruence may have an impact on immigrant parents' own psychological adjustment. Specifically, I predicted that incongruence between parents' academic aspiration for their children (in terms of the importance they place on their children's achievement) and children's actual level of the achievement motivation will be associated with a decrease in parents' own self-esteem and an increase in depressive symptoms (Hypothesis 2a). I also predicted that incongruence between parents' achievement aspirations for their children and children's actual/subjective performance in school will have similar psychological effects on parents' psychological adjustment (Hypothesis 2b).

(T1* Parents experience of incongruence in relation to...)

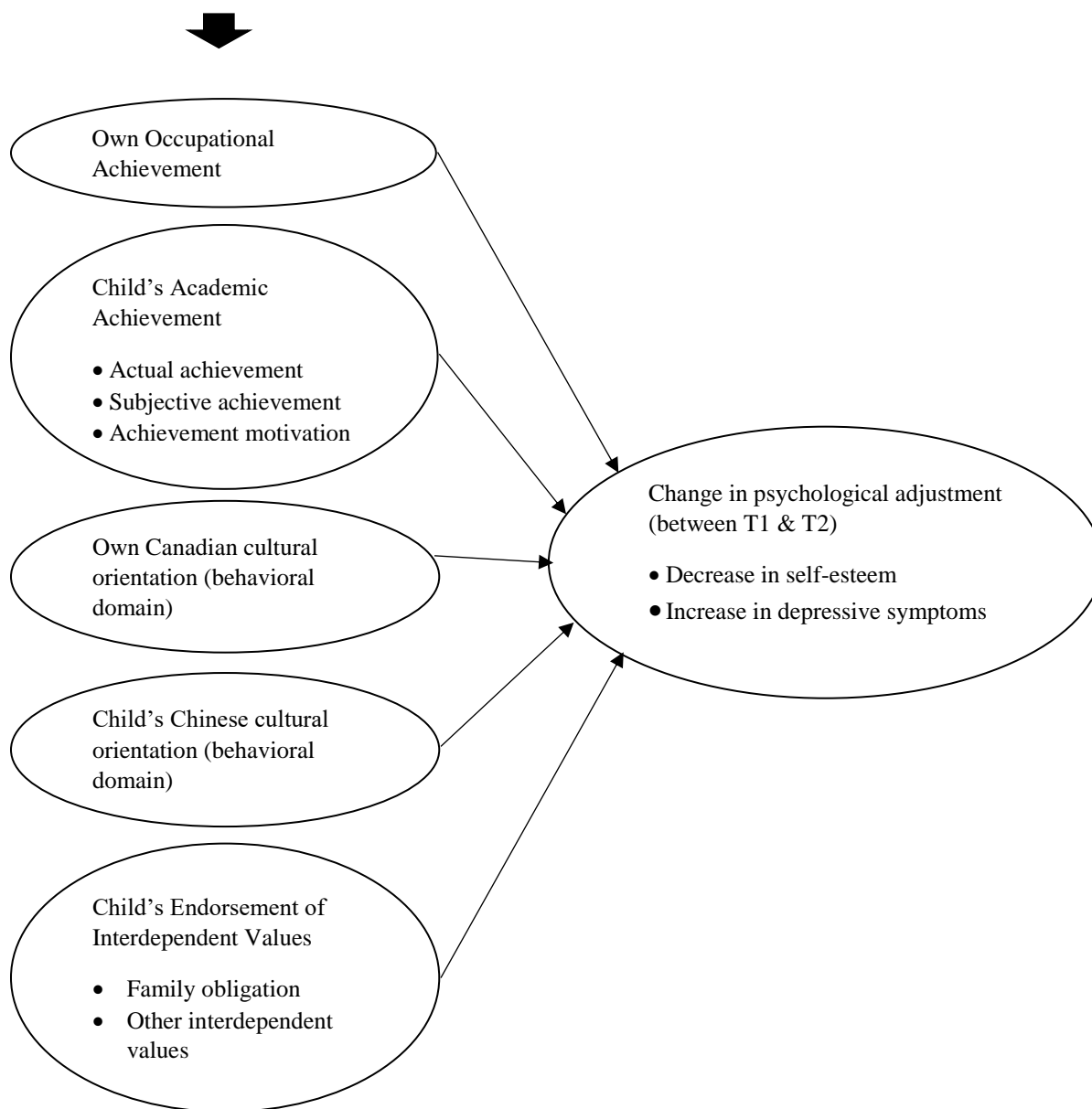


Figure 1. Overall Model; T1 = Time 1; T2 = Time 2

Goal 3: *Investigate how immigrants' experience of incongruence in relation to their Canadian cultural adoption (or "behavioural acculturation") is linked to change in their psychological adjustment over time.*

Little acculturation research has focused on examining immigrants' ideals about how much or how little they would like to adopt the mainstream culture, or in the context of this dissertation, to "be Canadian." Even less research explores what happens psychologically with the individual immigrant when there is incongruence between goals for acculturation versus actual level of acculturation. Based on previous theoretical models of incongruence, it was expected that when one's personal goals do not match up with the actual experience, a sense of dejection and associated emotions can occur as a result. In this dissertation, I predicted that incongruence in the extent to which immigrants want to adopt the Canadian culture and their actual engagement in Canadian behaviours would be associated with a decrease in immigrants' self-esteem and an increase in depressive symptoms over time (Hypothesis 3).

Goal 4: *Investigate how immigrants' experience of incongruence in relation to their children's endorsement of Chinese cultural behaviours (or "behavioural enculturation") is linked to change in their own psychological adjustment over time.*

In addition to ideals about their own cultural adoption experience, immigrants who are parents may also have ideals about the cultural experience of their children. Children of immigrants are more diverse (compared with their adult parents) in their endorsement of heritage culture. Incongruence between parents' ideals about how "Chinese" their children should be, versus the children's actual endorsement of the Chinese culture may be distressing to the parents. However, such incongruence has not been examined in previous literature on acculturation and

enculturation. In this dissertation, I investigated links between incongruence in relation to children's Chinese enculturation and the psychological adjustment of immigrant parents.

Children's enculturation was evaluated in terms of their behavioural practices and their value endorsement). Goal 4 addresses Chinese children's engagement in Chinese cultural behaviours (e.g., watching Chinese media, speaking Chinese, making Chinese friends), I predicted that parents who see Chinese cultural orientation as important in their children would experience an increase in depressive symptoms and decrease in self-esteem when their children's actual engagement in Chinese cultural behaviours is low (Hypothesis 4).

***Goal 5:** Investigate how immigrants' experience of incongruence in relation to their children's endorsement of Chinese cultural values, in particular those related to interdependent ideals, is linked to change in their psychological adjustment over time.*

Another domain of Chinese enculturation is children's endorsement of Chinese values. A characterizing feature of Chinese values is the emphasis on family and group over the individual. Such interdependent-oriented values are often seen to be important by Chinese immigrant parents. However, less research has explored the psychological consequences on parents when these values are not endorsed by the children. In this dissertation, I investigated the incongruence between immigrant parents' ideals around the extent to which their children should endorse traditional Chinese values, and how much their children actually endorse these values. This was examined in two ways. First, I examined incongruence between parents' ideals for their children to endorse interdependent values versus children's actual endorsement of these values. Higher incongruence was hypothesized to predict a decrease in parents' self-esteem and increase in depressive symptoms over time (Hypothesis 5a).

Second, I examined a specific instance of interdependent values in the daily life of Chinese parents and children. Specifically, I examined the extent to which children should feel and behave in ways that show great family obligation (e.g., helping out in the family, respect for family). When parents' ideals about children's family obligation fulfillment are greater than children's beliefs about the importance of these obligations, such incongruence was expected to predict lower self-esteem and higher depressive symptoms of the parents (Hypothesis 5b).

Methods

Participants

In the current study, I utilized a two-wave longitudinal dataset collected for the Intercultural Family Study (IFS), a larger project directed by Dr. Catherine Costigan 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 (Time 1), families were recruited from a mid-sized city and a large metropolitan area in British Columbia, Canada. The final sample consisted of 165 fathers, 179 mothers, and 181 children from a total of 182 families.

At Time 1 (T1), 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 immigrated from either the People's Republic of China (66.1%), Taiwan (20.4%), or Hong Kong (13.5%). Slightly more than one half of the children (54.7%) were foreign-born and immigrated at the age of six or older, while the remaining children (45.3%) were either Canadian born, or immigrated prior to the age of six. 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 four-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 T1 sample, 151 families (83.0%) participated in a follow-up assessment 18 months after the T1 assessment. Of the 30 families who did not participate at Time 2 (T2), 10 families had refused participation, 11 were not contacted based on their indicated preference at T1, eight could not be located, and one had moved back to China. A one-way between subjects ANOVA was conducted to compare demographics between families who participated at both waves, and those who did not complete T2. Families that participated at both waves were not significantly different from those who only participated at T1 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 T1 had a significantly longer length of residence in Canada ($M = 14.24$, $SD = 7.89$), compared with families who participated at both waves ($M = 9.76$, $SD = 5.73$), $F(1, 157) = 11.65$, $p = .001$. In addition, families who participated only at T1 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 in both waves had been in Canada for a shorter time and had a younger child than families who participated at T1 only.

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 BC. 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 T1 and \$60 at T2) for their participation. Identical procedures were followed at T2 assessment. Specific items of the measures administered (English version) are detailed in the Appendices.

Measures

I. Demographic information. Parents were asked to indicate their age, marital status, level of education, details about employment, family income, and relevant information about their immigration history (e.g., length of residency in Canada).

II. Psychological adjustment. The two psychological adjustment indicators are adult immigrants' self-reported 1) self-esteem and 2) depressive symptoms. The two measures chosen to assess self-esteem and symptoms of depression (as further discussed below) have been used extensively in Chinese populations and have been demonstrated to have good psychometric properties (e.g., Fung, Tsang, & Corrigan, 2007; Juang, Syed & Takagi, 2007).

Self-esteem. Feelings of self-esteem were assessed with the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1979), which is a well-validated measure that has been widely used for assessing individual's self-esteem. Participants were asked to rate each item (e.g., "I feel that I have a number of good qualities") on a Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Good reliability was observed in the current sample ($\alpha = .855$ for fathers and $\alpha = .861$ for mothers).

Depressive symptoms. Symptoms of depression were assessed with the 20-item Center for Epidemiological Studies–Depression scale (CES-D; Radloff, 1977), a measure widely used for evaluating depressive symptoms. Participants were asked how often in the past week they felt various symptoms (e.g., "I felt like everything I did was an effort"). Participants were asked to rate the items on a scale from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). For the current sample, the scale has demonstrated good reliability (at T1, $\alpha = .855$ for both fathers and mothers).

III. Achievement-related measures – parents' own achievement. To assess participants' experienced incongruence in relation to their occupational achievement, the following measures were administered. Each measure represents either a measure of "ideal" or "actual" experience (as indicated in the parenthesis). Table 3 provides an overview of the

different measures that will be discussed below. These are measures that will later on be used in my operationalization of incongruence in various domains.

Table 3
Domains of Functioning Examined and Measures Used

Domain of functioning	“Ideal” Measure	“Actual” Measure
Achievement	<ul style="list-style-type: none"> • Importance of achievement 	<ul style="list-style-type: none"> • Employment status • Working in own field • Perceived shift in economic standing
	<ul style="list-style-type: none"> • Educational aspiration for child • Achievement motivation for child 	<ul style="list-style-type: none"> • Educational aspiration (C) • Achievement motivation (C) • Perceived achievement (C) • GPA (C)
Cultural orientation	<ul style="list-style-type: none"> • Canadian acculturation goals 	<ul style="list-style-type: none"> • Canadian behavioural acculturation
	<ul style="list-style-type: none"> • Chinese enculturation goals for child 	<ul style="list-style-type: none"> • Chinese behavioural enculturation (C)
	<ul style="list-style-type: none"> • Family obligation expectation for child • Interdependence goals for child 	<ul style="list-style-type: none"> • Perceived importance of family obligation (C) • Interdependent values (C)
<p><i>Note.</i> Child-report measures are indicated by “(C)”; the rest of the measures are parents’ self-report</p>		

Importance of achievement (“ideal”). Participants’ were asked about how much they expect themselves to achieve in occupation and education. This was assessed with four items from a modified version of the Asian Values Scale (Kim, Atkinson, & Yang, 1999). The original scale contains 24 statements reflecting traditional Asian values, such as collectivism, following social norms, and humility. For the purpose of measuring achievement-related ideals in this dissertation, only the four items relevant to the area of achievement were chosen: “Occupational failure brings shame to the family,” “Educational failure brings shame to the family,” “People should achieve academically to make their parents proud,” and “People’s achievements should

be viewed as their family's achievements." These four items assess the extent to which participants value achievement, and therefore likely feel obligated to achieve occupationally. Participants were asked to rate their endorsement of each statement on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The mean of these four items was used to derive an index of each participant's ideal of high achievement; higher index score represents stronger ideals towards high levels of occupational and educational achievement. The internal consistency of these four chosen items in the current sample was acceptable ($\alpha = .774$ for fathers, $\alpha = .708$ for mothers).

Employment status ("actual"). In terms of employment status, participants were asked to indicate whether they were employed, and if currently unemployed, if they would consider themselves either as "unemployed and looking for work," or "unemployed by choice." The following ratings are assigned to the three possible groups of participant: employed = 2, unemployed by choice = 2, unemployed and looking for work = 1. Immigrants who are involuntarily unemployed are expected to have lower sense of occupational achievement, compared with the other two groups of participants.

Working in own field ("actual"). Participants were also asked to indicate whether they have been able to find work in their field in Canada; the options were: yes, no and would like to, no and do not want to, no and thus working in a different field. Those who responded "yes" and "no and do not want to" were assigned a rating of 2, whereas those who responded "no and would like to" and "no and thus working in a different field" were assigned a rating of 1. A higher rating represents a higher sense of occupational achievement. The reasoning is that the latter two groups of participants are more likely to experience a sense of underachievement

(compared to the former two groups), given that they are involuntarily not working in their own field.

Perceived shift in economic standing (“actual”). Participants were also asked to indicate if there had been any perceived change in their economic standing after moving to Canada. The choices they were given were: economic circumstances have improved (= 3), have not been strongly affected (= 2), they have made economic sacrifices (= 1), and moved to Canada as a teenager/young adult. Using the same principle as discussed above, higher numbers represent higher perceived occupational and financial achievement.

Perceived shift in social standing (“actual”). Participants were also asked to indicate if there had been any perceived change in their social standing after moving to Canada. The choices they were given were: economic circumstances have improved (= 3), have not been strongly affected (= 2), are less good (= 1), and moved to Canada as a teenager/young adult. Again, higher numbers represent higher perceived occupational and financial achievement.

IV. Achievement-related incongruence - children’s achievement. To assess immigrants’ experienced incongruence in relation to their *children’s* achievement in school, the following measures were administered. Again, each measure represents either a measure of “ideal” or “actual” experience.

Parents’ educational aspirations for their children (“ideal”). A single item was administered to ask participants indicate the highest level of education they would like their child to complete. This item was rated on a scale from 1 (*high school*) to 4 (*graduate degree*), with higher scores indicating parents’ greater academic achievement ideals for their children.

Parents’ achievement motivation for their children (“ideal”). A six-item scale adopted from Fuligni (1997) was administered to assess the level of perceived importance for children’s

academic achievement. Participants were asked how important it is that their child performs well academically (e.g., “How important is it that your child gets good grades”; “How important it is that your child is one of the best students in his/her class”). Items were rated from 1 (*not important*) to 5 (*very important*). This scale has demonstrated strong internal consistency (a range = .84 – .90) among adolescents from diverse ethnic backgrounds in grades 6, 8, and 10 (Fulgini, 1997) and among Chinese Canadian adolescents (Costigan & Dokis, 2006). Similarly, good to excellent internal consistency was observed in the current sample ($\alpha = .911$ for fathers, $\alpha = .898$ for mothers).

Children’s educational aspirations (“actual”). Used to measure immigrant parents’ goal for their children, the same single item was administered to assess the level of education children would like to achieve (i.e., “If you could go as far as you wanted in school, how much education would you like to have?”). Again, children were to rate this statement from 1 (*high school*) to 4 (*graduate degree*).

Children’s achievement motivation (“actual”). The same six-item scale by Fulgini (1997) was administered to assess how motivated children were to achieve academically. Children were asked how important it is that they perform well at school (e.g., “How important is it that you get good grades”; “How important it is that you are one of the best students in his/her class”). Similarly, items were rated from 1 (*not important*) to 5 (*very important*). Higher mean score of the six items represents higher level of achievement motivation. This scale has good internal consistency in the current sample of Chinese children ($\alpha = .869$).

Children’s perceived achievement (“actual”). Children’s perception of their school performance was assessed with four self-rated statements that were used in a University of Washington research project by Cauce (1996). Children were asked to rate the four statements

(“I don’t do well at school,” “I don’t feel like I really belong at school,” “I have a high grade point average,” and “I do well at school even in hard subjects”) on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The mean score of these items was calculated to represent children’s overall subjective sense of academic achievement. Acceptable internal consistency was observed in the current sample of Chinese children ($\alpha = .783$).

Children’s GPA (“actual”). Children’s self-reported, current grade point average (GPA) was also be used to assess academic achievement. Scores could range from 1, \leq “D,” to 10, “A+”, where 1 = \leq D, 2 = C-, 3 = C, 4 = C+, 5 = B-, 6 = B, 7 = B+, 8 = A-, 9 = A, 10 = A+. Higher GPA represents higher level of academic achievement. Past research has found children to be reliable and accurate reporters of their own grades (e.g., Mounts, 2007).

V. Canadian cultural orientation incongruence - immigrants’ own cultural orientation. To assess participants’ experienced incongruence in relation to their Canadian cultural adaptation, the following measures were administered. Each measure represents either a measure of “ideal” or “actual” experience (as indicated in the parenthesis).

Canadian acculturation goals (“ideal”). Participants’ goals for their Canadian acculturation were assessed with items created specifically for the IFS project. Items were developed to correspond to domains of acculturation identified in the literature (e.g., behaviour, identity and values). These five items assess the extent to which immigrants would like themselves to orient to the Canadian culture (e.g., “How important is it that you participate fully in Canadian culture?”; “How important it is that you have good relationships with Canadians?”). Participants rated each statement on a scale from 1 (*not at all important*) to 5 (*of great importance*). The mean of these items was used to derive an index of each participant’s “Canadian acculturation goals.” Higher index scores indicate stronger Canadian acculturation

ideal. Good internal consistency coefficients were found across the board (The internal consistency of this scale in the current sample is good ($\alpha = .894$ for fathers, $\alpha = .863$ for mothers). In addition, the factor structure of this five-item scale was further evaluated by Rasmi and Costigan (2018) using Structural Equation Modeling (SEM). Results showed significant loadings of all items on the latent factor, as well as indicators of good model fit. Invariance analyses showed that the strength of the factor loadings and covariance for Canadian acculturation goals were of similar magnitude between fathers and mothers.

Canadian behavioural acculturation (“actual”). Participants’ actual orientation to Canadian culture in the behavioural domain was assessed with an adapted version of the Acculturation Rating Scale for Mexican Americans-Revised (ARSMA-II; Cuéllar, Arnold, & Maldonado, 1995). The ARSMA-II was chosen because it was created based on an orthogonal view of acculturation, and therefore assesses immigrants’ acculturation to the Chinese and Canadian culture separately. The ARSMA-II has demonstrated good validity and internal consistency in Chinese populations (e.g., Liem, Lim, & Liem, 2000).

Due to this nature of the IFS sample, the first adaptation was to substitute “Chinese” for “Mexican” and “Canadian” for “American” in the item stems. Next, items from the original ARSMA-II that did not assess acculturation in the *behavioural* domain were removed. Also, three additional items were added to obtain a more comprehensive view of behavioural acculturation. These items were drawn from other acculturation measures, specifically the Vancouver Index of Acculturation (Ryder, Alden, & Paulhus, 2000), the Asian American Acculturation Scale (Chung, Kim & Abreu, 2004), and the Stephenson Multigroup Acculturation Scale (Stephenson, 2000).

The resulting scale consisted of 15 items that assessed immigrant adults' behavioural involvement in Canadian culture, including their media preferences (e.g., "I enjoy English language TV"), social contacts (e.g., "My friends now are of White/Canadian origin"), and resource use (e.g., "I prefer to use Western medicines or doctors when I am sick"). Items were rated on a scale from 1 (*not at all*) to 5 (*extremely often or almost always*). The mean of these items was used to derive an index of each participant's Canadian cultural orientation. The internal consistency of these 15 items in the current sample is good ($\alpha = .862$ for fathers, $\alpha = .808$ for mothers).

VI. Chinese cultural orientation incongruence - children's behavioural enculturation. To assess participants' experience of incongruence in relation to their children's Chinese cultural orientation in the behavioural domain, the following measures were administered.

Parents' Chinese enculturation goals for children ("ideal"). Participants' goals for their children in terms of the extent to which they would like them to embrace Chinese culture were assessed with four items designed specifically for the IFS. These four items evaluated parents' goals for their children's Chinese cultural orientation (e.g., "How important is it to you that your child participates in Chinese traditions?") and were rated on a scale from 1 (*not at all important*) to 5 (*of great importance*). The mean of these items was used to derive an index score; higher average scores indicate stronger cultural retention goals for one's child. The internal consistency of the scale in the current sample is good ($\alpha = .857$ for fathers, $\alpha = .848$ for mothers). In addition, SEM analyses of the factor structure indicated good fit of data on the latent factor. Invariance analyses showed that strength of the item loadings and covariance regarding parents' goals for

their children's Chinese enculturation were of similar magnitude among fathers and mothers (Rasmi & Costigan, 2018).

Children's Chinese behavioural enculturation ("actual"). Children's Chinese cultural orientation in the behavioural domain was assessed with the same adapted version of the ARSMA-II (Cuéllar et al., 1995). The development of this adapted measure has been previously discussed, and therefore are not repeated here. In total, 15 items were used to assess children's behavioural involvement in Chinese culture, including their media preferences (e.g., "I like to watch Chinese language television), social contacts (e.g., "My friends now are of Chinese origin"), and resource use (e.g., "I have contact with Chinese community institutions"). Again, items were rated on a scale from 1 (*not at all*) to 5 (*extremely often or almost always*), and an index score (averaging across 15 items) represents the level of children's Chinese behavioural enculturation. These 15 items have shown good internal consistency in the current sample of Chinese children ($\alpha = .880$).

VII. Chinese cultural orientation incongruence - children's value enculturation. To assess participants' experience of incongruence in relation to their children's Chinese cultural orientation in the value domain, the following measures were administered.

Parents' family obligation expectation for children ("ideal"). Participants' expectations for their children's family obligations and provision of family assistance were assessed with a 24-item scale developed by Fuligni and colleagues (1999). Sample items include: (how important it is that you child...) "Help take care of brothers and sisters" and "Run errands that the family needs done." In addition, the scale contains six items regarding parents' attitudes toward their children's future support and obligation (e.g., "Help your parents financially in the future" and "Spend time with your parents even after you no longer live with them"). Immigrant

parents rated each item on a 5-point scale from 1 (*not at all important*) to 5 (*very important*). Higher scores reflect parents' higher expectations for their children's family obligation. The scale was developed originally to include three subscales: (a) 11 items on current assistance to the family, (b) 7 items on respect for the family, and (c) 6 items on planned future support to the family as adults. For the purpose of this dissertation, the full scale was used and an index score was calculated averaging across the items. Research using this scale in the United States and in Canada has demonstrated good validity with immigrant Chinese families, as well as with immigrants from other cultures that emphasize collectivism (e.g., Fuligni & Pedersen, 2002; Su & Costigan, 2009). The items have shown acceptable internal consistency in the current sample ($\alpha = .795$ for fathers, $\alpha = .770$ for mothers).

Children's perceived importance of family obligation ("actual"). Children's perceived importance in providing current and future assistance to their families were assessed with the same 24-item family obligation scale (Fuligni et al., 1999), except that the phrasing of the questions have been changed from "how important is it that *your child...*" to "how important is it that *you...*" Again, children were asked how important each item is on a scale from 1 (*not at all important*) to 5 (*very important*). Higher index score (mean of items) reflect children's endorsement of stronger family obligation attitudes. This scale has been used with Chinese adolescents both in North America and in mainland China; good reliability and validity have been demonstrated in both cases (e.g., Fuligni et al., 1999; Fuligni & Zhang, 2004). Items of the scale show acceptable internal consistency in the current sample of Chinese children ($\alpha = .790$).

Parents' interdependence goals for children ("ideal"). The extent to which participants preferred their children to endorse interdependent cultural values was assessed using four items from Kim and colleagues' interdependent self-construal measure (Kim, Hunter, Miyahara, &

Horvath, 1996). The phrasing of these items were slightly modified to reflect parents' goals for their children's development of traits that reflect an interdependent self-construal (e.g., "how important is it for you that your child maintains harmony in his/her group?"), whereas the original scale asked the respondent to rate the items based on their goals for themselves. Two additional items were added to increase the scope of the interdependence goals assessed (e.g., "be cooperative," "be respectful"). Participants were asked to rate the final six items on a scale from 1 (*not at all important*) to 5 (*extremely important*). Higher index score (mean of the six items) indicates stronger expectation for one's child to endorse interdependence cultural values. The adapted scale demonstrated acceptable internal consistency in the current sample ($\alpha = .782$ for fathers, $\alpha = .761$ for mothers).

Children's interdependent values ("actual"). Children's actual endorsement of interdependent values was assessed with the modified version of the Asian Values Scale (Kim et al., 1999), the same one as previously mentioned, and used in assessing parents' achievement ideals. Details of this scale's development and adaptation are therefore identical and not repeated here. The scale contained eleven items that were developed to assess a range of Asian interdependent values, such as: "People should consider the needs of others before considering their own needs," "Following family and social expectations is important," and "A family's reputation is an important social concern." Children rated their endorsement of each item on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The mean of these items represents children's endorsement of interdependent values. The internal consistency of these eleven items in the current sample of Chinese children was acceptable ($\alpha = .771$)

Analytical Approach

Preliminary analyses. Prior to conducting the main analyses, the relations between participants' demographic variables and the main study variables were examined in order to determine if any background variables should be controlled for in the main analyses. In particular, the correlations between the main study variables and background variables such as parents' length of residence, education level, and children's age, gender, and generational status were examined. Demographic variables that were significantly correlated with main study variables were included as control variables in all subsequent analyses. Furthermore, intercorrelations among predictor variables were evaluated for potential multicollinearity. The predictor variables were also correlated with all outcome variables at Time 1 and Time 2 (i.e., parents' depressive symptoms and self-esteem). Table 4 provides a list of each combination of ideal and actual measures that was analyzed. Because the variables include a mixture of categorical or continuous measures, different analytical methods were used, as explained in the following sections.

Table 4
List of Analyses and Corresponding “Ideal” and “Actual” Measures

Domain	Analysis ^a	Ideal Measure	Actual Measure	Method
Self achievement	#1	Achievement ideals	Employment status	1
	#2	Achievement ideals	Ability to work in own job field	
	#3	Achievement ideals	Change in economic standing	
	#4	Achievement ideals	Change in social standing	
Child achievement	#5	Achievement motivation	GPA (C)	2
	#6	Educational aspiration	Educational aspiration (C)*	
	#7	Achievement motivation	Achievement motivation (C)	3
	#8	Achievement motivation	Subjective achievement (C)	
Self Canadian acculturation	#9	Canadian acculturation goals	Canadian behavioural acculturation	
Child Chinese enculturation	#10	Chinese enculturation goals	Chinese behavioural enculturation (C)	
	#11	Family obligation expectation	Family obligation attitude (C)	
	#12	Interdependent child rearing goals	Asian values (C)	
<p><i>Note.</i> Child-report measures are indicated by “(C)”; the rest of the measures are parents’ self-report</p> <p>^aAnalysis #1-5 contain a combination of continuous (i.e., the ideal measure) and categorical (i.e., the four actual measures) variables; analysis #6 contains both categorical variables; analyses #7-12 contain both continuous variables.</p>				

Method 1: Multiple regression with dummy codes and interaction terms. When one of the predictors was categorical (i.e., analyses #1-5 in Table 4), multiple regression were conducted using a dummy coding procedure. In these analyses (mostly within the parent achievement domain; one in the child achievement domain), the “actual functioning” variable was categorical (with various numbers of categories). In total, 20 hierarchical regression analyses with a categorical predictor were performed. Ten regression analyses evaluated the longitudinal relation between parents’ achievement ideals and their depressive symptoms, at two different levels of actual achievement functioning (i.e., the categorical predictor). Of the ten regression analyses, five tested mothers’ data, and the same five were repeated for fathers. The same ten regression analyses were repeated with self-esteem as the outcome variable.

As a first step, each variable was restricted using a dummy coding system. For each variable, one group was chosen as the “baseline group” that the other groups were compared against in the regression model. For all the categorical predictors examined, a three-group comparison was the most suitable (for theoretical and statistical reasons). Therefore, two dummy codes were created for each variable, in order to specify these group memberships. As illustrated in Table 5, the original categorical variable in each of these analyses was recoded into two dummy codes. Table 5 shows the original response options versus the two new dummy codes. The baseline group is always coded “0” across the two dummy codes. The other two groups take turns being coded as “1” in the dummy codes A and B (when one group is “1”, the other group would be “0”). This way, each dummy code represents a specific comparison (one specific group compared against the target group).

Table 5
Dummy Coding System for Analyses #1-5

Variable (analysis #)	Original categories (baseline group(s) bolded)	Dummy code A (D _A)	Dummy code B (D _B)
Employment status (#1)	- employed full time - employed part time - unemployed by choice - unemployed and looking	0 1 0 E	0 0 1 E
Able to find work in one's field (#2)	- yes - no and would like to - no and do not want to - no and thus in different field	1 0 1 0	0 1 0 0
Change in economic standing after moving (#3)	- improved - economic sacrifice - not affected - came as teenager/young adults	1 0 0 E	0 1 0 E
Change in social standing after moving (#4)	- improved - less good - not affected - came as teenager/young adults	1 0 0 E	0 1 0 E
Children's GPA (#5)	- A+ - A - A- - B+ - B - B- - C+ - C - C- - D+, D, F	1 1 1 0 0 0 0 0 0 E	N/A
<p><i>Note.</i> With the exception of children's GPA, in this dummy code system, the baseline group is coded "0" (shaded in grey) across both dummy codes. E = excluded from analysis.</p>			

In cases where there were more than three categories in the original variable (e.g., ability to find work in one's own field), the dummy coding procedure also allowed combination of two or more groups into one (e.g., the "yes" and "no and do not want to" groups) based on conceptual consideration and/or cell size, therefore reducing the total number of groups to three (with the exception of children's GPA). In terms of employment status, even though the four groups were considered to be conceptually different, the group "unemployed and looking" was excluded because it had too few participants. As a result, in the final comparison there were three groups. Next, the responses "yes" and "no but do not wish to" were combined into one group for the variable "ability to find work in one's field." This decision was based on cell size considerations, as well as the idea that participants in both groups were considered to have good achievement functioning in terms of getting what they wanted in terms of job field. For the variables "change in economic standing" and "change in social standing," the response option "came to Canada as a child" was excluded from subsequent analyses given that these participants were not in the position to experience any subjective change in either economic or social functioning (i.e., not applicable). As well, there were very few of these participants (only two to three people).

For children's GPA, it made conceptual sense to combine A+, A, and A- into one group, and the same applied to Bs and Cs. No individuals reported receiving anything below C-, so the group "D+, D & F" was excluded from subsequent analyses. After examining the cell size in each letter grade group (i.e., "As," "Bs," and "Cs"), a decision was made to combine "Bs" and "Cs" into one group due to the small cell size for "Cs." This resulted in only two groups, and one single comparison (i.e., "As" versus "lower than As"). Only one dummy code was created for children's GPA as a result.

Next, two interaction terms were created: 1) the product term between Dummy Code A and the ideal variable of that analysis, and 2) the product term between Dummy Code B and the ideal variable of that analysis. The general regression formula for these analyses is $Y = b_0 + b_1X + b_2D_A + b_3D_B + b_4XD_A + b_5XD_B + e$; where “Y” is the psychological adjustment outcome, “X” is the continuous ideal functioning measure (e.g., parents’ own achievement ideal), “D_A” and “D_B” are the two dummy codes representing actual functioning, and two interaction terms between the ideal and actual variable (“XD_A” and “XD_B”). In this regression model, the two main effect coefficients (b₂ and b₃) represent how membership in each “actual functioning” group (compared with the baseline group) is related to parents’ psychological adjustment. The two interaction term coefficients (b₄ and b₅) represent whether parents’ ideal functioning is linked to their adjustment *depending on* their actual functioning group membership. In other words, the interaction terms evaluate whether incongruence between ideal and actual functioning is related to psychological adjustment. Interpretations of these two coefficients were the most relevant to my research questions.

Control variables identified in the preliminary analyses, as well as T1 psychological adjustment were entered in the first step of the regression model. In the second step, the main effects and interaction terms were entered. Significant interactions were further analyzed to determine the nature of effect. For instance, if the relation between achievement ideal and self-esteem was different when comparing fathers who perceived improved versus declined social standing after immigration, the next step would be to run follow-up regression analyses to determine the effect of achievement ideal on self-esteem for each subgroup of fathers. As membership in different groups represent match and mismatch with parents’ achievement ideals, these follow-up analyses allowed the evaluation of whether congruence and incongruence

between parents' achievement ideals and their actual occupational functioning predicted change in their psychological adjustment over time.

Method 2: Multiple regression with dummy codes (no interaction terms). Analysis #6 (in Table 4) involved two categorical variables: parents' educational aspirations for their children (i.e., the highest level of education aspired) and children's own educational aspirations. These analyses evaluated whether congruence and incongruence in these aspirations were related to parents' psychological adjustment. To do so, first, the two variables were re-coded into a new categorical variable with three groups: parents' educational aspiration being 1) higher, 2) lower, or 3) at the same level as their children's reported educational aspiration. Table 6 illustrates the three categories based on participants' responses on the two variables.

Next, the new categorical variable was re-coded into two dummy codes using a similar procedure outlined in Method 2 (i.e., three groups, two comparisons). The "agreement" group was set as the baseline group in the comparisons. This time, however, there was no interaction term, as the "interaction" has already been captured by the creation of the new categorical variable. Therefore, the regression model contained only the two main effects. Interpretation of the main effects suggested whether the incongruence in either direction (i.e., parents' higher or children's higher) was linked to a change in parents' psychological adjustment, compared with the baseline "congruent" group.

Method 3: Polynomial regression analysis and response surface analysis. In recent years, researchers have been using Polynomial Regression Analysis (PRA) instead of the traditional difference score approach to analyze discrepancy (Edwards, 2002). This method allows for the simultaneous examination of each variable's independent ability to predict an outcome, as well as the extent to which congruence and/or incongruence between the two

variables is related to the outcome, all within a single model (Shanock, Baran, Gentry, Pattison, & Heggestad, 2010). Response Surface Analysis (RSA; e.g., Edwards 2002) is a graphing technique which illustrates the results of PRA in a three-dimensional space. RSA evaluates and visually presents how congruence and incongruence are related to the outcome of interest. The PRA generates four coefficients, which are used to produce the RSA graph. Two of the coefficients represent the nature of *congruence* between the two predictors, and the other two assess the nature of *incongruence*. The specifics of PRA and RSA procedures are explained next.

Table 6

Category Recoding for the Match and Mismatch between Parents' and Children's Educational Aspiration

		Children's educational aspiration			
		High school	College	University	Grad school
Parents' educational aspiration	High School	E	C	C	C
	College	P	E	C	C
	University	P	P	E	C
	Grad school	P	P	P	E

Note. "P" cells: parents' had higher educational aspiration than children; "C" cells: children had higher educational aspiration than parents; "E" cells: parents and children had similar educational aspirations.

The combination of PRA and RSA was used to evaluate the effects of congruence and incongruence on parents' psychological adjustment in analyses #7-12 (Table 4), where both the "ideal" and "actual" functioning variables were continuous measures. The general equation of PRA in these analyses is $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e$; where "Z" is the outcome, or the indicator of psychological functioning, "X" is the first predictor, or the measure of "ideal functioning" (e.g., achievement motivation expected or idealized by the parents), and "Y" is the second predictor, or the corresponding measure of "actual functioning" (e.g.,

children's own achievement motivation). In PRA, psychological adjustment is regressed on an ideal variable and its corresponding actual variable (X and Y), the interaction between the ideal and actual variables (XY), and the squared terms for the ideal and actual variables (X^2 and Y^2).

A total of 24 polynomial regression analyses were conducted. Twelve regression analyses were conducted to predict depressive symptoms: four were in the child achievement domain (i.e., analyses #7 & 8; two analyses for mothers and the same two repeated for fathers), two in the parent cultural orientation domain (i.e., analysis #9; one analysis for mothers and the same one repeated for fathers), and six in the child cultural orientation domain (i.e., analyses #10, 11 & 12; three analyses for mothers and the same three repeated for fathers). These 12 regression analyses were repeated with self-esteem as the outcome variable.

Before conducting PRA, I examined how "discrepant" my data were using the procedures outlined by Fleenor, McCauley, and Brutus (1996), to ensure that discrepancy existed in my data and using PRA made practical sense. First, all of the predictor variables were standardized. A difference score between each "ideal" and "actual" functioning variable was then calculated for each participant. Any participant with a standardized score on one predictor that was at least 0.5 standard deviation above or below the standardized score of the other predictor was considered "discrepant." The percentage of "discrepant" participants versus "congruent" participants was calculated. Following the convention suggested by Shanock and colleagues (2010), if more than half of the participants were considered "discrepant" on a specific comparison, carrying out a subsequent PRA made practical sense. In cases where the two predictors are not discrepant enough, there would not be sufficient variability (in terms of discrepancy) within the sample to draw a statistical conclusion about how discrepancy is related to the outcome. In this study, there was enough discrepancy between the two variables in each

comparison studied, and therefore I proceeded with the PRA and RSA analyses following the procedures outlined by Shanock and colleagues (2010).

The first step of PRA is to centre all the predictor variables. Specifically, I centred my data around the mid-point of the scale, following the recommendation by Edwards (1994) for this type of analysis. In the case of a 5-point Likert scale, this means that 3 (i.e., the centre score) would be subtracted from each score. Note that one of the requirements of PRA is that both predictors need to use the same units of measurement. This was not an issue for the majority of my analyses, as most variables were measured on a 5-point Likert-type scale. One exception was children's Asian values (used in analysis #12 in Table 4), which was measured on a 7-point scale. In this case, the variable was recoded to 5-point unit using the following formula:

$$\begin{aligned} &(5 - 1) * (x - 1) / (7 - 1) + 1 \\ &= 4 * (x - 1) / 6 + 1 \\ &= (4/6) * x - (4/6) + 1 \\ &= \mathbf{(4/6) * x + (2/6)} \end{aligned}$$

$$\begin{aligned} &(7 - 1) * (x - 1) / (5 - 1) + 1 \\ &= 6 * (x - 1) / 4 + 1 \\ &= (6/4) * x - (6/4) + 1 \\ &= \mathbf{(6/4) * x - (2/4)} \end{aligned}$$

By applying this formula to this child Asian values variable, a value of “1” on the original 7-point scale remained “1” after transformation. A value of “7” on the original scale became “5” after the transformation.

Next, for each of the PRA, three new variables were created: (a) the squared term of the centered “ideal” variable, (b) the cross-product of the centered ideal and actual variables, and (c) the squared term of the centered “actual” variable. Using analysis #7 (i.e., incongruence in achievement motivation) as an example, in the first step of PRA, T1 psychological adjustment and any necessary control variables identified in my preliminary analyses were entered. In the second step, the main effects of parent-rated achievement motivation (“ideal” or X) and child-rated achievement motivation (“actual” or Y), the interaction term (XY), and the two quadratic terms (X^2 and Y^2) were entered. Contrary to what is normally done in a multiple regression analysis, rather than directly interpret the beta coefficients, the regression coefficients are used in a second step, the Response Surface Analysis (RSA).

In RSA, the results of the PRA are used to compute four coefficients. These four coefficients are the slopes and curvature coefficients, which form two “lines” that are central in interpreting the three dimensional RSA graph (see Figure 2 for an example). The line of $X = Y$ (from the front of the graph to the back of the graph) represents the “line of congruence.” The slope of this line (coefficient a_1) shows how agreement between the two predictors is linked to the outcome variable (Z). Specifically, the a_1 coefficient tests the hypothesis that as both actual and ideal achievement motivation change, the outcome variable changes as well. This would indicate that linear congruence between the predictors is related to outcomes. The test for curvature (coefficient a_2) along this line of agreement (in relation to the outcome) represents the extent to which this relation is linear or non-linear. A significant a_2 coefficient suggests that as congruence changes, the outcome also changes (positively or negatively related), but only to a point. The relation between congruence and outcome at “other levels of congruence” was either

not significant, or significant but in an opposite direction. In this case, the relation between congruence and outcomes is curvilinear.

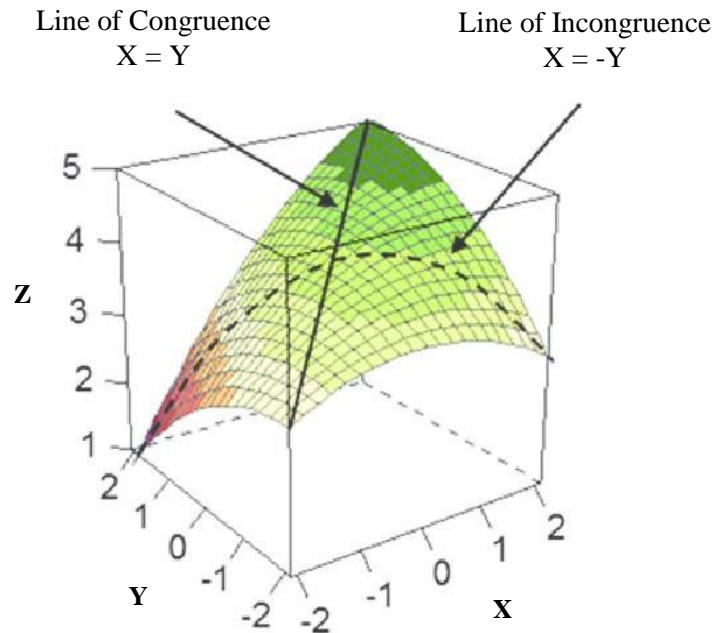


Figure 2. Example of Response Surface Analysis graph

In contrast, a second line, $X = -Y$, which is perpendicular to the line of congruence, represents the “line of incongruence” (from the left of the graph to the right of the graph). The slope of this line (coefficient a_3) tells us the extent to which the direction of incongruence matters, in terms of predicting the outcome. In other words, if the slope is significant, psychological adjustment is better predicted by the two predictors when one is higher than the other (e.g., parents’ achievement motivation expectation is higher than children’s own achievement motivation), but not the other way around. Incongruence in only one direction predicts outcomes. Finally, the curvature of the line of incongruence (coefficient a_4) captures

how the degree of incongruence is linked to the outcome, regardless of the direction of incongruence. In other words, this coefficient reveals whether the overall amount of incongruence between parents' achievement motivation ideal and children's achievement motivation predicts parents' psychological adjustment. Using the Excel template provided by Shanock and colleagues (2010) (see Appendix K), I entered the results of my PRA (i.e., unstandardized regression coefficients and covariances) to generate the four RSA coefficients, a_1 , a_2 , a_3 , and a_4 . I then interpreted any significant coefficient and the RSA graph that was generated.

Results

Data Cleaning and Checking

Missing data. The data were scanned for missing values. Fewer than 5% of the data (i.e., main study variables and relevant demographic variables) were missing. The Little's MCAR test was carried out to evaluate the randomness of data missing for the main study variables. Results suggest that the data were missing completely at random, $\chi^2(178) = 192.66, p = .21$. Based on this result, list wise deletion was used for the main analyses.

Frequency distributions for the *categorical variables*, (i.e., parents' employment status, their perceived change in economic standing, whether they were able to work in their own job field, children's GPA, parents' and children's education aspiration) were examined, and the results are presented in Tables 7, 8, and 9. There were only a few "extreme splits" in which a cell size contained fewer than 10% of the total sample (as defined by Tabachnick & Fidell, 2012). Only 6% of fathers reported that they were "unemployed by choice". However, to maintain parallel analyses for fathers and mothers, I decided to keep this group for my main analyses, but note that the results that involve this group should be interpreted with caution. Furthermore, only a small group of fathers and mothers reported improved social standing post-immigration (between 7-8% of the total sample). Given that it made conceptual sense to include this comparison, a decision was made to also retain this group of participants but to be mindful of the small cell size when interpreting the results.

Table 7
Frequency Distributions of Parents' Job-Related Data

	Fathers		Mothers	
Category	Frequency	Percent	Frequency	Percent
<i>Employment status (N = 152 & 161)</i>				
Full time	118	77.6	93	57.8
Part time/no fixed hours	25	16.4	32	19.9
Unemployed by choice	9	5.9	36	22.4
<i>Working in own field in Canada? (N = 158 & 173)</i>				
Yes + No but I do not wish to	77	48.7	80	46.2
No and I would like to	48	30.4	57	32.9
No and thus working in different field	33	20.9	36	20.8
<i>Change in economic standing after moving to Canada (N = 160 & 174)</i>				
Improved	33	20.6	31	17.8
Not strongly affected	54	33.8	62	35.6
Economic sacrificed	73	45.6	81	46.6
<i>Change in social standing after moving to Canada (N = 161 & 175)</i>				
Improved	12	7.5	15	6.9
Not strongly affected	64	39.7	64	36.6
Less good	85	52.8	96	54.9

Table 8
Distribution of Children's GPA (N = 181)

Category	Frequency	Percent	Cumulative (frequency / %)
A+	19	10.5	111 / 61.3
A	63	34.8	
A-	29	16.0	
B+	24	13.3	70 / 38.6
B	28	15.5	
B-	6	3.3	
C+	9	5.0	
C-	3	1.7	

Table 9
Frequency Distribution of Parents' vs. Children's Educational Aspiration

		Children's educational aspiration			
		High school	College	University	Grad school
Parents' educational aspiration (Dad/Mom)	High School	0 / 0	0 / 0	0 / 0	0 / 0
	College	0 / 1	0 / 1	0 / 1	1 / 0
	University	2 / 2	7 / 5	46 / 55	22 / 19
	Grad school	1 / 0	0 / 0	30 / 31	45 / 55

Note. As previously mentioned, a new variable was created based on this information to capture the congruence and incongruence between parents' and children's educational aspiration. For this new variable, the frequency distribution is as followed (N = 154 / 169 for fathers and mothers, respectively):

- "Parent higher" (white cells) – 40 (26.0 %) of all fathers; 39 (23.1 %) of all mothers
- "Child higher" (grey cells) – 23 (14.9 %) of al fathers; 20 (11.8 %) of all mothers
- "In agreement" (cells with bolded borders) – 91 (59.1 %) of all fathers; 110 (65. 1 %) of all mothers

For *continuous variables*, first, the z-scores for all the variables were computed in order to screen for univariate outliers. Tabachnick and Fidell (2012) suggest that a z-score with an absolute value > 3.29 should be considered as a potential univariate outlier. Examination of all the z-scores reveal that only three scores (i.e., family obligation expectations of the father and mother from one family, as well as the Canadian acculturation goals of the father from another family) met this criteria. Given that the outlier scores were not common occurrences for these participants, removing the entire case was not appropriate. Instead, following the recommendations of Tabachnick and Fidell (2012), these scores were altered to be closer to the mean (i.e., $|z| < 3.29$), while still keeping their positions at the end of the distribution compared to other participants.

Next, the means and standard deviations for the variables were computed (see Table 10 for a summary of parent-report variables and Table 11 for a summary of child-report variables). Measures of normality were computed to understand the variability in the data. 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 depressive symptoms (at both T1 and T2). Depressive symptoms were positively skewed for both fathers and mothers. In addition, the kurtosis of depressive symptoms was also significantly higher than zero for both fathers and mothers.

Table 10
Descriptive Information of Parent-Report Variables

Variable	Mean (SD)		Skewness		Kurtosis	
	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers
T2 self esteem	3.21 (0.41)	3.26 (0.37)	0.11	0.31	-0.59	-0.89
T1 self esteem	3.16 (0.41)	3.19 (0.40)	0.28	0.15	-0.59	-0.93
T2 depressive symptoms	8.47 (6.85)	7.70 (5.82)	1.24	0.83	1.87	0.66
<i>Transformed</i> →			-0.29	-0.40	0.16	-0.23
T1 depressive symptoms	8.87 (6.69)	9.25 (6.56)	1.04	1.25	1.09	1.80
<i>Transformed</i> →			-0.20	0.00	0.24	0.52
Achievement ideals	4.85 (1.21)	4.49 (1.08)	-0.38	-0.22	-0.17	-0.22
Achievement motivation for children	3.92 (0.96)	3.85 (0.88)	-0.84	-0.68	-0.19	-0.10
Canadian acculturation goals	3.55 (0.75)	3.36 (0.68)	-0.22	0.06	0.44	0.02
Canadian behaviours	2.73 (0.45)	2.76 (0.49)	0.10	0.47	0.45	2.24
Chinese enculturation goals for children	3.16 (0.88)	3.06 (0.88)	0.15	0.03	-0.05	-0.13
Family obligation expectation for children	3.25 (0.42)	3.22 (0.40)	0.18	0.08	0.64	0.45
Interdependent goals for children	4.05 (0.42)	4.05 (0.46)	0.35	0.01	-0.33	-0.74
<i>Note.</i> For the variables listed, with the exception of self-esteem and depressive symptoms (in which cases both T1/T2 data are presented), the other variables refer to T1 data.						

Table 11
Descriptive Information of Child-Report Variables (T1)

Variable	Mean (SD)	Skewness Critical value: 0.50	Kurtosis Critical value: 1.01
Achievement motivation	4.18 (0.75)	-0.80	-0.27
Subjective achievement	3.93 (0.77)	-0.42	-0.39
Chinese behaviours	3.37 (0.70)	-0.25	-0.47
Family obligation (importance)	3.47 (0.56)	0.16	-0.02
Interdependence values	4.67 (0.85)	0.16	-0.28

The above results suggested a need to transform the scores T1 and T2 depressive symptoms (both fathers' and mothers') in order to achieve normality. A square root transformation was used. The normality data for these two variables after transformation is also presented in Table 10. As shown, after transformation, no significant skewness was observed for the distribution of fathers or mothers. Similarly, the kurtosis value also approached normal after transformation for both fathers and mothers.

One other variable that had a kurtosis significantly greater than zero was mothers' Canadian behavioural cultural orientation, suggesting that mothers' reported levels of Canadian behavioural orientation were more concentrated around the mean (e.g., more similar to each other) compared to a normal distribution. However, I decided to leave this variable untransformed, as there is no strong indication that this group of mothers was obviously different from the general Chinese immigrant population of interest, and the fact that mothers in this sample on average reported quite similar levels of Canadian behaviours provides important information about the cultural adaptation of this group. Transforming this variable, therefore,

may lead to loss of important information about the sample, and may complicate interpretation of subsequent analyses results.

Finally, steps were taken to screen for potential multivariate outliers. The individual Mahalanobis distances of all continuous data (using transformed T1 & T2 depressive symptoms) were computed. One potential outlier was found. Comparing against a critical value of 48.27, the father in this family had a Mahalanobis distance of 48.52 ($df = 22, p < 0.001$). Consequently, this case was removed from the data set.

Preliminary Analysis

Demographic variables. Several demographic variables were considered as potential variables to be controlled. Some variables were continuous, including parents' age, education, length of residence in Canada, age when arrived in Canada, and children's age. Other variables were categorical, such as children's gender and generational status. Continuous demographic variables that were significantly correlated with the main outcome variable (i.e., depressive symptoms and/or self-esteem at T2) and with at least one main predictor variable were candidates for statistical control. The correlations between continuous demographic variables and T2 outcomes are summarized in Table 12. As shown, none of the continuous demographic variables tested were significantly correlated with either maternal or paternal outcomes variables.

For the demographic variables that were categorical (i.e., child gender and generational status), an independent samples t-test was carried out to compare the level of psychological adjustment 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 differences were found in the self-esteem of parents of boys versus girls (fathers' self-esteem: $t(129) = .16, p = .87$; mothers' self-esteem: $t(147) = 1.39, p$

= .17), and no significant differences were found in the depressive symptoms of parents of boys versus girls (fathers' depressive symptoms: $t(129) = -.89, p = .38$; mothers' self-esteem: $t(146) = -1.11, p = .27$). Similarly, children's generational status was not related to parents' self-esteem (fathers: $t(129) = .58, p = .56$; mothers': $t(147) = -1.22, p = .23$) or depressive symptoms (fathers: $t(129) = .14, p = .89$; mothers': $t(146) = 1.10, p = .27$). Given the above findings, no demographic variables were controlled for in the main analyses.

Table 12

Correlation between Demographic Variables and T2 Outcome Variables

	T2 Self-esteem		T2 Depressive symptoms	
	Fathers	Mothers	Fathers	Mothers
Age	.09	-.07	-.13	.03
Education	.07	.13	.12	-.08
Length of residence	.10	-.09	-.04	.03
Age of arrival	-.06	.05	-.03	-.03
Children's age	.05	-.11	-.10	-.14

Psychological adjustment by gender and across T1 & T2. A series of two-way repeated measures ANOVAs compared participants' psychological adjustment across T1 and T2, and across fathers and mothers. Results showed that for self-esteem, there was a main effect for time but no main effect for gender, or interaction between gender and time. Specifically, self-esteem increased from T1 to T2 in general, for both fathers and mothers, $F(1, 126) = 8.64, p < .01$. The two groups did not show significant mean differences in their levels of self-esteem (in both T1 and T2). For depressive symptoms, there was also a main effect for time but no main effect for gender. Depressive symptoms decreased significantly from T1 to T2 for both fathers and mothers, $F(1, 125) = 4.99, p < .05$. Interestingly, the interaction between time and gender was significant, $F(1, 125) = 5.19, p < .05$, suggesting that the main effect for time was qualified

by its interaction with gender. Specifically, a decrease in depressive symptoms (from T1 to T2) was evident only for mothers but not for fathers (see Table 10 for means).

Correlations among predictor variables. The strength of association among predictor variables (all “ideal” and “actual” measures in Table 4) were evaluated by domain (i.e., parents’ own achievement, children’s achievement, parents’ own cultural adaptation, children’s cultural adaptation), in order to screen for potential multicollinearity. With the exception of parents’ own achievement, which involved a mix of continuous and categorical measures, predictors were evaluated in terms of their inter-correlations. Given that my main research questions were about the impacts of match and mismatch between ideal and actual functioning, these correlation analyses focused primarily on the strength of association between “ideal” and “actual” measures.

Domain 1: Parents’ own achievement. The three categorical “actual” measures of parents’ achievement (i.e., parents’ employment status, perceived change in economic standing, and whether they were able to find jobs in their own fields) were examined in terms their strength of associations with the “ideal” measure of this specific domain, which was parents’ achievement-related values. One-way ANOVA was used to evaluate whether achievement ideals differed depending on “actual” group membership. Results suggested no significant mean between-group differences for either fathers or mothers. In other words, parents across different employment statuses, with different perceptions of economic standing changes and status in terms of finding employment in their original field, did not differ significantly in their reported achievement-related ideals. These results suggest that there is no evidence for multicollinearity in this domain.

Domain 2: Children’s academic achievement. The correlations among the “ideal” and “actual” variables in this domain were computed (refer to Table 13 for the specific variables).

For both fathers and mothers, all of the variables were significantly positively correlated with each other. In other words, the higher parents' achievement motivation for their children (i.e., the perceived importance of their children's academic achievement), the higher their children's self-reported achievement motivation, and subjective achievement. Note that none of these correlations was higher than .90, which indicates no concern over co-linearity across predictors in this domain.

Table 13
Correlations among Children's Achievement Domain Variables

	1	2	4	5
1. Parents' education aspiration for children	—	.48**	.23**	.22**
2. Parents' achievement motivation for children	.43**	—	.23**	.24**
4. Children's achievement motivation	.37**	.19*	—	.38**
5. Children's perceived achievement	.32**	.17*	.38**	—
<p><i>Note.</i> Correlations for fathers are presented above the diagonal and correlations for mothers are presented below the diagonal. *$p < .05$. **$p < .01$.</p>				

Domain 3: Parents' Canadian cultural adaptation. There were only two variables in this domain: parents' Canadian acculturation goals and their actual endorsement of Canadian cultural behaviours. The two variables were found to be positively correlated for both fathers ($r = .32, p < .01$) and mothers ($r = .16, p = .03$). In other words, when parents endorsed high Canadian acculturation goals, they were more likely to engage in higher levels of Canadian cultural behaviours.

Domain 4: Children's Chinese cultural orientation. The inter-correlations among predictors in this domain are summarized in Table 14. None of the correlations was higher than .90, again indicating no concern over co-linearity across predictors of this domain. The

patterns of correlations for fathers and mothers were fairly similar, in terms of correlations between ideal variables (e.g., between parents' Chinese parenting goals for children and parents' family obligation expectations for their children) and the "actual" variables (e.g., between children's Chinese behaviours and children's family obligation expectations). However, the ideal-actual correlations for fathers' and mothers' data showed an interesting pattern of differences. Mothers' Chinese cultural goals for their children were positively correlated with children's Chinese behaviours, and mothers' family obligation expectations for their children were positively correlated with children's own family obligation expectations. In contrast, the correlations among these variables were not significant for fathers.

Table 14
Correlations among Child Cultural Orientation Domain Variables

	1	2	3	4	5	6
1. Parents' Chinese cultural goals for children	—	.45**	.27**	.02	.02	-.07
2. Parents' family obligation expectation	.29**	—	.25**	.03	.07	.02
3. Parents' interdependent parenting goals	.40**	.18*	—	.18*	.01	.03
4. Children's Chinese behaviours	.22**	.09	.07	—	.32**	.19*
5. Children's family obligation expectation	.08	.27**	.03	.32**	—	.27**
6. Children's interdependent values	.12	.01	.06	.19*	.27**	—

Note. Correlations for fathers are presented above the diagonal and correlations for mothers are presented below the diagonal.
* $p < .05$. ** $p < .01$.

Inter-correlations among predictor and outcome variables. The strength of association between predictor variables (ideal and actual measures) and outcome variables (parents' self-esteem and depressive symptoms at both T1 and T2) were also evaluated.

Domain 1: Parents' own achievement. The "ideal measure" in this domain was parents' general achievement ideal, which was a continuous variable. The correlations between achievement ideal and the two outcome variables revealed significant positive correlations between mothers' achievement ideals and depressive symptoms (T1: $r = .19$; $p < .05$; T2: $r = .17$, $p < .05$). In other words, mothers who reported higher achievement ideals also reported higher depressive symptoms. These relations were not significant for fathers (T1: $r = .08$; $p = .32$; T2: $r = .11$, $p = .23$). Across both genders, parents' achievement ideals did not correlate with self-esteem at both T1 (fathers: $r = -.02$; $p = .80$; mothers: $r = -.11$, $p = .16$) and T2 (fathers: $r = -.01$; $p = .93$; mothers: $r = -.06$, $p = .44$).

The three "actual variables": parents' employment status, perceived changes in economic standing, and whether parents were able to continue working in their own fields, were also analyzed in relation to the outcome variables. Specifically, one-way ANOVAs evaluated whether there were group differences in either parents' self-esteem or depressive symptoms based on their "group membership" in these three variables. For instance, one ANOVA was carried out to determine if fathers who were employed full-time, employed part-time, unemployed and looking, and unemployed by choice differed in their reported self-esteem, and if so, which specific levels of the employment variables contributed to the differences (using appropriate post-hoc tests to follow up). Results by gender are discussed next.

Fathers' employment status was not associated with self-esteem ($F(3, 120) = 1.71$, $p = .94$) or depressive symptoms ($F(3, 120) = .59$, $p = .63$). As well, fathers' perceived change in

economic standing was also not associated with self-esteem ($F(3, 125) = .56, p = .64$) or depressive symptoms ($F(3, 125) = 1.93, p = .13$). Note that the T2 statistics are reported here, but similar results were obtained for T1 data. Whether fathers were able to work in their own field was not related to their self-esteem at T1 ($F(3, 154) = 1.44, p = .23$) or T2 ($F(3, 120) = 1.06, p = .37$), or with depressive symptoms at T2 ($F(3, 120) = 1.42, p = .24$). However, it was related to fathers' depressive symptoms at T1, $F(3, 154) = 3.02, p < .05$. Specifically, the Games-Howell post-hoc analysis revealed that fathers who were working in their own field reported significantly lower T1 depressive symptoms than fathers who did not work in their own field but would like to ($p = .05$).

Similarly, mothers' perceived change in economic standing was not significantly associated with self-esteem ($F(3, 144) = .11, p = .96$) or depressive symptoms ($F(3, 143) = 1.47, p = .23$) (results were similar at T1 and T2; T2 statistics reported). However, both employment status and whether mothers worked in their own field were related to psychological adjustment outcomes. First, ANOVA results showed significant variation in depressive symptoms among different employment status conditions ($F(3, 173) = 4.27, p < .01$ for T1; $F(3, 143) = 4.71, p < .01$ for T2). Post hoc Games-Howell test showed that mothers who were unemployed and looking for work reported higher depressive symptoms at T1 than those who were working full time (mean difference = 5.89., $SD = 2.57, p = .14$) and part time (mean difference = 6.57, $SD = 2.73, p = .10$); the same patterns were observed at T2. Second, ANOVA results also revealed significant variation in both self-esteem ($F(3, 169) = 11.36, p < .01$ for T1; $F(3, 143) = 4.43, p < .01$ for T2) and depressive symptoms ($F(3, 168) = 8.08, p < .01$ for T1; $F(3, 142) = 4.69, p < .01$ for T2) depending on whether mothers were working in their own fields. Specifically, post-hoc tests showed that at T2, mothers who were "not working in their own fields but would like

to” reported lower self-esteem and higher depressive symptoms than those who were working in their own field (self-esteem: mean difference = .20, $SD = .07$, $p < .05$; depressive symptoms: mean difference = 3.46, $SD = 1.14$, $p < .05$) and those who were not working in their own fields but did not wish to (self-esteem: mean difference = .30, $SD = .10$, $p < .05$; depressive symptoms: mean difference = 4.74, $SD = 1.16$, $p < .05$). At T1 only, mothers who were not in their own field and would like to and those who were not in their own field and thus working in different field reported lower self-esteem than mothers who were not working in their own field *but did not wish to* ($p < .01$), suggesting the importance of personal preference and expectations.

Domain 2: Children’s academic achievement. As shown in Table 15, few significant correlations between parents’ achievement ideals and children’s academic achievement were observed. Children’s GPA was positively correlated with fathers’ self-esteem at both T1 and T2. Interestingly, children’s achievement motivation was negatively correlated with mothers’ T1 self-esteem. With the exception of these significant correlations, most of the predictors in this domain (i.e., capturing either parents’ achievement ideals for their children’s school performance and children’s academic performance) were not strongly related with indicators of parents’ psychological adjustment across both T1 and T2.

Domain 3: Parents’ Canadian cultural adaptation. As shown in Table 16, parents reported higher self-esteem when they reported higher Canadian acculturation goals and when they endorsed greater levels of Canadian cultural behaviours. This was consistent across T1 and T2, and for both fathers and mothers (correlations ranging from .18 to .23). An exception was T2 self-esteem and mothers’ Canadian goals for themselves, which were not correlated. Depressive symptoms were negatively correlated only with mothers’ T1 Canadian goals ($r = -.20$, $p < .01$).

Table 15
Correlations between Child Achievement Domain Predictors and Outcomes Variables

	T1 Self-esteem	T2 Self-esteem	T1 depressive symptoms	T2 depressive symptoms
Parents' educational aspiration for children	.05 / .00	-.05 / -.05	-.03 / .06	.06 / .10
Parents' achievement motivation for children	.06 / -.07	.11 / .01	-.02 / .05	.02 / .09
Children's achievement motivation	.10 / -.18*	-.00 / -.07	.04 / .13	.14 / .16
Children's subjective achievement	.12 / .07	.06 / .08	-.05 / .03	.09 / .06
<p><i>Note.</i> Correlations for fathers are presented first in each cell, followed by correlations for mothers. *$p < .05$. **$p < .01$.</p>				

Table 16
Correlations between Parent Cultural Orientation Domain Predictors and Outcomes Variables

	T1 Self-esteem	T2 Self-esteem	T1 depressive symptoms	T2 depressive symptoms
Parents' Canadian acculturation goals	.18* / .20**	.19* / .15	-.12 / -.20**	-.14 / -.16
Parents' Canadian behavioural acculturation	.19* / .20**	.22* / .23**	-.09 / -.07	-.14 / -.14
<p><i>Note.</i> Correlations for fathers are presented first in each cell, followed by correlations for mothers. *$p < .05$. **$p < .01$.</p>				

Domain 4: Children's Chinese cultural orientation. Correlations between predictors in this domain and the outcome variables are summarized in Table 17. Parents reported higher self-esteem when they also reported higher levels of interdependent child-rearing goals (T1 & T2 self-esteem for fathers, and T2 self-esteem only for mothers). For fathers, interdependent child-rearing goals was also negatively correlated with T2 depressive symptoms. In addition, fathers reported higher T2 self-esteem when they reported higher levels of family obligation expectations for their children.

Table 17

Correlations between Child Cultural Orientation Domain Predictors and Outcomes Variables

	T1 Self-esteem	T2 Self-esteem	T1 depressive symptoms	T2 depressive symptoms
Parents' Chinese goals for children	.05 / .07	.15 / .09	-.06 / -.06	-.08 / -.05
Parents' family obligation expectation for children	.08 / .06	.19* / .11	.02 / .07	-.16 / .02
Parents' interdependent children rearing goals	.23** / .13	.28** / .23**	-.12 / -.12	-.26** / -.14
Children's Chinese cultural orientation	-.02 / .04	-.01 / .01	-.07 / -.13	-.00 / -.10
Children's family obligation attitudes	-.04 / .10	-.11 / .10	.08 / -.06	.11 / -.11
Children's Asian values	-.09 / .02	-.02 / .11	.00 / .13	-.08 / .02
<p><i>Note.</i> Correlations for fathers are presented first in each cell, followed by correlations for mothers. *$p < .05$. **$p < .01$.</p>				

Descriptive information about the occurrence of discrepancies. The “magnitude of discrepancy” across each ideal-actual functioning combination (where both variables were continuous) is summarized in Table 18. As shown, for all the comparisons, more than one half of the sample had values of ideal and actual functioning that were considered as discrepant from

each other in one direction or the other. Based on these observations, examining the link between discrepancy and psychological adjustment made practical sense. Therefore, I proceeded with polynomial regression analysis for these comparisons.

Table 18

Magnitude of Discrepancy across the Examined Ideal-Actual Functioning Combinations

Comparison	Agreement group	Fathers			Mothers		
		%	Mean ideal	Mean actual	%	Mean ideal	Mean actual
Parents' achievement motivation vs. children achievement motivation							
	Ideal > Actual	32.7	4.40	3.58	37.9	4.33	3.64
	In agreement	30.2	4.22	4.35	27.1	4.00	4.29
	Actual > Ideal	37.0	3.22	4.56	35.0	3.15	4.60
Parents' achievement motivation vs. children's perceived achievement							
	Ideal > Actual	33.5	4.43	3.27	38.1	4.38	3.38
	In agreement	29.8	4.13	4.09	23.9	3.92	3.98
	Actual > Ideal	36.6	3.25	4.34	38.1	3.22	4.37
Parents' Canadian acculturation goals vs. their Canadian behavioural acculturation							
	Ideal > Actual	27.5	4.14	2.43	30.5	3.77	2.29
	In agreement	40.7	3.59	2.76	36.8	3.46	2.76
	Actual > Ideal	31.9	3.13	3.05	32.6	2.91	3.02
Parents' Chinese enculturation goals for children vs. children's Chinese behaviours							
	Ideal > Actual	33.3	3.73	2.76	35.6	3.64	2.86
	In agreement	29.6	3.24	3.39	25.9	3.15	3.35
	Actual > Ideal	37.0	2.55	3.84	38.5	2.55	3.76
Parents' family obligation expectation for children vs. children's family obligation expectation for themselves							
	Ideal > Actual	32.7	3.57	3.03	33.3	3.48	3.07
	In agreement	28.8	3.24	3.40	31.6	3.22	3.45
	Actual > Ideal	38.6	2.99	3.85	35.1	2.98	3.79
Parents' interdependent parenting goals vs. children's interdependent values							
	Ideal > Actual	32.5	4.35	3.00	34.3	4.40	3.04
	In agreement	30.1	4.08	3.50	30.3	4.08	3.46
	Actual > Ideal	37.4	3.70	3.84	35.4	3.72	3.85

Main Analyses Results

Domain 1: Parents' Occupational Achievement. The first set of analyses test the hypothesis that the relation between actual occupational functioning and psychological adjustment depends on parents' achievement ideals. Results are presented in the regression Tables 19, 20, 21, and 22 for mothers, and 23, 24, 25, and 26 for fathers. In Step 1, the T1 outcome variable for the given analysis was entered as a covariate. In Step 2, the three predictors were entered as main effects (i.e., the ideal variable and the actual variable in the form of two dummy codes, DCa and DCb). In Step 3, the interaction terms were added to the regression model ("DCa x ideal" and "DCb x ideal"). These two regression coefficients indicate whether a significant *interaction* was found in the given domain. Using the actual variable "employment status" as an example (Table 19), first of all, the regression coefficient for "DCa" under the heading "depressive symptoms" is significant ($\beta = .19, p < .01$). This suggests that there was a main effect of employment status on predicting change in mothers' depressive symptoms, *regardless* of their achievement ideals. Specifically, since DCa here denotes the comparison between "employed part-time" versus "employed full-time," the significant main effect means that mothers who were employed part-time showed an *increase* in depressive symptoms compared to those who were employed full-time (baseline group), controlling for achievement ideals.

Next, as shown in this table under the heading depressive symptoms, the regression coefficient for "DCa x ideal" is not significant ($\beta = -.07, p > .05$). This means that there was a lack of significant interaction between the ideal variable (mothers' achievement ideals) and actual variable (mothers' employment status) in predicting the outcome (change in mothers' depressive symptoms over time). In other words, the extent to which mothers' achievement

ideals predict their depressive symptoms did *not depend on* whether they were employed part-time vs. employed full-time. The significance of these interaction effects are most relevant in terms of answering my research questions with respect to the effects of congruence and incongruence on psychological adjustment, and therefore will be prioritized in the next section as the main findings are summarized.

Summary of results for mothers (Tables 19-22). As predicted, congruence/incongruence between Chinese achievement ideals and occupational functioning was related to the psychological adjustment of mothers. In particular, ideal-actual interactions predicted change in mothers' psychological adjustment in two of the eight regression models tested, Ideal-actual interactions did not predict psychological adjustment when employment status and change in economic standing were used as indicators of actual occupational functioning (Tables 19 & 20). First, mothers' achievement ideals interacted significantly with their perceived changes in social standing in predicting change in depressive symptoms. This is indicated by the significant "DCb x ideal" regression coefficient under the column "depressive sx" in Table 21. To better understand the nature of this interaction, follow-up regression analyses were carried out to regress T2 depressive symptoms on achievement ideals (controlling for T1 depressive symptoms) separately for 1) mothers who perceived a sacrifice in their social standing, and 2) mothers who perceived no change in their social standing. Results of these follow-up regression analyses showed that mothers' achievement ideals predicted an increase in their depressive symptoms when they also reported decreasing social standing since immigration ($\beta = .18, p = .02$). On the other hand, achievement ideals were not related to depressive symptoms for those who reported unaffected social standing or improved social standing ($\beta = -.09, p = .47$).

Table 19

Regression of Mothers' Achievement Ideals and Employment Status on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.40				.44
T1 psychological adjustment outcome	.68***	.07	.64***		.61**	.06	.66***	
Step 2				.04				.01
T1 psychological adjustment outcome	.67***	.07	.63***		.62**	.06	.68***	
Achievement-related Asian values ("ideal")	.10	.07	.09		.01	.02	.03	
DCa	.56**	.21	.18**		-.06	.06	-.06	
DCb	.24	.18	.09		.04	.05	.05	
Step 3				.01				.001
T1 psychological adjustment outcome	.69***	.07	.65***		.62**	.06	.68***	
Achievement-related Asian values ("ideal")	.23*	.12	.21*		-.003	.04	-.01	
DCa	.57**	.21	.19**		-.06	.06	-.06	
DCb	.22	.18	.09		.04	.05	.05	
DCa x "ideal"	-.18	.19	-.07		.02	.06	.03	
DCb x "ideal"	-.23	.17	-.13		.02	.05	.04	
<p><i>Note.</i> DCa = employed part time vs. employed full time (baseline). DCb = unemployed by choice vs. employed full time (baseline).</p> <p>*$p < .05$. **$p < .01$. ***$p < .001$.</p>								

Table 20

Regression of Mothers' Achievement Ideals and Perceived Change in Economic Standing on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.40				.43
T1 psychological adjustment outcome	.67***	.07	.63**		.61**	.06	.66***	
Step 2				.03				.002
T1 psychological adjustment outcome	.65***	.07	.61**		.61**	.06	.66***	
Achievement-related Asian values	.10	.07	.09		.01	.02	.02	
DCa	.17	.25	.05		-.03	.07	-.03	
DCb	.37*	.17	.15*		-.03	.05	-.04	
Step 3				.002				.003
T1 psychological adjustment outcome	.64***	.07	.60**		.60**	.06	.65***	
Achievement-related Asian values	.05	.13	.05		.03	.04	.10	
DCa	.17	.25	.05		-.03	.07	-.03	
DCb	.37*	.17	.16*		-.03	.05	-.04	
DCa x "ideal"	-.04	.23	-.01		-.02	.07	-.02	
DCb x "ideal"	.09	.16	.06		-.04	.05	-.10	
<p><i>Note.</i> DCa = economic standing improved vs. not affected (baseline); DCb = economic standing sacrificed vs. not affected (baseline).</p> <p>*$p < .05$. **$p < .01$. ***$p < .001$.</p>								

Table 21

Regression of Mothers' Achievement Ideals and Perceived Change in Social Standing on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.43				.40
T1 psychological adjustment outcome	.68***	.07	.63**		.60***	.06	.66***	
Step 2				.02				.01
T1 psychological adjustment outcome	.65***	.07	.61**		.60***	.06	.66***	
Achievement-related Asian values	.07	.07	.06		.01	.02	.04	
DCa	.30	.33	.06		-.10	.10	-.07	
DCb	.26	.17	.11		-.08	.05	-.10	
Step 3				.02				.008
T1 psychological adjustment outcome	.65***	.07	.61**		.59***	.06	.65***	
Achievement-related Asian values	-.14	.12	-.12		.05	.04	.15	
DCa	.36	.32	.08		-.12	.10	-.08	
DCb	.30 ^a	.17	.12 ^a		-.09 ^a	.05	-.12 ^a	
DCa x "ideal"	.18	.25	.05		-.09	.08	-.09	
DCb x "ideal"	.35*	.16	.23*		-.05	.05	-.11	
<p><i>Note.</i> DCa = social standing improved vs. not affected (baseline); DCb = social standing sacrificed vs. not affected (baseline).</p> <p>^a$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.</p>								

Next, as shown in Table 22, working in one's own field interacted significantly with mothers' achievement ideals in predicting change in their self-esteem. Follow-up regression analyses revealed that higher achievement ideals predicted a decrease in self-esteem when mothers were not able to work in their original field but would have preferred that ($\beta = -.17, p = .10$). In contrast, achievement ideals did not predict changes in self-esteem when mothers were either in their own field or did not wish to work in their own field ($\beta = .12, p = .21$).

Some main effects were observed across these analyses. Employment status and achievement ideals both had significant main effects on mothers' depressive symptoms over time (Table 19). Mothers who worked part-time reported an increase in depressive symptoms (regardless of achievement ideals) compared to those who worked full-time. High achievement ideals also predicted an increase in depressive symptoms in mothers over time (regardless of employment status). In addition, there was a significant main effect of economic standing on change in depressive symptoms (Table 20), such that those who reported economic sacrifices also reported increasing depressive symptoms regardless of achievement ideals. A similar pattern was observed when it came to social standing, but only at a trend level for the prediction of both depressive symptoms and self-esteem (Table 21).

Table 22

Regression of Mothers' Achievement Ideals and Nature of Employment on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.42				.43
T1 psychological adjustment outcome	.69***	.07	.65***		.60***	.22	.66***	
Step 2				.02				.01
T1 psychological adjustment outcome	.65***	.07	.60***		.60***	.06	.65***	
Achievement-related Asian values ("ideal")	.09	.07	.08		.01	.02	.02	
DCa	.28	.18	.11		-.02	.06	-.02	
DCb	.05	.21	.02		-.01	.07	-.01	
Step 3				.001				.008
T1 psychological adjustment outcome	.65***	.08	.61***		.61***	.06	.66***	
Achievement-related Asian values ("ideal")	.12	.11	.11		-.04	.03	-.13	
DCa	.26	.19	.10		-.01	.06	-.01	
DCb	.04	.21	.01		-.01	.07	-.01	
DCa x "ideal"	-.08	.16	-.05		.09*	.05	.18*	
DCb x "ideal"	.02	.23	.01		.08	.07	.09	

Note. DCa = "Yes" + "No but do not wish to" vs. "No and in different field" (baseline); DCb = "No and would like to" vs. "No and in different field" (baseline).

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

Summary of results for fathers (Tables 23-26). Unexpectedly, congruence/incongruence in this domain was unrelated to the psychological adjustment of fathers. Across these eight regressions, contrary to expectations, the match or mismatch between Chinese fathers' achievement ideals and their occupational functioning did not significantly predict their psychological adjustment (see the lack of interaction effects across Tables 23-26). One indicator of actual occupational functioning – working in one's field – showed a main effect on predicting change in fathers' depressive symptoms (Table 26). Specifically, regardless of achievement ideals, those who were working in different fields from their original job fields showed an increase in depressive symptoms when compared to fathers who were either 1) working in their own fields or 2) not in own fields but did not wish to do so in the first place.

Table 23

Regression of Fathers' Achievement Ideals and Employment Status on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.30				.39
T1 psychological adjustment outcome	.60***	.08	.54		.64*	.07	.62	
Step 2				.01				.02
T1 psychological adjustment outcome	.59***	.08	.54		.67*	.08	.65	
Achievement-related Asian values ("ideal")	.06	.08	.54		-.01	.03	-.0	
DCa	-.29	.27	-.0		-.11	.09	-.0	
DCb	-.10	.32	-.0		.11	.10	.08	
Step 3				.000				.004
T1 psychological adjustment outcome	.59***	.09	.54		.66*	.08	.64	
Achievement-related Asian values ("ideal")	.05	.10	.05		-.00	.08	.64	
DCa	-.29	.28	-.0		-.10	.09	-.0	
DCb	-.09	.34	-.0		.09	.10	.06	
DCa x "ideal"	.05	.20	.02		-.03	.06	-.0	
DCb x "ideal"	-.01	.34	-.0		.06	.10	.05	
<p><i>Note.</i> DCa = employed part time vs. employed full time (baseline); DCb = unemployed by choice vs. employed full time (baseline).</p> <p>***$p < .001$.</p>								

Table 24

Regression of Fathers' Achievement Ideals and Perceived Change in Economic Standing on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.29				.39
T1 psychological adjustment outcome	.59***	.08	.54		.64*	.07	.63	
Step 2				.01				.01
T1 psychological adjustment outcome	.58***	.08	.53		.64*	.07	.62	
Achievement-related Asian values ("ideal")	.02	.08	.02		.001	.03	.00	
DCa	.30	.28	.09		-.06	.09	-.0	
DCb	.17	.22	.07		-.07	.07	-.0	
Step 3				.003				.01
T1 psychological adjustment outcome	.58***	.09	.53		.64*	.07	.63	
Achievement-related Asian values ("ideal")	-.03	.14	-.0		.05	.04	.15	
DCa	.32	.28	.10		-.06	.09	-.0	
DCb	.17	.22	.07		-.08	.07	-.1	
DCa x "ideal"	-.07	.26	-.0		-.13	.08	-.1	
DCb x "ideal"	.10	.18	.07		-.06	.05	-.1	
<p><i>Note.</i> DCa = economic standing improved vs. not affected (baseline); DCb = economic standing sacrificed vs. not affected (baseline).</p> <p>***$p < .001$.</p>								

Table 25

Regression of Fathers' Achievement Ideals and Perceived Change in Social Standing on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.29				.43
T1 psychological adjustment outcome	.59***	.08	.54***		.64***	.07	.63***	
Step 2				.01				.01
T1 psychological adjustment outcome	.58***	.09	.53***		.64***	.07	.62***	
Achievement-related Asian values ("ideal")	.02	.08	.02		-.003	.03	-.01	
DCa	-.36	.44	-.07		.09	.13	.05	
DCb	-.02	.21	-.01		.04	.06	.04	
Step 3				.02				.008
T1 psychological adjustment outcome	.57***	.09	.52***		.67***	.07	.65***	
Achievement-related Asian values ("ideal")	.03	.13	.03		.04	.04	.11	
DCa	-.48	.44	-.09		.05	.14	.03	
DCb	-.02	.21	-.01		.03	.06	.04	
DCa x "ideal"	-.70	.47	-.12		-.17	.14	-.09	
DCb x "ideal"	.04	.17	.03		-.07	.05	-.14	

Note. DCa = social standing improved vs. not affected (baseline); DCb = social standing sacrificed vs. not affected (baseline).
*** $p < .001$.

Table 26

Regression of Fathers' Achievement Ideals and Nature of Employment on Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.30				.39
T1 psychological adjustment outcome	.61***	.08	.55		.65*	.07	.62	
Step 2				.04				.01
T1 psychological adjustment outcome	.61***	.08	.55		.64*	.07	.62	
Achievement-related Asian values ("ideal")	.06	.08	.06		-.01	.03	-.0	
DCa	-.61*	.25	-.2		.10	.08	.12	
DCb	-.53 ^a	.27	-.1		.14	.08	.16	
Step 3				.01				.002
T1 psychological adjustment outcome	.62***	.09	.56		.64*	.08	.62	
Achievement-related Asian values ("ideal")	.20	.20	.19		.03	.06	.08	
DCa	-.62*	.25	-.2		.09	.08	.11	
DCb	-.51 ^a	.28	-.1		.14	.09	.15	
DCa x "ideal"	-.11	.23	-.0		-.04	.07	-.0	
DCb x "ideal"	-.25	.25	-.1		-.05	.08	-.0	
<p><i>Note.</i> DCa = "Yes" + "No but do not wish to" vs. "No and in different field" (baseline); DCb = "No and would like to" vs. "No and in different field" (baseline).</p> <p>^a$p < .10$. *$p < .05$. ***$p < .001$.</p>								

Domain 2: Children’s academic achievement. A number of different analytical methods were used in this domain; analyses that involved Polynomial Regression Analysis (PRA) and Response Surface Analysis (RSA) are summarized in tables. Specifically, the regression weights for the main effect terms, the quadratic terms, and the interaction term of the polynomial regression equation are presented in the tables under the heading “Regression Slopes” for each of the individual analyses. Note that these regression slopes are not directly interpreted. Under the heading “RSA Coefficients,” the four coefficients (a_1 , a_2 , a_3 and a_4) generated by the regression weights are presented. Together, these coefficients represent the extent to which congruence and/or incongruence within each ideal-actual variables pair predicts changes in parents’ psychological adjustment.

Summary of results for mothers. Results for mothers were summarized in Table 27. As predicted, incongruence between Chinese parents’ achievement ideals for their children, and their children’s academic attitudes and performance, was related to poorer self-esteem for Chinese *mothers*, as observed across various analyses. First, as indicated by a significant a_4 coefficient, higher degree of incongruence between mothers’ achievement motivation for child and children’s own achievement motivation predicted a *decrease* in mother’s self-esteem over time. This finding is graphed in Figure 3. The response surface shows that mothers’ self-esteem decreases as we move from the centre of the graph (where incongruence between the two predictors is the lowest) to either horizontal side of the graph (left corner: children’s achievement motivation > mother’s achievement motivation; right corner: mother’s achievement motivation < children’s achievement motivation). There is a significant drop from the centre of the graph to both sides, which suggest that the *direction* of incongruence does not matter, but rather the *degree* of incongruence.

Table 27

Congruence and Incongruence between Mothers' Achievement Ideals for Children and Children's School Achievement as Predictors Mothers' Psychological adjustment

		Parents' adjustment outcome	Regression Slopes						RSA Coefficients			
<i>Ideal Predictor</i>	<i>Actual Predictor</i>		b ₀ (SE)	b _{ideal} (SE)	b _{actual} (SE)	b ² _{ideal} (SE)	b _{ideal*actual} (SE)	b ² _{actual} (SE)	a ₁ (SE)	a ₂ (SE)	a ₃ (SE)	a ₄ (SE)
Mothers' achievement motivation	Children's achievement motivation	Dep sx	0.37 (0.26)	0.24 (0.15)	-0.06 (0.27)	0.03 (0.10)	-0.19 (0.13)	0.13 (0.14)	0.18 (0.30)	-0.03 (0.17)	0.30 (0.31)	0.36 (0.22)
		Self-esteem	1.35*** (0.20)	-0.04 (0.05)	0.02 (0.08)	-0.03 (0.03)	0.09* (0.04)	-0.04 (0.04)	-0.02 (0.09)	0.02 (0.04)	-0.06 (0.09)	-0.16* (0.08)
Mothers' achievement motivation	Children's subjective achievement	Dep sx	0.45 ^a (0.25)	0.21 (0.15)	-0.23 (0.22)	-0.02 (0.09)	-0.10 (0.12)	0.20 ^a (0.12)	-0.02 (0.26)	0.07 (0.16)	0.44^a (0.26)	0.28 (0.19)
		Self-esteem	1.34*** (0.19)	-0.03 (0.04)	0.05 (0.06)	-0.01 (0.03)	0.07* (0.04)	-0.05 ^a (0.03)	0.02 (0.08)	0.00 (0.06)	-0.08 (0.08)	-0.13* (0.06)

Note. Dep sx, depressive symptoms; SE, standard error; a₁, line of congruence; a₂, curvilinearity in line of congruence; a₃, line of incongruence; a₄, curvilinearity in line of incongruence.

^ap < .10. *p < .05. ***p < .001.

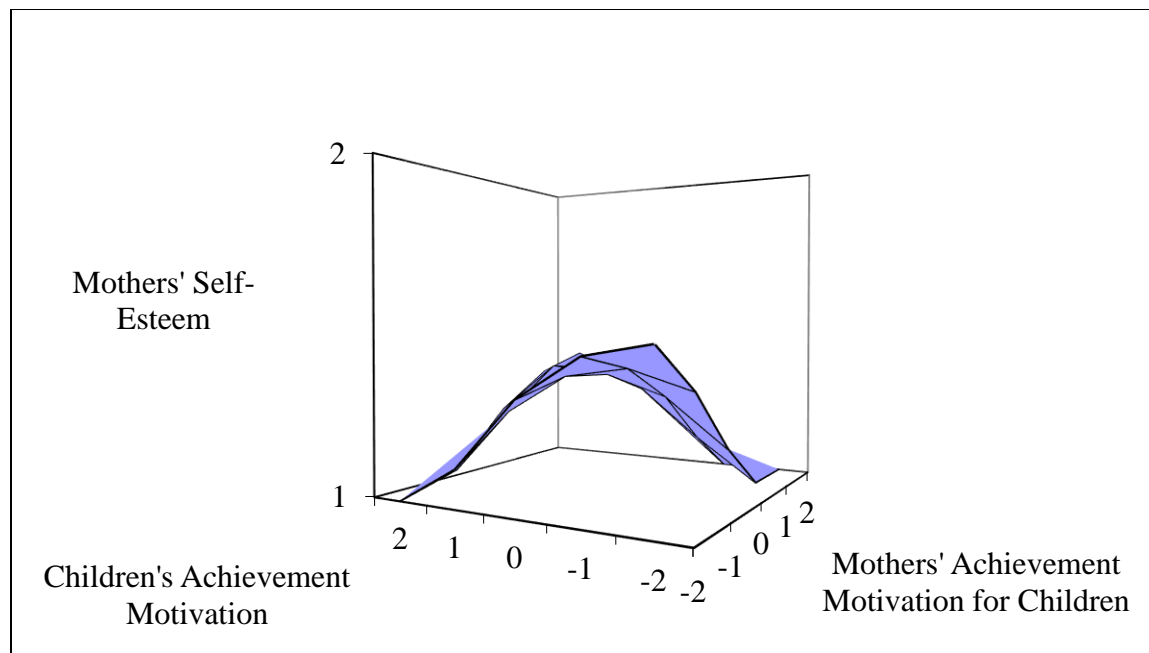


Figure 3. Mothers' Self-Esteem as Predicted by Mothers' Achievement Motivation for Children and Children's Achievement Motivation

Similarly, incongruence between mothers' achievement motivation for their children versus their children's subjective school performance also predicted a negative change in mothers' psychological adjustment. As shown in Figure 4, this response surface has a very similar shape as the one depicted in Figure 3. Again, mothers' self-esteem significantly decreased when there was a large degree of discrepancy between mothers' achievement motivation and the children's subjective achievement (denoted again by the significant a_4 coefficient). When it comes to predicting depressive symptoms, incongruence between mothers' achievement motivation and children's subjective performance also was marginally significant. In this analysis, the a_3 coefficient was significant at a trend level, suggesting that incongruence in one specific direction predicted a change in mothers' depressive symptoms over time. As shown in Figure 5, there is an increase in depressive symptoms on the right corner of the response surface, which is when mothers' achievement motivation is higher than children's subjective achievement.

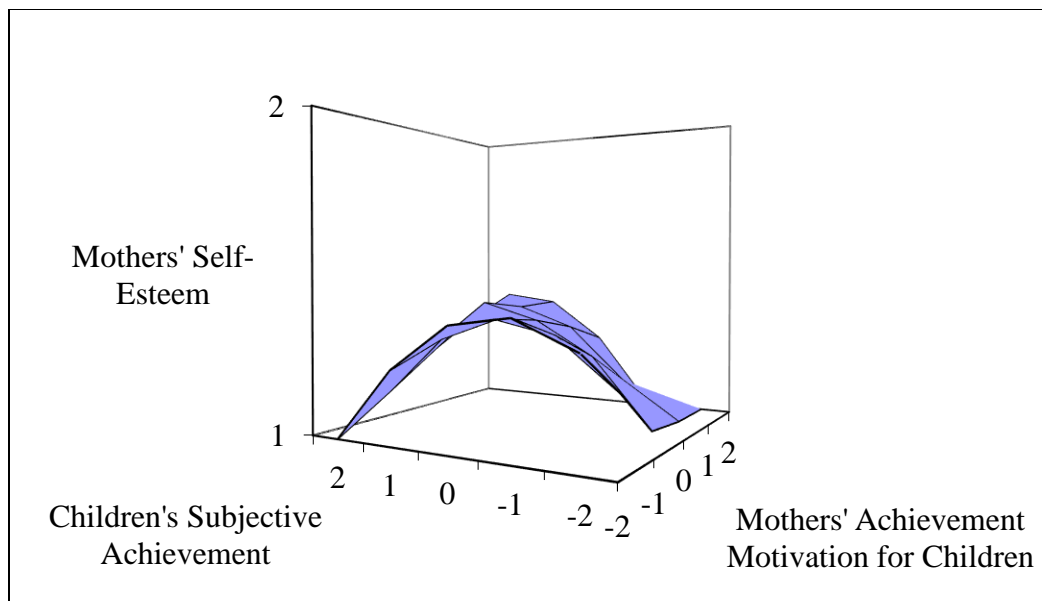


Figure 4. Mothers' Self-Esteem as Predicted by Mothers' Achievement Motivation and Children's Subjective Achievement

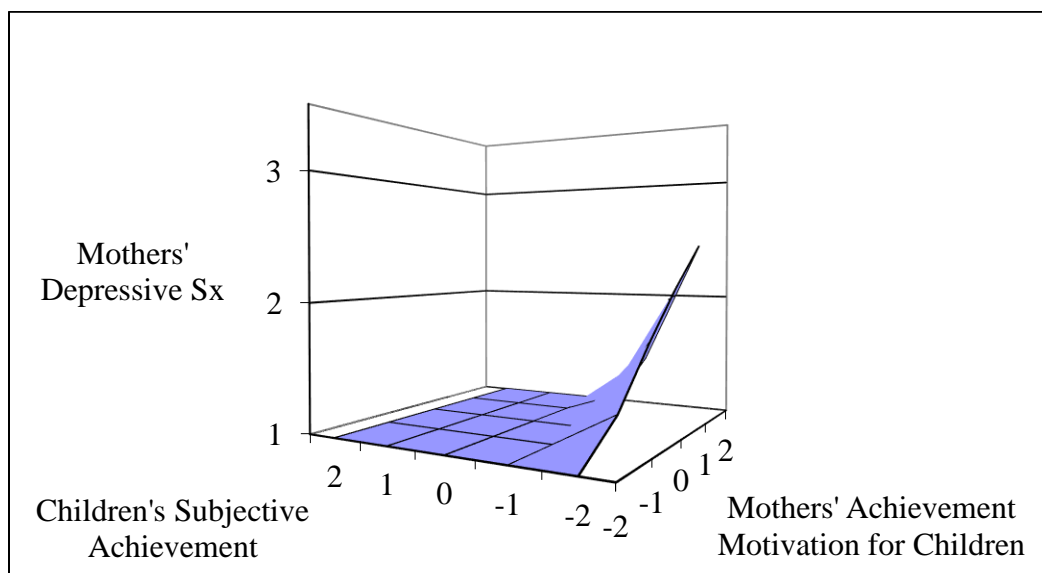


Figure 5. Mothers' Depressive Symptoms (Sx) as Predicted by Mothers' Achievement Motivation and Children's Subjective Achievement

In addition, mothers' achievement motivation for their children was compared against their children's actual achievement, as indicated by self-report GPA. Results of this analysis are presented in Table 28. The main comparison was between mothers with children who received "As" versus those with children who received lower than "As". Given that in the Chinese culture, anything below "A" is typically considered to be much less desirable (Qin, 2008), comparison across "As" versus "not As" also made conceptual sense. As shown in Table 29, mothers' achievement motivation was not a significant predictor of their psychological adjustment regardless how well their children performed at school.

Finally, Table 29 summarizes the results for the comparisons of the level of education that mothers wanted their children to achieve versus children's own educational aspirations. In Step 1, the T1 outcome variable for the given analysis was entered as a covariate. In Step 2, two dummy codes representing parent-child incongruence in education aspiration were entered. The "in agreement" group (i.e., mothers and children reported the same level of education aspiration) was compared against 1) mothers higher than children in education aspiration (i.e., represented by DCa) and 2) mothers lower than children in education aspiration (i.e., represented by DCb). The regression coefficients indicate whether the given comparison predicted a change in mothers' psychological adjustment. As shown in the table, mothers who had lower educational aspiration than their children (when compared to the baseline "in agreement" group) showed decreasing depressive symptoms over time. Interestingly, mothers who had higher educational aspiration than their children did not experience changes in their psychological adjustment.

Table 28

Regression of Mothers' Achievement Ideals and Children's GPA on Mothers' Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.41				.44
T1 psychological adjustment outcome	.68***	.07	.64***		.61***	.06	.66***	
Step 2				.01				.002
T1 psychological adjustment outcome	.68***	.07	.63***		.61***	.06	.66***	
Achievement-related Asian values ("ideal")	.09	.09	.07		.02	.03	.04	
DC	-.05	.17	-.02		-.01	.05	-.01	
Step 3				.003				.01
T1 psychological adjustment outcome	.68***	.07	.63***		.60***	.06	.65***	
Achievement-related Asian values ("ideal")	.02	.13	.01		.05	.04	.13	
DC	-.04	.17	-.01		-.01	.05	-.02	
DC x "ideal"	.16	.18	.08		-.08	.06	-.13	

Note. DC = child with "A's" GPA vs. child with less than "A's" GPA.
 *** $p < .001$.

Table 29

Regression of Mother-Child Education Aspiration Match and Mismatch on Mothers' Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.40				.44
T1 psychological adjustment outcome	.68***	.07	.63***		.61***	.06	.66***	
Step 2				.02				.001
T1 psychological adjustment outcome	.66***	.07	.61***		.61***	.06**	.66***	
DCa	-.05	.19	-.02		.02	.06	.02	
DCb	-.53*	.25	-.14*		.04	.08	.03	
<p><i>Note.</i> DCa = in terms of education aspiration, mothers > children vs. mothers = children (baseline); DCb = in terms of education aspiration, mothers < children vs. mothers = children (baseline).</p> <p>*$p < .05$. ***$p < .001$.</p>								

Summary of results for fathers. As predicted, incongruence between fathers' achievement ideals for their children versus children's achievement related functioning was found to be a significant predictor of fathers' psychological adjustment, as demonstrated by two analyses. First, as shown in Table 30, incongruence between fathers' achievement ideals for their children and children's subjective achievement significantly predicted change in fathers' depressive symptoms, as indicated by the significant a_3 coefficient. Figure 6 shows the response surface for this analysis. As shown, there is an increase in depressive symptoms when fathers' achievement motivation was high but child's subjective achievement was low (the right corner of the response surface).

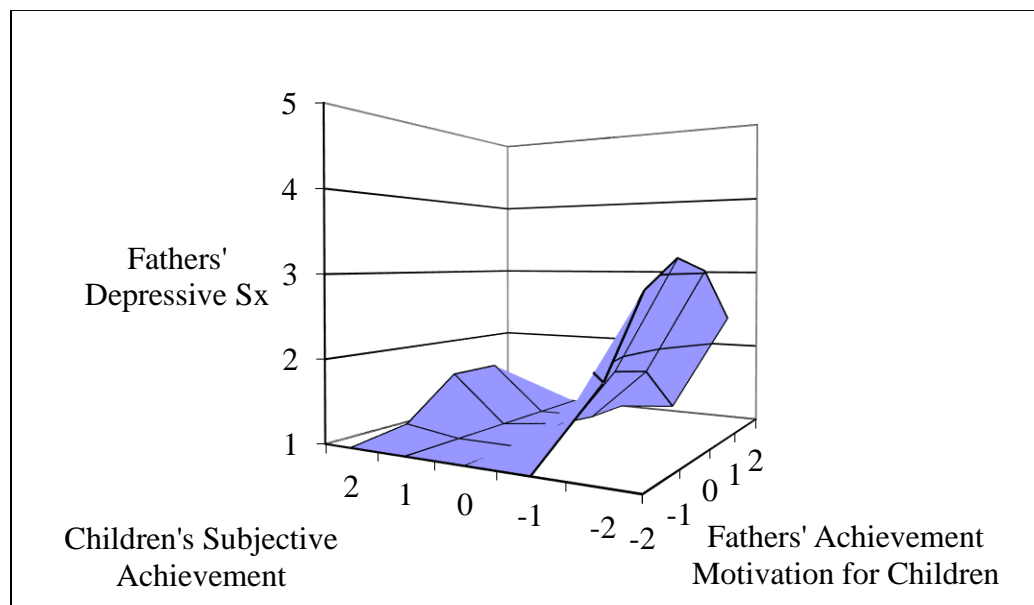


Figure 6. Fathers' Depressive Symptoms (Sx) as Predicted by Fathers' Achievement Motivation and Children's Subjective Achievement

Table 30

Congruence and Incongruence between Fathers' Achievement Ideals for Children and Children's School Achievement as Predictors of Fathers' Psychological Adjustment

		Parents' adjustment outcome	Regression Slopes						RSA Coefficients			
<i>Ideal Predictor</i>	<i>Actual Predictor</i>		b ₀ (SE)	b _{ideal} (SE)	b _{actual} (SE)	b ² _{ideal} (SE)	b _{ideal*actual} (SE)	b ² _{actual} (SE)	a ₁ (SE)	a ₂ (SE)	a ₃ (SE)	a ₄ (SE)
Fathers' achievement motivation	Children's achievement motivation	Dep sx	1.20*** (0.33)	0.23 (0.18)	-0.30 (0.32)	-0.27* (0.11)	0.02 (0.13)	0.21 (0.17)	-0.06 (0.33)	-0.04 (0.19)	0.53 (0.39)	-0.08 (0.23)
		Self-esteem	1.20*** (0.23)	0.06 (0.06)	-0.03 (0.10)	-0.02 (0.03)	-0.00 (0.04)	-0.01 (0.05)	0.03 (0.10)	-0.03 (0.06)	0.08 (0.12)	-0.03 (0.06)
Fathers' achievement motivation	Children's subjective achievement	Dep sx	1.09*** (0.30)	0.18 (0.16)	-0.40 (0.24)	-0.25* (0.10)	0.04 (0.14)	0.33* (0.14)	-0.22 (0.28)	0.12 (0.17)	0.57* (0.29)	0.04 (0.19)
		Self-esteem	1.17*** (0.23)	0.07 (0.05)	-0.00 (0.08)	-0.01 (0.03)	-0.03 (0.04)	0.02 (0.05)	0.06 (0.09)	-0.03 (0.05)	0.07 (0.09)	0.04 (0.05)

Note. Dep sx, depressive symptoms; SE, standard error; a₁, line of congruence; a₂, curvilinearity in line of congruence; a₃, line of incongruence; a₄, curvilinearity in line of incongruence.

p* < .05. **p* < .001.

Another piece of evidence that potentially supports the hypothesis that incongruence between fathers' achievement ideals versus their children's actual functioning is related to fathers' psychological adjustment is shown in Table 31. In this set of analyses, children's actual academic functioning was represented by their self-reported GPA. Similar to the analyses done with mothers, fathers who 1) had children with "As" were compared to 2) those who had children with "less than As". An interaction effect at a trend level was found between children's GPA and fathers' achievement ideals in predicting change in fathers' depressive symptoms. This interaction effect, although at a trend level, was followed up by multiple regression analyses to examine the nature of interaction. It was then revealed that for fathers who had children with "As," achievement ideals for children were *not* a significant predictor of depressive symptoms ($\beta = -.10, p = .29$). In contrast, for fathers who had children who were getting less than A's at school, higher achievement motivation for their children predicted an *increase* in fathers' depressive symptoms over time ($\beta = .27, p = .05$). Note that incongruence between fathers' achievement ideals for their children vs. children's GPA was not found to be related to change in fathers' self-esteem.

When the "actual functioning" variable was children's attitude towards academic achievement, however, there was no significant relation between congruence/incongruence and fathers' psychological adjustment. First, incongruence between fathers' achievement ideals and children's achievement motivation was not a significant predictor of change in fathers' psychological adjustment (Table 30). Furthermore, as shown in Table 32, educational aspiration discrepancies (i.e., highest level of education to achieve) between fathers and children also did not predict change in fathers' psychological adjustment.

Table 31

Regression of Fathers' Achievement Ideals and Children's GPA on Fathers' Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.29				.40
T1 psychological adjustment outcome	.60***	.08	.54***		.64***	.07	.63***	
Step 2				.01				.01
T1 psychological adjustment outcome	.60***	.08	.53***		.63***	.07	.62***	
Achievement-related Asian values ("ideal")	.02	.11	.02		.03	.03	.06	
DC	.28	.21	.11		-.03	.06	-.03	
Step 3				.02				.001
T1 psychological adjustment outcome	.60***	.08	.54***		.63***	.07	.62***	
Achievement-related Asian values ("ideal")	-.18	.16	-.14		.01	.05	.02	
DC	.29	.21	.11		-.03	.06	-.03	
DC x "ideal"	.38 ^a	.21	.20 ^a		.03	.07	.05	

Note. DC = child with "As" GPA vs. child with less than "As" GPA.

^a $p < .10$. *** $p < .001$.

Table 32

Regression of Father-Child Education Aspiration Match and Mismatch on Fathers' Psychological adjustment

(Psychological adjustment outcome)	Depressive sx				Self-esteem			
	B	Std. Error	β	R ² change	B	Std. Error	β	R ² change
Step 1				.28				.40
T1 psychological adjustment outcome	.60***	.09	.53***		.63***	.07	.63***	
Step 2				.002				.02
T1 psychological adjustment outcome	.59***	.09	.53***		.62***	.07	.62***	
DCa	.11	.23	.04		-.08	.07	-.09	
DCb	.08	.29	.02		.09	.08	.08	

Note. DCa = in terms of education aspiration, fathers > children vs. fathers = children (baseline); DCb = in terms of education aspiration, fathers < children vs. fathers = children (baseline).
*** $p < .001$.

Table 33

Congruence and Incongruence between Parents' Canadian Acculturation Goals and their Behavioural Acculturation as Predictors of Psychological adjustment

	Ideal variable	Actual variable	Parents' adjustment outcome	Regression Slopes						RSA Coefficients			
				b ₀ (SE)	b _{ideal} (SE)	b _{actual} (SE)	b ² _{ideal} (SE)	b _{ideal*actual} (SE)	b ² _{actual} (SE)	a ₁ (SE)	a ₂ (SE)	a ₃ (SE)	a ₄ (SE)
Fathers	Canadian acculturation goals	Canadian behavioural acculturation	Dep sx	1.20*** (0.29)	0.11 (0.22)	-0.25 (0.38)	-0.26* (0.13)	0.04 (0.29)	-0.18 (0.32)	-0.14 (0.32)	-0.39 (0.35)	0.36 (0.53)	-0.47 (0.44)
			Self-esteem	1.25*** (0.24)	-0.01 (0.07)	0.14 (0.12)	0.03 (0.04)	0.06 (0.09)	0.12 (0.10)	0.13 (0.10)	0.21^a (0.11)	-0.14 (0.16)	0.10 (0.13)
Mothers	Canadian acculturation goals	Canadian behavioural acculturation	Dep sx	0.42 ^a (0.24)	0.12 (0.16)	-0.37 ^a (0.19)	0.06 (0.12)	0.06 (0.24)	-0.19 (0.16)	-0.25 (0.21)	-0.07 (0.28)	0.48^a (0.29)	-0.19 (0.27)
			Self-esteem	1.42*** (0.19)	-0.03 (0.05)	0.14* (0.06)	0.01 (0.04)	-0.07 (0.07)	0.06 (0.05)	0.11^a (0.06)	0.00 (0.97)	-0.17* (0.09)	0.14^a (0.08)

Note. Dep sx, depressive symptoms; SE, standard error; a₁, line of congruence; a₂, curvilinearity in line of congruence; a₃, line of incongruence; a₄, curvilinearity in line of incongruence.

^a*p* < .10. **p* < .05. ****p* < .001.

Domain 3: Parents' Canadian cultural orientation. For both fathers and mothers, the PRA and RSA results for this domain are summarized in Table 33. As hypothesized, the match and mismatch between Chinese immigrants' Canadian cultural goals and their actual Canadian cultural orientation appeared to have longitudinal relations with their psychological adjustment. Note that three of the four "significant" relations (reviewed in detail in the following section) for mothers are only significant at a trend level, so extra caution needs to be taken in interpreting these findings.

Summary of results for mothers. Incongruence between mothers' Canadian acculturation goals and their behavioural acculturation was found to be a significant predictor of mothers' psychological adjustment (as illustrated by Figures 7 & 8). Specifically, when Canadian acculturation goals were higher than actual Canadian behavioural adaptations (i.e., right corner of both Figures 7 and 8), mothers showed increasing depressive symptoms (Figure 7) and decreasing self-esteem (Figure 8) over time. When the outcome variable was self-esteem (i.e., Figure 8), the line of incongruence was slightly curvilinear (as shown in Table 33, the a_4 coefficient for this analysis was significant at a trend level). This suggests that incongruence in the opposite direction (i.e., left corner, when mothers were high in Canadian behavioural acculturation but low in Canadian goals) was also linked to decreasing self-esteem. Within the same analysis, there was another trend-level finding, such that the *congruence* between mothers' Canadian goals and behaviours was related to higher self-esteem. In other words, when both goals and behaviours increased, self-esteem also increased (i.e., the back corner of graph), as indicated by the trend-level a_2 coefficient.

Finally, it is also worth noting that in general, mothers' Canadian behavioural orientation had a significant main effect on their psychological adjustment, such that higher levels of

Canadian behaviours predicted an increase of self-esteem and decrease of depressive symptoms over time (see the “ b_{actual} ” regression coefficients for mothers in Table 33).

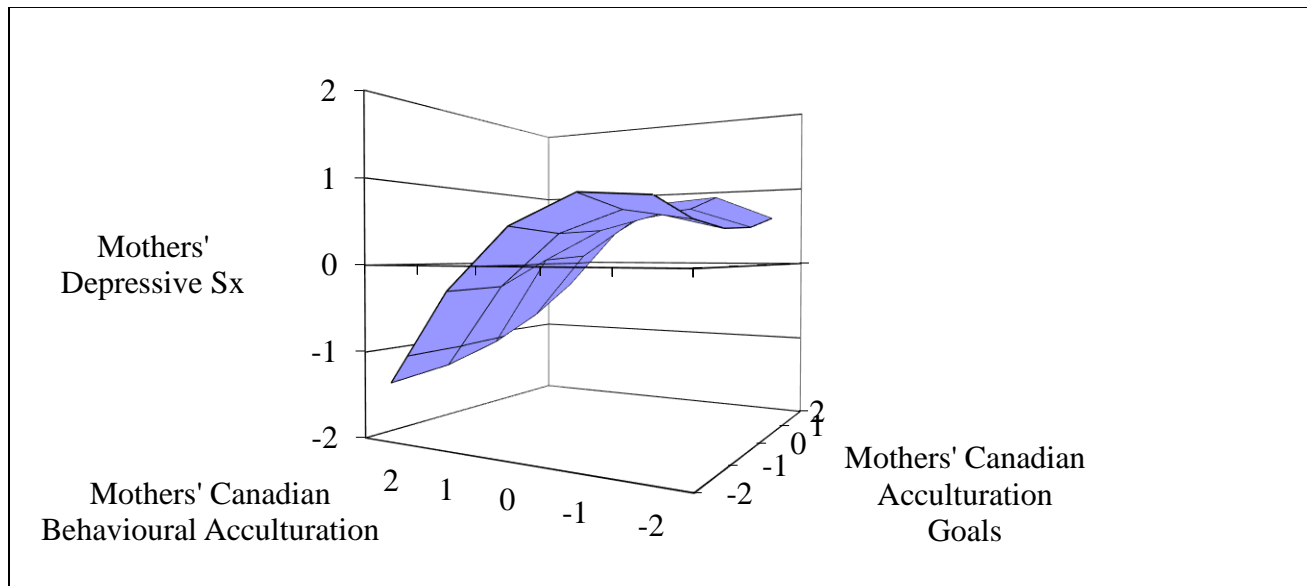


Figure 7. Mothers' Depressive Symptoms (Sx) as Predicted by Mothers' Canadian Acculturation Goals and Canadian Behavioural Acculturation

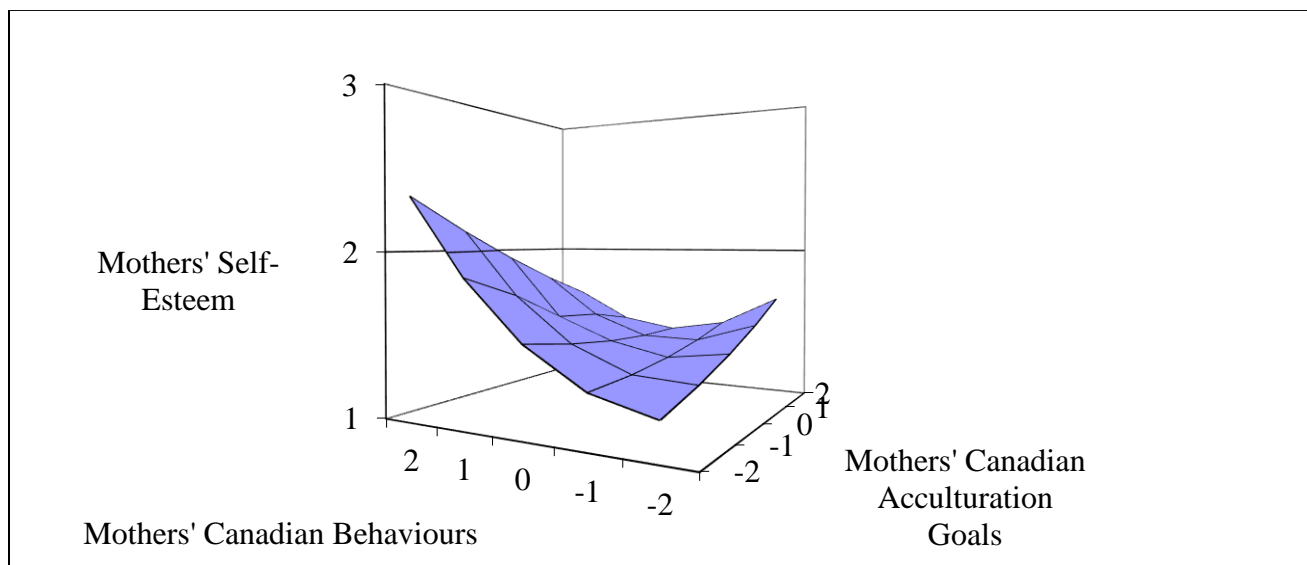


Figure 8. Mothers' Self-Esteem as Predicted by Mothers' Canadian Acculturation Goals and Canadian Behavioural Acculturations

Summary of results for fathers. For Chinese fathers, congruence between ideal and actual Canadian adaptations (in the behaviour domain) was related to change in fathers' self-esteem, but at a trend level (as denoted by the a_2 RSA coefficient). This interaction was represented in Figure 9, which shows that fathers' self-esteem increases when there is 1) congruence between high acculturation goals and high levels of behavioural acculturation (back corner of the graph), and when they reported 2) congruence between low acculturation goals and low behavioural acculturation (front corner of the graph). In other words, the relation between congruence and fathers' self-esteem was non-linear. Congruence/incongruence in this domain was not a significant predictor of fathers' depressive symptoms.

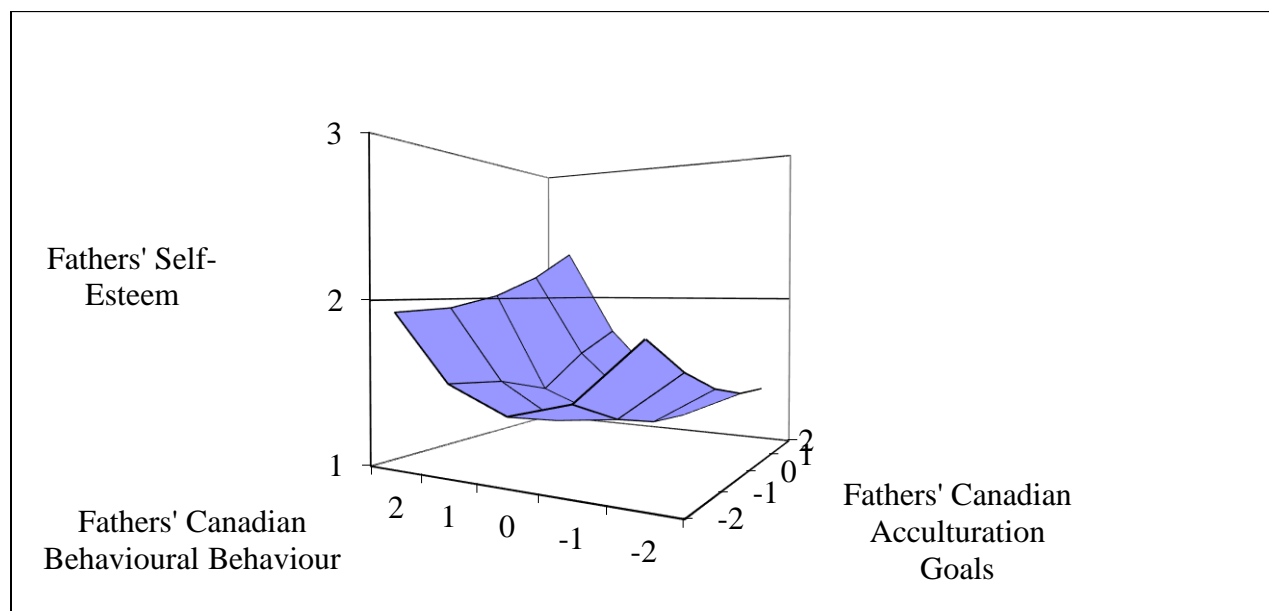


Figure 9. Fathers' Self-Esteem as Predicted by Fathers' Canadian Acculturation Goals and Canadian Behavioural Acculturation

Domain 4: Children's Chinese cultural orientation. PRA and RSA results for comparing parents' Chinese cultural ideals for their children versus the children's actual endorsement of Chinese cultural orientation are summarized in Table 34 for mothers and in Table 35 for fathers.

Table 34

Congruence and Incongruence between Mothers' Chinese Cultural Adjustment Goals for Children and Children's Chinese Orientation as Predictors Mothers' Psychological adjustment

		Parents' adjustment outcome	Regression Slopes						RSA Coefficients			
<i>Ideal predictor</i>	<i>Actual predictor</i>		b ₀ (SE)	b _{ideal} (SE)	b _{actual} (SE)	b ² _{ideal} (SE)	b _{ideal*actual} (SE)	b ² _{actual} (SE)	a ₁ (SE)	a ₂ (SE)	a ₃ (SE)	a ₄ (SE)
Chinese acculturation goals for children	Children's Chinese behaviours	Dep sx	0.61** (0.23)	0.00 (0.11)	-0.05 (0.14)	0.03 (0.08)	-0.05 (0.15)	0.01 (0.14)	-0.05 (0.16)	-0.02 (0.17)	0.05 (0.19)	0.09 (0.21)
		Self-esteem	1.24*** (0.18)	-0.00 (0.03)	0.04 (0.04)	0.01 (0.02)	0.04 (0.04)	-0.08* (0.04)	0.04 (0.05)	-0.03 (0.06)	-0.04 (0.05)	-0.12* (0.06)
Family obligation expectations for children	Children's family obligation expectations	Dep sx	0.73** (0.23)	-0.10 (0.31)	-0.48* (0.24)	-0.11 (0.39)	0.23 (0.44)	0.22 (0.20)	-0.58 (0.39)	0.34 (0.42)	0.38 (0.39)	-0.11 (0.67)
		Self-esteem	1.30*** (0.20)	0.07 (0.09)	0.11 (0.07)	0.07 (0.12)	-0.08 (0.13)	-0.06 (0.06)	0.17 (0.12)	-0.08 (0.13)	-0.04 (0.12)	0.09 (0.20)
Interdependent parenting goals	Children's interdependent values	Dep sx	0.69 (0.49)	-0.29 (0.77)	-0.10 (0.44)	0.13 (0.34)	-0.27 (0.34)	0.26 (0.19)	-0.38 (1.01)	0.12 (0.54)	-0.19 (0.75)	0.66 (0.49)
		Self-esteem	1.35*** (0.22)	-0.04 (0.23)	0.03 (0.13)	0.05 (0.10)	0.06 (0.10)	-0.05 (0.06)	-0.01 (0.30)	0.06 (0.18)	-0.08 (0.22)	-0.05 (0.17)

Note. Dep sx, depressive symptoms; SE, standard error; a₁, line of congruence; a₂, curvilinearity in line of congruence; a₃, line of incongruence; a₄, curvilinearity in line of incongruence.

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

Table 35

Congruence and Incongruence between Fathers' Chinese Cultural Adjustment Goals for Children and Children's Chinese Orientation as Predictors Fathers' Psychological adjustment

		Parents' adjustment outcome	Regression Slopes						RSA Coefficients			
			b ₀ (SE)	b _{ideal} (SE)	b _{actual} (SE)	b ² _{ideal} (SE)	b _{ideal*actual} (SE)	b ² _{actual} (SE)	a ₁ (SE)	a ₂ (SE)	a ₃ (SE)	a ₄ (SE)
<i>Ideal predictor</i>	<i>Actual predictor</i>											
Chinese acculturation goals for children	Children's Chinese behaviours	Dep sx	1.04*** (0.26)	-0.03 (0.13)	0.20 (0.17)	-0.19* (0.09)	0.08 (0.16)	-0.09 (0.16)	0.17 (0.21)	-0.20 (0.26)	-0.23 (0.22)	-0.36 (0.24)
		Self-esteem	1.17*** (0.23)	0.02 (0.04)	-0.02 (0.05)	0.02 (0.03)	0.02 (0.05)	0.04 (0.05)	0.00 (0.06)	0.08 (0.07)	0.04 (0.06)	0.04 (0.07)
Family obligation expectations for children	Children's family obligation expectations	Dep sx	1.13*** (0.29)	-0.48 (0.35)	0.23 (0.32)	-0.47 (0.41)	0.53 (0.45)	-0.12 (0.25)	-0.25 (0.49)	-0.07 (0.46)	-0.71 (0.44)	-1.12 (0.73)
		Self-esteem	1.34*** (0.24)	0.20* (0.10)	-0.06 (0.10)	-0.15 (0.12)	0.02 (0.14)	-0.01 (0.07)	0.14 (0.15)	-0.14 (0.14)	0.27* (0.13)	-0.17 (0.22)
Interdependent parenting goals	Children's interdependent values	Dep sx	0.49 (0.67)	1.20 (1.04)	0.99 ^a (0.55)	-0.56 (0.44)	-0.94* (0.47)	-0.11 (0.23)	2.19^a (1.27)	-1.60* (0.67)	0.20 (1.07)	0.27 (0.66)
		Self-esteem	1.25*** (0.28)	-0.07 (0.32)	0.00 (0.17)	0.06 (0.14)	0.03 (0.15)	-0.02 (0.07)	-0.07 (0.35)	0.07 (0.21)	-0.07 (0.37)	0.01 (0.23)

Note. Dep sx, depressive symptoms; SE, standard error; a₁, line of congruence; a₂, curvilinearity in line of congruence; a₃, line of incongruence; a₄, curvilinearity in line of incongruence

†*p* < .10. **p* < .05. ****p* < .001.

Summary of results for mothers. Across the 24 ideal-actual dyads tested, only in one particular analysis was incongruence a significant predictor of mothers' psychological adjustment. Incongruence between mothers' ideals for children's Chinese cultural orientation versus children's actual orientation was a significant predictor of mothers' self-esteem. Specifically, mothers showed decreasing self-esteem when there was significant incongruence between their Chinese acculturation goals for their children and their children's actual Chinese behavioural orientation. In this case, a significant a_4 coefficient suggested that the *magnitude*, rather than the direction of the incongruence mattered. Therefore, as shown in Figure 10, mothers' self-esteem decreases when 1) they had high Chinese cultural goals for their children but their children's Chinese behavioural orientations were low, and when 2) they had low levels of ideals but their children's Chinese behavioural orientations were high. Incongruence in both directions was related to mothers' poorer self-esteem over time. In contrast to Chinese acculturation goals, incongruence and/or congruence in terms of family obligation attitudes and Chinese values were not significant predictors of mothers' psychological adjustment.

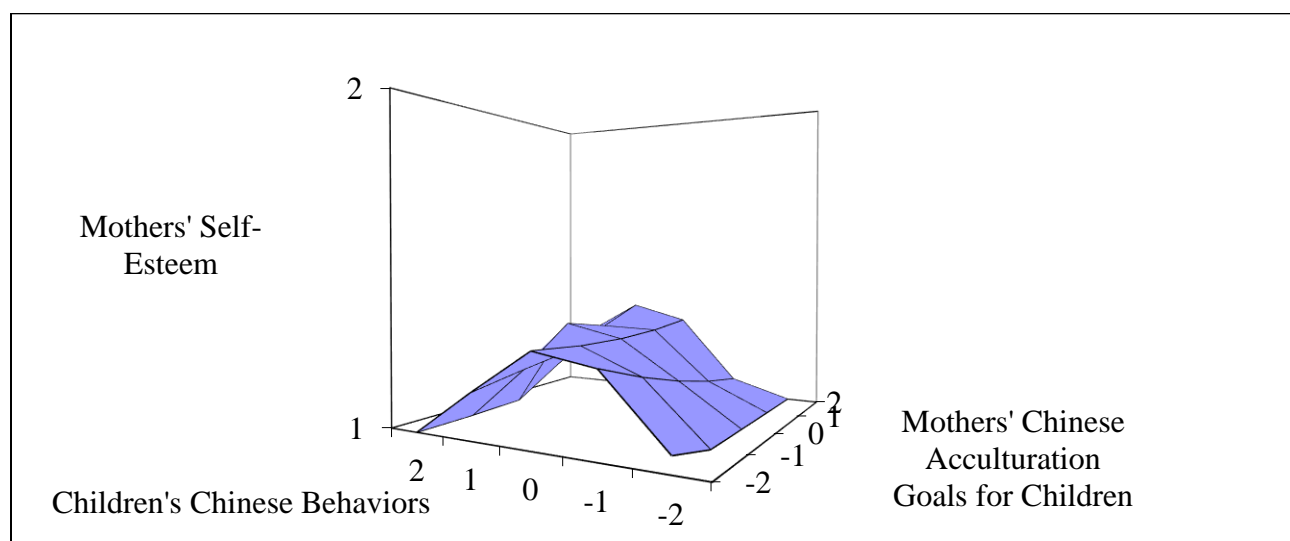


Figure 10. Mothers' Self-Esteem as Predicted by Mothers' Chinese Acculturation Goals for Children and Children's Chinese Behaviours

Summary of results for fathers. For *fathers*, there was more evidence that congruence and incongruence between their Chinese cultural ideals for their children and children's actual Chinese culture endorsement predicted psychological adjustment. However, these observed relations were not congruent with what was initially hypothesized. Results are presented in Table 35. First of all, as indicated by a significant a_3 coefficient, incongruence between fathers' family obligation expectations for their children versus children's perceived family obligations was a significant predictor of fathers' self-esteem. Specifically, fathers' self-esteem *increased* over time when their family obligation expectations for their children were *not* at the same level of self-expectations by children for themselves (the right corner in Figure 11). This was contrary to the hypothesis that congruence between parents' and children's family obligation expectations should be positive for parents' psychological adjustment.

Also unexpectedly, congruence between fathers' interdependent parenting goals and children's Asian values was associated with decreases in fathers' depressive symptoms, as indicated by the a_2 (significant) and a_1 (trend level) RSA coefficients. More specifically, when both the "ideal functioning" (fathers' interdependent child-rearing goals) and "actual functioning" (children's Asian values) increased (from center of the graph to the back corner of Figure 12), fathers' depressive symptoms also increased over time, particularly when both variables were high (back corner of graph). The significant a_2 RSA coefficient denotes a non-linear relation between congruence and change in fathers' depressive symptoms.

Incongruence between fathers' Chinese acculturation goals for their children and children's Chinese behavioural acculturation did not predict change in fathers' psychological adjustment over time. Across this set of analyses, some main effects were observed. First, fathers' family obligation expectations for their children predicted an increase in their self-

esteem (main effect of b_{ideal} in Table 35). In addition, children's endorsement of interdependent values predicted an increase in fathers' depressive symptoms on a trend level (main effect of b_{actual}).

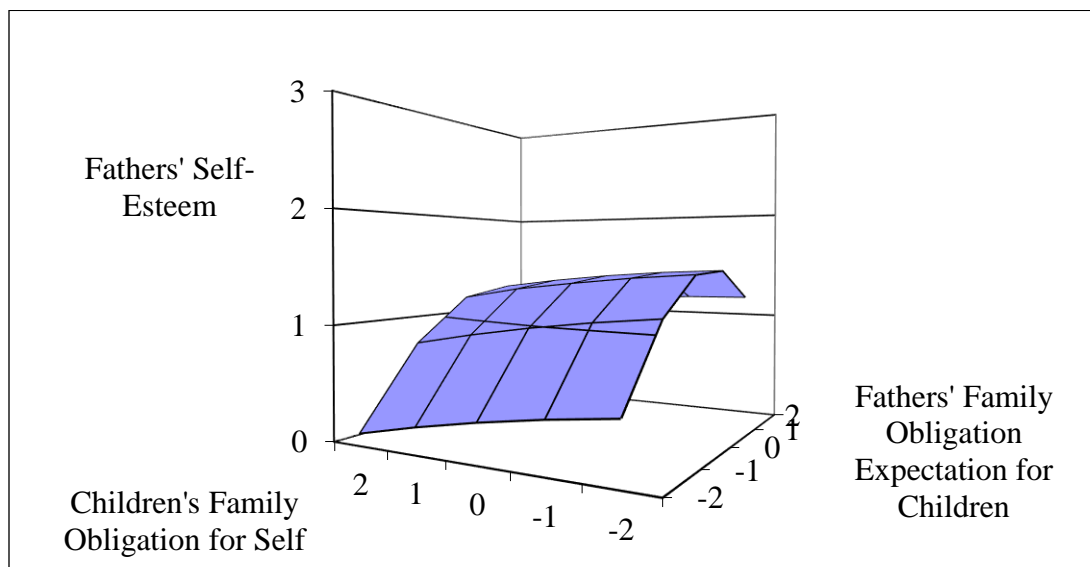


Figure 11. Fathers' Self-Esteem as Predicted by Fathers' Family Obligation Expectations for Children and Children's Family Obligation Expectations

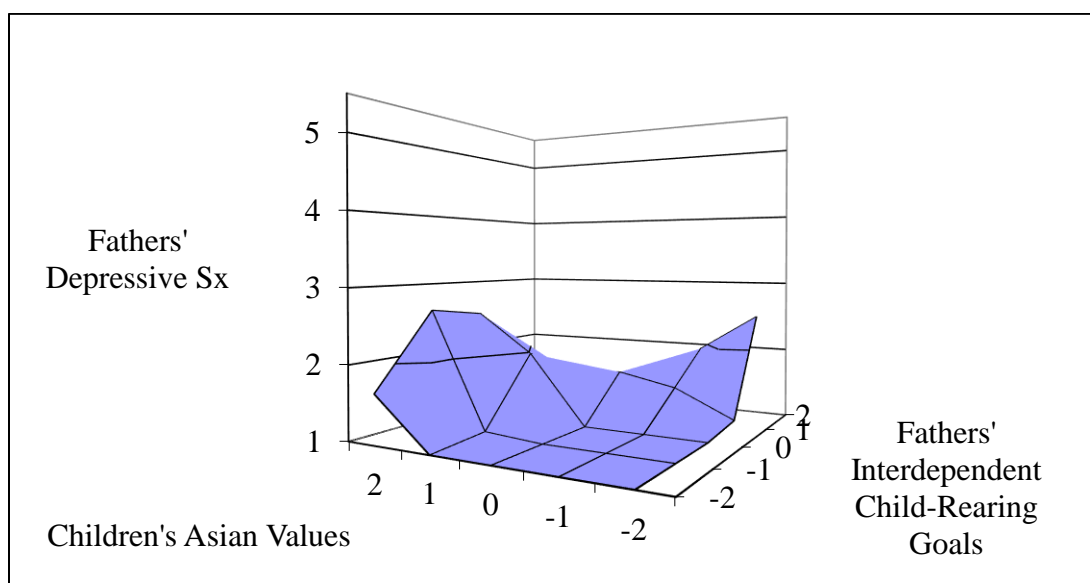


Figure 12. Fathers' Depressive Symptoms (Sx) as Predicted by Fathers' Interdependent Parenting Goals and Children's Asian Values

Discussion

The current study examined the effects of congruence and incongruence on Chinese immigrant parents' psychological adjustment using a longitudinal design. In particular, I studied two areas of adjustment that are central to this population: 1) academic and occupational achievement, and 2) cultural adjustment after immigration. Congruence and incongruence were conceptualized both 1) within an immigrant parent and 2) between an immigrant parent and their child. Within the parent, I hypothesized that the greater incongruence between an immigrant's "ideal" functioning and their "actual" functioning, the more likely the immigrant would experience a decrease in psychological adjustment over time. I similarly hypothesized that Chinese immigrant parents would also experience a decrease in psychological adjustment if their ideals with respect to their children's functioning (i.e., also focusing on achievement and cultural adjustment) were not fulfilled by the children's actual functioning. Together, these hypotheses were tested using a combination of multiple regression analyses with dummy coding, and Polynomial Regression Analysis (PRA) with Response Surface Analysis (RSA). Table 36 provides a summary of the analyses conducted, and indicates whether a significant effect of incongruence or congruence was found for each individual analysis. In cases where there was a significant relation, the nature of the effect is further described. Given the exploratory nature of this dissertation, trend-level relations (i.e., where $p < .1$) between incongruence/congruence and psychological adjustment were also presented in Table 36, and these relations have been incorporated in the overall discussion of findings. Finally, main effects are presented in this table when applicable.

Table 36
Results Summary by Analysis

				Results Summary			
				Fathers		Mothers	
Domain	Analysis	Ideal Measure	Actual Measure	Depressive Symptoms	Self-Esteem	Depressive Symptoms	Self-Esteem
Self achievement	#1	Achievement ideals	Employment status			M-i, M-a	
	#2	Achievement ideals	Ability to work in own job field	M-a			I
	#3	Achievement ideals	Change in economic standing			M-a	
	#4	Achievement ideals	Change in social standing			I M-a (trend)	M-a (trend)
Child achievement	#5	Achievement motivation for child	Children's GPA	I (trend)			
	#6	Educational aspiration for child	Children's Educational aspiration			I	
	#7	Achievement motivation for child	Children's Achievement motivation	M-i			I: incongruence (a4*)

	#8	Achievement motivation for child	Children's Subjective achievement	I: incongruence (a₃[*]) M-i		I: incongruence (a₃^a)	I: incongruence (a ₄ [*])
Self Canadian acculturation	#9	Canadian acculturation goals	Canadian behavioural acculturation		I: congruence (a ₂ ^a)	I: incongruence (a₃^a) M-a (trend)	I: incongruence (a ₃ [*] , a ₄ ^a); congruence (a ₁ ^a) M-a
Child Chinese enculturation	#10	Chinese enculturation goals for child	Children's Chinese behavioural enculturation				I: incongruence (a ₄ [*])
	#11	Family obligation expectation for child	Children's Family obligation attitude		I: incongruence (a ₃ [*]) M-i (trend)	M-a	
	#12	Interdependent child rearing goals	Children's Asian values	I: congruence (a ₂ [*] , a ₁ ^a) M-a (trend)			

Note. Under Results, “I” = presence of interaction effects (ideal x actual, on outcome); in analyses where PRA and RSA were used, it was further specified whether it was congruence, incongruence, or both that was a significant predictor; “M-i” = presence of significant main effect between ideal measure and outcome; “M-a” = presence of significant main effect between actual measure and outcome. a₁, a₂, a₃ and a₄ are RSA coefficients, and the superscript attached to each coefficient dictates the level of significance; ^ap < .10. *p < .05.

The results of the current study largely support the general hypothesis that incongruence between ideal versus actual states is associated with a decline in Chinese immigrant parents' psychological adjustment over time. In a few cases, the *congruence* between ideal and actual functioning was found to promote improved psychological adjustment. Findings from this study provide empirical support for existing literature on psychological incongruence. In both Rogers' theory of personality (1992) and Higgins' Self-Discrepancy Theory (1987), the experience of not meeting ideals for oneself has been conceptualized as psychologically threatening and distressing, contributing to low self-worth and dejection-related emotions, such as dissatisfaction, disappointment, and sadness. These theories are well supported by recent empirical evidence using diverse samples (e.g., Ferguson et al., 2010; McDaniel & Grice, 2008; Watson et al., 2014). Consistent with previous empirical evidence, findings from the current study demonstrate that incongruence in areas of functioning that are culturally relevant to Chinese immigrants, such as achievement and cultural adjustment, is often associated with negative psychological adjustment outcomes. These relations were more evident and straightforward in Chinese immigrant mothers, compared to Chinese immigrant fathers. That is, hypothesized relations were consistently found for mothers across various domains, whereas hypothesized relations were only found in two of the four domains for fathers: Canadian acculturation and children's academic achievement. These two domains are discussed first.

Congruence and Incongruence in Parents' Canadian Acculturation

Findings from the current study highlight the importance of acculturation in relation to Chinese immigrant adults' psychological adjustment. However, rather than arguing that certain levels or styles of Canadian acculturation are uniformly a risk or protective factor for immigrants' psychological adjustment, the current results emphasize the importance of bringing in theories of psychological incongruence to understand the relation between acculturation and psychological adjustment. As hypothesized, incongruence with respect to Canadian cultural adjustment was

related to decreasing psychological adjustment for mothers and fathers. Some trend level findings supported the potential relation between congruence and improved psychological adjustment, but these relations require replication by future research. These results provide additional support for existing theories of psychological incongruence, and they are particularly consistent with Higgins' conceptualization of the "Real Self vs. Ideal Self" discrepancy (i.e., RI discrepancy). Compared to occupational achievement, which is greatly influenced by cultural values and the opinions of one's social group, ideals about cultural adjustment often originate more from within each individual. Although incongruence in such cases may not necessarily produce feelings of shame, it can still trigger feelings of disappointment and dissatisfaction, as the individual fails to meet their hopes and aspirations for themselves in the realm of cultural adjustment. For instance, an immigrant who believes that it is very important to have good relationships with Canadians would likely feel less confident about themselves and endorse self-critical thoughts and feelings of dejection (i.e., in relation to their abilities to adjust in the mainstream culture) when experiencing difficulties in building and maintaining social relationships with Canadian friends or co-workers, or when encountering discrimination in these social groups.

As shown in the present study, congruence and incongruence in Canadian cultural adjustment predicted changes in mothers' and fathers' psychological adjustment. These results are also consistent with previous research, albeit limited, that examined acculturation-related incongruence. Specifically, in the study by Ramos and colleagues (2015), not meeting goals related to social interactions in the host culture was negatively related to Polish immigrants' psychological adjustment. The current research expanded beyond previous research by examining additional domains of behavioural acculturation, such as language use, entertainment, and celebration of cultural holidays.

Although similar conclusions were drawn for both Chinese immigrant fathers and mothers, there were some gender differences. When mothers' Canadian acculturation goals were higher than

their actual behavioural participation in the Canadian culture, they reported decreasing self-esteem and increasing depressive symptoms. In other words, not meeting one's ideals for participation in the Canadian culture may generate a sense of disappointment and failure in one's ability to navigate the unfamiliar cultural environment, making incongruence in this specific direction a risk factor for poorer psychological adjustment in mothers. Interestingly, it appears that incongruence in the opposite direction (i.e., when actual behavioural acculturation was high, but acculturation ideals were low) may also have negative relations with psychological adjustment, particularly mothers' self-esteem. Note that this was a trend level finding and should be interpreted with caution. In this case, it appears that mothers who did not necessarily see adapting to Canadian culture as important were more likely to experience decreasing self-esteem when they had high levels of participation in the Canadian culture. One possible explanation is that these mothers may feel obligated to participate in the Canadian culture beyond what is personally desirable, such as a push for more Canadian cultural engagement due to job demands. In such cases, mothers may feel psychologically pressured in their Canadian cultural participation, as they may prefer to invest their time and effort elsewhere. Given that this is a trend level finding, more research needs to be done in order to make more definite conclusions and inferences.

Compared to the clear evidence suggesting the negative effects of incongruence for mothers, the results for fathers suggested that a "match" between ideal and actual Canadian acculturation may be more important than a "mismatch." Specifically, congruence between fathers' acculturation goals and their behavioural participation in the Canadian culture was associated with increasing self-esteem at a trend level. The direction of this trend-level effect is as expected, and consistent with previous studies that have supported a positive relation between "identity integration" (i.e., a lack of discrepancy between one's desired and actual rating for their personality or interpersonal characteristics) and self-esteem (e.g., Sollarova & Sollar, 2010). Given that this is

a trend-level finding, more research is needed to further explore whether congruence indeed plays a more important role than incongruence for immigrant fathers' Canadian acculturation.

Congruence and Incongruence in Children's Academic Achievement

Another domain of functioning in which incongruence was found to be a risk factor for the psychological adjustment of both fathers and mothers was with respect to children's academic achievement. The current study expands on existing literature focused on parenting and parent-child relationships in immigrant families by incorporating theories of psychological incongruence to better understand how parental ideals and children's functioning may jointly relate to parents' psychological adjustment. Results confirm the hypothesis that incongruence experienced with respect to the functioning of one's child can indeed have significant negative effects on Chinese fathers' and mothers' psychological adjustment. These results expand on existing theories of psychological incongruence (Higgins, 1987; Rogers, 1992) by illustrating how an individual's identity may be shaped by their roles in important social relationships, which is essential to consider in interdependent cultures. In other words, a person's close family members may "reflect" on this person's identity in some ways. As the functioning of significant others becomes part of an individual's identity, it can affect their psychological experiences in similar ways to any other aspect of identity, such as personality traits. Consequently, when ideals of how one's significant others "should be" are not met, the individual may experience a threatening feeling to their identity.

Incongruence between parents' ideals for their children's academic functioning versus children's actual academic achievement was found to be a significant predictor of Chinese immigrant parents' psychological adjustment; this result was largely consistent for both fathers and mothers in the current study. As previously discussed, academic achievement is valued in the Chinese culture, and traditional Chinese families expect their children to do well academically. However, results of this study suggest that it is only when there is a mismatch between a parent's

endorsement of these ideas and a child's academic functioning that the parent would experience decreasing psychological adjustment. It is possible that the psychological effect of this type of incongruence stems from how parents perceive themselves and how they believe they may be seen by others (e.g., friends, relatives, other parents, or their own parents) when they perceive an incongruence. As a result, parents may experience feelings of disappointment or even shame (e.g., with regard to not being a "good parent"), resulting in the negative psychological outcomes observed in this study.

Interestingly, some parent gender differences were revealed in terms of the aspects of academic functioning that were relevant to mothers versus fathers. One overarching explanation that might account for these differences between mothers and fathers is related to the distinction between academic *performance* versus *motivation*. Incongruence between expected academic functioning and children's academic *performance* was a significant predictor of poorer psychological adjustment for *both* mothers and fathers. For mothers, this relation was the most evident when using children's subjective academic performance as an indicator. Incongruence between mothers' achievement motivation and children's subjective performance in "both directions" (i.e., mother higher than child, and child higher than mother) was associated with significant decrease in mother's self-esteem, as long as the degree of incongruence was high. One of the two directions – when mothers' ideals were higher than children's performance – additionally predicted an increase in depressive symptoms, but at a trend level. Consistently, results for fathers suggested the same negative effects of incongruence related to academic performance on fathers' psychological adjustment, particularly depressive symptoms. Fathers showed increasing depressive symptoms over time when their achievement ideals for their children were *higher* than the children's subjective achievement. Similarly, children's GPA was a significant predictor of depressive symptoms for fathers who perceived academic achievement to

be very important. Fathers with such achievement ideals for children were found to show increasing depressive symptoms when their children were getting grades lower than “As.”

It can be concluded that in the subdomain of incongruence in academic performance, the *degree* of incongruence mattered more for mothers in general. On the other hand, it was clear that for fathers, only one *direction* of incongruence was related to psychological adjustment. Also, incongruence between parents’ ideals and children’s GPA was only a significant predictor for fathers’ but not for mothers’ psychological adjustment. One possible explanation is that for mothers, GPA might be too narrow of an indicator of children’s achievement. Mothers may consider academic achievement in a broader sense, focusing on other indicators of achievement that go beyond the letter grades, such as children’s competitiveness among their peers (e.g., “being one of the best students in your class”). These other aspects of academic achievement were measured by the “subjective achievement” variable, which turned out to be a significant indicator for mothers only. Note that the limited variability in grades (i.e., 61.3% children reported “As,” 31.9% reported “Bs,” and only 6.7% reported “Cs”) should also be taken into account when making interpretations about these findings.

Whereas incongruence related to children’s academic performance was a relevant predictor for both fathers’ and mothers’ adjustment, incongruence in relation to children’s achievement *motivation* was a significant predictor of psychological adjustment for *mothers only*. Results indicated that incongruence between mothers’ achievement motivation for children versus children’s own achievement motivation predicted a decrease in mothers’ self-esteem. Consistent with expectations, when children’s achievement motivation was not as high as mothers’ ideals, mothers reported decreasing psychological adjustment. Interestingly, it was revealed that incongruence in the opposite direction was also a risk (children’s motivation higher than mothers’ ideals). Similar results were obtained when using educational aspiration as an indicator of achievement motivation. Mothers who reported lower educational aspiration than their children’s

self-report (in the current sample, 20 mothers aspired for university education while their children aspired for graduate school) endorsed more depressive symptoms over time. Together, these results suggest the importance of “a good match” between Chinese immigrant mothers and children in their attitudes about academic achievement, as incongruence in any direction may have negative psychological effects on mothers. When children exceed their mothers’ ideals in achievement motivation, this incongruence may also negatively impact mothers’ adjustment, perhaps due to mothers’ concerns about their children over-valuing academic performance. For example, these mothers may be concerned about the stress they see in their children as the children strive for very high academic goals, to the exclusion of other important areas of their development (e.g., extra-curricular activities, participation in family activities). In other words, these mothers may be distressed about their children not having a more “balanced” life style.

Although it can be concluded in broad terms that incongruence associated with children’s academic functioning has negative relations with the psychological adjustment of both Chinese fathers and mothers, the gender differences discussed above also suggest that mothers and fathers may value different aspects of academic functioning. For fathers who have high academic ideals, it seems that children “actually doing well” in school was more important than children “having the intention to do well,” whereas for mothers, both mattered. Part of this difference may stem from the different parenting roles that Chinese fathers and mothers traditionally take on within the family. Chung and colleagues argued that parents gain more knowledge about their children through school involvement (Chung, Lee, Lee, & Lee, 2015). If fathers are less involved in the day to day discussion about school with their children, they may not, on average, have a good sense of how their children view academic achievement, or how “motivated” they are to achieve well at school. Rather, they might have more access to the “outcome information,” such as grades and other more direct indicators of academic performance, as this type of information is often the easiest to be communicated within the family. In other words, fathers may be less likely to

experience any incongruence in relation to children's motivation in achievement, which is therefore less of a risk factor for fathers' psychological adjustment.

Chinese mothers, on the other hand, may be more actively involved in attending to children's school work and overall academic functioning than fathers (e.g., Tam, 2009). It is also reasonable to argue that children's educational functioning may play a larger role in mothers' sense of self, particularly the part of their identity related to being an effective parent. As a result, mothers may be at "higher risk" of experiencing incongruence related to children's academic functioning, which may also affect mothers' parenting efficacy and therefore their overall view of themselves. As we know from previous research, parenting efficacy is closely related to psychological adjustment (e.g., Cheng & Furnham, 2004; Orth et al., 2012). This may explain why *any* type of academic related incongruence – whether it is motivation to achieve or performance in school – tends to have more pronounced relations with mothers' psychological adjustment than with fathers'. Overall, these results highlight the detrimental effects of "not being on the same page" with one's children in academic achievement for Chinese mothers' psychological adjustment. Even in cases where children were achieving more than mothers expected – which may be seen as a "positive" type of discrepancy as the children were "exceeding" parents' expectations – the incongruence still predicted decreasing self-esteem and more depressive symptoms in mothers.

Better Fit with Incongruence Theories for Mothers

Broadly speaking, results of this study suggest a better fit between the data and existing theories of incongruence within the group of mothers studied compared to fathers. For the Chinese immigrant fathers in this study, fewer relations were found to be significant across the four domains studied, and there was no clear pattern when incongruence would or would not have negative relations with psychological adjustment. This seems to suggest that the examined dynamics may be more complicated to understand in fathers. On the other hand, in addition to the

two domains discussed above where both genders showed similar significant findings (i.e., incongruence associated with parents' Canadian acculturation and with children's academic achievement), mothers additionally reported a decline in psychological adjustment when experiencing incongruence in 1) their own occupational functioning, and in 2) their children's Chinese behavioural acculturation. No significant relations were found for fathers in these two domains. In the case of incongruence associated with occupational functioning, as will be discussed below, the lack of significant effects for father may be related to the different roles that Chinese men and women take on in the family and the greater society. In general, what makes incongruence in certain domains of functioning more relevant than others for Chinese fathers remains an area to be further explored for future research.

Incongruence related to occupational achievement. Incongruence in occupational functioning was consistently and significantly related to Chinese mothers' psychological adjustment. In addition to providing support for existing literature on psychological incongruence (Higgins, 1987; Rogers, 1992), these results also highlight the importance of selecting occupational achievement as an important domain of functioning to examine for this population. In contrast, the absence of expected relations for fathers was not something that has been revealed by previous research on employment-related incongruence and psychological adjustment (e.g., Creed et al., 2015; Fejfar & Hoyle, 2000), and it provides countering evidence to the above theories of incongruence. Thus, this gender difference calls for a need for future research to better understand Chinese immigrant fathers' occupational adjustment in the host country.

As hypothesized, when there was incongruence between mothers' personal achievement ideals and their perceived occupational achievement, they reported decrease in psychological adjustment. Specifically, two indicators of occupational achievement were the most relevant for mothers: 1) perceived social standing and 2) whether mothers were able to maintain a job in their original field post-immigration. When mothers endorsed high achievement ideals but low

occupational achievement (as represented by a subjective decrease in social standing after immigration and/or not working in their original field but would prefer to), they reported decreasing psychological adjustment. These results are consistent with previous evidence that failure to achieve one's ideals for occupational functioning can be a source of distress (Creed & Hood, 2015). More specifically, an individual's occupational functioning can play an important role in shaping one's identity. Within the context of an interdependent culture, whether an individual perceives their job as satisfying and valuable often depends on the extent to which the nature of their job and position is "approved" by significant others, such as parents, spouses, and friends (Heslin, 2005). As outlined in Higgins' Self-Discrepancy Theory (1987), ideals and obligations imposed by other people, especially an individual's significant others, can become distressing when the individual perceives that they have failed to meet these ideals. Consequently, feelings such as shame and embarrassment may arise. In traditional Chinese culture, jobs with high social prestige and status, and being successful in one's education and career are highly valued (Hou & Leung, 2011). Therefore, it makes sense that the perception of "moving down" in the social hierarchy or not being able to maintain the same type of career pre- and post-immigration can trigger feelings of dejection. Such feelings can be damaging to an individual's self-esteem, especially for those who have deeply endorsed these cultural ideals. For mothers who have these experiences, they may perceive an overall sense of "underachievement," as their work life may reflect poorly not just on themselves, but also on their significant others.

In some cases, markers of occupational achievement had *independent* effects on mothers' adjustment regardless of the extent to which they matched with ideal functioning. These main effects provided additional information that helps to better understand immigrant' occupational adjustment. Employment status and perceived changes in economic standing after immigration were significantly related to changes in Chinese mothers' psychological adjustment regardless of achievement ideals. Working part-time (vs. working full-time) and experiencing economic

sacrifice post-immigration were found to be significant risk factors for increasing depressive symptoms in mothers. It is unclear why these two occupational functioning variables showed main effects on mothers' psychological adjustment instead of interaction effects (i.e., dependent on achievement ideals). One possible explanation is that both economic standing and employment status may be more closely related to financial stability of the individual and their family.

Extensive empirical evidence supports that financial strain is a strong predictor of psychological distress, and many researchers have found a link between financial stress and depressive symptoms (e.g., Selenko & Batinic, 2011; Sweet, Nandi, Adam, & McDade, 2013). For immigrants in particular, experiencing financial instability may be particularly impairing to their psychological adjustment, as the process of immigration is often expensive, and it takes extra time and effort for immigrants to regain the financial stability that they used to have in their home countries due to various systematic and social barriers as previously discussed. Therefore, the financial strain and emotional distress that are likely associated with decreasing economic standing and/or not being able to earn full-time wage can be stressful to Chinese mothers, regardless of whether they strongly value high occupational achievement.

Contrary to the findings for mothers, incongruence between Chinese fathers' ideal and actual occupational functioning did not predict changes in their psychological adjustment, and none of the indicators of occupational functioning showed significant main effect in predicting fathers' psychological adjustment. In order to explain these pronounced gender differences, it may be important to consider the different roles that Chinese mothers and fathers have within the family environment or in the broader society, as these differences are potentially related to individuals' experience with shame, which is a relevant construct to consider for job-related incongruence. Different gender roles also may imply different processes to cope with the distress associated with incongruence, which is discussed as follows.

Incongruence between actual and ideal occupational functioning may have less impact on fathers' psychological adjustment than on mothers' because of differences in the degree to which men and women are exposed to social shaming, due to their different roles and responsibilities. As previously discussed, in an interdependent culture, shame often arises when an individual fails to achieve what is valued by the larger society. As a result of this failure, the individual experiences an internalized sense of being devalued and rejected by their social group, which often includes their significant others. Given the *social* nature of shame, it would not be surprising if the experience of shame is related to the amount or the nature of social contact to which an individual is exposed. Therefore, gender differences in the psychological impact of achievement-related incongruence, an area that is frequently subject to social shaming, may be dependent on different gender roles and responsibilities, and how men and women are socialized differently.

In an interdependent culture, men may have less frequent contact with individuals from their home country, and/or with other in-group members in their social groups (i.e., other Chinese immigrants). In contrast, women in these cultures are socialized to be the "kin keepers" in their families and communities, and therefore are often more active in and expected to maintain in-group social ties (Cheng & Chan, 2006; Lui, 2015). Previous research on gender, social network, and mental health has provided support for such gender differences in immigrant's in-group social involvement, and these differences can have important implications on how the two genders may be differently affected by their social contacts. For example, several studies found that Latino American immigrant women, compared to Latino men, tend to have more frequent contact with their social connections in their countries of origin, and they also rely on these social contacts for support more than their male counterparts (e.g., Viruell-Fuentes & Schulz, 2009). Most importantly, it was found that contacts with individuals back home create more social stress and poor mental health for Latino women than men, as these women have a higher chance to be exposed to strained and stressful relationships (Alcantara, Chen, & Alegria, 2015). The same

gender differences may also be applicable in the context of Chinese immigrants, who also socialize in a collectivistic society. Therefore, although both Chinese immigrant fathers and mothers can experience incongruence in relation to occupational achievement, differences in gender socialization suggest that women may be at higher risk for social shaming due to their relatively higher degrees of in-group exposure, and the greater importance of these connections to women than to men. As a result, incongruence related to occupational functioning becomes a bigger stressor for negative psychological consequences in women. On the other hand, Chinese men may be “protected” from these potential negative effects and repercussions of social shaming given their lower in-group social contact, and lower time and effort spent in maintaining these contacts.

Another way to explain the gender difference related to occupational incongruence may be to consider the different responsibilities mothers and fathers need to manage, and how these differences may affect each gender’s ability to cope with the negative outcomes associated with incongruence. Traditionally, Chinese fathers are expected to be the primary breadwinners for their families, whereas mothers tend to assume the responsibility of caregiving and other household responsibilities even when they are employed. In general, extensive literature suggests that occupational functioning plays a bigger role in men’s identity than in women’s, due to the traditional division of gender roles and responsibilities (Breen & Cook, 2005; Griffin, Fuhrer, Stansfeld, & Marmot, 2002). Therefore, it makes theoretical sense to argue that incongruence in this domain should have more pronounced negative psychological effects on fathers than mothers. However, it is possible that achievement-related incongruence may have less impact on fathers’ than mothers’ psychological adjustment from a *longer term perspective*, as mothers’ multiple domains of responsibilities may make it more challenging for them to devote themselves fully to coping with occupational incongruence (e.g., working “harder” and catching up in job performance). In contrast, although fathers may experience greater distress associated with achievement-related incongruence in the short run, it might be more feasible for fathers to take

proactive steps to cope with job-related incongruence from a longitudinal perspective, as they can potentially focus more effort and time in their jobs if they would like to. The 18-month time frame in the current study provides some suggestion that longer-term, negative psychological consequences of achievement-related incongruence might be more likely for mothers than fathers. More research is needed to confirm whether this speculation can indeed explain the lack of significant relations between occupation-related incongruence and adjustment for fathers.

Incongruence related to children's Chinese behavioural acculturation. In addition to occupational functioning, another area in which incongruence predicted decreasing psychological adjustment for *mothers only* was children's Chinese behavioural enculturation, and the *magnitude* of the incongruence mattered more than the *direction* of the incongruence. In other words, the higher the discrepancy, the more decrease in self-esteem over time, regardless of direction. As mothers endorsed higher Chinese enculturation goals than children's Chinese cultural behaviours, they experienced a decrease in self-esteem. This finding makes logical sense, as children's low participation in the Chinese culture can be distressing to mothers who expect children to actively participate in their heritage culture. Interestingly, having children "exceeding" expectations in this domain was also found to be a risk factor (i.e., when children's Chinese behavioural acculturation exceeded mothers' expectations). This finding suggests that higher endorsement of Chinese cultural behaviours by children is not necessarily desirable, especially when mothers do not have such ideals for their children. The *match* between mothers' ideals regarding children's cultural practice and their actual practice matters more than either factor on its own.

Significant discrepancies between children's participation in the Chinese culture and mothers' ideals may lead to greater conflicts within mother-child dyads with respect to culturally-related activities, and these conflicts may produce feelings of discouragement in mothers in relation to their parenting roles. For instance, a mother who would like her child to maintain a strong Chinese cultural orientation may argue against her child's desire to not learn the Chinese

language. On the other end of this discrepancy spectrum, a mother who does not see maintaining Chinese cultural practices as particularly important may be unhappy with her child spending too much time watching Chinese TV shows, as these behaviours may be perceived by mothers as difficulties in adjusting to the Canadian culture. Interestingly, these relations were not found to be relevant within father-child dyads. In the upcoming section, how congruence and incongruence in relation to children's Chinese cultural orientation affects fathers' psychological adjustment will be further discussed.

Poor Fit with Incongruence Model in the Domain of Children's Chinese Values

Children's Chinese cultural values, such as perceived importance of family obligation and other values of interdependence, is the one area in which there was limited support for theories of incongruence across both mothers and fathers. Congruence and incongruence were *not* significant predictors of mothers' psychological adjustment. In some cases, congruence and incongruence were significant predictors of *fathers'* adjustment, but in the direction opposite to what would be expected based on current incongruence theories. These findings suggest that the relation between congruence, incongruence, and Chinese immigrant parents' psychological adjustment within the domain of children's Chinese cultural values may not fit well with current theories of psychological incongruence.

One surprising result was that incongruence related to children's Chinese cultural value endorsement predicted *improved* psychological adjustment for fathers. Contrary to what was hypothesized, when fathers' family obligation ideals were higher than children's actual views, they showed an increase in self-esteem over time. This finding is puzzling because it implies that fathers with children who were "congruent" with them in terms of views about family obligations, or those with children who "exceeded" their ideals about family obligations, were not "better off" in psychological adjustment. In addition, *congruence* between fathers' expected versus children's endorsed interdependent values was found to be negative, instead of positive. More specifically,

fathers who preferred their children to endorse values of interdependence reported increasing depressive symptoms when children also highly endorsed these values. Unexpected results were also found for mothers in this domain. Whereas incongruence related to children's endorsement of Chinese cultural *behaviours* was associated with mothers' psychological adjustment as expected, incongruence related to children's endorsement of Chinese cultural *values* was not a significant predictor for mothers' psychological adjustment.

Some of these unexpected findings may potentially be explained by specific main effects of ideal or actual functioning (i.e., parents' ideals for children's Chinese values or children's endorsement of values). For example, children's family obligation attitude was a significant predictor of decreasing depressive symptoms in mothers, regardless of mothers' ideals. In other words, even for mothers who did not expect their children to endorse these values to a great extent, having children who valued these ideas might imply closer and more harmonious mother-child relationships within the family. Using family obligation as an example, it may mean that children who see family obligation as important are more likely to participate and help out in the family. These behaviours are generally considered to be *positive* and have been linked to positive family relationships and greater family cohesion (e.g., Fuligni & Zhang, 2004), and therefore may serve as protective factors for mothers' psychological adjustment. In cases where children's endorsement of the Chinese culture has significant implications for harmonious relationships with their mothers, mothers' personal ideals may not be as important. Therefore, the broader implications of high endorsement of Chinese values by children on the whole family may "overshadow" any effects of congruence or incongruence.

Another possible and perhaps more inclusive explanation for these unexpected findings is with respect to how congruence and incongruence were operationalized in this study. That is, it is not certain if the match between parents' ideals and children's reports of values captures psychological incongruence as it is subjectively experienced by parents, which is the experience

theorized to be associated with distress. Compared to cultural behaviours, cultural *values* are less “observable,” as an accurate understanding of an individual’s values in any given domain would likely require active disclosure by the person who endorses these values. In the current study, I chose to use children’s endorsement of their own values instead of having parents to report on their *subjective understanding* of children’s values. Although one can argue that the former is a more “accurate” representation of children’s actual endorsed values, the latter may be a more “relevant” measure of incongruence as experienced by parents. That is, incongruence may be best conceptualized solely based on subjective perceptions, including perceptions of children’s values; these perceptions may or may not match with the children’s actual endorsed values. It is likely that parents may not always be fully aware of their children’s true feelings regarding Chinese values (e.g., whether they see prioritizing the needs of their social group as more important to satisfying their own personal needs), especially if these are not common topics of discussion within the family. As a result, the match between a parent’s ideals and a child’s self-report of values may not be a valid measure of a parent’s subjective experience of incongruence. For example, a parent may experience incongruence between their ideals and what they perceived to be their child’s values, but if this perception is not consistent with the child’s self-endorsed values, my measure of incongruence would not capture the parent’s subjective experience. It may be that the methodology used to study psychological incongruence should be restricted to studying domains of functioning that are either 1) completely within an individual’s internal experience, or 2) between an individual’s internal experience and another person’s experience that can be directly observed and/or quantitatively measured. In general, parents’ perceptions of their children’s values and the extent to which these perceptions match with the actual values endorsed by children are areas that may require further exploration by future research, perhaps using qualitative methods.

Shame and the Effects of Incongruence

Results of this study also provide preliminary support for the distinction proposed by Higgins regarding different types of discrepancies and their associated psychological effects. As discussed in the introduction, the types of incongruence examined in this study appear to be the most similar to Higgins' 1) "other" oriented discrepancies, and 2) RI-self discrepancy (see Table 1 for review). As further discussed, although both types of discrepancies are associated with dejection-related psychological experiences (e.g., depressive feelings) by theory, the "other" oriented discrepancies are more closely related to the experience of shame, given that inability to fulfill these standards and/or rules that are greatly desired by one's social group (or the greater culture) may imply causing rejection disconnection in these relationships. If incongruence purely stems from one's personal hopes and aspirations, not meeting these ideals can still lead to feelings of disappointment, but not necessarily feelings of shame. In the current research, although no explicit hypotheses were made with regards to this distinction, it makes sense to assume that incongruence in the achievement domains (i.e., parents' own or child-related) would be more likely to cause shameful feelings as it is considered "other" oriented, compared to incongruence in the cultural adjustment domain, which was more related to Chinese parents' personal hopes and aspirations (i.e., RI-self discrepancy).

Results of this dissertation provided some support for a distinction. The majority of the significant results where incongruence predicted an increase in depressive symptoms were primarily within the domain of *achievement*, as opposed to in the domain of cultural adjustment. These significant relations were bolded in Table 36. This observed pattern makes theoretical sense, as the more culturally-imposed (and most likely the more shame-based) type of incongruence tended to create distress (i.e., depressive symptoms), beyond simply failing to promote positive adjustment (i.e., self-esteem). Note that there were a few cases where achievement-related incongruence predicted only decreasing self-esteem but not increasing depressive symptoms.

Therefore, it is important to clarify that the argument here is not that achievement related incongruence will *definitely* lead to more serious psychological implications. Rather, it is argued that there may be a greater chance for achievement-related (or potentially any shame-based type of) incongruence to generate psychological distress in immigrant parents, compared to incongruence that is less shame-based. More research is needed to directly measure shame within this broader framework, in order to better understand the above considerations.

Implications, Limitations and Directions for Future Research

The current research merges two literatures: research focused on identifying contextual, relational, and social factors that are integral to immigrant adults' psychological adjustment in their host country, and the theoretical and empirical literature on psychological incongruence and its effects on psychological adjustment. By combining the two, this study expands on past research on immigrants' adjustment to shed light on the underlying, within-person process through which maladjustment takes places. Additionally, this research adds a cultural lens to the existing psychological incongruence literature, which tends to focus on broad personality traits rather than investigate specific areas of functioning that are culturally relevant to a given population. Although personality traits are important descriptors of an individual's identity and the incongruence associated with these traits can have important psychological effects, identity is a complex construct. An individual's identity may vary across different contexts, and can be affected or dependent on an individual's relationships with others, particularly in a collectivistic culture. Finally, existing literature on psychological incongruence has not included ethnically and culturally diverse samples. However, the nature of incongruence (i.e., what can be considered as a source of incongruence, and what kind of incongruence is the most powerful and relevant) and the effects of incongruence (i.e., what happens when an individual experiences incongruence) may not be universal and consistent across different cultural contexts. This dissertation addressed these gaps by focusing on a particular population that is prone to experiencing incongruence due to their

cultural experience, and one that may have different experiences with incongruence due to their interdependent cultural upbringing. This is also a group that is important to study as they are one of the largest ethnic/visible minority groups in Canada.

Findings from this study have important implications for clinical practice. First and foremost, the results of the current study have provided support for a “goodness of fit” model in the adjustment of immigrants. As shown, incongruence between one’s ideal and their actual functioning is often related to poor self-view, and in some cases, symptoms of depression. Clinicians providing care to immigrants, therefore, should not assume that immigration-related stressors (e.g., difficulties in acculturation, financial instability, work and family related stress) are invariably associated with poor adjustment. What may appear to be a “risk factor” in adjustment, such as little participation in the mainstream culture, may not necessarily be associated with negative psychological adjustment, when the immigrant does not see participating in the mainstream culture as highly important. In other words, it is vital to attend closely to the process of how poor adjustment arises from the match and mismatch between immigrants’ ideals and aspirations for themselves and their actual functioning. Efforts should be made to understand the ideals that immigrants have for themselves, the origins of these ideals (e.g., whether is it part of the broader cultural values), as well as the extent to which they are matched with immigrants’ current functioning. To foster greater adjustment and psychological adjustment, clinicians are encouraged to work with their immigrant clients to help them achieve what they see as personally important, which may or may not be consistent with the broader cultural ideals. Most importantly, clinicians should refrain from labeling any indicators of functioning as “risk factors” for poor adjustment, given that these indicators are rarely uniformly detrimental without accounting for what the individual wants for themselves.

For immigrants who are also *parents*, it is extremely important to conceptualize their distress within the broader context of family, as findings of this research show how congruence and

incongruence experienced in relation to one's child can also significantly affect parents' psychological adjustment, especially within the context of an interdependent culture. Clinicians working with the entire family can further make use of these findings to work with the family dynamics in addressing issues associated with not meeting one's ideals in certain areas. As shown by the results of this study, achievement of the typically valued and desired qualities for children based on one's cultural upbringing may not necessarily imply better adjustment for the individual, if this is not something the parent personally desires or values for their children. For instance, although it is widely recognized that excellence in academic functioning is considered to be highly desirable in the Chinese culture, in the current study, children's academic functioning was never a predictor of parents' psychological adjustment on its own. Rather, it was only related to parents' psychological adjustment when considered jointly with parents' personal ideals related to children's achievement. To conclude, in working with immigrant parents, clinicians need to obtain a thorough understanding of parents' personal ideals and the rationales behind these ideals, and to encourage and facilitate the exploration of these issues by the clients (parents/children) and their families.

Findings of this dissertation also have important program- and policy-related implications. First, settlement programs for immigrants should continue to provide support in the domains of occupational functioning and cultural adjustment, with a particular focus on supporting immigrants in meeting their ideals in these areas of functioning. In addition, based on the findings of this research, there should be greater emphasis on helping immigrants to explore and cope with the psychological experiences they encounter in parenting in a different culture, and to support immigrant parents to effectively navigate between their ideals for their children and their children's actual functioning, such as learning how to express those ideals and learning what to do when the ideals are not being met.

The many gender differences revealed by the current research also call for a potential need for gender-specific programs and support, as immigrant men and women may have different experiences with congruence and incongruence. For instance, traditionally, Chinese men are seen as the primary providers for the family, but findings of this study highlight the importance of supporting immigrant *women* in meeting their occupational ideals, as incongruence related to occupational achievement was found to be a risk factor for women only. Compared to their Canadian-born counterparts, immigrant women in Canada tend to have higher educational attainment, but they are more likely to be unemployed or underemployed. In 2011, 27.7% of immigrant women in the core working-age group (i.e., aged 25-54) had a university degree or above (vs. 19.2% of Canadian-born women), but 48.7% of them were underemployed (vs. 30% of Canadian-born women), and 8.8% of them were unemployed (vs. 5.2% of Canadian-born women) (Statistics Canada, 2015). Altogether, these trends call for a need for settlement programs that are tailored to supporting immigrant women in their job search process and their adaptation to the labour market in Canada, including targeting unique challenges that are more specific to women (e.g., learning to balance between primary caregiver for children and working towards their career goals).

On the national level, there is a pressing need for Canada's immigration policy to continue moving in the direction of fostering successful occupational and cultural adjustment after immigration – for instance, aiming to help break down structural barriers that prevent immigrants from meeting their occupational ideals, specifically for female immigrants. For example, more attention is needed to address the job search difficulties associated with the lack of recognition of foreign educational and professional credentials, which has been a longstanding barrier for newcomers as they struggle to look for positions that match with their training and experiences in the home country. In addition to the time and cost associated with getting one's foreign credentials recognized, the entire process can also be confusing and complicated to navigate for newcomers.

Furthermore, recent immigration policy changes in the selection of immigrants have prioritized Canadian education credentials over foreign credentials, which have resulted in a 10% increase in successful applicants with Canadian education, but a relative decrease in those who only have foreign credentials (Keung, 2018). However, instead of being selective in choosing those who have Canadian education, more resources should go into developing more efficient and less costly certification processes for current and prospective immigrants who are equally capable, but do not have equivalent credentials in Canada. An example of such support is the Foreign Credential Recognition Loans Program, which offers loans to newcomers to help cover the cost of getting their foreign credentials recognized (e.g., expenses related to licensing exams, training, travel and skills upgrading). Programs like this can be very beneficial to newcomers in their job search process, and should receive more attention and support.

Finally, there is a need for Canada's immigration policy and policy-related research to shift in a direction that considers the welfare of immigrants in the context of family. Current immigration policies are fairly individually-oriented (Costigan et al., 2016). 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 few have focused on helping immigrants to cope with the various changes that they experience in their family relationships. As shown in the current study, the adjustment of family members can very much affect each other, and thus immigration policies need to account for these important interactions in order to effectively foster healthy adjustment among immigrants.

The current research demonstrates various methodological strengths. First, using a longitudinal design enabled making inferences about the causal relations between congruence and/or incongruence and change in psychological adjustment. Second, by analyzing immigrant fathers and mothers separately, gender differences in immigrants' experiences with congruence and incongruence were explored. This study also employed a method of Polynomial Regression Analysis and Response Surface Analysis to examine the interaction between ideal functioning and actual functioning, and their relations with psychological outcomes. These statistical methods allowed differentiation between the effects of "congruence" from the effects of "incongruence," and evaluation of linear and non-linear relationships. Past research has largely made the assumption that "congruence has a positive effect on functioning" is equivalent to "incongruence has an opposite, negative effect on functioning." However, it has been revealed in the present study that this was not the case in most of the ideal-actual dyads examined. For example, incongruence between mothers' achievement motivation for their children and children's own achievement motivation predicted decreasing self-esteem over time, yet congruence between the two was *not* related to increasing self-esteem or other positive psychological outcomes. In other words, incongruence may have an effect when congruence does not, and vice versa.

Despite the various strengths, there are several limitations in the methodology, as well as gaps in the current study to be addressed by future research. In terms of methodological limitations, first, the measures chosen to represent the "ideal" and "actual" functioning in each comparison may not necessarily measure the same construct, or may tap into slightly different aspects of the construct. Most of the ideal-actual comparisons examined did not include *identical* measures, with the exceptions of achievement motivation (comparing parents' ideals vs. children's ideals for themselves), educational goals (i.e., highest level of education to achieve from parents' and children's perspective), and family obligation (comparing parents' ideals vs. children's ideals for themselves). Using different measures to represent similar constructs may have limitations,

such that one cannot be absolutely sure the measured “ideal” and “actual” functioning closely match one another. As a result, the nature of the congruence and/or incongruence captured by the interaction between the two different variables may be different than when two identical measures are used. Second, in examining other-oriented congruence and incongruence, I used a combination of parent-report and child-report, which can be both a strength and a weakness. Incorporating child reports provides valuable information and may be more “accurate” in the sense that it captures the genuine experience of the child. However, when the focus is on congruence and incongruence experienced by the parents, there is a chance that parents’ *perception* of their children’s experience matter more than children’s *actual experience*. Therefore, using children’s report in this case may be considered a limitation. Future studies may use purely parent-report measures (for both ideal and actual functioning) and see if similar results can be replicated.

Another methodological constraint is the use of more narrow measurement level variables (e.g., economic standing, or children’s GPA) to represent broader areas of functioning (e.g., “occupational achievement” or “children’s academic achievement”). Using individual measurement level variables can be helpful in demonstrating how congruence and incongruence can manifest in different ways within the same domain of functioning, and therefore may have different effects on psychological adjustment. However, identifying the common underlying latent construct (e.g., one single factor representing the construct of certain ideal or actual functioning) can perhaps simplify the conceptual model and may be prone to less measurement level errors. This may involve incorporating a different statistical method such as structural equation modeling or choosing a different measure that can better capture the broad construct of ideal and actual functioning. In general, the variable-centered approach of my analyses was limited in that the relations between psychological incongruence and adjustment were understood across, but not within, individuals. Future research may consider using person-centered approaches, such as cluster analysis, to examine the extent to which psychological incongruence is related to

adjustment outcomes at the individual-level. Person-centred analyses would allow for an exploration of how relations between incongruence and adjustment may be different across different members of the Chinese immigrant population (i.e., examining potential heterogeneity within the group). Finally, although the inclusion of trend-level findings in my discussion allows thorough exploration of trends in the current data, this is also a methodological weakness as the alpha level is essentially less stringent than the conventional standard, and therefore there is a higher risk of Type II error associated with my findings. It is therefore crucial to consider these findings as tentative and exploratory. In order to make more definitive conclusions, there is a need for successful replications of these results by future research.

In addition to the above methodological considerations, there are gaps in the current dissertation that call for more research attention in future studies focusing on congruence, incongruence and immigrants' psychological adjustment. First of all, there is a need to further understand the missing link between incongruence and/or congruence and adjustment outcomes such as self-esteem and symptoms of depression. In other words, future research should further explore the cognitive and emotional experiences created by being congruent or incongruent, so we can better understand their links with poor psychological adjustment outcomes. In particular, as discussed, the experience of shame is crucial in understanding how psychological incongruence leads to poor self-esteem and greater depressive symptoms, yet shame was not directly measured in the current research, and therefore its role can only be indirectly inferred. Future research may focus on directly examining shame in understanding the adjustment experience of Chinese immigrants (or immigrants from other interdependent cultural contexts) and whether and how it arises from not meeting the ideals imposed by one's social groups. It would be interesting to also explore further feelings of shame in reaction to the functioning of an individual's significant others. For example, shame may be experienced by parents as they see their children not meeting certain ideals valued by the broader culture (e.g., excelling academically) and these feelings of

shame can be the underlying driving force of the negative psychological outcomes identified by this study. Furthermore, the current study examined the effects of parents' psychological incongruence on their own adjustment, but it is important for future research to expand on studying the effects of incongruence beyond the individual-level. For instance, incongruence and possibly the associated feelings of shame may affect immigrants' parenting practices, and therefore parent-child relationships or even children's psychological functioning.

The gender differences observed in the present study also call for more research attention to better understand how congruence and incongruence may be experienced differently by immigrant mothers and fathers. In particular, the lack of significant findings for Chinese immigrant fathers suggests a need to better understand fathers' experience with psychological incongruence in general. This might mean considering other areas of functioning in which incongruence plays a greater role for fathers. There is also a general need to examine gender differences in experiencing and coping with psychological incongruence, which may involve incorporating theories from the stress literature. For example, fathers may be less sensitive to experiences of incongruence, as the literature has shown that women tend to find themselves in stressful circumstances more often than men, and they also tend to appraise threatening events as more stressful (see review by Matud, 2004). It is also possible that fathers and mothers may have different experiences *coping* with psychological incongruence. Although the literature on gender differences in coping styles has generated mixed findings, some researchers have found that men tend to engage in more rational, or problem-focused coping, and women tend to use more emotional coping, which is associated with more emotional distress (e.g., Matud, 2004). Whereas women are more likely to perceive having inadequate resources for coping with a threatening situation, and therefore turn to others for support, men may perceive themselves to be more "resourceful" in changing the stressful situation. In the context of the current study, it is possible that fathers are more likely engage in problem-focused coping (e.g., actively adjusting their ideals or taking actions to improve their current

performance) when they become aware of any incongruence. More research is required to better understand these potential gender differences.

With respect to child-related congruence and incongruence, the current study did not look closely at the effect of child's gender in the theoretical model, as it was not found to be a significant covariate for parents' psychological adjustment. However, it makes conceptual sense to consider how parents' experiences with child-related incongruence may look differently depending on the gender of their child. Traditional Chinese culture tends to have a male-centered family structure, contributing to parents' different expectations toward sons and daughters. For instance, research has suggested that Chinese parents tend to have higher expectations for sons' academic achievement than for daughters', sometimes to the extent of offering preferential treatment to sons in terms of educational resources (e.g., Chiu & Wong, 2017; Yu & Su 2006). Therefore, the experiences of child-related incongruence in the academic domain may have different psychological implications (or the same implications but at different levels of significance) for parents depending on the gender of the child, or depending on the match and mismatch between the child's gender and the parent's gender. Future research should further explore these potential differences in order to fully understand the role of gender differences when understanding the psychological effects of other-oriented congruence and incongruence.

Finally, the present research focused on two important areas of functioning in which congruence and incongruence would likely play important roles given the cultural context, but there might be other important domains of functioning relevant to immigrants' overall adjustment that require further exploration. For example, future research may consider investigating incongruence with respect to social networks and support. It is also important to confirm if findings of the current study can be replicated in other demographic groups, such as immigrants coming from other Asian countries or other interdependent cultural contexts. Furthermore, there is a need to be mindful of immigration being a "process," as opposed to a "stable state." The cultural

adjustment experience of immigrants is constantly changing and evolving as they settle in the host country, and therefore a certain experience of incongruence or congruence that significantly affects an individual's psychological experience at one time may not be as powerful at another time during the process of settlement. Individuals may also develop coping resources over time, as they adjust to the host culture, which also affects their experience with incongruence and/or the effects of incongruence. Therefore, variables such as length of residence in the new country and the age of immigration may be important moderators to examine in future research.

Related to this future research direction is the consideration of the “transactional nature” between ideal and actual functioning. Past research, particularly those based on Higgins' theory (1987), focused on personality traits that are considered to be more static and most likely remain largely unchanged over time. This was not the case for the types of actual functioning variables examined in this study, which tend to be more fluid and may change over time. For instance, an individual is unlikely to change how “extroverted” they are, given that it is a personality trait; however, they might more likely change how much they are involved in Canadian cultural behaviours. When it comes to studying areas of functioning that can be changed and adjusted over time, there is a need to then consider the possibility that an individual's ideals and actual functioning may influence each other on a continuous basis.

There is also a need for future research to adopt a family lens in exploring how incongruence may have an impact beyond the individual-level. For instance, a parent who holds high ideals for their child's academic performance, when seeing their child not doing well at school, may spend extra effort in supporting their schoolwork, and over time this parent may consequently foster an improvement in the child's grades. Another example is that within each immigrant couple, their experiences of congruence and incongruence may also affect each other, and more research is needed to explore the possible interactions. Researchers such as Rollock and Lui (2016) have found that spousal support is an important protective factor for the psychological

adjustment of ethnic minorities, as it can buffer the negative effects of stressors related to cultural adjustment. In a similar vein, it could potentially be argued that the negative psychological effects of one spouse' experience with incongruence may not have as negative an effect if the other spouse does not experience as much incongruence and can therefore provide support for their significant other. On the flip side, it can also be argued that the distress associated with an individual's experience of incongruence can be intensified if their significant other does not share a similar experience; this discrepancy in experience within the dyad can be experienced as invalidating by the person who struggles more with psychological incongruence. Such dynamics are important to incorporate in future research.

In general, the use of longitudinal design, albeit a strength for inferring causal relations, does not preclude the possibility of bi-directional effects between congruence/incongruence and psychological adjustment. In other words, although it is very much likely that congruence and incongruence have led to changes in immigrants' psychological adjustment over time, it is also possible that changes in psychological adjustment (due to reasons not related to psychological incongruence) in fact contributed to experiences of congruence and incongruence. For instance, mothers who experienced an increase in depressive symptoms over time may have adopted a more worthless and hopeless view of themselves in viewing their cultural adjustment, therefore more likely to subjectively view themselves as failing to achieve their acculturation-related goals. In other words, given that psychological adjustment does not remain static over time and can be affected by factors other than the variables studied in this dissertation, there is a possibility that the change in psychological adjustment observed in the current study was in fact a risk or protective factor that altered immigrants' perception of congruence and incongruence over time. It would be important for future studies to tease apart the potential bidirectional effects between psychological incongruence and indicators of psychological adjustment.

The population of immigrants in Canada has reached its highest level in almost a century (Statistics Canada, 2017), and therefore research aimed at understanding immigrant families' adjustment process is needed. Results of this dissertation argue for the importance of adopting a "goodness of fit" model in defining what "successful adjustment" may look like in the immigrant population. As demonstrated through these findings, the match and mismatch between what Chinese immigrant parents would like to accomplish in their occupational functioning and cultural adjustment, and the extent to which they are able to achieve these ideals, matter more than any *objective* indicators of good functioning. Furthermore, results of this study have uncovered how congruence and incongruence in relation to children can also affect parents' psychological adjustment. The pronounced gender differences suggest that there is a need for further exploration to better understand the nature of congruence, incongruence, and the processes through which they affect psychological adjustment. Altogether, this research highlights the importance of viewing immigrants' adjustment as an "individualized" process, which has important clinical, community practice, and policy implications.

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Appendix A: Demographic Information

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. 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
6. 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 +
7. When did you immigrate to Canada? Year _____ Month_____
8. Where did you emigrate from? Mainland China _____ Taiwan _____ Hong Kong _____

Appendix B: Self-Esteem

How well do the following statements apply to you generally? (circle one number)

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I feel that I'm a person of worth, at least on an equal basis as most other people.	1	2	3	4
2. I feel that I have a number of good qualities.	1	2	3	4
3. On the whole, I am satisfied with myself.	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
5. I take a positive attitude toward myself.	1	2	3	4
6. All in all, I am inclined to feel that I'm a failure.	1	2	3	4
7. I feel that I do not have much to be proud of.	1	2	3	4
8. I wish I could have more respect for myself.	1	2	3	4
9. I certainly feel useless at times.	1	2	3	4
10. At times I think I am no good at all.	1	2	3	4

Appendix C: Depressive Symptoms

Please circle the number for each statement which best describes how often you felt or behaved this way during the past week. During the **past week** ...

	Rarely or none of the time (<1 day)	Some or a little of the time (1-2 days)	A lot of the time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
4. I felt that I was just as good as other people.	0	1	2	3
5. I had trouble keeping my mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life has been a failure.	0	1	2	3
10. I felt fearful.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usual.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people disliked me.	0	1	2	3
20. I could not get "going" (or motivated).	0	1	2	3
21. I felt I have a lot of talk about, but can't find the opportunity to say it.	0	1	2	3
22. I feel suffocated.	0	1	2	3
23. I feel suspicious of others.	0	1	2	3

	Rarely or none of the time (<1 day)	Some or a little of the time (1-2 days)	A lot of the time (3-4 days)	Most or all of the time (5-7 days)
24. I don't think others trust me.	0	1	2	3
25. I don't think I can trust others.	0	1	2	3
26. I remember unpleasant things from the past.	0	1	2	3

Appendix D: Parents' Achievement Ideals

Please indicate how much you agree or disagree with the following statements.

	Disagree Strongly	Disagree	Disagree Mildly	Neither Disagree Nor Agree	Agree Mildly	Agree	Agree Strongly
1. Occupational failure brings shame to the family.	1	2	3	4	5	6	7
2. Educational failure brings shame to the family.	1	2	3	4	5	6	7
3. People should achieve academically to make their parents proud.	1	2	3	4	5	6	7
4. People's achievements should be viewed as their family's achievement.	1	2	3	4	5	6	7

Appendix E: Questions about Employment

1. Are you currently employed? No _____ Yes _____

2. 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.)

3. Have you been able to find work in your field in Canada?
 _____ Yes
 _____ No, and I would like to
 _____ No, but I do not wish to
 _____ No, and therefore I am working in a different field

4. 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

Appendix F: Educational Achievement

Parents' educational aspiration for children

What level of education do you want your child to complete?

- graduate from high school graduate from a 2-year college
 graduate from a 4-year university graduate from law, medical, or graduate school

Parents' achievement motivation for children

How important is it that your child.....

	Not Important	Slightly Important	Somewhat Important	Quite Important	Very Important
1. Does well in school	1	2	3	4	5
2. Gets good grades	1	2	3	4	5
3. Goes to university after high school	1	2	3	4	5
4. Gets an 'A' on almost every test	1	2	3	4	5
5. Is one of the best students in his or her class	1	2	3	4	5
6. Goes to the best university after high school	1	2	3	4	5

Children's educational aspiration

If you could go as far as you wanted in school, how much education would you like to have?

- graduate from high school graduate from a 2-year college
 graduate from a 4-year university graduate from law, medical, or graduate school

Children's achievement motivation

How important are the following to you?

	Not very important	Slightly important	Somewhat important	Pretty Important	Quite important
1. Doing well in school	1	2	3	4	5
2. Getting good grades	1	2	3	4	5
3. Going to university after high school	1	2	3	4	5
4. Getting an 'A' on almost every test	1	2	3	4	5
5. Being one of the best students in your class	1	2	3	4	5
6. Going to the best university after high school	1	2	3	4	5

Children's achievement

How much do you agree or disagree with these statements about school?

	Strongly Disagree	Disagree	Neutral/ Mixed	Agree	Strongly Agree
1. I don't do well at school.	1	2	3	4	5
2. I don't feel like I really belong at school.	1	2	3	4	5
3. I have a high grade point average.	1	2	3	4	5
4. I do well in school, even in hard subjects.	1	2	3	4	5

Which of the following is closest to your grade point average? (check one)

A+ A A- B+ B B-
 C+ C C- D+ D F

Appendix G: Canadian Cultural Orientation

Parents' Canadian acculturation goals

There are many different ways to live in Canada and everyone have different goals.
How important is it to you that **YOU**:

	Not Important at all	A little Important	Of Medium Importance	Quite Important	Of Great Importance
1. Develop a strong identity as Canadian	1	2	3	4	5
2. Have good relationships with Canadians	1	2	3	4	5
3. Participate fully in Canadian culture	1	2	3	4	5
4. Adopt the values of Canadian culture	1	2	3	4	5
5. Understand the way most Canadians think	1	2	3	4	5

Parents' Canadian behavioural acculturation

Please circle the number for each statement that best applies to you.

	All at Not	Often very not or little Very	Moderately	Often very or Much	Always almost or often Extremely
1. I speak English.	1	2	3	4	5
2. I enjoy speaking English.	1	2	3	4	5
3. I spend time with White Canadians.	1	2	3	4	5
4. I enjoy listening to English language music.	1	2	3	4	5
5. I enjoy English language TV.	1	2	3	4	5
6. I enjoy English language movies.	1	2	3	4	5
7. I enjoy reading in English.	1	2	3	4	5
8. I write in English.	1	2	3	4	5
9. My contact with Canadian culture has been...	1	2	3	4	5
10. My friends now are of White/Canadian origins.	1	2	3	4	5
11. I have contact with Canadian community institutions (schools, churches, work...)	1	2	3	4	5

	All at Not	Often very not or little Very	Moderately	Often very or Much	Always almost or often Extremely
12. I cook or eat Canadian food.	1	2	3	4	5
13. I participate in Canadian occasions, holidays, or traditions.	1	2	3	4	5
14. I enjoy social activities with Canadian people.	1	2	3	4	5
15. I prefer to use Western medicines or doctors when I am sick.	1	2	3	4	5
16. I am involved in Canadian social or political clubs.	1	2	3	4	5
17. I stay informed about current affairs in Canada.	1	2	3	4	5

Appendix H: Chinese Cultural Orientation – Behavioural

Parents' Chinese cultural enculturation goals for children

How important is it to you that your child:

	Not Important at all	A little Important	Of Medium Importance	Quite Important	Of Great Importance
1. Identify strongly as Chinese	1	2	3	4	5
2. Participate in Chinese traditions	1	2	3	4	5
3. Speak Chinese	1	2	3	4	5
4. Follow traditional Chinese values	1	2	3	4	5
5. Develop a strong identity as	1	2	3	4	5

Children's Chinese behavioural enculturation

Please circle the number for each statement that best applies to you.

	All at Not	Often very not or little Very	Moderately	Often very or Much	Extremely	Always almost or often
1. I speak Chinese.	1	2	3	4	5	
2. I enjoy speaking Chinese.	1	2	3	4	5	
3. I spend time with other Chinese people.	1	2	3	4	5	
4. I enjoy listening to Chinese language music.	1	2	3	4	5	
5. I enjoy Chinese language TV.	1	2	3	4	5	
6. I enjoy Chinese language movies.	1	2	3	4	5	
7. I enjoy reading in Chinese.	1	2	3	4	5	
8. I write in Chinese.	1	2	3	4	5	
9. My contact with a Chinese country has been...	1	2	3	4	5	
10. My friends now are of Chinese origins.	1	2	3	4	5	
11. I have contact with Chinese community institutions (schools, churches, work...)	1	2	3	4	5	

	All at Not	Often very not or little Very	Modera tely	Often very or Much	Always almost or often Extremely
12. I cook or eat Chinese food.	1	2	3	4	5
13. I participate in Chinese occasions, holidays, or traditions.	1	2	3	4	5
14. I enjoy social activities with Chinese people.	1	2	3	4	5
15. I prefer to use Chinese medicines or healers when I am sick.	1	2	3	4	5

Appendix I: Chinese Cultural Orientation – Family Obligation

Parents and children responded to identical set of items.

Question stem for parent version:

How often do you **expect** your child to engage in the following activities?

(Do **NOT** indicate how often your child **actually** does these activities)

Question stem for child version:

How much do you think you should do the following things?

	Almost never	Not Often	Some of the time	Often	Almost Always
1. Spend time with his/her grandparents, cousins, aunts, and uncles.	1	2	3	4	5
2. Spend time at home with the family.	1	2	3	4	5
3. Run errands that the family needs done.	1	2	3	4	5
4. Help his/her brothers or sisters with their homework.	1	2	3	4	5
5. Spend holidays with the family.	1	2	3	4	5
6. Help out around the house.	1	2	3	4	5
7. Spent time with the family on weekends.	1	2	3	4	5
8. Help take care of his/her brothers and sisters.	1	2	3	4	5
9. Eat meals with the family.	1	2	3	4	5
10. Help take care of his/her grandparents.	1	2	3	4	5
11. Do things together with his/her brothers and sisters.	1	2	3	4	5
12. Treat you with great respect.	1	2	3	4	5
13. Follow your advice about choosing friends.	1	2	3	4	5
14. Do well for the sake of the family.	1	2	3	4	5
15. Follow your advice about choosing a job or major in college.	1	2	3	4	5

16. Treat his/her grandparents with great respect.	1	2	3	4	5
17. Help you financially in the future.	1	2	3	4	5
18. Respect his/her older brothers and sisters.	1	2	3	4	5
19. Make sacrifices for the family.	1	2	3	4	5
20. Live at home with you until he/she is married.	1	2	3	4	5
21. Help take care of his/her brothers and sisters in the future.	1	2	3	4	5
22. Spend time with you even after he/she no longer lives with you.	1	2	3	4	5
23. Live or go to college near you.	1	2	3	4	5
24. Have you live with him or her when you get older.	1	2	3	4	5

Appendix J: Chinese Cultural Orientation – Interdependent Values

Parents' interdependence goals for children

Parents often have specific ideas about the qualities they are trying to instill in their children. For instance, some parents highly value independence and try to raise their children to have this trait. Other parents highly value loyalty, and focus their child-rearing efforts on instilling this quality. Quite a few possible child-rearing goals are listed below.

How important is it to you for your child...

	Not at all important	Fairly unimpor- tant	Somewhat important	Very Important	Extremely important
1. to remain in a group if needed even if he/she is unhappy with the group	1	2	3	4	5
2. to be respectful	1	2	3	4	5
3. to sacrifice self-interest for his/her group	1	2	3	4	5
4. to respect decisions made by his/her group	1	2	3	4	5
5. to be cooperative	1	2	3	4	5
6. to maintain harmony in his/her group	1	2	3	4	5

Children's interdependent values

Please indicate how much you agree or disagree with the following statements.

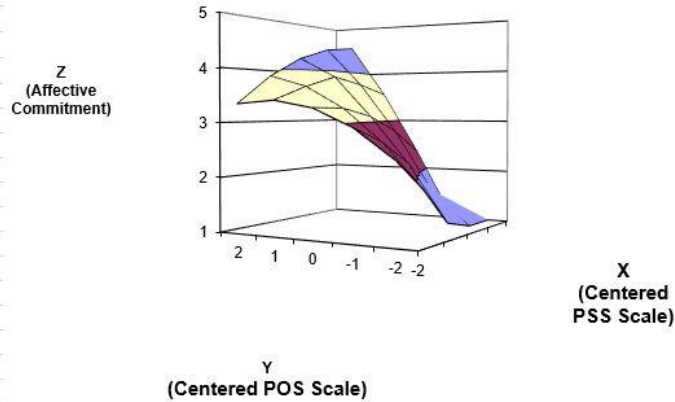
	Disagree Strongly	Disagree	Disagree Mildly	Neither Disagree Nor Agree	Agree Mildly	Agree	Agree Strongly
1. Occupational failure brings shame to the family.	1	2	3	4	5	6	7
2. People should think about their group before themselves.	1	2	3	4	5	6	7
3. Modesty is an important quality for a person.	1	2	3	4	5	6	7
4. Educational failure brings shame to the family.	1	2	3	4	5	6	7
5. People should consider the needs of others before considering their own needs.	1	2	3	4	5	6	7
6. People should be humble and modest.	1	2	3	4	5	6	7
7. People should achieve academically to make their parents proud.	1	2	3	4	5	6	7
8. People's achievements should be viewed as their family's achievement.	1	2	3	4	5	6	7
9. Following family and social expectations is important.	1	2	3	4	5	6	7
10. When people receive a gift, they should reciprocate with a gift of equal or greater value.	1	2	3	4	5	6	7
11. A family's reputation is an important social concern.	1	2	3	4	5	6	7

Appendix K: Response Surface Analysis Template (Shanock et al., 2010)

Data Entry Area					
Variable Name	Unstandardized Betas	Standard Errors	Covariances		
Constant	3.09918549		b1b2	-0.0116622	
PSS X (b1)	-0.2307331	0.12061024	b3b4	-0.0142831	
POS Y (b2)	0.76986019	0.12355999	b3b5	0.0038546	
X ² (b3)	-0.074085	0.10623876	b4b5	-0.0117268	
XY (b4)	0.2695329	0.16553761			
Y ² (b5)	-0.0967055	0.09372864			
Sample Size	173				

Testing Slopes and Curves					
Effect	Coefficient	Standard Error	Test Stat (t)	p-value	
a ₁ : Slope along x = y (as related to Z)	0.54	0.08	6.692	0.000	Sig!
a ₂ : Curvature on x = y (as related to Z)	0.10	0.06	1.755	0.081	
a ₃ : Slope along x = -y (as related to Z)	-1.00	0.23	-4.341	0.000	Sig!
a ₄ : Curvature on x = -y (as related to Z)	-0.44	0.21	-2.079	0.039	Sig!

Affective Commitment as Predicted by Perceived Supervisor Support-Perceived Organizational Support Discrepancy



		X				
		-2	-1	0	1	2
Y	2	3.34	3.87	4.25	4.49	4.57
	1	3.40	3.66	3.87	3.74	3.55
	0	3.26	3.26	3.10	2.79	2.34
	-1	2.94	2.66	2.23	1.66	0.94
	-2	2.42	1.87	1.17	0.33	-0.66

Note: Diagonal is line of congruence (x = y); Below the diagonal X>Y; Above the diagonal X<Y