

EXAMINING THE RELATIONSHIP BETWEEN PARENTAL COGNITIONS
AND PARENTING BEHAVIOURS AMONG EUROPEAN CANADIAN AND
CHINESE CANADIAN MOTHERS

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Abstract

Several studies have indicated the importance of examining the role of parental attributions and parenting self-efficacy in influencing quality of parenting. However, the relationship between these parent cognitions, beliefs and behaviours have been seldom in a cross-cultural context. Using correlation and regression analyses, this study examined the role of child-causal parental attributions in the link between parental self-efficacy and quality of parenting (as measured through maternal sensitivity) in a sample of diverse Canadian parents. Moreover, the relationship between parental self-efficacy, child causal attributions and maternal sensitivity was examined in sample of two distinct cultural groups (Canadian Chinese and Canadian European).

In terms of the main analyses: 1) Child causal attributions were not found to moderate the relationship between parental self-efficacy and maternal sensitivity for the overall sample. 2) Chinese Canadian mothers were found to make more child-causal attributions for misbehaviour, compared to European Canadian mothers. Chinese Canadian mothers scored lower on parental self-efficacy, compared to European mothers. 3) Cultural background was found to moderate the relationship between parental self-efficacy and child causal attributions (i.e., the relationship was strong for Chinese Canadian mothers compared to European Canadian mothers). 4) Cultural background was not found to moderate the relationship between parental self-efficacy and maternal sensitivity.

Exploratory analyses found that: child age predicted the increasing maternal sensitivity for the overall sample and for the Chinese Canadian group, and maternal age predicted increasing maternal sensitivity for the overall and European Canadian sample. Moreover, maternal age was found to predict lower parental self-efficacy for the overall sample and for the European Canadian group.

Dedication

To my family, my mom, my dad, my grandparents, my brothers, and to my dear friends.

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Chapter One: Introduction

Examining the Relationship Between Parental Cognitions and Parenting Behaviours

The quality of parenting an individual receives as a young child has profound effects on the development of personal identity and life satisfaction and plays an important role in the survival of the human species (Farber, 2000; Meadow-Orlans, 2002). Infants depend on caregivers for a range of primary functions, such as meeting physical needs (e.g., feeding, protecting, etc.) and for fostering cognitive, social and emotional development (Bornstein, 2002; Corter & Fleming, 2002), and thus the parent-child relationship serves as the basis for future attachment and development.

While positive parenting behaviours can foster learning and development in children, negative parenting behaviours can lead to non-productive discipline strategies, child non-compliance, child abuse, and emotional problems in childhood (Ben-Porath, 2010; Gavita, David, & DiGiuseppe, 2014; Smith Slep & O’Leary, 2001). For this reason, the key components of many parenting intervention programs focus on teaching parents how to constructively attend to their child, and foster positive parent-child interactions, with the understanding that the thoughts or cognitions that drive parents’ behaviours toward their children are an important component in these interactions (Greco, Sorrell, & McNeil, 2001; Kazdin, 1997; Foote, Schuhmann, Jones, & Eyberg, 1998).

Examining parents’ own beliefs about their behaviours is important for parenting researchers, since these are believed to affect parents’ sense of self, and to motivate and influence parenting behaviours (Bornstein, 2002; Dix & Grusec, 1985; Goodnow & Collins, 1990; Harkness & Super, 1996; McGillicuddy-De Lisi & Sigel, 1995; Miller, 1988; Rubin & Mills, 1992). Parents’ appraisal of their own parenting, known as self-efficacy, has implications

for parenting behaviours. Research indicates that parents who perceive themselves to be efficacious in the caregiving role tend to have a warmer parenting style, and are more sensitive and responsive to their child (Baldwin, Cole, & Baldwin, 1982; Bandura, 1977; Johnston & Mash, 1989; Peterson & Seligman, 1984; Ruble, Newman, Rholes, & Altshuler, 1988).

Similarly, parental attributions, that is, to what parents attribute their child's behaviour, and the beliefs they have about their child's and their own contributions to positive and negative dyadic outcomes, contribute significantly to quality of parenting. Parenting behaviours indeed reflect parents' cognitions about their child and their child's behaviour (Shai & Belsky, 2011), since parental affective and behavioural responses in a caregiving context are related to how those parents interpret given events (Bugental, Johnston, New, & Silvester, 1998; Dix & Grusec, 1985; Dix, Ruble, & Zambarano, 1989). For example, a mother who believes that her child is crying because they have an urgent need will respond differently than a parent who believes that their child's act of distress signals attention-seeking or manipulation. The latter exemplifies a potentially dysfunctional, unproductive attribution about the child's behaviour. Unrealistic and/or negative child-causal attributions in turn can be related to overly reactive parenting behaviours and negative emotions such as anger (Slep & O'Leary, 1998; Smith & O'Leary, 1995). Bugental & Shennum (1984) hypothesized that parents who make more child-causal attributions, i.e. have a child-referent locus of control, may believe that their actions are unrelated to their child's behaviour, and thus, are less effective at managing child misbehaviour. Similarly, a study by Bornstein, Hendricks, Haynes, and Painter (2007) indicates that mothers who have an internal locus on control with respect to their parenting (i.e., mothers who make more internal attributions for their failures at parenting) are more sensitive and responsive to their child compared to mothers who make more child-causal attributions.

Despite the documented role that parental attributions and parenting self-efficacy play in influencing quality of parenting, the relationship between these parent characteristics, and how they may interact in their impact on parenting has seldom been studied. Moreover, there are some inconsistencies among research studies, indicating that the implications of parenting self-efficacy may differ by culture. For example, while some studies have been able to demonstrate a positive relationship between parenting self-efficacy and parenting behaviours among parents from the United States, this relationship has not been established among Japanese parents (Kitayama, Matsumoto, Markus & Norasakkunkit, 1997).

This study examines the role of child-causal parental attributions in the link between parental self-efficacy and quality of parenting (as measured through maternal sensitivity) in a sample of Canadian parents from two distinct cultural backgrounds (Canadian Chinese and Canadian European).

Chapter Two: Literature Review

Quality of Parenting: Maternal Sensitivity

One of the most significant theories to enhance our understanding of parent-child relationships is attachment theory, pioneered by John Bowlby. Bowlby (1969, 1979, 1980, 1988) emphasized the importance of mother and child relationship in influencing the child's cognitive, affective, social emotional, and behavioural functioning. He posited that the mother-child bond serves two critical functions, including survival (i.e., protection from harm and the use of parent as a "safe haven") and a secure base (i.e., accessibility and responsiveness of the parent so that the child can feel secure in exploring the world). Extending Bowlby's conceptualization of the mother as a secure base from which the child feels comfortable exploring their world, Ainsworth (1985) identified maternal characteristics linked to security of attachment in infants. Ainsworth defined maternal sensitivity as the overall quality of the mother's response to her child's signals, including 1) awareness to the child's cues, 2) accurate interpretation of the child's cues, and 3) appropriate and prompt responsiveness to the child's cues.

Since Bowlby's and Ainsworth's seminal contributions, the influence of maternal behaviours on child development has been extensively studied. Ainsworth, Blehar, Waters and Wall (1978) were among the first to show that maternal sensitivity was associated with infant behaviours. That is, when mothers were aware of infants' cues and responded aptly to meet their needs, infants exhibited more competence in exploring their environment, and engaged in sharing this experience with their mothers. In contrast, research indicates that reduced maternal sensitivity to infants' emotions is associated with poor development of empathic, sympathetic and prosocial responsiveness in infants (Hartz & Williford, 2015). Other studies have linked it to psychosocial, physiological and developmental outcomes (Bakermans-Kranenburg, van

IJzendoorn, & Juffer, 2003; Bernier, Carlson, & Whipple, 2010; Feldman, Eidelman, & Rotenberg, 2004; Lemelin, Tarabulsky, & Provost, 2006; Mesman, van IJzendoorn, & Bakermans-Kranenburg, 2012), including the association of caregiver sensitivity with aspects of child language, intellectual and academic development (Feldman et al., 2004; Hirsh-Pasek & Burchinal, 2006; Lemelin et al., 2006; Nozadi et al., 2013; Paavola et al., 2006; Roger Mills-Koonce et al., 2015; Vallotton, Mastergeorge, Foster, Decker, & Ayoub, 2017).

According to Ainsworth and colleagues (1978), mothers considered to be sensitive are tactful in acknowledging and responding to communication with their baby, whereas insensitive mothers tend to gear their behaviour towards the child almost exclusively in terms of their own states, wishes, and activities. In other words, the latter mothers may distort the message their child is sending, interpreting it in the light of their own needs, or may not respond to their child's signals at all. Much subsequent research has indicated that accurate emotional identification and responses, and attributions about child behaviour are important processes that contribute to sensitive parenting (Bornstein et al., 2007; Ekmekci et al., 2016; Leerkes, 2010; Leerkes & Siepak, 2006).

The role of culture in shaping caregiving behaviours has long been established (e.g., Bornstein, 1993, 2017; Harwood, Schoelmerich, Schulze, & Gonzalez, 1999; Keller & Otto, 2009; Pinderhughes, Dodge, Bates, Pettit, & Zelli, 2000). However, a number of caregiving constructs appear to be universal. For example, the bulk of the literature supports the universal applicability of attachment and sensitivity constructs, as conceived by Ainsworth (1979). Mothers across several countries have been found to identify similar preferences with regards to children's secure base behaviours, indicating that mothers have a common perception concerning qualities and goals of sensitive caregiving (Posada et al. 1995). More recently, a large-scale

study by Mesman and colleagues (2016) sampled beliefs about the “ideal mother” from over 700 mothers across 26 different cultural groups in 15 countries, including cultures that are considered more collectivists such as Japan, China Indonesia, etc. The results of the study were consistent with the notion that mothers from across cultures generally agree upon the qualities that define sensitive parenting. Yet, in studies from Western countries, where mothers of European descent make up the majority cultural groups, are frequently found to be more sensitive in interacting and responding to their infants compared to the minority cultural groups (e.g., Barnett, Shanahan, Deng, Haskett, & Cox, 2010; Berlin, Brady-Smith, & Brooks-Gunn, 2002; Fuligni, & Brooks-Gunn, 2013; Heng et al., 2018; Mesman, van IJzendoorn, & Bakermans-Kranenburg, 2012; Yaman, Mesman, van IJzendoorn, Bakermans-Kranenburg, & Linting, 2010). These findings have recently been challenged (e.g. Chan, 2015) and the reported differences deserve to be examined more closely, especially in an immigration context.

Parents’ Self-Efficacy in the Context of Caregiving

Research indicates that parents’ awareness and beliefs about of their own parenting have a broad influence on parenting behaviours (Sigel & McGillicuddy-De Lisi, 2002). One commonly studied form of belief is parenting sense of competence, or parental self-efficacy, which involves parents’ thoughts about their abilities as caregivers, and their thoughts regarding the caregiving role (Johnston & Mash, 1989). Self-efficacy theory posits that adults who perceive themselves as competent, understand the consequences of their actions, and are aware of their abilities are more likely to be more warm, sensitive, and responsive to their children (Bandura, 1989).

Consistent with this theory, research indicates that parents with a greater overall sense of parental self-efficacy tend to be warmer and less overreactive with their children, compared to

parents who report lower parental self-efficacy (de Haan, Prinzie, & Dekovic', 2009; Egberts, Prinzie, Deković, Haan, & Akker, 2015). More specifically, research shows that parenting self-efficacy accompanies positive parenting, including involvement, responsiveness, limit-setting, non-punitive caregiving, and efforts to enhance parenting practices through self-education (Coleman & Karraker, 1998; Jones & Prinz, 2005). Jones and Prinz (2005) further suggest that caregivers with a higher sense of parenting self-efficacy will show confidence and proficiency in their parenting behaviours, whereas caregivers with a lower sense of self-efficacy may struggle to respond effectively in challenging caregiving situations. Strong parental self-efficacy has thus been found to be related to positive parenting behaviours (Coleman & Karraker, 2000; Sigel & McGillicuddy-De Lisi, 2002), and positive caregiver affect and greater caregiver sensitivity to the child's needs (Grimes, 2013; Pierce et al., 2010).

A study by Leerkes and Crockenberg (2002), however, found that the relationship between self-efficacy and maternal sensitivity is a complex one. In this study, maternal self-efficacy interacted with infant distress to predict maternal sensitivity during emotionally arousing tasks. Infant distress was associated with less sensitive parenting when maternal self-efficacy was reported as being moderately low and extremely high, while moderately high self-efficacy was associated with sensitive behaviours. The researchers posit that mothers' sense of control and expectations about their own abilities may play a role in how sensitively they responded to their infants. For example, consistent with the theory of illusory control over infant behaviour, the researchers posited that mothers with extremely high self-efficacy were also less sensitive toward their easily distressed infants than mothers with moderate efficacy. According to this theory, mothers may report an inflated sense of self-efficacy and fail to respond sensitively to their infants' cues if they feel that their sense of control in the parenting context is

violated (Donovan & Leavitt, 1989; Donovan, Leavitt, & Walsh, 1990). The study highlights the complexity of the relationship between maternal self-efficacy and maternal sensitivity and indicates that parental cognitions may play a role in determining the quality of parenting behaviours.

There is widespread evidence linking parenting self-efficacy to parenting behaviours. Maternal self-efficacy has been associated with positive and more effective parenting strategies (Johnston & Mash, 1989; Murdock, 2012; Teti & Candelaria, 2002). Moreover, research on parenting training programs indicates that an increase in positive parenting behaviours is associated with an increase in parent self-efficacy (Gross, Fogg, & Tucker, 1995). A study by Hallam (2000) demonstrated that in contrast, mothers who reported higher levels of parental self-efficacy demonstrated fewer positive interactions and emotionally responsive behaviours with their child during the observed parent-child semi-structured play session, compared to mothers who reported moderate or lower levels of parental self-efficacy.

Furthermore, cultural factors have also been found to influence parenting behaviours (Ericka, Abate, Airrington, Taylor, & Venta, 2018; Tichovolsky et al. 2013). Scholars posit that these factors are important to examine in the context of parenting research, given that each family exists within a set of cultural norms and values which guide their beliefs and behaviours (Fine & Lee, 2000; Lansford et al., 2014) In one study, higher levels of mainstream culture orientation among Chinese immigrant parents was been found to be associated with greater parenting efficacy, which in turn was associated with more positive parenting practices (Costigan & Koryzma, 2011). But contrary to popular research, in the earlier cross-cultural work on parenting beliefs and behaviours, some have argued that having high self-efficacious beliefs is not important for behavioural competence for people in Chinese countries (Kitayama,

Matsumoto, Markus & Norasakkunkit, 1997). According to these researchers, Chinese peoples evaluate themselves more critically and are more attuned to negative evaluations than positive evaluations, thus opposing the view that self-efficacy beliefs are indeed a universal motive to optimize parenting behaviours such as maternal sensitivity (Bandura, 1997; Sedikides, Gaertner, & Vevea, 2005). Overall, these findings suggest that parenting practices may differ by culture.

Child-Causal Parental Attributions

An understanding of how parents think about their children's behaviour is also important for interpreting caregiving behaviours. Parental cognitions focused on child behaviours, specifically to what parents attribute especially negative behaviours, are considered important predictors for child-specific parental emotional reactions and practices (Bugental & Johnston, 2000; Gavita, David, & DiGiuseppe, 2014; McGillicuddy-DeLisi, & Siegel, 1995).

Several cognition-focused models of parenting have been proposed, based on general attribution theories. According to Sternberg and Williams (2002), attribution theories elucidate both how people explain their own behaviour and the behaviour of others. Heider (1958) was the first researcher to develop an attribution theory, proposing the existence of two basic attributions: dispositional attributions and situational attributions. Heider posited that a person's internal characteristics are the cause of behaviour with dispositional attributions, whereas external factors (e.g., the environment, other people) are the cause of behaviour with situational attributions.

Expanding on Heider's research, Weiner (1980) proposed a model characterizing behaviour into three dimensions: locus (i.e., whether the location of the cause of behaviour is internal or external), controllability (i.e., whether the cause of behaviour is controllable), and stability (i.e., whether the cause of the behaviour remains stable). Behaviours are categorized dichotomously on each of the dimensions (e.g., internal or external cause of behaviour,

behaviour controllable or uncontrollable, and behaviour perceived as stable or unstable). Weiner indicated that the attributions that emerge from the combination of these dimensions have an effect on behavioural and affective reactions towards others, and on expectations for future behaviour. Initially, Weiner's attribution theory was applied to the examination of social interactions among adults, as well as the study of success and failure experiences in academic settings (Sternberg & Williams, 2002).

In recent years, attribution theory has provided a valuable perspective for examining parental cognitions related to parent-child interactions. Research indicates that parents' attributions for their child's behaviour relate to both parental emotional reactions to child behaviour and to the parenting behaviours that then address the child's behaviour (Snyder et al., 2005). Bugental and Happaney (2004) found that that perceived balance of power in the parent-child relationship plays a role in parenting behaviours. More specifically, they found that low perceived parental power was associated with harsh or abusive parenting, positing that this was due to the fact that parents saw themselves as "victims" in this power dynamic. In terms of affect, typically, parents become more upset by a child's undesirable behaviour if they perceive it as an intentional act, a negative disposition of the child, or if they believe that the child has the necessary knowledge to behave differently. Miller (1995) posits that the link between parents' attributions and subsequent behaviour towards the child is mediated by these affective reactions.

In the case of parents of infants, given the ambiguity in the causes of infant behaviour, caregivers of very young children may be particularly vulnerable to making more child-causal attributions (Azar, Maggi, Proctor, 2013). For example, negative processing of infant cry cues (i.e., more negative and minimizing causal attributions about infant crying) presented via video during the prenatal period negatively predicted observed maternal sensitivity with their own

infants when they were 6 months old (Leerkes et al., 2015). Similarly, Martin and colleagues (2018) found that parents who make fewer negative appraisals may be better equipped to afford more sensitive caregiving behaviours to a distressed child, positing that the empathy that results from a more benign appraisal of an unpleasant child behaviour may contribute to the parental belief that the child's distress deserves a supportive response. In the context of mother-infant relationships, negative child-causal attributions, for example "the baby is crying because he or she is doing this to bother me" are linked to low caregiver sensitivity (Leerkes, Su, Calkins, Supple, & O'Brien, 2016; Leerkes et al., 2015). These types of attributions may result in deeming the infants' distress as undeserving of a supportive response, and thus result in insensitive parenting.

Recent studies propose that parent cognitions too are influenced by culture. Ren et al. (2019) for example suggest that given the emphasis on interdependence among family members in Chinese cultures, mothers from these cultures view their children as more exposed to and connected with the environment. Consistent with this idea, they make more external causal attributions for their children's behaviours due to their emphasis on environmental influences, compared to European mothers (Cheah & Rubin, 2003, 2004; Park & Cheah, 2005).

Cultural Norms and Parenting

Chinese Canadians, particularly Chinese immigrants, make up one of the most prominent groups of immigrants in Canada (Chui, Tran, Flanders, 2005), reflecting the migration policy changes that occurred in the late 1960s (Halli & Driedger, 1999). In 1967, the Canadian immigration policy was reformed to a points-based system for evaluating the suitability of migrants for a Canadian citizenship. Residency is awarded on the basis of the number of points earned in several categories (e.g., education, family status, financial circumstances, etc.).

Following the implementation of this system, Canada experienced a steady increase in immigration from countries like China, Hong Kong, and Taiwan, which represent the some of the highest sending regions (Statistics Canada, 2011).

Caregivers from different cultural backgrounds hold diverse beliefs about child development, which is tied to culture-specific goals (Okagaki & Bingham, 2005). For example, Chinese Canadians must contend with cultural norms of their country of origin as well as those of their receiving country. Research indicates that Chinese cultural norms are generally based on a framework of interdependence, and that East Asian countries generally endorse in-group harmony and cohesion over individuality (Triandis, 2001). These values are reflected in childrearing practices among Chinese mothers. For example, Chinese mothers view their children as being connected to the environment (Ho, 1986; Ren, Sun, Cheah, Sang, & Liu, 2019), and emphasize interdependence among family members (Chao, 1995; Park et al., 2010). These beliefs form a contrast to a more individualistic North American culture that emphasizes individuality and autonomy (Dokis, 2008). Research indicates that families who settle in an established community with a like population may find it easier to preserve their cultural values compared to those who settle in areas with similar families (Dokis, 2008, Jasinskaja-Lahti, 2008). However scant information is available on how cultural values translate to parenting beliefs and behaviours in immigrant communities, where caregivers typically must integrate at least two sets of traditions.

Traditional Chinese parenting has been described as being steeped in Chinese values, including the concept of training or educating a child to behave in socially acceptable ways, of caring for others, and of valuing interpersonal interactions over individuals' characteristics and qualities (Chao, 1994; Chung, Chung, Kim, & Park, 2007; Hsu, 1971; Ryu, 2007; Tseng, 2013).

It is important to note that various factors can influence the way that parents of Chinese descent raise their children and for some parents, parenting styles may differ slightly from the traditional style of parenting. These factors include the parents' level of identification with the Chinese culture and acculturation influences (Barry, Bernard, Beitel, 2009; Chiu, 1987). However, even in modern day Chinese culture, respect and a collective experience are still understood and regarded as important aspects of society (Tseng, 2013).

Chinese culture is categorized as a collectivist culture (Bond & Hwang, 1986; Hofstede, 1980; Hsu, 1981). Collectivism stresses the importance of the group and social cooperation. These are consistent with key values identified as being as part of traditional Chinese culture, including filial piety, relationships, and Confucian values like benevolence, righteousness, and decorum (Kulich & Zhang, 2010). These values have been defined as distinct constructs that contribute to societal functioning, but a complete understanding requires thinking about the interplay of the different values. Parents from Asia and Latin America are more likely than European American and Western European parents to value collectivism and interdependence (Chao & Tseng, 2002; Tamis-LeMonda & McFadden, 2010).

There is empirical evidence suggesting cultural differences in patterns of parenting between European and Chinese parents, suggesting that European parents may utilize strategies reflecting a style of parenting that is focused on self-development and fostering autonomy more often than Chinese parents (Varela et al. 2004). Thus, the current study will compare parenting beliefs and behaviours of Chinese and European parents from the Greater Toronto Area in Ontario, Canada, an area that is home to a large East Asian population (Statistics Canada, 2011).

The Current Study

Findings in the extant literature suggest that mothers' beliefs about their own parenting abilities influence subsequent parenting behaviours. Research indicates that the relationship between maternal self-efficacy and maternal sensitivity, however, is more complex than previously believed, and may vary by culture. Some evidence suggests that parental attributions may have an influence on the link between self-efficacy and parenting behaviours. However, there is a dearth of literature on whether child-causal attributions influence the relationship between self-efficacy and parenting sensitivity. This study will examine the moderating role of parental child-causal attributions on maternal self-efficacy and maternal sensitivity. Additionally, while many researchers have examined the impact of parental cognitions on caregiving behaviours in older children (i.e., aged three years or older), relatively little is known about parental attributions for infants' behaviours. Last, limited literature is available on the above when it comes to diverse cultural backgrounds. Given the significant diversity in Canada's parents, it seems important to examine factors that affect parenting in diverse cultural contexts. A diverse sample (i.e., Middle Eastern, Caribbean, Latin, Central and South American, African, South Asian, European, Chinese, and others) was used to examine the role of child causal attributions. Moreover, given that Chinese Canadians constitute a significant proportion of the country's multicultural parents, being Canada's largest group of immigrants (Statistics Canada, 2011), this study will examine the role of child-causal parental attributions in the link between parental self-efficacy and maternal sensitivity in a sample of Chinese Canadian parents, as compared to European Canadian parents, from Toronto.

Research Questions and Rationale.

Research Question 1. Do child-causal attributions moderate the link between maternal self-efficacy and maternal sensitivity among a diverse sample of Canadian mothers?

a) Hypothesis. When child-causal attributions are low, higher self-efficacy will be related to increased maternal sensitivity.

b) Hypothesis. When child-causal attributions are high, higher self-efficacy will be related to decreased maternal sensitivity.

Rationale. There is widespread evidence that self-efficacy within the context of relationships influences behaviours, and that high self-efficacy is often linked to more sensitive caregiving. However, some research suggests that this relationship may be more complex, and factors like parental attributions about their child's behaviour may play an important role in the link between maternal self-efficacy and maternal sensitivity. For example, a study examining self-efficacy and maternal sensitivity by Leerkes and Crockenberg (2002) suggested that parents' expectations about the parent-child relationship, and their sense of control in the context of caregiving may influence parenting behaviours. These researchers found that self-efficacy moderated the relationship between infant distress and sensitive parenting. More specifically, the study indicated that high infant distress was associated with less sensitive parenting when maternal self-efficacy was moderately low and extremely high, suggesting that moderate levels of self-efficacy may play a role in how sensitively parents respond to their child's cues. Moreover, while this study elucidated the importance of examining parenting cognitions in the context of research on parenting behaviours, it did not examine factors that may influence the relationship between self-efficacy and maternal sensitivity. The current study will address this gap and examine the moderating role of child-causal attributions on the relationship between

self-efficacy and maternal sensitivity. In other words, the study will aim to illuminate whether the child-causal attributions that mothers make about their infants' behaviour play a moderating role in how mothers appraise their own parenting abilities, and subsequently, how sensitively they respond to their infants' cues and distress overall.

Some research indicates that the effects of parental self-efficacy on the quality of parenting interactions may also be influenced by parent's age (De Luccie, 1996; Elek, Hudson, & Bouffard, 2003; Grimes, 2012). Therefore, this variable will be included as control variables in the present study.

Research Question 2. Do Chinese Canadian mothers differ from European Canadian mothers on parenting self-efficacy and child causal attributions?

a) Hypothesis: Chinese Canadian mothers will make significantly fewer child causal attributions compared to European Canadian mothers.

b) Hypothesis: Chinese Canadian mothers will report significantly lower self-efficacy compared to European Canadian mothers.

Rationale. Research indicates that mothers from European cultures differ in parenting beliefs, compared to Chinese mothers. More specifically, the literature suggests that European mothers are more likely to endorse challenging child behaviour as being child centered/driven by the child rather than caused by external factors (Cheah & Park, 2006; Cheah & Rubin, 2004; Johnston & Freeman, 1997). The current study will attempt to replicate these findings in a Canadian Chinese and Canadian European sample. Moreover, this study will aim to reproduce previous findings that European mothers demonstrate greater parenting self-efficacy, compared to Chinese mothers.

Research Question 3. Does parent cultural background moderate the relationship between parental self efficacy and child causal attributions?

a) Hypothesis. For European Canadian mothers, higher parenting self-efficacy will be related to lower child causal attributions.

b) Hypothesis. For Chinese Canadian mothers, higher parenting self-efficacy will not be related to lower child causal attributions.

Little research has been done on the relationship between parental self-efficacy and parent cognitions. The extant literature indicates that parental self-efficacy is linked to the attributions that parents make about their children's behaviour. For example, Hoover-Dempsey and Sandler (1995, 1997) found that parents who perceive themselves as being highly efficacious in their parenting are more likely to attribute the child's success to child effort. Parents who report high parenting self-efficacy are also theoretically more likely to take credit for their children's positive outcomes, implying that through their efforts they can have a positive influence on their children's learning. However, a more recent study by Gavita et al. (2014) found that low parental self-efficacy was associated with a high level of parental distress and the belief that "the child should not misbehave". In other words, parents with low self-efficacy may make more child-responsible attributions compared to parents with higher levels of self-efficacy. Moreover, this relationship has not been examined in a cross-cultural context. The current study will examine the association between parental self-efficacy and child causal attributions for European Canadian and Chinese Canadian samples.

Research Question 4. Does parental cultural background moderate the relationship between the level of parental self-efficacy and maternal sensitivity?

a) Hypothesis. For European Canadian mothers, high self-efficacy will be related to high maternal sensitivity.

b) Hypothesis. For Chinese Canadian mothers, high self-efficacy will not be related to higher maternal sensitivity.

Rationale. There is widespread evidence linking parenting self-efficacy to parenting behaviours. Effective parenting behaviours have been associated with maternal self-efficacy in the current literature (Johnston & Mash, 1989; Murdock, 2012; Teti & Candelaria, 2002). However, among the Chinese population, research has been unable to define a clear relationship between the two constructs (Costigan & Koryzma, 2011; Kitayama, Matsumoto, Markus & Norasakkunkit, 1997; Molenda-Kostanski, 2016;). Overall, the findings of these studies suggest that parenting practices may differ by culture. To examine the inconsistencies in previous research, the current study will compare the moderating role of cultural background for Canadian-Chinese mothers and Canadian-European mothers, on parenting self-efficacy and maternal sensitivity.

Chapter Three: Research Methodology

Participants

This study included participants from an existing database that was developed by the Infant and Child Mental Health research laboratory at York University in Toronto, Ontario, with the purpose of examining parenting behaviours in a cross-cultural context. The study was previously approved by the York University Research Ethics Board and from each of the participating child mental health agencies. 175 mother and infant dyads were recruited from across the GTA, including community agencies (e.g., Agincourt Community Services, Ontario Early Years Centres, Aisling Discoveries Child and Family Centre), immigration and settlement centres (e.g., Centre for Information and Community Services), and from community clinicians within the Toronto region. The sample consisted of a diverse group of mothers (i.e., Middle Eastern, Caribbean, Latin, central, & South American, African, South Asian, European, Chinese, and other). In the current study, analyses were conducted with the diverse sample, as well as with the European Canadian and Chinese Canadian group.

The average mother's age was 29.66 years for the overall sample, 34.19 years for the Chinese Canadian group, and 28.78 years for the European Canadian group. The average child age was 17.99 months for the overall sample, 22.66 months for the Chinese Canadian group, and 19.44 months for the European Canadian group. See Table 1 for descriptive data for the overall sample and the two cultural groups.

17.10% of mothers had some high school education or less and 12.60% of mothers completed a high school education. 47.50% of mothers had some college or university education, and 20.60% had some Graduate-level university training. In terms of the Chinese Canadian group, 5.40% of mothers reported having some high school education or less, 8.10% of mothers

had a high school education, 62.20% had a college or university degree, and 24.30% had a Graduate degree. In the European Canadian mother group, 18.00% had some high school education or less, 14.00% completed high school, 32.00% had a college or university degree, and 24.00% had some Graduate-level training. 101 families had only one child living at home in the overall sample. 66.00% of European Canadian mothers and 51.40% of Chinese Canadian mothers had only one child living at home. The average income was \$62 271.00 for the overall sample, \$63 484.78 for the European Canadian group, and \$80 000.00 for the Chinese Canadian group. The demographic statistics are depicted in Table 4 in Appendix A.

Procedure

The primary researcher and one research assistant were present for all data collection sessions, which took place in either a laboratory space at York University, in the participants' homes, or at participating agencies. The researcher explained the study to interested participants and provided information about the consent process. Participants who provided informed consent to participate in the study were asked to complete a general survey to obtain demographic information (e.g., age of caregiver participant, child age, number of children, income and source of income, cultural group etc.). Following this, caregiver participants were asked to complete a battery of questionnaires that included the Parenting Sense of Competence scale and the Parent Cognition Scale. Lastly, the mother– child dyad participated in a videotaped interaction involving a teaching task, in which mothers were asked to teach a simple developmental task to their child which they had not yet mastered. Mothers were asked to review a list of tasks, such as grabbing a rattle, or pulling a car on a string, and to select a task that the child had not yet mastered. The mothers were asked to spend a maximum of five minutes teaching the task to the child. Reliable researchers then coded these interactions in order to obtain dyadic sensitivity

ratings, using the Nursing Child Assessment Teaching Scale: Parent–Child Interaction coding system (NCATS-PCI; Barnard, 1994). Upon completion of the study, participants received a gift certificate, parenting newsletter, and handout containing community-specific parenting resources.

Measures

Parent Cognition Scale (PCS; to assess parental attributions): The PCS was developed by Snarr, Slep, and Grande (2009) using parent attribution data that was recorded in a previous study (Slep & O’Leary, 1998). In the original study, items that were included were coded as “having a locus in the parent and being high on stability and globality, or having a locus in the child and being high on voluntariness, intent, and negativity of intent” (Snarr et al., 2009, p. 393). The PCS was validated with a sample of 453 couples of a larger study through random digit dialing. A two-factor model was utilized, including child responsible and parent causal, with 15 questions addressing each factor for a total of 30 items. For each factor, internal consistency was adequate for both mothers (child responsibility: $\alpha = 0.90$ and parent causal: $\alpha = 0.81$) and fathers (child responsibility: $\alpha = 0.88$ and parent causal: $\alpha = 0.85$). The internal reliability for child responsibility of the current sample is $\alpha = (0.61)$.

The PCS was developed to assess the degree of dysfunction in the types of parental attributional styles. The instructions for this measure posit that all children misbehave or engage in behaviour that is undesirable to parents and provides examples of such behaviours. In the instructions, the authors subsequently state that parents have different ways of thinking about these behaviours. Participating parents are instructed to rate the extent to which they agree with the given statements related to the reasons for misbehaviour observed in their children within the preceding two months. Items are rated on a six-point Likert-type response scale (1 = always true;

6 = never true). This measure yields a Child-Responsible subscore (which is endorsed from items such as "My child thinks that s/he is the boss") and a Parent-Causal subscore (which is endorsed from items such as "I'm not structured enough with my child").

Parenting Sense of Competence Scale (PSOC; to assess parents' perception of their own efficacy in parenting). The PSOC scale was originally designed over 37 years ago to assess parents' perceived level of competence associated with caregiving for an infant (Gibaud-Wallston 1977). The scale was then extended by Johnston & Mash (1989), and adapted for use with a more diverse population. Johnston and Mash's (1989) sample was made up of 297 mothers and 215 fathers of children ages four to nine.

The PSOC has two subscales, including the Satisfaction subscale that reflects parenting frustration, anxiety, and motivation, and the Efficacy subscale that measures capability, problem-solving ability, and competence. The measure consists of 16 items that are answered on a six-point Likert-type scale ranging from "Strongly Agree" to "Strongly Disagree". Higher scores on items indicate higher feelings of competence. The scale produces an overall score and scores for the two subscales: Satisfaction (endorsed by items such as ("Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age") and Efficacy (endorsed by items such as "Being a parent is manageable, and any problems are easily solved". With regard to internal consistency, Cronbach's alpha of .79 was reported for the overall score. An alpha value of .76 was found for the Efficacy factor and an alpha value of .75 was found for the Satisfaction factor. In this study, the PSOC will be used to measure parents' perceptions of their competence in relation to their role as a parent. The internal reliability for the Efficacy scale for the current sample is $\alpha = (0.75)$.

The Nursing Child Assessment Satellite Training - Parent Child Interaction scale- (NCAST- PCI; to assess quality of parenting in the form of maternal sensitivity). Caregiver sensitivity was assessed using the NCAST-PCI for coding the videotaped dyadic interactions (Barnard, 1994). This measure has been found to be valid and user-friendly measures of mother-infant interactions (Byrne & Keefe, 2003). It is correlated with measures of infants' cognitive abilities (Barnard, 1989), as well as later problem behaviour and quality of attachment (Sumner & Spietz 1994, p. 117). For this measure, the videotaped interactions are scored based on observations of a teaching session, with the rater completing a 73-item "yes" or "no" checklist to indicate whether or not certain behaviours are observed. The measure yields six subscale scores, a total caregiver score, a total child score, a combined caregiver/child total score. Four subscales assess the caregiver's behaviours, including their sensitivity to cues, response to the infant's' distress, socio-emotional growth fostering behaviour, and cognitive growth fostering behaviour. Scores in these four subscales are added to provide a total caregiver score. The Sensitivity to Cues scale assesses the mother's ability to recognize and respond to the infant's cues, and the maximum possible score for this scale is 16. The Response to Distress scale assesses the mother's ability to soothe or quiet a distressed child, and the maximum possible score for this scale is 11. The Social-Emotional Growth Fostering scale assesses the mother's affect and ability to communicate a positive feeling tone, and the maximum possible score for this scale is 14. The Cognitive Growth Fostering scale assesses the mother's ability to make learning experiences available to the infant. The maximum possible score for this scale is 9. Furthermore, two additional subscales assess the child's behaviour, including clarity of the child's cues, and responsiveness to the caregiver. For this study, only caregiver behaviours will be examined. Internal consistency reliability estimates (using Chronbach's Alpha) for the NCAST-PCI range

from .79 to .85 for infants between the ages of one and three months (Barnard, Hammond, Booth, & Bee, 1989). High scores on the caregiver dimensions of the NCAST-PCI indicate a high degree of maternal sensitivity. NCAST-PCI authors require researchers to be certified by obtaining a 90% reliability rating before being given permission to use the scales in research: the coders for the present sample were all certified and met those standards.

Chapter Four: Results

The Type I error rate of $\alpha = 0.05$ was used for all analyses, which were conducted in R (R Core Team, 2015) using the *psych* package (Revelle, 2016). Before performing regression analyses, linearity and normality assumptions were tested.

To answer *Research question 1*, the role of child-causal attributions was examined in the relationship between parental self-efficacy and maternal sensitivity. In our data analysis plan, descriptive statistics and bivariate correlations were computed. Multiple and simple linear regression analyses were conducted, statistically predicting maternal parenting variables (i.e., total caregiver score) to test the first hypothesis by including estimation of the main effects of, and the interaction between, parental self-efficacy and child-causal attributions.

Next, to address *Research question 2*, dummy coded variables were created to represent pairwise comparisons between mothers' cultural background and the reference group (i.e., European Canadian). Simple linear regression analyses were conducted to examine whether Chinese Canadian mothers differed from European Canadian mothers on level of reported parenting self-efficacy and in making child causal attributions.

Moreover, to address *Research question 3*, a simple linear regression analysis was conducted, statistically predicting child causal attributions to test the hypotheses by including the main effects of, and the interaction between interaction between cultural background and parental self-efficacy.

Lastly, to address *Research question 4*, a simple linear regression analysis was conducted, statistically predicting maternal sensitivity to test the hypotheses by including the main effects of, and the interaction between interaction between parental self-efficacy and mothers' cultural background.

Descriptive Statistics

Data analyses focused on three dependent variable (i.e., maternal sensitivity, child causal attributions, and parental self-efficacy), four predictor variables (i.e., child causal attributions, parental self-efficacy, cultural background, child age, and mother's age), and covariate variables (i.e., demographic variables, including maternal age, child age, child sex, and total income).

Outliers were examined using stem and leaf plots. A descriptive table is depicted in Table 1; it is important to note that the *N*s are uneven in each group.

Table 1. *Descriptive Statistics for Overall Sample: Continuous Variables.*

Continuous Variable	<i>N</i>	Mean (<i>SD</i>)	Skewness	Kurtosis
Maternal Sensitivity	120	38.18 (4.83)	- 0.65	0.32
Chinese	18	39.61 (2.97)	0.05	2.24
European	31	38.29 (4.83)	- 0.33	- 0.65
Parenting Self Efficacy	144	37.48 (5.61)	- 0.60	0.51
Chinese	24	33.50 (6.04)	- 0.91	0.60
European	47	38.60 (4.69)	< 0.01	- 0.69
Child Causal Attributions	140	24.23 (8.33)	0.42	0.31
Chinese	23	20.13 (14.17)	0.06	- 1.70
European	44	15.55 (10.70)	0.52	- 0.74
Mother's Age (in years)	172	29.66 (7.44)	- 0.26	- 0.96
Chinese	37	34.19 (4.74)	0.42	0.58
European	50	28.78 (7.69)	0.05	- 1.17
Child's Age (in mos.)	173	17.64 (12.21)	0.39	- 1.03
Chinese	37	22.66 (11.58)	- 0.18	- 0.75
European	50	19.44 (11.05)	0.31	- 0.85
Total Annual Income	153	62 271.00 (58 617.22)	1.89	6.30
Chinese	30	80 000.00 (75 726.37)	2.80	10.53
European	46	63 484.78 (53 755.06)	0.93	0.20

Table 2. *Descriptive Statistics for Overall Sample: Categorical Variables.*

Categorical Variable	<i>N</i>	Percent
Cultural Background		
Middle Eastern	4	2.29
Caribbean	21	12.00
Latin, central, & South American	30	17.14
African	2	1.14
South Asian	3	1.71
European	50	28.57
Chinese/Pacific Islander	37	21.14
Other	21	12.00
Child Sex		
Female	55	31.60
Male	62	35.63

For the overall sample, maternal sensitivity scores are centered on 38.18 (Mdn = 39.00) with standard deviation (SD) = 4.983 and scores ranging from 23.00 to 48.00. The boxplot and histogram indicate that the distribution is mostly normally distributed with a slight negative skew; the skewness and kurtosis are near zero (see Table 1). An examination of the boxplot indicates that there are no outliers.

The distribution of parenting self-efficacy is centered on 37.48 (Mdn = 38.00). The mean and SD are reported in Table 1. The boxplot and histogram indicate that the distribution is slightly negatively skewed. The skewness and kurtosis indices are near zero (see Table 1). The scores range from 18.00 and 48.00. the boxplot indicates that there are two outliers.

The distribution of child causal attributions is centered on 24.23 (Mdn = 23.00). The mean and standard deviation are listed in Table 1. An examination of the boxplot and histogram indicate the distribution is mostly normally distributed with a slight positive skew. Skewness and kurtosis indices (see Table 1) are close to zero. An examination of the boxplot indicates that there is one outlier.

Outliers were examined graphically and were not identified as being influential. Consequentially, multiple linear regression and logistic regression analyses were conducted to determine how well each of the predictor variables predicted parental self-efficacy, maternal sensitivity, and mothers' tendency to make child causal attributions when observing challenging child behaviours.

To determine which demographic variables would be included as covariates, and for exploratory purposes, correlations were determined prior to conducting regression analyses. If a demographic variable was significantly associated with a dependent variable, it was included in regression analyses for that dependent variable.

Unequal observations counts among predictor variables limited this study's inclusive sample size. Therefore, separate analyses were conducted for each predictor variable.

Correlations

Pearson product-moment correlations were calculated for each of the six continuous variables: maternal sensitivity, parenting self-efficacy, child-causal attributions, mother's age, child's age and total annual income. See Tables 3 for product-moment correlations.

Table 3. *Product-moment Correlations for Overall Sample: Continuous Variables.*

Continuous Variable	1	2	3	4	5	6
1. Maternal Sensitivity	---	---	---	---	---	---
2. Parenting Self Efficacy	< .01	---	---	---	---	---
3. Child Causal Attributions	0.03	- 0.15	---	---	---	---
4. Mother's Age	0.27**	- 0.22**	0.13	---	---	---
5. Child's Age (in mos.)	0.26**	- 0.11	0.19	0.30**	---	---
6. Total Annual Income	0.24*	- 0.16	0.02	0.50**	0.05	---

Note: n 's for correlations range from 65 – 171; * $p < .05$; ** $p < .01$

Notably, positive correlations were found between mothers' age and maternal sensitivity, ($r = .27, p = < .01$), and child's age and maternal sensitivity ($r = 0.26, p = < .01$). Moreover, there was a negative correlation between mother's age and parenting self-efficacy, $r = - 0.22, p = < .01$. Correlations for the Chinese Canadian mothers and European Canadian mothers can be found in Table 5 and Table 6 in Appendix A.

Simple and Multiple Linear Regressions

Assumptions. Assumption of normality, homogeneity of variance, and linearity were addressed using descriptive statistics and graphs. Residual distributions approximated normality for all variables. Examination of predicted-by-residual values scatterplots indicated homogeneity of variance and a lack of non-linear relationships that would be inadequately described by linear regressions.

Research Question 1 Analyses

Regression analyses were conducted to determine how parental self-efficacy and child causal attributions predicted maternal sensitivity as assessed by the NCAST-PCI. The hypotheses related to this question were not supported; child causal attributions did not moderate the relationship between parental self-efficacy and maternal sensitivity for the overall sample.

Maternal sensitivity, child causal attributions and parental self-efficacy. Regression analyses were conducted to determine how parental self-efficacy and child causal attributions predicted maternal sensitivity as measured as assessed by the NCAST-PCI.

A regression model including parental self-efficacy, child causal attributions, and covariates (i.e., total annual family income, child age, child sex and mother's age) did not explain a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.04$, $F(7, 87) = 1.50$, $p = 0.18$. The estimated partial regression slope for parental efficacy is $\hat{B} = 0.07$, which is not significant, $t(87) = 0.72$, $p = .47$. The estimated partial regression slope for child causal attributions is $\hat{B} = -0.03$, which is not significant, $t(87) = -0.43$, $p = .67$. The estimated partial regression slope for mother's age is $\hat{B} = 0.14$, which is not significant, $t(87) = 1.75$, $p = .08$. The estimated partial regression slope for child's age is $\hat{B} = 0.04$, which is not significant, $t(87) = 0.85$, $p = .40$. The estimated partial regression slope for female children is $\hat{B} = 4.02$, which is not

significant, $t(87) = 0.81, p = .42$. The estimated partial regression slope for male children is $\hat{B} = 3.97$, which is not significant, $t(87) = 0.80, p = .43$. When an interaction between parental self-efficacy and child causal attributions was added to the regression model, the model did not explain a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.05, F(8, 86) = 1.56, p = 0.15$.

In a subsequent model, child sex and total annual income were removed from the analyses. This regression model including parental self-efficacy, child causal attributions, child's age and mother's age explained a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.07, F(5, 102) = 2.68, p = .03$. The estimated partial regression slope for parental efficacy is $\hat{B} = 0.43$, which is not significant, $t(102) = 1.73, p = .09$. The estimated partial regression slope for child causal attributions is $\hat{B} = 0.52$, which is not significant, $t(102) = 1.53, p = 0.13$. The estimated simple regression slope for mother's age is $\hat{B} = 0.14$, which is significant, $t(102) = 2.23, p < .05$. Each additional one-point difference on the mother's age predicts a 0.14 higher score on maternal sensitivity, holding parental self-efficacy, child causal attributions, and the child's age constant. The estimated simple regression slope for child's age is $\hat{B} = 0.07$, which is approaching significance, but is not significant, $t(102) = 1.76, p = 0.08$. Each additional one-point difference on the mother's age predicts a 0.07 higher score on maternal sensitivity, holding parental self-efficacy, child causal attributions, and the mother's age constant.

Research Question 2 Analyses

Dummy variables were created to represent pairwise comparisons between mother's cultural background and the reference group (i.e., European Canadian mothers). It was hypothesized that compared to European Canadian mothers, Chinese Canadian mothers would make significantly fewer child causal attributions and report significantly lower self-efficacy.

Chinese Canadian mothers made more child-causal attributions for misbehaviour, compared to European Canadian mothers. However, Chinese Canadian mothers scored less on parental self-efficacy, compared to European mothers, consistent with our hypothesis.

Cultural background and parental self-efficacy. A regression model including mother's cultural background (i.e., Chinese Canadian mothers compared to European mothers) explained a significant proportion of variance in reported parental self-efficacy, $R^2 = 0.17$, $F(1, 69) = 15.36$, $p < .01$. The estimated simple regression slope for the Chinese group is $\hat{B} = -5.10$, indicating that the slope estimate comparison of Chinese Canadian mothers and European Canadian mothers is significant; Chinese Canadian mothers score 5.10 points less on parental self-efficacy, compared to European Canadian mothers.

Cultural background and child causal attributions. A regression model including mother's cultural background (i.e., Chinese Canadian mothers compared to European mothers) explained a significant proportion of variance in reported child causal attributions, $R^2 = 0.10$, $F(1, 66) = 8.24$, $p < .01$. The estimated simple regression slope for the Chinese group is $\hat{B} = 5.88$, indicating that the slope estimate comparison of Chinese mothers and European mothers is significant; Chinese mothers score 5.88 points more on child causal attributions, compared to European mothers.

Research Question 3 Analyses

The hypotheses related to this question were supported; cultural background was found to moderate the relationship between parental self-efficacy and child causal attributions.

A regression model including child causal attributions, mother's cultural background (i.e., Chinese mothers compared to European mothers), and an interaction between child causal attributions and maternal cultural background explained a significant proportion of variance in

reported parental self-efficacy, $R^2 = 0.29$, $F(3, 64) = 10.00$, $p < .01$. The estimated simple regression slope for the child causal attributions is $\hat{B} = -0.07$, which is not significant, $t(64) = -0.82$, $p = 0.41$. The estimated simple regression slope for the maternal cultural background is $\hat{B} = 6.08$, $t(64) = 1.36$, $p = .18$, indicating that the slope estimate comparison of Chinese mothers and European mothers on parental self-efficacy is not significant. The estimated simple regression slope for the interaction between cultural background and child causal attributions is $\hat{B} = -0.36$, which is significant, $t(64) = -2.34$, $p < .05$, which is significant. This indicates that the nature of the interaction is such that the relationship between child causal attributions and parental self-efficacy is stronger for the Chinese Canadian group compared to the European Canadian group.

Research Question 4 Analyses

The hypotheses were not supported by the analyses. Cultural background was not found to moderate the relationship between parental self-efficacy and maternal sensitivity.

A regression model including parental self-efficacy and mother's cultural background (i.e., Chinese mothers compared to European mothers) did not explain a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.03$, $F(3, 45) = 0.53$, $p = .67$. The estimated simple regression slope for the Chinese Canadian mothers group compared to the European Canadian mothers group is $\hat{B} = -3.77$, which is not significant, $t(45) = -0.39$, $p = 0.70$. The estimated partial regression slope for parental self-efficacy was $\hat{B} = -0.12$, which is not significant, $t(45) = -0.72$, $p = 0.48$. The estimated partial regression slope for the interaction between cultural background and parental self-efficacy was $\hat{B} = 0.13$, which is not significant, $t(45) = 0.50$, $p = 0.62$.

Exploratory Analyses.

Maternal sensitivity and child's age. A regression model including child's age explained a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.06$, $F(1, 118) = 8.53$, $p < .01$. The estimated partial regression slope for child's age was $\hat{B} = 0.67$, which is significant, $t(118) = 2.92$, $p < .01$. Each additional one-point difference on the child's age predicts a 0.67 higher score on maternal sensitivity.

For Chinese Canadian mothers, a regression model including child's age explained a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.22$, $F(1, 16) = 5.78$, $p = .03$. The estimated partial regression slope for child's age was $\hat{B} = 2.09$, which is significant, $t(16) = 2.40$, $p = .03$. Each additional one-point difference on the child's age predicts a 2.09 higher score on maternal sensitivity.

For European Canadian mothers, a regression model including child's age did not explain a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.03$, $F(1, 29) = 1.79$, $p = .19$. The estimated partial regression slope for child age was $\hat{B} = 0.59$, which is not significant, $t(29) = 1.34$, $p = .19$.

Maternal sensitivity and mother's age. A regression model including mother's age explained a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.07$, $F(1, 118) = 9.65$, $p < .01$. The estimated partial regression slope for mother's age was $\hat{B} = 0.18$, which is significant, $t(118) = 3.11$, $p < .01$. Each additional one-point difference on the mother's age predicts a 0.18 higher score on maternal sensitivity.

For Chinese Canadian mothers, a regression model including mother's age did not explain a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.02$, $F(1, 16) = 1.39$, p

= .26. The estimated partial regression slope for mother's age was $\hat{B} = -0.40$, which is not significant, $t(16) = -1.18, p = .26$.

For European Canadian mothers, a regression model including mother's age did not explain a significant proportion of variance in observed maternal sensitivity, $R^2 = 0.09, F(1, 29) = 3.87, p = .06$, notably approaching significance. The estimated partial regression slope for mother's age was $\hat{B} = 0.45$, which is not significant but approaching significance, $t(29) = 1.97, p = .06$. This indicates that each additional one-point difference on the mother's age for the European Canadian mothers group predicts a 0.45 higher score on maternal sensitivity

Parental self-efficacy and mother's age. A regression model including mother's age explained a significant proportion of variance in reported parental self-efficacy, $R^2 = 0.04, F(1, 141) = 7.20, p < .01$. The estimated partial regression slope for mother's age was $\hat{B} = -0.16$, which is significant, $t(141) = -2.68, p < .01$. Each additional one-point difference on the mother's age predicts a 0.16 lower score on parental self-efficacy.

For the Chinese Canadian mothers, a regression model including mother's age did not explain a significant proportion of variance in reported parental self-efficacy, $R^2 = 0.02, F(1, 22) = 0.54, p = .47$. The estimated partial regression slope for mother's age was $\hat{B} = 0.13$, which is not significant, $t(22) = 0.73, p = .47$.

For the European Canadian mothers, a regression model including mother's age explained a significant proportion of variance in reported parental self-efficacy, $R^2 = 0.09, F(1, 45) = 5.36, p = .03$. The estimated partial regression slope for mother's age was $\hat{B} = -0.54$, which is significant, $t(45) = -2.32, p = .03$. Each additional one-point difference on the mother's age for European Canadian mothers predicts a 0.54 lower score on parental self-efficacy.

Chapter Five: Discussion and Recommendations for Future Research

Discussion

In this study, regression analyses did not determine a moderation effect of child causal attributions on the relationship between parental self-efficacy and maternal sensitivity for the diverse sample. In the subsample of Chinese and European Canadian mothers, cultural differences were observed between the two groups. Firstly, Chinese Canadian mothers scored lower on reported parental self-efficacy compared to European Canadian mothers. Moreover, Chinese Canadian mothers scored higher on child causal attributions, compared to European Canadian mothers. Next, an interaction was observed between cultural background and child causal attributions, such that the relationship between child causal attributions and parental self-efficacy was stronger for the Chinese Canadian group compared to the European Canadian group. However, cultural background was not found to moderate the relationship between parental self-efficacy and maternal sensitivity.

Exploratory analyses indicated that maternal and child age, and cultural background may also play a role in parenting behaviours. Firstly, increasing child age was found to predict higher maternal sensitivity for the diverse sample and the Chinese Canadian sample. Similarly, increasing maternal age was found to predict a higher score on maternal sensitivity for the diverse sample. However, while this was also observed in the European Canadian sample, maternal age was not found to be predictive of maternal sensitivity for the Chinese Canadian sample. Lastly, increasing maternal age was also found to be predictive of higher parental self-efficacy for the diverse sample and the European Canadian sample, but not for the Chinese Canadian group.

Inconsistent with the study's hypotheses, maternal sensitivity was not found to be significantly associated with parental self-efficacy or child causal attributions. Notably, little variability was observed for maternal sensitivity, with no values observed below 23.00. The Caregiver Total scores ranged from 23.00 to 48.00 ($M = 38.18$, $SD = 4.83$). On the NCAST-PCI Caregiver Total scale, scores can range from one to 50. Furthermore, the results did not indicate a significant interaction between parental self-efficacy and child causal attributions.

Surprisingly, in this study, maternal sensitivity was significantly correlated with child's age. A simple linear regression indicated that with increasing infant age (in months), maternal sensitivity increases. This finding is consistent with some of the extant literature, which indicates that maternal sensitivity is related to the age of the child. Kempainen, Kumpulainen, Raita-Hasu, Moilanen, & Ebeling (2006) reported moderate stability in maternal sensitivity in their sample over a two-year span, and across different contexts—at the child psychiatry out-patient department and at home. This is consistent with the de Wolff and van Ijzendoorn's (1997) suggestion that maternal sensitivity is moderately stable when assessed at different ages. Similarly, a study by Lu (2009) found that maternal sensitivity does not differ for mothers with younger children compared to older children. That author purported that the characteristics of their sample (homogeneous, middle class) may have influenced these findings. The inconsistency between our findings and the existing literature may be due to methodological design; given that many of these studies are longitudinal studies, unlike the current study. Moreover, in support of our findings, Lu (2009) described that the way mothers respond to children's signals, the extent to which they participate in play with their child, and their expectations of their child's capabilities could change over time. These findings are supported by Lohaus and colleagues (2004) who found that maternal sensitivity changes from three to 12

months, and suggested that this may be due to the underlying expectations mothers that may have, that change with the child's age.

It is possible that these findings may be due to the particular ages examined in our sample. Although children's ages ranged from one month to 46 months ($M = 17.64$, $SD = 12.21$), consistent with previous research, a slight positive skew (see Table 1.) was observed, indicating that many values belonged to the lower end of the age group. The findings in this study could indicate differences in the level of maternal sensitivity towards younger children compared to older children is due to increasing familiarity with the child's behaviours and needs. Our findings indicate a positive linear relationship between child's age and maternal sensitivity, indicating that mothers are more sensitive to older children compared to younger children.

Surprisingly, the current study found this relationship be significant for the Chinese Canadian group, but not the European Canadian group. Honig & Chung (1989) posit that parenting practices may differ across different child ages in various cultures. While inconsistent with our findings, they found that Korean mothers showed more sensitivity and tolerance for misbehaviour of one-year-old children compared to three-year old children. This demonstrates the importance of examining the role of culture in the relationship between parenting sensitivity and child age. agree

Maternal age was also significantly correlated with maternal sensitivity in initial analyses of the larger sample in our study. Findings from a simple linear regression indicated that with increasing maternal age, maternal sensitivity also increased (in the larger sample). This is inconsistent with many recent findings in the literature. McCullough, Han, Morelen, & Shaffer, (2017) found that maternal age was not associated with emotionally unsupportive parenting behaviours when there was a low level of reported childhood emotional maltreatment. That

study's findings indicated maternal age is not a risk factors for less sensitive parenting behaviours when mothers have a healthy emotional childhood environment. It is notable that the current study included a more diverse sample compared to the study by McCullough et al. (i.e., African American [8.3%], White non-Hispanic [46.7%], Hispanic [1.7%], and multiracial [3.3%]), which may influence the inconsistency in findings between the two studies.

While some studies have found no relationship between maternal age and parenting behaviours, the findings are mixed. Several studies report that young mothers demonstrate less responsive, supportive, sensitive, and verbal and detached and intrusive interactive behaviours compared to older mothers (Berlin, Brady-Smith, & Brooks-Gunn, 2002; McFadden & Tamis-Lemonda, 2013). Florsheim et. al (2003) suggests that younger mothers may face unique parenting challenges, compared to older mothers, including the combination of parenting stress with the challenges of young adulthood. Moreover, they are at a higher risk for less sensitive parenting (e.g., having unrealistic developmental expectations for infants, etc.). The risk factors for less sensitive parenting include economically disadvantaged home environments and limited support from parents, peers, and partners. Other consequences of early parenthood for young mothers include being likely to contend with issues such as school failure, poverty, limited job skills, and subsequent births during teenage years (Sangalang & Rounds, 2005).

Knowledge and cognitive maturity may also play a role in parenting behaviours. Huang, Caughy, Genevro, & Miller (2005) suggested that maternal knowledge and expectations about children's developmental competencies influence the quality of mother-child interactions. Mothers who have a more accurate assessment of infants' developmental milestones are more likely to engage in appropriate storytelling, talk and play with their babies. Moreover, a certain level of maturity is necessary to enforce consistent and appropriate boundaries (Saunders et al.,

2012). Research indicates that older mothers tend to have better self-regulatory and control skills, which strengthens their ability to engage in appropriate discipline and limit setting with their infants (Bornstein & Putnick, 2007; Rose, 2014; Sommer et al., 1993).

While some previous research indicates that higher parental self-efficacy is associated with more sensitive caregiving behaviours, others suggest that cultural background may play a role in moderating this relationship. The current study examined the role of cultural background for Canadian Chinese mothers and Canadian-European mothers when it came to parenting self-efficacy and maternal sensitivity. With European mothers, it was expected that high self-efficacy would be related to high maternal sensitivity. In contrast, it was hypothesized that for Chinese Canadian mothers, high self-efficacy may not be related to higher maternal sensitivity.

Inconsistent with the study's hypotheses, no significant differences nor interaction were observed between cultural groups (i.e., Chinese Canadian mothers VS European Canadian mothers) with regard to the impact of parental self-efficacy on observed maternal sensitivity. Similarly, Chan (2015) observed no overall differences in maternal sensitivity or responsiveness across groups, including Chinese and European mothers. Infant-related factors (e.g., temperament) when studying sensitivity in various contexts may also be an important consideration for future research (Leerkes & Zhou, 2018; Verhage et al, 2016).

Overall, there appear to be limited and mixed findings in the literature related to the influence of cultural background on parenting behaviours. Some studies indicate that Chinese and immigrant Chinese caregivers tend to control their children more often and show less affection towards their children, use physical discipline more often, compared to European American caregivers (Kelly & Tseng, 1992; Lin & Fu, 1990; Ng, Pomerantz, & Deng, 2014). For example, a study by Wu Robinson, Yang, and Hart (2002) found that mothers living in the

United States scored higher on warmth and acceptance than mothers living in China. In contrast, Chinese mothers scores higher on protection, directiveness, encouragement of modest, and shaming/love withdrawal, compared to American mothers. However, Lieber et al. (2006) also found that authoritative parenting (i.e., praising the child, respecting the child's feelings, giving the child attention and respect, and encouraging open expression of opinions and feelings) is a part of caregiving in the Chinese culture, suggesting that, while Chinese caregivers emphasize obedience and authority to a greater extent than European caregivers, they can also care for their children in a sensitive and responsive manner (Xu et al., 2005).

The current study also found that compared to Canadian European mothers, Canadian Chinese mothers reported feeling less efficacious in their parenting capabilities. Consistent with this hypothesis, research has identified that Chinese evaluate themselves less positively, show less evidence of self-enhancing bias, and are more affected by failure when conducting self-evaluations compared to North Americans (Cross, Liao & Josephs, 1992; Heine, 2001; Kitayama, Markus, & Kurokawa, 2000; Yik, Bond, & Paulhus, 1998). These views reflect the cultural differences in the value of self and other, such that North Americans place greater emphasis on self-esteem, while East Asian cultures focus on perceptions of others, or "maintaining face" (Heine, 2001). Given that research has yet to determine the relationship between cultural differences in self-perception and objective behaviour or well-being, it would be useful for future studies to incorporate both self-report and observational methods of assessing sensitivity and to compare these findings across cultural groups.

Furthermore, the current study indicates that older mothers report lower parenting sense of self-efficacy. This is consistent with a finding by Luster & Rhoades (1989) that younger (i.e., adolescent) mothers differed from mature or older mothers on reported parental self-efficacy in

that they were more likely to view themselves as being competent caregivers than older parents, despite demonstrated lower parenting sensitivity. Similarly, many studies that have evaluated parent age as a linear variable have reported a positive relationship (Conrad, Gross, Fogg, & Ruchala, 1992; Froman & Owen, 1990), some studies have reported a negative relationship (Coleman & Karraker, 2003; Leerkes & Burney, 2007; Walls & Fletcher, 2009), and many studies have reported no relationship (Coleman & Karraker, 2000; Hess et al., 2004; Leerkes & Crockenberg, 2002; Ontai et al., 2008; Porter & Hsu, 2003; Salonen et al. 98 2009; Sevigny & Loutzenhiser, 2009). More recently, Altshuler (2014) found that parental self-efficacy was highest around age 45 and lower earlier and later in life, indicating that a curvilinear relationship may be more appropriate for explaining the relationship between parental self-efficacy and parent age.

Moreover, in the current study, Canadian Chinese mothers made more child causal attributions about their infants challenging behaviour compared to Canadian European mothers. This finding is surprising given that researchers have previously reported that European-North American mothers were more likely to attribute the causes of challenging child behaviours to child internal states such as temperament, age, or mood, rather than to external circumstances (Mills & Rubin, 1990; Rubin & Mills, 1992). Given these findings, it was interesting to note that Canadian Chinese mothers made more child-causal attributions for challenging child behaviour than European mothers. It is important to note that few studies have been done on attributions that Asian parents make about challenging child behaviours.

It may be important to differentiate, in queries of parental attributions, between withdrawn and aggressive child behaviours in the future. With regard to that, Cheah and Rubin (2004) found that Mainland Chinese mothers were more likely to cite external causes for withdrawal, than the

European American mothers. Ho (1986) supports this idea regarding the focus on external influences on child personality among the Chinese (Ho, 1986). Individuals from more interdependent cultures are also more likely to explain another's behaviour in terms of the situational forces impinging on the person rather than internal predispositions. This bias towards external attributions was not found for aggressive behaviours in the present study however. The results of the current study supported previous findings (e.g., Nucci & Smetana, 1996; Nucci & Webber, 1995) in which mothers place responsibility on the child for misbehaviour, compared to external influences. In the study by Cheah and Rubin (2004), European American and Chinese mothers both suggested the use of threats, the forcing of appropriate behaviours, and punishment strategies more often in response to aggressive acts, as compared to withdrawn behaviours among preschoolers, when making child causal attributions about misbehaviour. Given the influence parental cognitions may have on parenting behaviours, it is imperative to further explore them. Unfortunately, because shy/restrained, socially withdrawn, or aggressive behaviours were not simultaneously presented in the present study, we cannot address this possible distinction directly. However, this would be an important direction for future research.

Moreover, consistent with the study's hypotheses, a significant interaction was observed between cultural background (i.e., European Canadian and Chinese Canadian) and child causal attributions in the relationship with parental self-efficacy. This is consistent with previous research that has found greater parenting self-efficacy to be associated with more consistent, confident, and effective parenting responses to difficult child behaviour (Morrissey-Kane & Prinz, 1999; Ohan, Leung, & Johnston, 2000). Parents who report a low sense of parenting efficacy may view their child's problems as being internal to the child (i.e., stable, unchangeable, and outside parental influence; Bornstein & Bradley, 2003; Johnston & Mash, 1989; Johnston &

Patenaude, 1994; Murphy, 2015). When faced with challenging child behaviour, these parents may feel powerless and take a pessimistic and dispirited approach to intervening, and be more likely to adopt a more authoritarian parenting style, or respond in negative and harmful ways (Bugental, Blue, & Cruzcosa, 1989; Bugental & Shennum, 1984; Johnston & Mash, 1989).

However, in the current study the relationship between child causal attributions and parental self-efficacy was found to be stronger for Chinese Canadian mothers compared to European Canadian mothers. This may be related to Heine's (2011) finding that Chinese cultures tend to focus on the perception of others. In other words, these parents may place greater responsibility on themselves for outwardly challenging child behaviour,s and thus feel less efficacious when these behaviours occur. Future studies should examine the relationship between child causal attributions, parenting self-efficacy and parent-responsible attributions.

Moreover, research indicates that the relationship between self-efficacy and causal attributions may be a reciprocal one (Bandura, 1986; 1977; Stajkovic, & Sommer, 2000). In view of this finding, future studies may need to observe these variables over time in order to examine this relationship. Donovan and colleagues (1990) found that perception and control might play a role in caregivers' feelings of efficacy and parent cognitions. They suggested that the more illusory control that a parent perceives, the more he or she is likely to experience feelings of failure or low efficacy due to child misbehaviour. Thus, Clark (2008) suggests that illusory control is an important factor that influences the relationship between parental self-efficacy and parent cognitions and may need to be considered for future studies.

Last, as suggested by Chan (2015) careful consideration of the potentially confounding impact of socio-political factors as they affect immigrant populations are warranted, given the recent and expanding interest in Chinese parenting practices. These likely play an important role

in the parenting beliefs, behaviours, and practices of Chinese parents and should be considered in future research.

Overall, the findings in this study indicate that several factors may influence parenting behaviours, beliefs and cognitions. More specifically, maternal age and child age were related to how sensitively mothers responded to their infants in this current study. Culture also appears to be associated with how efficacious mothers feel about their parenting skills, as well as how likely they are to make child causal attributions. Despite the noteworthy findings, future studies will need to consider other factors and methodological designs to address the limitations to this study.

Limitations and Future Directions

This current study has many limitations. Firstly, these results do not provide information about the direction of the relationship between variables. As such, it would be useful for future studies to use a longitudinal design, and to conduct more complex analyses, such as structural equation modeling and path analyses in order to further examine potential causality, prediction and other complex relationships between these variables. More specifically, relationships between parent cultural background, parental self-efficacy, child causal attributions, child age, maternal age, and maternal sensitivity will need to be further explored.

Another limitation of this study is that we did not control for certain participant characteristics and experiences. Due to missing data (i.e., incomplete demographic data, maternal sensitivity data and parental self-efficacy and parent cognition data) regression analyses did not include covariates such as number of years in Canada, SES, etc., though they should be considered in future research. Future studies should also control for child temperament and maternal mental health, as these have been identified as having an influence on parenting behaviours (Bates, Schermerhorn, & Petersen, 2012; Belsky & Jaffee, 2006; Broom, 1994;

Demers et al., 2010a; McMahon & Meins, 2012; Meins et al., 2011; Rosenblum et al., 2008). It may also be useful to consider mothers' childhood trauma histories and current emotion regulation abilities in the context of future research. Consistent with social learning theory (Conger et al., 2003) and emotion socialization literature, mothers who experienced abuse as children likely developed ineffective ways of regulating their emotions (Gratz et al., 2007), which puts them at risk for emotionally maltreating their own child (McCullough et al., 2017).

It is also important to note that the range of sensitivity scores was low in this current study and may have impacted the significance of the analyses. This may be due to the fact that the NCAST-PCI may not be a good fit for measuring the maternal sensitivity construct for this particular study. Literature suggests that the NCAST-PCI may not be as good an indicator of maternal sensitivity, as previously thought (Bohr, Putnik, Lee, & Bornstein, 2018). A study by Lee (2016) indicates that the Caregiver Total scale may not be predictive of Ainsworth sensitivity, over and above mothers' age and SES. Furthermore, it may be useful to select tools that allow researchers to code maternal behaviours as well as infant responsiveness across time. More recent research indicates that observing mother and child interactions across time gives better insight into attachment group membership and overall parenting behaviours (Cerezo, Pons-Salvador, Trenado, & Sierra-Garcia, 2019).

Future studies should consider developing methodology that accurately captures the identification of parents to cultural groups (e.g., Chinese Canadian and European Canadian), as well as to the type of cultures (i.e., collectivist and individualistic). Researchers should consider conducting interdisciplinary (e.g., political, historical, social, etc.) mixed-method studies that incorporate focus groups to obtain qualitative data about people's identification to various cultural backgrounds.

Cultural differences among groups should be taken into consideration. For example, cultural norms of one area of China may differ from another, and thus, it would also be useful for future research to either focus exclusively on one region/population within Asia, or to compare maternal sensitivity and child outcomes among different sub-groups of Chinese immigrant families. Though Chinese societies such as mainland China, Taiwan, and Hong Kong share the long-standing tradition of Chinese culture, they vary greatly in their current, political, social, and economic conditions and research comparing these groups has identified several differences in the caregiving styles of parents in each society. For example, a study conducted by Bendt, Cheung, Sing Lau, & Lew (1993) found that Hong Kong adults perceived their parents as less warm and more controlling than adults from Taiwan or mainland China. Moreover, future studies should give attention to the diversity of cultures in Europe and consider the influence of the varying collectivist and individualistic norms and values from these areas on parenting behaviours.

Overall, the disparity of findings between groups may be attributed to the differences in cultural norms (i.e., collectivist norms versus individualistic norms; Heng et al., 2018). For example, caregivers from individualistic cultures, which place an emphasis upon independence, individuality, and pursuit of self-interest, have been found to adopt distal aspects of parenting such as face-to-face contact and object directed play (Ispa et al., 2009; Keller, 2007). In contrast, parents from collectivist cultures, which places an emphasis on interdependence, tend to demand greater compliance and engage in proximal aspects of parenting such as physical contact and stimulation with their children. It may also be useful to compare groups based on the number of years lived in Canada would to determine whether acculturative influences on maternal sensitivity vary according to age at immigration or the number of years spent in the host culture.

For example, a research study with Chinese immigrants in Vancouver, Canada, suggests that a longer duration of exposure to a certain culture is associated with greater identification with mainstream culture, but only at younger ages of immigration, and not at later ages of immigration (i.e., there is evidence for a sensitive period for acculturation; Cheung, Chudek, & Heine, 2011). Thus, acculturative influences should be considered in future studies.

Closing Statement

In spite of these limitations, we believe the present study has meaningful empirical and applied implications. This study has several suggestions for clinical practice, and for the delivery of culturally sensitive mental health services. This research contributes to the literature on maternal sensitivity by identifying the relevance of examining child and maternal age in the context of parenting behaviours. More specifically, this study suggests that child age is an important factor for clinicians to consider in their work with families. This study also indicates that maternal age may be a factor that influences the quality of parenting behaviours. The current study identified that it is imperative for researchers and clinicians to consider cultural differences when conducting studies in parenting behaviours or providing assessment and interventions to families from diverse backgrounds. For example, the study found significant differences in parent cognitions between Canadian European and Canadian Chinese mothers. Parental self-efficacy also differed by cultural group in this study. However, a number of questions about the nature of the relationship between maternal sensitivity, parental self-efficacy and child parent cognitions remain unanswered. Future studies should consider addressing these gaps to gain a more aggregated understanding of parenting behaviours cross-culturally.

These limitations notwithstanding, the present study represents a significant step towards furthering our understanding of maternal sensitivity and its relationship to maternal

characteristics like age, and on how cultural norms and conventions may reflect on the perceptions of child behaviour and the evaluations of one's own parenting capabilities.

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Appendix A: Tables

Table 4. Demographics

Variables	European Canadian Mothers		Chinese Canadian Mothers		Overall Sample	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Number of Children in the household						
1	33	66.00	19	51.40	101	57.71
2	14	28.00	14	37.80	48	27.43
3	2	4.00	3	8.10	10	5.71
4 or more	1	2.00	0	0	10	5.71
<i>Missing data</i>	0	0.00	1	2.70	6	3.43
Number of Adults in the household						
1	10	20.00	0	0.00	19	10.86
2	32	64.00	10	27.03	95	54.29
3	2	4.00	11	29.73	19	10.86
4 or more	6	12.00	16	43.24	37	21.14
<i>Missing data</i>	0	0.00	0	0.00	5	2.86
Number of Years in Canada						
< 5 years	2	25.00	5	13.51	15	8.57
5 – 10 years	1	12.50	15	40.54	36	20.57
11 – 15 years	2	25.00	8	21.62	16	9.14
16 - 20 years	2	25.00	5	13.51	13	7.43

> 20 years	1	12.50	2	5.40	10	5.71
<i>Missing data</i>	42	84.00	2	5.40	82	46.86
Level of Education						
Some Highschool	9	18.00	2	5.40	52	29.71
Highschool	7	14.00	3	8.10	19	10.86
College/University	21	32.00	23	62.20	64	36.57
Graduate	12	24.00	9	24.30	36	20.57
<i>Missing data</i>	1	2.00	0	0.00	4	2.29

Table 5. *Product-moment Correlations for European Canadian mothers: Continuous Variables.*

Continuous Variable	1	2	3	4	5	6
1. Maternal Sensitivity	---	---	---	---	---	---
2. Parenting Self Efficacy	- 0.12	---	---	---	---	---
3. Child Causal Attributions	0.25	0.06	---	---	---	---
4. Mother's Age	0.34	- 0.33*	- 0.07	---	---	---
5. Child's Age (in mos.)	0.24	- 0.35	- 0.08	0.41**	---	---
6. Total Annual Income	0.43*	0.30	0.27	0.68**	0.19	---

Note: *n*'s for correlations range from 24 – 50; * $p < .05$; ** $p < .01$

Table 6. *Product-moment Correlations for Chinese Canadian mothers: Continuous Variables.*

Continuous Variable	1	2	3	4	5	6
1. Maternal Sensitivity	---	---	---	---	---	---
2. Parenting Self Efficacy	0.01	---	---	---	---	---
3. Child Causal Attributions	0.10	- 0.18	---	---	---	---
4. Mother's Age	- 0.28	- 0.15	- 0.10	---	---	---
5. Child's Age (in mos.)	0.52*	< 0.01	0.33	0.07	---	---
6. Total Annual Income	- 0.14	0.28	0.13	- 0.02	- 0.25	---

Note: *n*'s for correlations range from 14 – 37; * $p < .05$; ** $p < .01$