

Exploring the Associations between Child Temperament, Parenting Behaviours and Styles, and  
Early Childhood Social-Emotional and Behavioural Development

by

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## Abstract

This dissertation contains three studies that contribute to the existing research by exploring the associations between child temperament, parenting, and early childhood social-emotional and behavioural development. The first study explores associations between child temperament, mothers' and fathers' observed parenting behaviours, and child anxiety problems in early childhood. The second study examines children's temperament and mothers' and fathers' parenting styles as predictors of early childhood anxiety problems. Lastly, the third study explores similarities and differences between parenting styles of Asian-Canadian and European-Canadian heritage parents, including the relationship between parenting styles and early childhood externalizing and internalizing problems. The results of these studies indicate that: 1) associations between observed parenting behaviours and children's anxiety problems differ between mothers and fathers; 2) higher levels of a negative affectivity temperament significantly predicts child anxiety problems, and parenting style moderating effects differ between mothers and fathers; and 3) there are more similarities than differences between parenting styles reported by Asian-Canadian and European-Canadian heritage parents, and an authoritative parenting style predicts lower levels of both externalizing problems and internalizing problems for European-Canadian and Asian-Canadian heritage children. These results support examining temperament as a risk factor for the development of anxiety problems in early childhood, as well as the importance of including both mothers and fathers in research focused on early childhood social-emotional and behavioural problems in young children.

## Preface

This research is an original work by Meghan Walker. Ethics approval for the project was received from the University of Alberta Ethics Board, Project Name: “Investigating temperament, parenting, and anxiety problems in early childhood” (Study ID Pro00088343; Date: March 5, 2019).

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## **Introduction**

Researchers have become increasingly interested in studying the risk and protective factors related to the development of social-emotional and behavioural disorders in children. Individual child factors and environmental factors, such as parenting, have been associated with the development of social-emotional and behavioural problems in children (Winter & Bievenu, 2011; Lewis-Morrarty et al., 2015; Möller et al., 2016). Certain temperamental traits have been identified as possible individual child risk factors for the development of social-emotional and behavioural problems (Higa-McMillan et al., 2014; Rothbart & Bates, 2006). Children's development is also shaped by their experiences and interactions with their parents and caregivers, and certain parenting behaviours and parenting styles may help to protect children against the development of social-emotional and behavioural problems. Identifying children who are the most at-risk in early childhood will hopefully help children to gain access to early intervention services and prevent long lasting maladaptive functioning. Furthermore, understanding which parenting behaviours and styles act as protective factors for children at-risk for social-emotional and behavioral problems will inform early intervention services for parents of preschoolers.

This dissertation aims to add to the current literature on child temperament, parenting factors, and children's social-emotional and behavioural functioning in early childhood. The first and second study in this dissertation focus on early childhood anxiety problems, while the third study examines early childhood internalizing and externalizing problems more broadly. The following introduction includes a brief discussion of the developmental psychopathology model, as well as child temperament, parenting behaviours, and parenting styles.

### **Developmental Psychopathology**

The developmental psychopathology model emphasizes the role of developmental processes, environmental contexts, and the influence of multiple interacting events and processes that shape children's adaptive and maladaptive development (Cicchetti, 2020; Hayden & Mash, 2014). Proponents of the developmental psychopathology model postulate that development is influenced by parents through both the transmission of their genes and providing a context for their child's development (Cicchetti, 2020). Psychopathology is theorized to result from the bidirectional relationship between individual factors, such as child temperament, and environmental factors, such as parenting, across various stages of development.

Developmental psychopathology researchers have proposed diathesis-stress and differential susceptibility models when studying the development of child psychopathology, and hypothesized that certain temperamental traits predispose or protect individuals from different forms of psychopathology within certain environmental contexts (Nigg, 2006; Stoltz et al., 2017). The diathesis-stress model postulates that certain individual characteristics make children more vulnerable to environmental stressors and certain environmental stressors can activate the diathesis, or vulnerability factor, resulting in psychopathology (Stoltz et al., 2017; Zuckerman, 1999). For example, the environmental stressor of experiencing negative and harsh parenting behaviours may adversely impact the development of children with temperamental vulnerabilities, resulting in psychopathology. The differential susceptibility model hypothesizes that a minority of individuals are differentially susceptible to environmental influences, and the children most affected by negative experiences are also the ones most likely to benefit from high quality environments (Zetner & Bates, 2008). Researchers have found some evidence that children with temperament vulnerabilities are more likely to be affected by both negative parenting and positive parenting experiences (Slagt et al., 2016). However, more research is

needed to better understand how parenting and child temperament factors interact and influence children's social-emotional and behavioural functioning in early childhood.

### **Child Temperament**

Temperament has been identified as a possible general vulnerability factor for the development of externalizing and internalizing problems, including anxiety problems (Higa-McMillan et al., 2014). Temperament is defined as individual differences in patterns of thoughts, emotions and behaviours, and is considered to remain relatively stable across situations and over time and be biologically based (Putnam et al., 2019; Rothbart, 2011). Individual variations in temperament are caused by differences in children's levels of reactivity and regulation (Putnam et al., 2019; Rothbart & Derryberry, 1981). Reactivity refers to a child's responsiveness to changes in stimulation, and can be negative or positive; self-regulation is the process of modulating reactivity, and includes children's levels of approach, avoidance, inhibition, soothability and attention regulation (Rothbart & Bates, 2006). Rothbart and Bates (2006) described three broad dimensions of temperament: negative affectivity, extraversion/surgency, and effortful control. The negative affectivity dimension includes high levels of shyness, discomfort, fear, anger, frustration, and sadness. The extraversion/surgency dimension includes a child's positive emotionality and approach, and is defined by high levels of positive anticipation, sensation-seeking, activity, impulsivity, smiling and laughter. The effortful control dimension is defined by high levels of inhibitory control, attentional focusing, non-risk-taking behaviours, and perceptual sensitivity. Children with high levels of negative affect, high levels of extraversion/surgency, or low effortful control are considered to be temperamentally vulnerable for both social-emotional and behavioural problems (Rothbart & Bates, 2006). Specifically, high levels of negative affectivity are considered to be a risk factor for the development of anxiety

problems in childhood, adolescence and adulthood (e.g., Clements & Bailey, 2010; Davis et al., 2015; Festen et al., 2013; Lawson et al., 2022; Lindhout et al., 2009, van der Bruggen et al., 2010). High levels of negative affectivity have also been moderately associated with other forms of psychopathology, such as attention-deficit/hyperactivity disorder, oppositional defiant disorder, and depression (Rettew, 2013). However, not all children with high levels of negative affectivity have or develop anxiety problems, and children's temperament does not fully explain the development of mental health disorders. More research is needed to understand how temperament and environmental factors, such as parenting behaviours and parenting styles, interact and influence the development of anxiety problems in early childhood.

### **Parenting Factors**

Within the parenting literature researchers have used both a dimensional approach focusing on specific parenting behaviours (e.g., parental warmth, negativity, support and control), as well as a categorical approach categorizing parents into different parenting styles based on a combination of parenting dimensions (Pinquart, 2017b). Parenting behaviours refer to specific parenting practices, while parenting styles are the overall emotional climate provided by parents (Fletcher et al., 2008). Specific parenting behaviours, such as psychological control and behaviour control, are considered to be independent and continuous dimensions (Caron, 2006; Pinquart, 2017b). Researchers studying parenting factors using categorical parenting styles assume that parenting behaviours are correlated and the effects of one type of parenting behaviour (e.g., parental warmth) on children are dependent on the presence or absence of other parenting behaviours, and therefore the parenting behaviours should be studied using categories rather than separately (Caron et al., 2006). Parenting behaviours are often assessed by

researchers observationally, while parenting styles are typically measured using parent self-report. The following section briefly describes parenting behaviours and parenting styles.

### ***Parenting Behaviours***

Researchers have used observational methods to systematically examine the relationship between parenting behaviours and children's social-emotional and behavioural problems (e.g., Davis et al., 2015; Lewis-Morrarty et al., 2015; Majdandžić et al., 2016; Suarez et al., 2021). Studying parenting behaviours using observational methods allows researchers to observe parent-child interactions in the settings the behaviours occur naturally, such as in the family home. Observational methods may also offer a more objective assessment of parenting behaviours, compared to parent self-report methods (Gardner, 2000). Furthermore, researchers have found the association between parenting and child anxiety has been stronger in studies using observational methods to assess parenting, compared to those using self-report methods (McLeod et al., 2007).

### ***Parenting Styles***

Parenting styles are the typical ways parents think, feel, and behave toward their children (Degnan et al., 2010). Baumrind (1971; 1989) described the authoritative, authoritarian, and permissive parenting styles using the dimensions of control and warmth. The dimension of warmth is also referred to as acceptance, affection or responsiveness in the literature, and is the amount parents express their love, support, involvement, attachment, reciprocity, and acceptance towards their children to help foster their individuality, self-regulation, and self-assertion (Baumrind, 1989; Darling & Steinberg, 1993; Maccoby & Martin, 1983). Parental control is also referred to as authority or demandingness in the literature, and is subdivided into psychological control and behavioural control. Behavioural control is defined as parenting attempts to control,

manage or regulate children's behaviour, including providing clear and consistent expectations and using supervision and monitoring to enforce rules, and appropriate levels are related to positive child developmental outcomes (Barber et al., 2005; Smetana, 2017). Psychological control includes parental intrusiveness, guilt, disrespect, and love withdrawal, and is related to negative child developmental outcomes, such as internalizing and externalizing problems (Barber et al., 2005; Kuppens & Ceulemans, 2019; Smetana, 2017).

**The Authoritative Parenting Style.** The authoritative parenting style is defined by high levels of warmth and behavioural control, and includes consistent parenting behaviours and sensitivity to children's needs, as well as the provision of reasons and explanations for parental expectations and demands. The high levels of parental behavioural control described within the authoritative parenting style is demonstrated by parents setting rational and clear standards of behaviour for their children, including setting rules to ensure their children's safety. Parents who demonstrate high levels of the authoritative parenting style also demonstrate flexibility, and the behavioural rules they impose are not intrusive or restrictive on their children's autonomy (Baumrind et al., 2010). Parents endorsing the authoritative parenting style also encourage their children to communicate and share their opinions and values, and they allow the opportunity for joint decision making with their children when appropriate (Levin, 2011).

The authoritative parenting style is viewed as the most effective approach to child-rearing (Levin, 2011). Specifically, the authoritative parenting style is associated with higher levels of child self-reliance, self-control, exploration, social responsibility, competence, and cooperation, as well as compliance to authority and good decision making (Baumrind, 1971; Levin, 2011). This parenting style is also positively associated with better academic outcomes, more child

adaptive behaviours, and fewer externalizing behaviours in early childhood (Blondal & Adalbjarnardottir, 2009; Lee et al., 2006; Majumder, 2016; Rinaldi & Howe, 2012).

**The Authoritarian Parenting Style.** The authoritarian parenting style is defined by high levels of control, including psychological control, and low parental warmth and support (Kochanska, 1990). The rigid approach emulated in the authoritarian parenting style prevents children from understanding the reasoning behind their parent's strict rules. Parents who endorse an authoritarian parenting style demand obedience from their children, and this parenting style can be compared to a brick wall that is rigid and unmoving. Parents may ask their children to follow their rules because they "say so", and tell their children not to question their parental demands and expectations. The authoritarian parenting style is also related to parental detachment and the use of punitive measures (Baumrind et al., 2010; Levin, 2011). The authoritarian parenting style is associated with higher levels of child discontentedness, withdrawal, distrust, passiveness, unhappiness, and moodiness, as well as lower levels of self-confidence (Baumrind, 1971; Levin, 2011). The authoritarian parenting style is also associated with negative effects on children's social-emotional and behavioural development including higher rates of depression in adolescence, due to parental dominating, criticizing, and disapproving behaviours (Baumrind et al., 2010; King et al., 2016; Maccoby, 1992).

**The Permissive Parenting Style.** The permissive parenting style is defined by high levels of warmth and low levels of control. Parents who demonstrate a permissive parenting style make few demands but also do not guide their children, which causes them to lack social responsibility and self-control (Baumrind, 1966). Parents who endorse a permissive parenting style are reluctant to enforce limits on their children and do not encourage them to obey externally defined standards (Baumrind, 1966; Levin, 2011), which is problematic when our



society requires individuals to listen and follow the directions of authority figures, such as teachers and health authorities. Setting limits in early childhood helps children to acquire self-discipline later in life, and the permissive parenting style is associated with higher levels of child selfishness, as well as lower levels of child social responsibility and self-control (Baumrind, 1975; Levin, 2011). Some researchers have also found the permissive parenting style to be associated with higher rates of substance abuse, lower rates of school engagement, and more antisocial behaviours (Luyckx et al., 2011; Mallett et al., 2019; Rose, 2018).

**The Uninvolved or Neglectful Parenting Style.** Maccoby and Martin (1983) identified a fourth parenting style, the uninvolved or neglectful parenting style. This parenting style is characterized by low levels of control and warmth and is associated with negative child outcomes, including lower self-esteem and school performance, and higher rates of delinquency, substance abuse, and internalizing behaviours (Blondal & Adalbjarnardottir, 2009; Calafat et al., 2014; Fletcher et al., 2008; Hoeve et al., 2008; Lee et al., 2006; Luyckx et al., 2011; Majumder, 2016; Simons & Conger, 2007). This parenting style is often not included in parenting literature or parenting style measures, as parents who endorse an uninvolved parenting style are difficult to engage in research and clinical practice. As such, the uninvolved or neglectful parenting style was not assessed in the studies in this dissertation.

**Other Parenting Styles.** Baumrind's (1971) initial research on parenting styles was based off of samples of primarily Western and Caucasian middle-class families. Researchers have hypothesized that a parent's ethnic and cultural background may influence their parenting style, due to differing socialization goals, parenting ideals and demands of their cultural environment (Chao, 2000; Foo, 2019). Researchers have suggested that families of Asian-heritage (including both Asian and Asian American families) may demonstrate some unique

aspects of parenting styles (Juang et al., 2013). For example, Foo (2014) proposed filial parenting as a fifth parenting style in Chinese families. Foo (2014) described the filial parenting style as an almost unconditional devotion and care of both mothers and fathers towards their children, a desire to prevent children from being hurt, and high parental demands and expectations. Researchers have also studied a “tiger parenting” style, typically with Asian mothers. Tiger parenting is defined by high levels of both authoritarian and authoritative parenting, including the use of heavy parental control, coercive tactics and shaming to promote children’s success (Yeong et al., 2013). Researchers have found high levels of the tiger parenting style to be related to more negative child academic outcomes, depressive symptoms, and a sense of alienation in adolescents (Yeong et al., 2013). However, researchers have suggested the tiger parenting style is not the typical parenting style in Asian families, and is only present in a small minority of families (Way et al., 2013; Yeong et al., 2013). More research is needed to investigate parenting styles with ethnically diverse samples of families, to understand if modern parent-child relationships continue to support the theoretical foundations for the authoritative, authoritarian and permissive parenting styles. Currently, there is a lack of research investigating parenting styles of Canadian mothers and fathers from different ethnic and cultural backgrounds, and it is unknown if the authoritative parenting style is the ideal parenting style for Canadian children with diverse ethnic and cultural backgrounds.

### **Parenting as a Moderator Variable**

Thomas and Chess’ (1977) theory of temperament emphasized the influence of reciprocal interactions between children and their environment on child development. The researchers suggested the evolutionary concept of “goodness-of-fit” (Henderson, 1913) could be used to describe the interactions between children’s temperament and their environment, and that a poor

fit between a child's temperament and their environment resulted in behavioural problems. Consequently, parents should consider adapting their behaviours and parenting styles to fit their children's unique temperament (Thomas & Chess, 1977).

There is emerging evidence that certain parenting factors, such as parenting behaviours and parenting styles, may moderate the relationship between temperament and children's internalizing problems. In particular, some researchers have found that children high in negative affectivity develop higher levels of behaviour problems when they also experience more negative parenting behaviours, compared to children with low levels of negative affectivity (Bradley & Corwyn, 2008). Researchers have also found that children with high levels of negative affectivity also display higher levels of positive adjustment when they experience more positive parenting behaviours, such as parental sensitivity and warmth (Mesmen et al., 2009; Pleuss & Belsky, 2010; Stright et al., 2008). Other researchers have found that children with high levels of negative affectivity may be more affected by high levels of permissive parenting compared to children with low levels of negative affectivity (Williams et al., 2009). Surprisingly, some researchers found that infants with high levels of negative affectivity also displayed higher levels of internalizing problems in childhood when they experienced high levels of maternal warmth and sensitivity (Davis et al., 2015). Researchers have hypothesized that high levels of maternal warmth and sensitivity may be less adaptive for children with high levels of emotional reactivity, as it may result in more frequent parental reassurance and protection against situations that could provoke negative emotions, leading to an increase in children relying on their parents to help regulate their more negative emotions, such as anxiety (Davis et al., 2015). More evidence is needed to support the hypothesis that parenting moderates the strength of the association between children's temperament and children's social-emotional and behavioural problems in

early childhood, and to better understand if certain parenting behaviours and parenting styles are more ideal for children who are temperamentally vulnerable.

### **Dissertation Aims**

The following three studies examine the research hypotheses that emerged from reviewing the parenting literature. The first study will examine if mothers' and fathers' observed parenting behaviours predict children's levels of anxiety problems in early childhood, and will test the hypothesis that parenting behaviours moderate the relationship between child temperament and child anxiety. The second study will examine the associations between child temperament, mothers' and fathers' self-reported parenting styles, and children's anxiety problems, and test the hypothesis that parenting styles moderate the relationship between child temperament and child anxiety. Lastly, the third study will examine similarities and differences between Asian-Canadian and European-Canadian parenting styles, and test the hypothesis that parenting styles similarly influence early childhood externalizing and internalizing problems for both Asian-Canadian and European-Canadian children.

Each of the studies comprising this dissertation provides unique contributions to the existing research on parenting and early childhood development. Together these three papers consider the influence of parenting factors on children's development, including the use of both observational and parent self-report measures. The field of developmental psychopathology has largely ignored the contributions of fathers' parenting on their children's functioning until recently (Brown & Aytuglu, 2020; Cabrera et al., 2018). Therefore, all of the papers in this dissertation include both mothers and fathers, to learn more about the role of fathers' parenting behaviours and parenting styles on children's social-emotional and behavioural development.

STUDY 1

Temperament, Observed Parenting Behaviours and Child Anxiety: Differences between Mothers and Fathers

### Abstract

This study examined if child temperament in combination with mothers' and fathers' parenting behaviours predicted children's anxiety problems in early childhood. Mothers' and fathers' parenting behaviours were also examined as possible moderator variables in the association between child temperament and anxiety problems. Mothers' and fathers' ( $n = 100$ ) rated their children's levels of temperament and anxiety problems. Parenting behaviours were assessed observationally in families' homes across typical parent-child interaction tasks, including a play, puzzle, and clean-up task. Parent-child interactions were observationally coded on the dimensions of warmth, negativity, support and control. For fathers, higher rates of warmth and lower rates of support during the play task predicted higher levels of child anxiety. For mothers, children high in negative affectivity had higher levels of anxiety when they also experienced more negative parenting behaviours during the clean-up task. No interaction effects were found for fathers. The findings of the current study suggest there are unique differences in the associations between temperament, parenting behaviours and child anxiety problems for mothers and fathers, and highlight the importance of including both mothers and fathers in early childhood parenting research and interventions. Additionally, the results suggest that interventions focused on preventing and ameliorating early childhood anxiety problems should consider targeting parenting behaviours for mothers and fathers during specific parent-child interaction tasks.

## **Introduction**

Anxiety disorders are one of the most common disorders affecting preschoolers, and many parents are interested in receiving supports to assist with preventing and ameliorating childhood anxiety problems (Barrios et al., 2019; Petresco et al., 2014; Steinsbekk et al., 2022). Researchers have suggested that certain types of parenting behaviours are associated with increasing or decreasing children's risk for anxiety problems, such as the parenting behaviours of negativity, warmth, control and autonomy granting (Davis et al., 2015; Festen et al., 2013; Heider et al., 2008; Hudson et al., 2011; Kiff et al., 2011; McLeod et al., 2007; Möller et al., 2016; Ryan & Ollendick, 2018; Yap et al., 2015). However, findings on the association between parenting behaviours and children's anxiety problems have been inconsistent between studies, and it remains unclear if specific parenting behaviours significantly influence the development of anxiety problems in early childhood.

### **Child Temperament, Parenting Behaviours, and Child Anxiety**

Specific temperament traits have also been associated with the development of anxiety problems in early childhood. Purposely, high levels of negative affectivity (also referred to as negative emotionality) have been investigated as a possible risk factor for childhood anxiety problems (Davis et al., 2015; Lindhout et al., 2009, Lonigan et al., 2003; Mian et al., 2010; van der Bruggen et al., 2010). Although consistently high levels of negative affectivity are considered to be a risk factor for anxiety problems, most children with high levels of negative affectivity do not develop an anxiety disorder, and researchers have suggested the continuity of the association between children's temperament and anxiety depends on both individual and environmental factors (Clauss & Blackford, 2012).

The developmental psychopathology model emphasizes the role of developmental processes, environmental factors, and the influence of multiple interacting events and processes that shape children's development (Cicchetti, 2020; Hayden & Mash, 2014). Complex and dynamic interactions between individual and environmental variables are hypothesized to influence the development of child anxiety problems. Environmental factors, such as parenting behaviours, have been examined as possible moderator variables influencing the relationship between child temperament and anxiety problems. Researchers have found that children with high levels of negative affectivity also demonstrate higher levels of social-emotional and behavioural problems when they experience negative parenting behaviours, compared to children with low levels of negative affectivity (Bradley & Corwyn, 2008). Furthermore, children with high levels of negative affectivity show more positive adjustment when they experience positive parenting behaviours, such as parental warmth (Pleuss & Belsky, 2010; Stright et al., 2008).

In order to better understand the development of anxiety problems in early childhood, it is necessary to research the associations between child temperament and parenting behaviours. Studying child temperament in relation to moderating factors will help to inform prevention efforts for children at risk for anxiety disorders (Degnan et al., 2010; van der Bruggen, et al., 2010). It is necessary to investigate the associations between temperament, parenting behaviours and anxiety problems in preschool populations, as researching school-age populations does not permit the examination of earlier emerging symptoms and risk factors that may be present in young children.

### **Parenting Behaviours**

Children's development is shaped by experiences and interactions with their parents, as parents assist their children in learning new skills and also help motivate their children to use



preferred behaviours (Miller, 2011). Certain parenting behaviours may increase the probability that children learn to respond in an anxious manner and fail to acquire the skills needed to cope with the inevitable stressful events that occur during children's day-to-day lives (Donovan & Spence, 2001; Drake & Ginsburg, 2012). Parents may contribute to the development of anxiety problems by modeling anxious behaviours, overprotecting their child from stressful situations, and encouraging anxious behaviours and avoidance (Eley et al., 2015; Higa-McMillan et al., 2014; Rapee, 2012; Vasey & Dadds, 2001). Other parenting behaviours, such as providing appropriate support and expectations, may help protect children against the development of anxiety disorders (Davis et al., 2015; Festen et al., 2013; Vasey & Dadds, 2001; Yap et al., 2014). The present study focuses on the independent parenting behaviour dimensions of warmth, negativity, support and negative control as observed in children's typical home settings.

### ***Parental Warmth***

Parental warmth is considered a primary dimension of parenting behaviour (Maccoby & Martin, 1983; Rohner, 1986; Skinner et al., 2005). Parental warmth is defined by verbal and non-verbal behaviours that reflect acceptance, positive regard, and positive involvement in children's activities, as well as expressions of affection, love, appreciation, kindness, support, and positive affect (Drake & Ginsburg, 2012; Epkins & Harper, 2016; Maccoby & Martin, 1983; McLeod et al., 2007; Rohner et al., 2012; Skinner et al., 2005). Some researchers have found that high levels of maternal warmth are associated with more child internalizing problems when children are temperamentally vulnerable (Davis et al., 2015; van der Bruggen et al., 2010). These results are surprising, as warmth and sensitivity are considered to be positive dimensions of parenting behaviours. Researchers have hypothesized that high levels of maternal warmth may also be associated with behaviours that include less limit-setting and discipline, and more protection

from stressors, which results in higher levels of anxiety in childhood (van der Bruggen et al., 2010). However, these findings are inconsistent in the literature, and parental warmth has not significantly predicted children's levels of anxiety in other studies (Kiff et al., 2011; McLeod et al., 2007). There is also some evidence that maternal warmth and support may act as protective factors against the development of child internalizing problems (Davis et al., 2015; Festen et al., 2013; Yap et al., 2014). More evidence is needed to understand the relationship between temperament, parental warmth and the development of child anxiety problems.

### ***Parental Negativity***

Researchers have described parental negativity to reference a range of behaviours, including parental hostility, rejection, indifference, neglect, harshness, withdrawal, irritability, disapproval, criticism, punishment, aggression, and other harsh behaviours that express negative feelings toward a child (Epkins & Harper, 2016; McLeod et al., 2007; Rohner et al., 2012; Skinner et al., 2005). Researchers have found negative parenting to be strongly associated with rates of child anxiety (Drake & Ginsburg, 2012; Festen et al., 2013; McLeod et al., 2007). Kiff and colleagues (2011) found that children's levels of fear were positively associated with anxiety when they also experienced high levels of maternal negativity. Other researchers have found evidence that negative parenting behaviours are associated with higher levels of child anxiety (McLeod et al., 2007). However, the specific negative parenting behaviours being studied by researchers may have an effect on these associations (e.g., differences between the parental negativity behaviours of disapproval and hostility). More research is needed to understand if negative parenting behaviours interact with children's temperament to influence the development of anxiety in early childhood.

### ***Parental Support***

Parental support refers to the positive aspects of influencing children's behaviour. Parental support has been used to describe parenting behaviours that include instructional and positive guidance, autonomy-granting, sensitivity, positive control, and the use of praise, explanation and open-ended questions (Skinner et al., 2005; Wang et al., 2013). Parents can demonstrate parental support by taking their child's perspective and ensuring their child plays an active role in the successful completion of a task (Matte-Gagné et al., 2015). Parents may also use scaffolding to support and guide their children and help them to achieve levels of problem solving they could not reach on their own (Matte-Gagné et al., 2015). Parental support allows children to gain independence and self-competence, and has a positive association with a variety of outcomes, including academic achievement, well-being, self-esteem, self-regulation and executive functioning (Clark & Ladd, 2000; Vasquez et al., 2016). Some researchers have also used the term behavioural control to describe parent's attempts to positively manage or regulate their child's behaviour, such as providing clear and consistent expectations and supervision to enforce boundaries and rules (Barber et al., 2005; Smetana, 2017). Appropriate levels of positive behavioural guidance are associated with positive child developmental outcomes (Barber et al., 2005).

### ***Parental Control***

The dimension of parental control includes parenting behaviours that are coercive, intrusive, and psychologically controlling (Skinner et al., 2005; Soenens & Vansteenkiste, 2010). Psychological controlling behaviours include parental intrusiveness, guilt, disrespect, and love withdrawal (Barber et al., 2005). Parental negative control includes behaviours that are restrictive, overprotective, and lacking in autonomy granting (Drake & Ginsburg, 2012), as well as demanding, restricting, inflexible, rigid, intrusive, and strict parenting behaviours (Skinner et

al., 2005). During play activities, parental control may be observed when a parent criticizes their child, physically controls toys or play objects, or physically controls their child's hand, arm or body (Wang et al., 2013). Controlling parenting behaviours are believed to decrease a child's ability to develop independence, autonomy, and experience novel situations (Drake & Ginsburg, 2012), and these parenting behaviours have been linked to child anxiety problems (Barber et al., 1994; Drake & Ginsburg, 2012; Edwards et al., 2010; Higa-McMillian et al., 2014; Hudson et al., 2011; Lindhout et al., 2009; McLeod et al., 2007; Möller et al., 2016). There is evidence that maternal over controlling behaviours moderate the relationship between child temperament and symptoms of anxiety in both child (Rubin et al., 2002) and adolescent samples (Lewis-Morrarty et al., 2012).

### **Gaps in the Research Literature and Study Contributions**

There are currently some limitations in the existing literature investigating temperament, parenting behaviours and child anxiety problems in early childhood. Firstly, the majority of studies to date have relied on parental self-reports and have not observationally assessed behaviours during parent-child interactions across typical scenarios. Researchers have found the association between parenting and child anxiety problems to be stronger in studies that use observational methods compared to self-report survey methods (McLeod et al., 2007), suggesting that survey methods may underestimate the magnitude of the association between parenting behaviours and child anxiety. Observational methods offer a more objective assessment of parenting behaviours across typical parent-child interactive tasks, compared to parent self-report methods which may offer a more personal perception (Gardner, 2000). Furthermore, observational methods allow researchers to observe parent-child interactions in the settings that parenting behaviours naturally occur, such as in the family home. Observations within more

naturalistic environments are believed to provide a higher quality of data when researching typical parenting behaviours (Hawes et al., 2013). Some researchers have investigated the associations between observed parenting behaviours and early childhood symptoms of anxiety (e.g., Davis et al., 2015; Suarez et al., 2021). A limited number of studies investigating the associations between temperament, parenting behaviours, and child anxiety problems have included the use of observational methods to assess parenting behaviours (e.g., Davis et al., 2015; Suarez et al., 2021). The present study aims to add to the current literature by using observational methods across three typical parent-child interaction tasks within the natural setting of their family home.

Secondly, the majority of the existing research focuses on mother-child parenting behaviours. Fathers have traditionally been underrepresented in the literature due to the assumption that mother's parenting behaviours have more of an impact on children's development compared to father's parenting behaviours. In previous generations, mothers typically spent more time with their children and were generally easier to involve in research studies compared to fathers (Bögels & Phares, 2008; Kiff et al., 2011; Rubin et al., 2002). However, this view is outdated and many fathers presently spend a considerable amount of time with their children and engage in many hands-on parenting activities. Furthermore, there is evidence that fathers play an important role in the emotional development of their children (Bakermans-Kranenburg et al., 2019; Cabrera et al., 2000; Cabrera et al., 2018). Researchers have also found that mothers and fathers may parent their children differently. Specifically, mother's may engage in more responsive, sensitive, warm and supportive parenting behaviours (Möller et al., 2015), while fathers may be more likely to engage in rough-and-tumble play, encourage their children to step out of their comfort zone, and take more risks (Lazarus et al.,

2016). Such parenting behaviours have been associated with lower levels of child anxiety, as these behaviours are thought to help children overcome their fears and feelings of anxiety (Möller et al., 2016). Therefore, fathers' parenting behaviours may be more strongly associated with children's anxiety problems, as fathers are more likely to challenge their children and encourage risk taking behaviours (Bögels & Phares, 2008; Möller et al., 2016). More studies are necessary to understand if parenting behaviours of mothers and fathers have unique influences on children's development in early childhood. The present study is paramount as it includes both mothers and fathers to learn more about their unique influence on supporting children's functioning and aims to inform early intervention programs that promote children's social-emotional and behavioural development.

### **Research Purpose and Questions**

In order to address the limitations in the research described above, the objective of the present study is to assess how child temperament in combination with mothers' and fathers' parenting behaviours contribute to children's levels of anxiety in early childhood.

#### ***Research Questions***

The current study investigates the following general questions:

1. Does child negative affectivity and mothers' and fathers' parenting behaviours predict children's levels of anxiety in early childhood? Based on previous research, it is expected that higher levels of negative and controlling parenting behaviours will be associated with higher levels of child anxiety (Drake & Ginsburg, 2012; Festen et al., 2013; Hudson et al., 2011; McLeod et al., 2007; Möller et al., 2016). Although there have been inconsistent findings on the relationship between parental warmth and anxiety problems, it is

hypothesized that higher levels of parental warmth will be associated with lower levels of anxiety problems in early childhood (Davis et al., 2015; Festen et al., 2013; Yap et al., 2014).

2. Do mothers' and fathers' parenting behaviours moderate the relationship between child temperament and child anxiety? It is anticipated that high levels of child negative affectivity will be more strongly related to anxiety problems for children with mothers' and fathers' who display high levels of negative and controlling behaviours. Higher levels of maternal and paternal warmth and support are expected to buffer the relationship between child temperament and anxiety problems (Davis et al., 2015; Festen et al., 2013; Yap et al., 2014).

### **Methods**

Secondary data analysis was conducted for this research using data collected from the project "Early childhood parent-child interactions: An examination of the stability of parenting across tasks and over time" (Rinaldi, Howe, & Gokiart, SSHRC IG #435-2014-0794). The primary aim of the project was to investigate how mothers' and fathers' roles as parents change as children develop. Ethics approval for the project was received by the Research Ethics Board at the University of Alberta (Study ID: Pro00048538). Ethics approval for the current project was received from the University of Alberta Ethics Board, Project Name: "Investigating temperament, parenting, and anxiety problems in early childhood" (Study ID Pro00088343).

### **Participants**

Families with preschool-aged children were recruited from preschool and early learning centers and from word of mouth ( $n = 370$ ). Families were located in Alberta, Saskatchewan, and Ontario, with the majority of families being located in Alberta (91.6%). Parents were asked to complete questionnaire packages at three different time points (Time 1, Time 2 and Time 3),

approximately 12 months apart. Families were given a \$30 Chapters gift card for completing questionnaires at each time point.

To investigate parenting behaviours observationally, 100 families volunteered to participate in the observational data collection at Time 1. Families were eligible to participate in the observational portion of the study if both parents agreed to take part in the home visit and the child was between the ages of 3 to 5 years old. Children's age at the first data collection ranged from 26 to 68 months ( $M= 51.54$ ,  $SD=7.40$ ) and 49% of children were female. Parents identified their primary ethnicity as European/European-Canadian (66% of mothers; 66% of fathers), Asian/Asian-Canadian (31% of mothers; 30% of fathers), Latin, Central or South American (1% of mothers and fathers), Black/African (1% of mothers and fathers) or Indigenous (1% of mothers; 2% of fathers).

The majority of parents were married (90%) during the observational data collection (8% common-law; 1% single; 1% divorced). The majority of parents ranged in age from 26 to 35 years old (40% of mothers and 27% of fathers) or 36 to 45 years old (58% of mothers and 62% of fathers). Families' annual household income ranged from below \$24 999 (1%), between \$25 000 to \$49 999 (7%), \$50 000 to \$74 999 (8%), \$75 000 to \$99 999 (18%), \$100 000 to \$149 999 (31%), \$150 000 to \$199 999 (22%), or over \$200 000 (13%).

## **Measures**

### ***Demographics***

A demographic questionnaire was included to obtain information on children's age, gender, family composition and their race/ethnicity. The demographic questionnaire also included questions on parent relationship status, age, education, job and household income.

### ***Children's Temperament***



Children's temperament was assessed using the *Child Behaviour Questionnaire Very Short Form* (CBQ-VSF; Putnam & Rothbart, 2006) at Time 1. Questionnaire measures of temperament allow parents to consider their perspective of their child's temperament across contexts and environments (Rothbart & Bates, 2006). The CBQ was designed to assess three broad dimensions of children's temperament, Surgency (12 items), Negative Affectivity (12 items) and Effortful Control (12 items), in children aged three to seven years old. For each of the 36 items mothers and fathers responded using a 7-point scale (with 1 = "Extremely Untrue of Your Child" to 7 = "Extremely True of Your Child"). The authors of the measure report the composite scale reliability coefficients to be within an acceptable threshold (.83 for surgency, .75 for negative affectivity, and .83 for effortful control; Putnam & Rothbart, 2006). The internal consistency reliabilities for the present study ranged from acceptable to good for mothers (Cronbach's alpha = .76 for surgency, .75 for negative affectivity, and .76 for effortful control) and fathers (Cronbach's alpha = .74 for surgency, .76 for negative affectivity, and .68 for effortful control).

### ***Children's Anxiety***

Both mothers and fathers reported on children's anxiety problems by completing the *Behaviour Assessment System for Children, 2<sup>nd</sup> Edition, Parent Rating Scales* (BASC-2 PRS; Reynolds and Kamphaus, 2004). At Time 3 parents completed the child form containing 134 items. Items on the BASC-2 describe children's positive and negative behaviours (e.g. "offers to help other children"; "is easily upset"). For each item parents reported how often their child displayed each of the behaviours using the responses 1 = Never, 2 = Sometimes, 3 = Often or 4 = Almost Always. BASC-2 software was used to produce standardized *T*-Scores ( $M=50$ ,  $SD=10$ ) for data analyses. For the purpose of the present study, only the BASC-2 Anxiety subscale was

included in the secondary data analysis. Children with *T*-Scores of 60 or higher were considered to be suffering from anxiety problems. The BASC-2 has well-established evidence of internal consistency, reliability and validity (Reynolds & Kamphaus, 2004).

### ***Observed Parenting Behaviours***

To assess mother and father parenting behaviours, parents and their children were observed at home in videotaped sessions (each parent separately) during three tasks: a play task with an age-appropriate Lego Duplo toy set, a structured floor puzzle task, and a forced clean-up completion task. The order of the play and puzzle tasks were randomized and alternated between parents and between families, while the clean-up task naturally followed the toy play task. Variations of these tasks have previously been used by researchers investigating parenting behaviours and anxiety problems with preschool-aged children (Lewis-Morrarty et al., 2015; Majdandžić et al., 2016; Rubin et al., 2002). The three tasks selected for the present study capture a variety of scenarios parents typically engage in with their children.

The parent-child interaction tasks were coded by the researcher and a research assistant. The research assistant was blind to the research aims of the present study. Parenting behaviours were coded on the dimensions of Warmth, Negativity, Support, and Control using an adapted version (see Appendix B) of the *Parental Warmth and Control Scale-Revised* (Rubin & Cheah, 2009). The *Parental Warmth and Control Scale-Revised* is a well-established coding system that has been adapted by other researchers to code parent-child interactions with young children (Lengua et al., 2014; Lewis-Morrarty et al., 2015; Ruberry et al., 2018; Zalewski et al., 2012).

The two coders watched the first 10-minutes of both the free-play and puzzle tasks. The entire clean-up task was coded, which ranged from 0.40 to 9.00 minutes for fathers ( $M = 2.25$ ) and 0.80 to 6.75 minutes for mothers ( $M = 2.10$ ). Parenting behaviours were rated on a 3-point

scale for each dimension, with 1 = Low, 2 = Moderate, and 3 = High. Parent behaviours were coded in one-minute blocks, and an overall rating for each parenting dimension was then calculated by averaging the score for each observational task (free play, clean-up and structured activity) separately. Approximately 25 hours were spent on training the coding team.

To assess interrater reliability, the two trained coders independently rated 20% of all the observational videos. Interrater reliability was assessed using intra-class correlations (ICCs). An inter-rater reliability of 70% is commonly considered acceptable, while a reliability of 80% or higher is considered strong (Aspland & Gardner, 2003). The intra-class correlations for the parenting behaviours were .88 for warmth (95% CI = .82 to .92), .90 for negativity (95% CI = 0.83 to .94), .85 for support (95% CI = .75 to .91), and .88 for control (95% CI = .78 to .93).

**Parental Warmth.** In the present study, parental warmth is defined as the positive quality of parental emotional expressiveness observed towards the child, including positive affect, positive feeling, pleasantness, and enjoyment towards the child (Rubin & Cheah, 2009). Low parental warmth was coded if no instances of parental affection, positive feeling, or enjoyment were observed, if the parent was instructional or uninvolved, or if there was an absence of positive expressiveness (e.g., flat). Moderate parental warmth was coded if a parent's facial expressiveness indicated a positive feeling (e.g., smiles, laughing), the parent communicated with a positive tone of voice, there were instances of parental smiling or laughter and enjoyment observed, or if the parent used pet names (e.g., "Buddy", "Sweetie", "Honey") with their child. High parental warmth was coded if substantial amounts of positive affect were observed consistently throughout the segment (e.g., the parent clearly displayed verbal and non-verbal joy and interest), the parent displayed affectionate gestures and touches toward the child

(e.g., hugging, kissing, thumbs up, tickling, high-five, fist bump, clapping, patting child's leg, back or head), or if the parent verbalized affection (e.g., "I love you", "I like you").

**Parental Negativity.** In the present study, parental negativity encompasses both hostility and negative affect. Parental hostility refers to anger, irritability, annoyance or hostility towards the child; negativity affect is the negative quality of parental expressiveness, including sadness, fearfulness, and anxiety in response to a child's behaviour. Low parental negativity was coded if there were no instances of hostility, anger, annoyance, sadness, anxiety or fearfulness observed. Moderate parental negativity was coded if the parent's tone of voice was negative, cold, harsh or anxious (e.g., "don't do that" in a negative tone, "we need to clean-up!" in an anxious tone), if the parent exhibited a sad expression or looked worried, if the parent rebuffed their child by turning or moving away from them, or if their facial expression indicated annoyance. High parental negativity was coded if parents insulted and criticized their child (e.g., "don't be so stupid") or vocalized negative sarcasm (e.g., "I'm not very good at puzzles, apparently you aren't either"), if parent's verbally expressed sadness, embarrassment, or wariness (e.g., "I am unhappy with your behaviour!", "we do not talk like that!") in response to the child's behaviour, or if the parent yelled or physically punished their child (e.g., slapped their hand, grabbed their arm, or pulled their child away).

**Parental Support.** In the present study parental support is defined as the extent a parent facilitates their child's behaviour, actively and positively provides their guidance, and allows their child to direct and structure the ongoing activities (Rubin & Cheah, 2009). This includes providing well-timed supportive assistance, and facilitating the child's competent functioning to complete the task. Parental behaviour must clearly not get in the way of the child's autonomous behaviour for it to be coded as support and guidance (Rubin & Cheah, 2009).

Low support was coded if no instances of parental guidance were observed during the segment. Moderate parental support was coded if there was the presence of any of the following in response to their child's behaviour: (a) if the child was off-task or unoccupied and the parent suggested ways to get the child on task (e.g., during free play the parent suggested a few activities but allowed the child to determine the activity, suggested cleaning up together, or suggested which puzzle piece to start with), (b) if the child chose the activity and the parent provided guidance, including offering help, verbally assisting the child (e.g., "what do you think we should build?"), providing praise, or explaining the activity, (c) if the parent provided simple guidance, but did not guide the child's thinking towards a higher level, or (d) if the parent gave basic directions without elaboration (e.g., "now put this puzzle piece on top") or asked basic questions (e.g., "where does the slide go?"). High support was coded if there was the presence of any of the following by the parent in response to their child's behaviour: (a) scaffolding (e.g., if the parent asked questions that clearly elaborated the activity, taking the child's thinking to the next level), (b) if the child was engaged in the activity and the parent provided further guidance, or made the task more interesting (e.g., engaging in pretend play with different animal voices), or (c) if the parent joined in the activity and clearly enhanced the child's level of social or cognitive play by verbally assisting their child, explaining the activity, elaborating and expanding on the task, providing praise, or providing guidance that was clearly above and beyond basic instructions. For example, if during the puzzle activity the parent pointed to the picture on the box and asked their child "now what do you think goes on top of that?" to help them visualize the task.

**Parental Control.** Parental control was defined by behaviours that were ill-timed, excessive and inappropriately controlling, or dictated the activities regardless of the child's

wishes (Rubin & Cheah, 2009). Low control was coded if no instances of parental intrusiveness or control were observed during the segment. Moderate control was coded if: (a) the parent was verbally intrusive or momentarily distracted the child (e.g., parent talks to child but does not give them time to respond, child is busy playing with toys and parent distracts them and directs their attention elsewhere), (b) if the parent quizzed the child in an interfering way, (c) if the parent continuously gave instructions and did not allow the child the opportunity to respond (e.g., excessive instructions or directions), or (d) if the parent dominated the activity excluding the participation of the child (e.g., if the parent was controlling during play and clean up and takes over the task). High control was coded if: (a) the parent used unnecessary dictatorial instructions (giving orders) to control their child's behaviour, (b) the parent had physical control of the object and gave out dictatorial instructions (took over the task), (c) the parent's instructions left little room for the child's autonomous functioning (e.g., "don't do that", "don't play with this"), (d) the parent refused to let go of an object when the child attempted to regain control of the object, (e) the parent's hands blocked the child's access to the object, (f) the parent used physical intrusiveness that clearly changed or stopped the child's behaviour (e.g., grabbing a toy from child to demonstrates its use, grabbing a puzzle piece from the child's hands, pulling child aside, controlling child's hand, arm or body), or (g) the parent just built the Lego, completed the puzzle, or cleaned-up the toys by themselves without trying to involve their child (with the child not being involved in the task, different from parallel play).

### **Results**

Data was analyzed using the statistical package IBM SPSS version 27.0 (IBM, 2020). Models were tested separately for the different child-parent tasks, as well as separately for mothers and fathers.

### Descriptive Statistics

Means, standard deviations, and ranges for children's anxiety at Time 3 and children's negative affectivity on the CBQ-VSF at Time 1 as rated by both mothers and fathers are reported in Table 1.1. Children's levels of anxiety problems are presented as *T*-scores, with a mean of 50 and a standard deviation of 10. Parent ratings of child negative affectivity are presented as subscale scores with a possible range of scores being 1.0 to 7.0, with greater scores indicating a higher rating of child negative affectivity. The percentage of children in the sample who were rated by their parent as being in the at-risk or clinical classification range (with a *T*-score of 60 or higher) for anxiety on the BASC-2 was 26.0% for mothers and 23.0% for fathers. Mothers' and fathers' average ratings of children's anxiety problems at Time 3 did not significantly differ ( $t(99) = .77, p = .44$ ). Mothers' and fathers' average ratings of children's negative affectivity at Time 1 also did not significantly differ ( $t(99) = -1.27, p = .21$ ).

*Table 1.1 Descriptive Statistics for Parent Reported Child Anxiety on the BASC-2 and Negative Affectivity on the CBQ-VSF*

Measure	Min	Max	Mean	SD
Negative Affectivity T1				
Mothers	1.67	5.89	3.81	.95
Fathers	1.58	5.50	3.93	.79
Child Anxiety T3				
Mothers	29	77	49.11	9.99
Fathers	32	74	48.41	9.15

*Note.*  $N = 100$ ,  $T1 = \text{Time 1}$ ,  $T3 = \text{Time 3}$ .

Means, standard deviations, and ranges for observed parenting behaviours are reported in Table 1.2. On average parents displayed moderate to high levels of warmth and support and low levels of negativity and control across the tasks. On average, parents displayed moderate levels of parental warmth and support and low levels of parental negativity and control during the behavioural observation.

*Table 1.2 Descriptive Statistics for Observed Parenting Behaviours*

Measure	Min	Max	Mean	SD
Parenting Behaviour: Warmth				
Play				
Mothers	1.10	3.00	2.22	.37
Fathers	1.10	3.00	2.18	.44
Clean-Up				
Mothers	1.00	3.00	2.22	.43
Fathers	1.00	3.00	2.13	.43
Puzzle				
Mothers	1.10	3.00	2.23	.34
Fathers	1.00	3.00	2.23	.42
Parenting Behaviour: Negativity				
Play				
Mothers	1.00	1.50	1.04	.09
Fathers	1.00	1.90	1.08	.17
Clean-Up				
Mothers	1.00	2.00	1.09	.25



Fathers	1.00	2.00	1.09	.22
Puzzle				
Mothers	1.00	1.80	1.08	.15
Fathers	1.00	2.00	1.08	.17
<hr/>				
Parenting Behaviour: Support				
Play				
Mothers	1.00	3.00	2.15	.37
Fathers	1.10	2.85	2.07	.38
Clean-Up				
Mothers	1.50	3.00	2.04	.23
Fathers	1.00	3.00	1.99	.34
Puzzle				
Mothers	1.20	2.90	2.25	.32
Fathers	1.30	3.00	2.23	.37
<hr/>				
Parenting Behaviour: Control				
Play				
Mothers	1.00	2.70	1.32	.37
Fathers	1.00	2.70	1.41	.46
Clean-Up				
Mothers	1.00	3.00	1.16	.43
Fathers	1.00	3.00	1.20	.42
Puzzle				
Mothers	1.00	2.70	1.34	.32

Fathers	1.00	3.00	1.35	.42
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*Note.*  $N = 100$ .

### **Correlations**

Bivariate correlations among the studied variables are presented separately for both mothers and fathers (see Table 1.3). Moderate correlations were found between children's anxiety and mothers' and fathers' ratings of children's negative affectivity. Mothers' and fathers' parental warmth, negativity, support and control were not significantly correlated with children's anxiety or negative affectivity during the play, clean-up or puzzle tasks.

*Table 1.3 Bivariate Correlations for Children's Anxiety on the BASC-2, Negative Affectivity on the CBQ-VSF, and Observed Parenting Behaviours*

	1	2	3	4	5	6
Play Task						
1. Child Anxiety T3	--	.40**	.04	-.15	.07	-.16
2. Child NA T1	.44**	--	-.08	-.01	-.14	.04
3. Parent Warmth T1	.11	.01	--	-.31**	.63**	-.22*
4. Parent Negativity T1	-.13	-.08	-.48**	--	-.19	.45**
5. Parent Support T1	-.09	-.08	.74**	-.36**	--	-.24*
6. Parent Control T1	-.00	.09	-.38**	.50**	-.52**	--
Clean-Up Task						
1. Child Anxiety T3	--	.40**	.05	.00	.06	-.08
2. Child NA T1	.44**	--	-.06	-.01	-.11	-.09
3. Parent Warmth T1	.00	.01	--	-.43**	.38**	-.23*
4. Parent Negativity T1	-.05	.06	-.15	--	-.15	.37**

5. Parent Support T1	-.06	-.07	.34**	-.05	--	-.07
6. Parent Control T1	-.08	.04	-.10	.35**	-.05	--
Puzzle Task						
1. Child Anxiety T3	--	.40**	-.01	-.03	-.03	.08
2. Child NA T1	.44*	--	-.17	-.01	-.20	.09
3. Parent Warmth T1	.02	-.08	--	-.30**	.60**	-.16
4. Parent Negativity T1	.01	-.01	-.43**	--	-.27**	.31**
5. Parent Support T1	-.09	-.03	.70**	-.34**	--	-.24*
6. Parent Control T1	-.01	.09	-.39**	.65**	-.42**	--

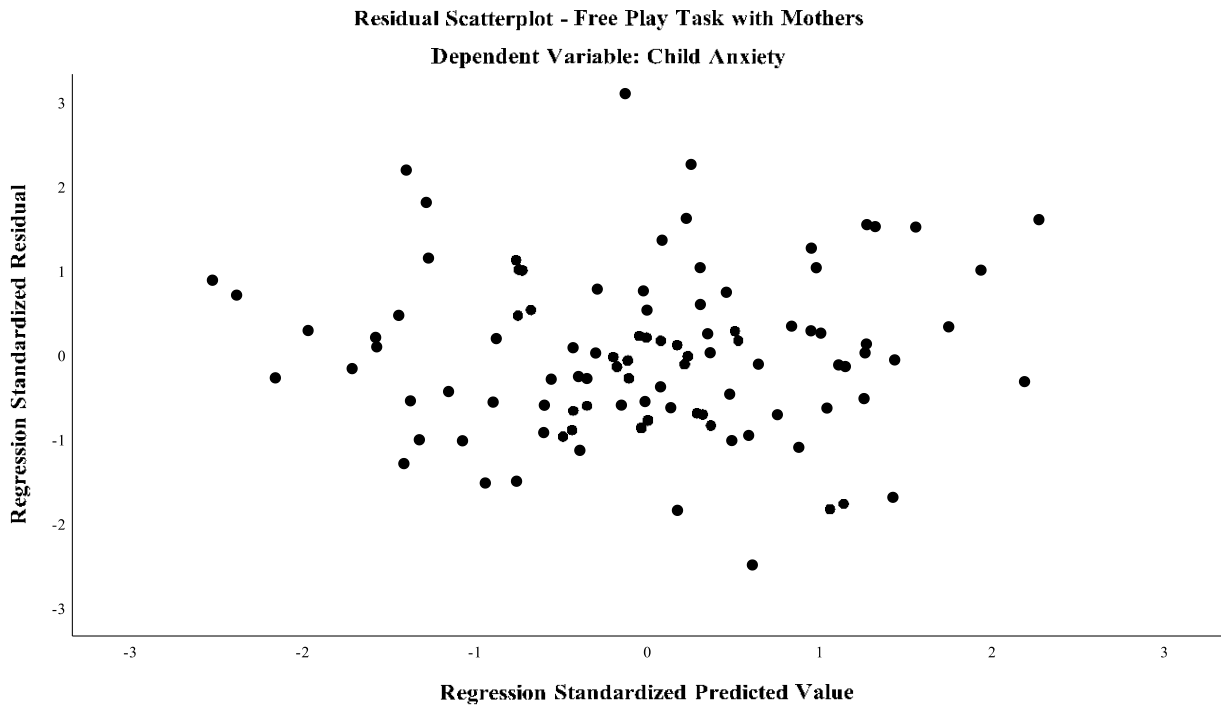
*Note.*  $N = 100$ , Child NA = Child Negative Affectivity. Mothers' ratings reported in the upper triangle above the diagonal line, fathers' ratings reported in the lower triangle below the diagonal line. \* $p < .05$ , \*\* $p < .01$

### Children's Negative Affectivity, Parenting Behaviours, and Children's Anxiety

Multiple regression analyses were completed to evaluate the effects of child temperament and observed parenting behaviours on children's levels of anxiety. Separate analyses were completed for mothers and fathers as well as for the different tasks. The assumptions for multiple linear regression, including linearity, normality, homoscedasticity, and independence were assessed prior to data analyses, as outlined in Tabachnick and Field (2013) and Hayes (2018). The standardized residual scatterplots for the multiple regression models for the free play (Figure 1.1 for mothers, Figure 1.4 for fathers), clean-up (Figure 1.2 for mothers, Figure 1.5 for fathers), and puzzle (Figure 1.3 for mothers, Figure 1.6 for fathers) tasks are presented below. Children's age, gender, parent ethnicity, mother's level of education and family annual income variables

were examined as potential covariates, but were not significant and removed from subsequent analyses.

*Figure 1.1 Residual Scatterplot for Predicting Children’s Anxiety – Free Play Task with Mothers*



*Figure 1.2 Residual Scatterplot for Predicting Children’s Anxiety – Clean-up Task with Mothers*

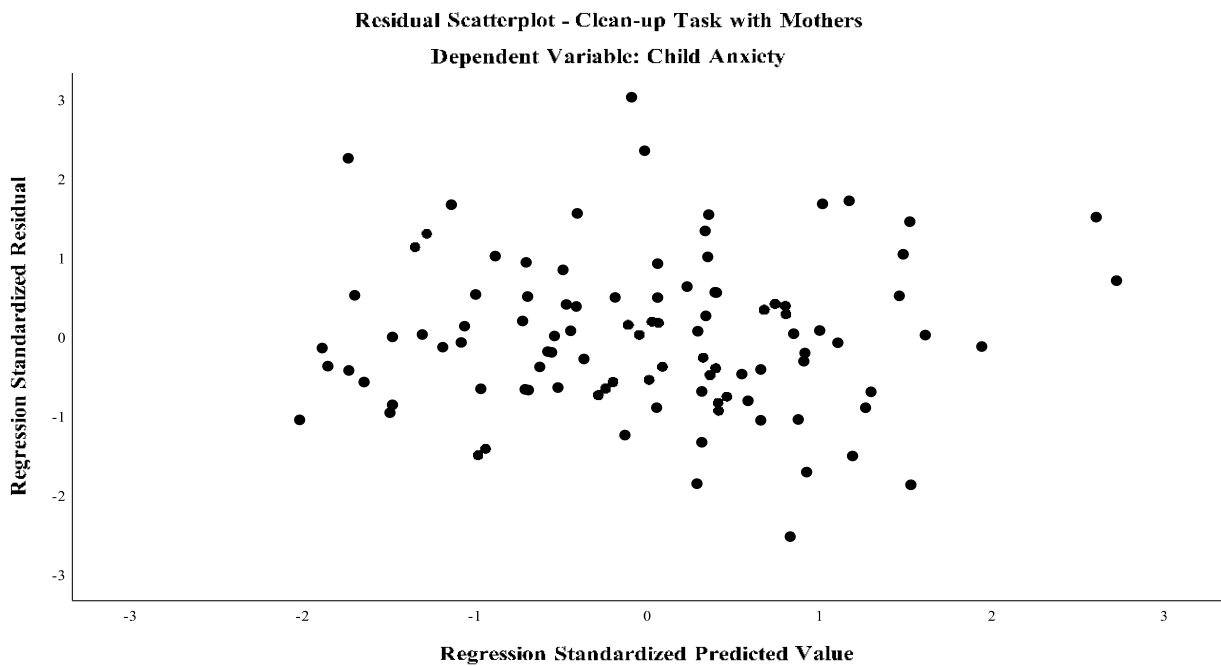


Figure 1.3 Residual Scatterplot for Predicting Children's Anxiety – Puzzle Task with Mothers

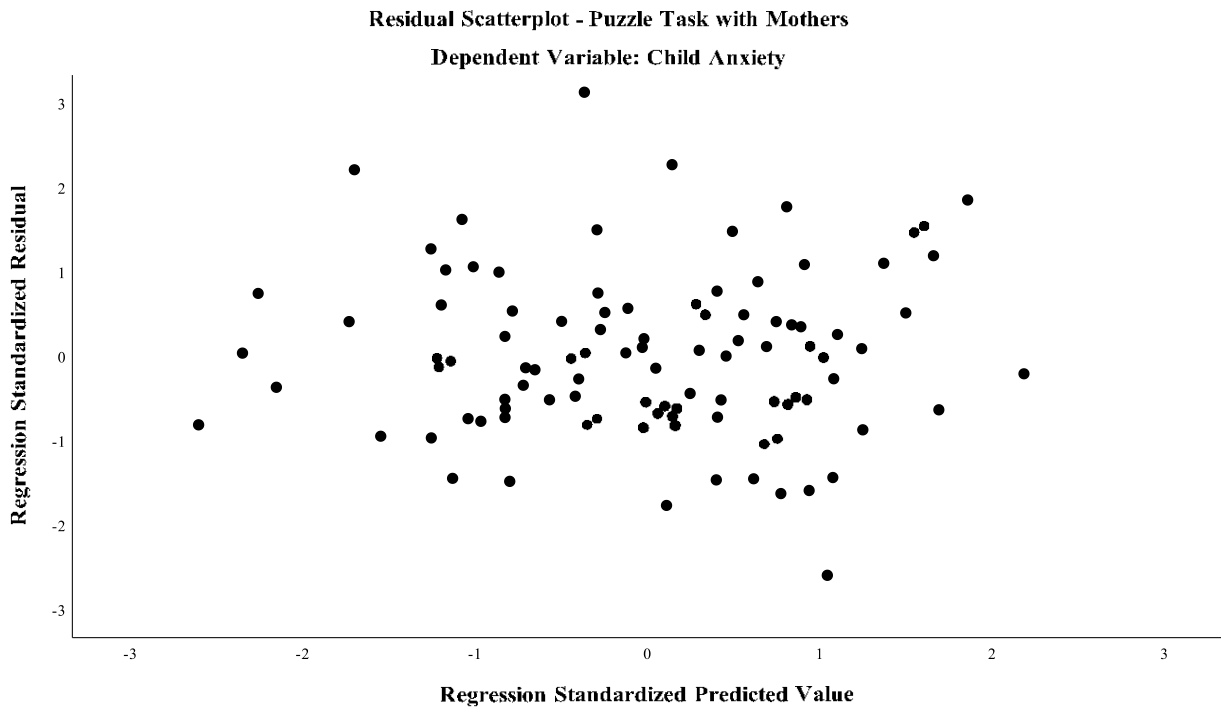


Figure 1.4 Residual Scatterplot for Predicting Children's Anxiety – Free Play Task with Fathers

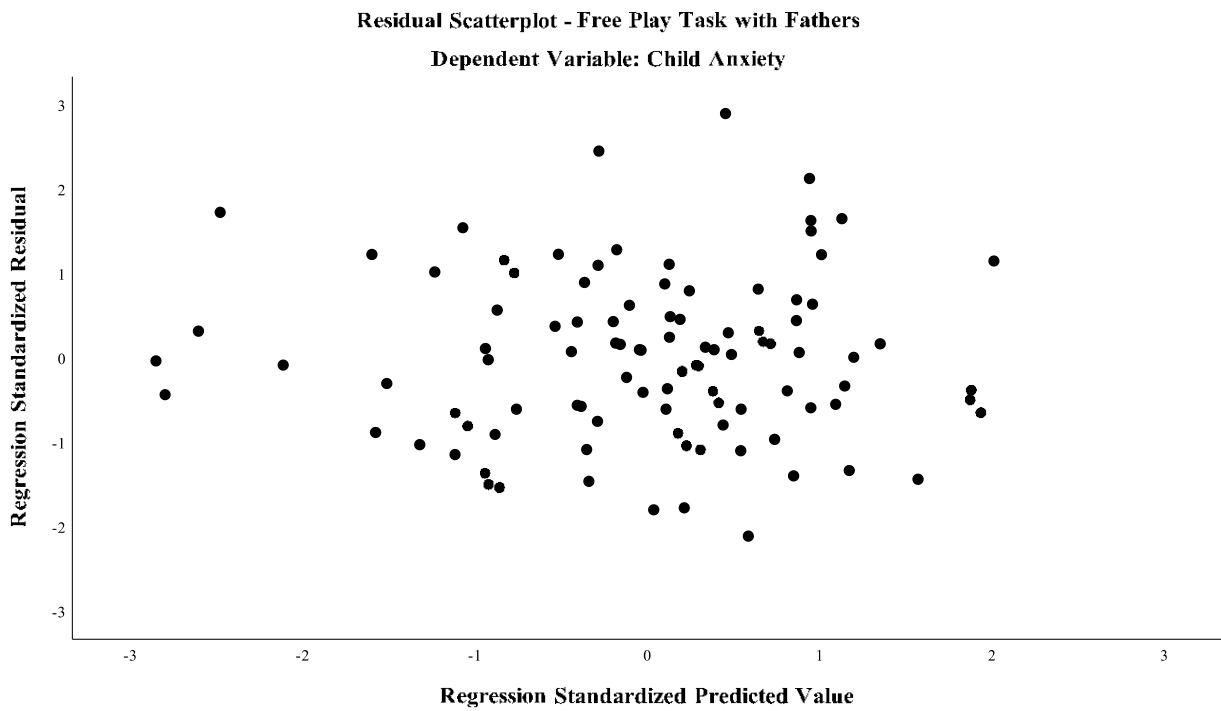


Figure 1.5 Residual Scatterplot for Predicting Children's Anxiety – Clean-up Task with Fathers

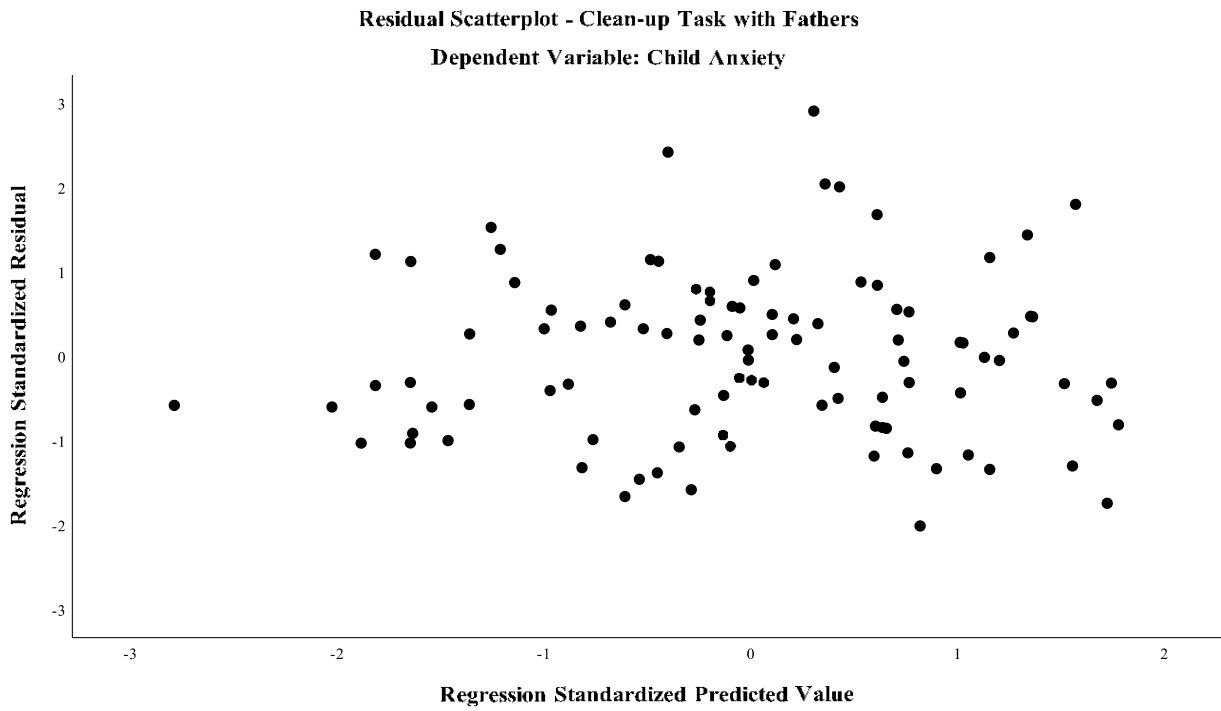
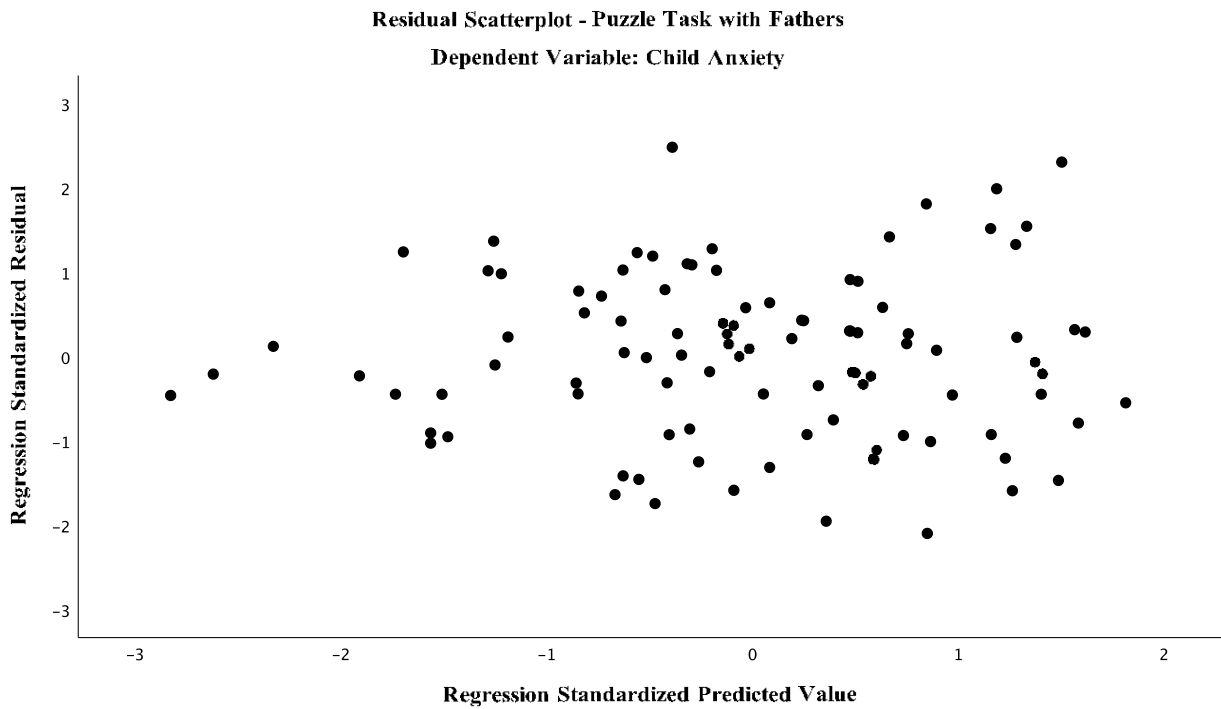


Figure 1.6 Residual Scatterplot for Predicting Children's Anxiety – Puzzle Task with Fathers



*Mothers' Parenting Behaviours and Children's Anxiety*

The multiple regression models for children's negative affectivity and mothers' parenting behaviours were significant across the play, clean-up and puzzle tasks (see Table 1.4), with  $R^2_{adj} = .16$ ,  $F(1, 94) = 4.69$ ,  $p = .00$ ;  $R^2_{adj} = .13$ ,  $F(1, 94) = 3.88$ ,  $p = .00$ ;  $R^2_{adj} = .12$ ,  $F(1, 94) = 3.67$ ,  $p = .00$ , respectively. However, only children's negative affectivity had a statistically significant impact on children's anxiety in all of the regression models, with higher rates of negative affectivity at Time 1 predicting higher rates of child anxiety at Time 3.

*Table 1.4 Multiple Regression Analyses for Predicting Children's Anxiety – Mother's Report*

Dependent Variable	<i>B</i>	<i>SE b</i>	$\beta$	<i>t</i>
Child Negative Affect	4.31	.98	.41	4.40**
Play Task				
Warmth	-1.28	3.31	-.05	-.39
Negativity	-10.12	11.72	-.09	-.86
Support	2.97	3.25	.11	.91
Control	-3.12	2.82	-.12	-1.11
Child Negative Affect	4.24	.99	.40	4.25**
Clean-Up Task				
Warmth	1.50	2.63	.06	.57
Negativity	2.50	4.30	.06	.56
Support	3.40	4.47	.08	.44
Control	-1.13	2.36	-.05	.63
Child Negative Affect	4.22	1.02	.40	4.15**
Puzzle Task				

Warmth	1.01	3.57	.03	.28
Negativity	-1.52	6.80	-.02	-.22
Support	1.29	3.85	.04	.33
Control	2.05	3.14	.07	.65

Note.  $N = 100$ . \* $p < .05$ , \*\* $p < .01$

### ***Fathers' Parenting Behaviours and Children's Anxiety***

The multiple regression models for children's negative affectivity and fathers' parenting behaviours were significant across the play, clean-up and puzzle tasks (see Table 1.5), with  $R^2_{adj} = .21$ ,  $F(1, 94) = 6.39$ ,  $p = .00$ ;  $R^2_{adj} = .13$ ,  $F(1, 94) = 3.88$ ,  $p = .00$ ;  $R^2_{adj} = .12$ ,  $F(1, 94) = 3.67$ ,  $p = .00$ , respectively. For the play task, children's negative affect, fathers' warmth, and fathers' support significantly predicted children's anxiety. Specifically, higher rates of warmth and lower rates of support at Time 1 predicted higher rates of child anxiety at Time 3. For the clean-up and puzzle tasks, only children's negative affectivity had a statistically significant impact on children's anxiety, while parenting behaviours were not significant.

*Table 1.5 Multiple Regression Analyses for Predicting Children's Anxiety – Father's Report*

Dependent Variable	<i>B</i>	<i>SE b</i>	$\beta$	<i>t</i>
Child Negative Affect	4.82	1.06	.41	4.56**
Play Task				
Warmth	7.07	3.04	.34	2.33*
Negativity	-.69	6.18	-.01	-.11
Support	-8.57	3.52	-.36	-2.43*
Control	-1.77	2.30	-.09	-.77
Child Negative Affect	5.164	1.08	.44	4.80**



Clean-Up Task				
Warmth	-0.21	2.12	-0.01	-0.10
Negativity	-2.24	4.09	-0.05	-0.55
Support	-0.85	2.66	-0.03	-0.32
Control	-1.78	2.17	-0.08	-0.82
Child Negative Affectivity	5.45	1.07	.47	5.12**
Puzzle Task				
Warmth	5.36	2.87	.25	1.87
Negativity	7.03	6.77	.13	1.04
Support	-6.68	3.20	-0.27	-2.09*
Control	-3.41	2.70	-0.16	-1.26

Note.  $N = 100$ . \* $p < .05$ , \*\* $p < .01$

### Parenting Behaviour Moderation Analyses

Separate models for mothers and fathers investigating the effect of child negative affectivity on child anxiety as moderated by parenting behaviours were completed. The SPSS macro PROCESS (Hayes, 2018) was used to complete the moderation analyses.

For parental warmth, no significant interactions were found with child negative affectivity for mothers (Play  $\Delta R^2 = .00$ ,  $F(1,96) = .06$ ,  $p = .81$ ; Clean-up  $\Delta R^2 = .01$ ,  $F(1, 96) = .64$ ,  $p = .43$ ; Puzzle  $\Delta R^2 = .00$ ,  $F(1, 96) = .00$ ,  $p = .95$ ) or fathers (Play  $\Delta R^2 = .00$ ,  $F(1,96) = .01$ ,  $p = .91$ ; Clean-up  $\Delta R^2 = .00$ ,  $F(1, 96) = .04$ ,  $p = .84$ ; Puzzle  $\Delta R^2 = .00$ ,  $F(1, 96) = .24$ ,  $p = .62$ ).

For parental negativity, there was a significant interaction found between child negative affectivity and maternal negativity on children's anxiety problems during the clean-up task, with  $\Delta R^2 = .03$ ,  $F(1, 96) = 3.42$ ,  $p = .07$ . Therefore, mothers' observed negative behaviours during the

clean-up task at Time 1 strengthened the positive relationship between children's negative affectivity at Time 1 and levels of anxiety at Time 3. No significant interactions were found between child negative affectivity and mothers' negative parenting behaviours on children's anxiety problems during the other tasks (Play  $\Delta R^2 = .02$ ,  $F(1,96) = 2.50$ ,  $p = .12$ ; Puzzle  $\Delta R^2 = .01$ ,  $F(1, 96) = 1.35$ ,  $p = .25$ ), and no significant interactions were found for father's negative parenting (Play  $\Delta R^2 = .01$ ,  $F(1,96) = 1.04$ ,  $p = .311$ ; Clean-up  $\Delta R^2 = .01$ ,  $F(1,96) = 1.17$ ,  $p = .28$ ; Puzzle  $\Delta R^2 = .01$ ,  $F(1,96) = 1.47$ ,  $p = .23$ ).

No significant interactions were found between child negative affectivity and parent support for mothers (Play  $\Delta R^2 = .00$ ,  $F(1,96) = .16$ ,  $p = .69$ ; Clean-up  $\Delta R^2 = .00$ ,  $F(1,96) = .01$ ,  $p = .92$ ; Puzzle  $\Delta R^2 = .00$ ,  $F(1,96) = .05$ ,  $p = .82$ ) or fathers (Play  $\Delta R^2 = .01$ ,  $F(1,96) = .61$ ,  $p = .44$ ; Clean-up  $\Delta R^2 = .00$ ,  $F(1,96) = .01$ ,  $p = .93$ ; Puzzle  $\Delta R^2 = .00$ ,  $F(1,96) = .34$ ,  $p = .56$ ). No significant interactions were found for parenting control and child negative affectivity for mothers (Play  $\Delta R^2 = .01$ ,  $F(1,96) = .99$ ,  $p = .32$ ; Clean-up  $\Delta R^2 = .02$ ,  $F(1,96) = 1.74$ ,  $p = .19$ ; Puzzle  $\Delta R^2 = .00$ ,  $F(1,96) = .01$ ,  $p = .91$ ) or fathers (Play  $\Delta R^2 = .00$ ,  $F(1,96) = .39$ ,  $p = .54$ ; Clean-up  $\Delta R^2 = .00$ ,  $F(1,96) = .00$ ,  $p = .96$ ; Puzzle  $\Delta R^2 = .00$ ,  $F(1,96) = .34$ ,  $p = .56$ ).

### Discussion

The aim of the present study was to examine the associations between child temperament, parenting behaviours and children's anxiety levels in early childhood with both mothers and fathers. A strength of the current study is the use of observation methods to assess parenting behaviours during typical parent-child interaction tasks in the natural setting of family's homes. The findings of this research contribute to our current understandings of the unique role fathers play in supporting their children's social-emotional and behavioural development in early childhood, and the importance of including fathers in parenting research.

### **Temperament, Observed Parent Behaviours, and Child Anxiety**

Children's negative affectivity at Time 1 positively predicted children's anxiety levels at Time 3. Mother's observed warmth, negativity, support and control behaviours at Time 1 were not positively associated with children's anxiety at Time 3. For fathers, higher rates of observed parenting warmth and lower rates of observed parenting support during the play task at Time 1 both significantly predicted higher levels of child anxiety at Time 3. Fathers' observed parenting behaviours during the clean-up and puzzle tasks did not significantly predict children's anxiety.

The results of the present study are also consistent with previous research findings that children with anxiety disorders are more likely to have fathers who rate themselves as high on levels of warmth and low on levels of support (Dougherty et al., 2013). Although parental warmth is considered to be a positive parenting behaviour, it may be related to the protection of children from everyday stressors, resulting in higher levels of avoidance and anxiety problems in childhood (van der Bruggen et al., 2010). Play tasks are a time when parents can engage in more positive interactions with their children, as well as offer guidance and teaching (Rusby et al., 2015), compared to more difficult tasks such as clean-up. The results of the current study suggest that father's parenting behaviours during free play interactions impact their children's social-emotional well-being in early childhood.

### **Moderating Role of Parenting Behaviours**

No moderating effects were found for the parenting behaviours of warmth, support, or control for mothers or fathers. There was a significant interaction found for mothers' negative behaviours during the clean-up task in the moderation analyses. Specifically, children with high rates of negative affectivity had higher levels of anxiety problems at Time 3 when they also experienced more negative parenting behaviours with their mothers during the clean-up task at

Time 1. This interaction was not significant for fathers. Clean-up tasks often include more parent-child conflict, child noncompliance, and parent directions compared to play tasks (Rusby et al., 2015). The results of the current study add to previous findings that children who display higher levels of negative affectivity also develop higher levels of social-emotional and behavioural problems when they experience negative parenting behaviours (Bradley & Crowyn, 2008). The current study extends previous findings, as high rates of child negative affectivity predicted higher rates of anxiety when children also experienced mothers with higher levels of negative parenting behaviours only during certain tasks (e.g., cleanup activities). These results suggest the effects of child temperament and mothers' negative parenting behaviours on the development and maintenance of childhood anxiety problems are interactive in nature.

Overall, the findings of the present study suggest there are unique differences between the associations between temperament, child anxiety and parenting behaviours between mothers and fathers, and highlight the importance of including both mothers and fathers in parenting research. The findings of the present study also suggest distinctive associations between children's anxiety levels and parenting behaviours during specific tasks, with significant findings found for fathers during the play task and mothers during the clean-up task. These findings have implications for early childhood researchers, as observing parent behaviours during specific types of activities, such as a typical play and clean-up task, may provide more information on the complex interactions between temperament, parenting behaviours, and child anxiety compared to more structured tasks, such as a puzzle task. These findings also have implications for early childhood intervention and parenting programs, as they suggest that father's parenting behaviours during playful tasks have a unique influence on children's levels of anxiety, while mother's parenting behaviours have a unique influence during tasks that elicit more non-

compliance and parent-child conflict (e.g., a clean-up task). Therefore, early childhood practitioners focused on preventing and ameliorating early child anxiety problems should consider targeting parenting behaviours during specific parent-child scenarios for mothers and fathers.

### **Limitations and Future Directions**

There were several limitations in the present study. Firstly, the present study included a community sample of families that volunteered to participate in the observational research component. Generally, there is a lack of participants willing to complete observational research and allow researchers in to their homes, which may lead to biased estimates. It is currently unclear if parents and children who are willing to participate in observational research are notably different from those who do not participate. For example, parents of anxious and fearful children may be less likely to participate in observational research, as they may fear that having a researcher in their home will cause their child distress. More research is necessary to understand the differences between families who engage in observational research and those who do not, to understand if the results of observational studies are generalizable to larger populations.

Secondly, the process of being observed and recorded may have affected parents' behaviours during the parent-child interaction tasks. Although parents and children were observed in their natural home setting, it is uncertain to what extent the observed behaviours reflect parents' typical behaviours in a real-life, non-observed situation. For example, the low rates of parental negativity and control observed in the present study may be related to parents' awareness of being recorded and observed, causing them to be more mindful to demonstrate fewer negative or controlling parenting behaviours towards their children during the recorded sessions.

Despite these limitations, the findings of the present study expand our understanding of the development of anxiety problems in early childhood, and has implications for both researchers and practice. Specifically, the findings highlight the importance of including both mothers and fathers in parenting research, as both mothers and fathers play important and unique roles in the development and prevention of anxiety problems in early childhood. These findings also have implications for early childhood practitioners, as they suggest that both mothers and fathers should be included in parenting interventions for children who are more susceptible to anxiety problems in early childhood, such as those who demonstrate high rates of negative affectivity.

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STUDY 2

Temperament, Parenting Styles, and Child Anxiety: The Unique role of Fathers' Parenting Styles

### Abstract

Despite research that fathers and mothers play an important role in the development of children's social and emotional development, there is limited research investigating both mothers' and fathers' parenting styles in early childhood in relation to children's well-being, as well as the interaction effects between mothers' and fathers' parenting styles and child temperament on predicting early childhood anxiety problems. Parents of preschool-aged children ( $n = 257$ ) completed self-report measures on their parenting styles and child temperament at Time 1, as well as children's levels of anxiety approximately 2 years later. Mothers, on average, reported higher levels of the authoritative parenting style while fathers reported higher levels of the permissive parenting style. These findings challenge the historical view that fathers utilize more of an authoritarian parenting style compared to mothers. Higher levels of child negative affectivity significantly predicted higher levels of child anxiety, adding to the evidence that certain children are more temperamentally vulnerable to the development of anxiety problems in early childhood. Father's permissive and authoritarian parenting styles were found to moderate the relationship between children's negative affectivity and child anxiety. Specifically, higher levels of the permissive and authoritarian parenting style strengthened the relationship between child negative affectivity at Time 1 and child anxiety problems several years later. Significant moderating effects were not found for mothers. These results highlight the significant role fathers play in their young children's social and emotional well-being, and highlight the importance of including fathers in early childhood research, as well as early intervention and prevention efforts for young children at-risk for anxiety problems.

### **Introduction**

Anxiety is one of the most prevalent and debilitating disorders currently affecting children's health (McRae, et al., 2016; Waddell, et al., 2007). Anxiety problems are defined by recurrent, excessive, intense and overwhelming fears and worries about everyday things that are not considered to be developmentally appropriate (APA, 2013). Prevalence rates of anxiety disorders in young children are currently estimated to range from 10 to 20 percent (Racine et al., 2021; Vasileva et al., 2020; Whalen et al., 2017). Despite its prevalence in preschoolers, little is known about the onset, developmental course, and the early risk and protective factors of anxiety problems in early childhood populations (Davis et al., 2015; Sterba et al., 2007; Tandon et al., 2009).

The developmental psychopathology model provides a conceptual framework for studying childhood anxiety problems. Proponents of this perspective theorize that childhood anxiety disorders are the result of both individual factors, such as temperament and cognitive abilities, and environmental factors, such as family and social-environmental factors (Cicchetti, 2020; Vasey & Dadds, 2001; Wood et al., 2003). From this perspective, a range of individual and environmental factors may predispose a child to or protect them from the development of an anxiety disorder. Researchers have studied children's temperament and parenting as possible factors relating to the development and maintenance of child anxiety problems (e.g., Degnan et al., 2010; Fletcher et al., 2008; Lee et al., 2006; Luyckx et al., 2011).

Craske (1999) posited a theoretical model, based on emotional and learning theory, to describe how parenting may lead to the development and maintenance of child anxiety problems. Craske (1999) hypothesized that parenting styles across contexts creates an environment that influences the development of anxiety problems. For example, high rates of parental negativity

may result in children learning negative attributions about both themselves and the world, resulting in the development of anxiety problems. Certain parenting practices that allow a child to avoid situations that provoke feelings of anxiety, which in turn reinforces their avoidant behaviours, are also hypothesized to result in the maintenance of child anxiety problems (Craske, 1999).

The aim of the present study is to investigate how specific parenting styles may exacerbate the influence of temperament vulnerabilities on rates of early childhood anxiety problems. Understanding if certain parenting styles predict anxiety problems for children with temperamental vulnerabilities in early childhood will help to inform early detection, prevention and intervention efforts for children at-risk for anxiety problems and their parents.

### **Child Temperament**

Temperament has been defined as individual differences in a child's levels of reactivity and regulation within the domains of emotionality, motor activity, and attention (Putnam et al., 2019; Rothbart & Derryberry, 1981). Child temperament is developmental in nature, and influences how a child interacts with their environment, as well as how adults respond to their behaviours (Putnam et al., 2019; Rothbart, 2007). Rothbart and colleagues (2006) described three broad dimensions of temperament for children: negative affectivity (negative emotionality and high reactivity), extraversion/surgency (positive emotionality and approach), and effortful control (inhibitory control and attentional focusing). Researchers have emphasized the influence of parenting behaviours on the development of temperamentally vulnerable children, and described children with high levels of surgency, high levels of negative affect, or low levels of effortful control as more temperamentally vulnerable to emotional and behavioural problems (Gaertner et al., 2008; Putnam et al., 2019; Rothbart & Bates, 2006).

Child negative affectivity is defined by higher levels of sadness, anger, frustration, and fear, and a lower rate of recovery (Rothbart, 2011). High levels of child negative affectivity is considered to be a risk factor for the development of anxiety problems in childhood, adolescence and adulthood (e.g., Clements & Bailey, 2010; Davis et al., 2015; Festen et al., 2013; Higa-McMillan et al., 2014; Lindhout et al., 2009; Marakovitz et al., 2011; Mian et al., 2010; van der Bruggen et al., 2010). Children with high levels of negative affectivity are hypothesized to react more anxiously to novel stimuli and experience more failure during challenging activities, causing them to avoid similar activities in the future (Rothbart et al., 1994). However, not all children who demonstrate high levels of negative affectivity have anxiety problems, and children's temperament does not fully explain the development of anxiety problems in young children. More research is needed to understand how temperament and environmental factors, such as parenting styles, interact in the development of anxiety problems in early childhood.

### **Parenting Styles**

Parenting styles are the typical ways parents think, feel, and behave toward their children, and are a measure of the parent-child emotional climate across a wide range of situations (Degnan et al., 2010). Baumrind (1971; 1989) described the authoritative, authoritarian, and permissive parenting styles, defined by the dimensions of parental control and warmth. Control refers to the degree parents place demands on their children's behaviour (Baumrind, 1989; Maccoby & Martin, 1983). Parental control includes behavioural control, such as providing supervision to enforce rules and boundaries, as well as psychological control, such as using guilt and disrespect (Barber et al., 2005; Smetana, 2017). Parental warmth is characterized by parents' involvement, acceptance, emotional availability, and responsiveness towards their children (Cummings et al., 2000). The relationship between parenting styles and children's development

may be especially important in understanding the development of anxiety problems in early childhood. Early childhood is a period when specific developmental tasks, including emotional regulation, autonomy and independence, begin to emerge and be mastered by children (Pope-Edwards & Liu, 2002). There continues to be strong empirical support for Baumrind's parenting styles in the literature (Power, 2013), and the parenting styles are further described below.

### *Authoritative Parenting Style*

An authoritative parenting style is characterized by high levels of both control and warmth. Parents who report engaging in authoritative parenting place reasonable demands on their children, are consistent and sensitive, and also demonstrate behavioural co-regulation, which gradually allows their children to learn how to make decisions and assume self-regulation of their own behaviour as they grow and develop (Baumrind et al., 2010; Levin, 2011). Parents who endorse an authoritative parenting style work to achieve a secure parent-child attachment by being warm but not intrusive, and allow their children to explore while not being overprotective (Foo, 2019). The authoritative parenting style is associated with the most positive outcomes for children's development, and researchers have found that higher levels of an authoritative parenting style predict decreases in internalizing problems over time for both children and adolescents (Baumrind et al., 2010; Lamborn et al., 1991; Lee et al., 2006; Levin, 2011; Luyckx et al., 2011; Piquart, 2017). Parental support, guidance and structure, as highlighted in an authoritative parenting style, have been shown to help guide young children through developmental tasks, including emotional regulation, autonomy and independence (Pope-Edwards & Liu, 2002). Therefore, the authoritative parenting style is often considered the optimal parenting style for promoting young children's social and emotional development, and it

is hypothesized that that an authoritative parenting style would be associated with lower levels of early childhood anxiety problems.

### *Authoritarian Parenting Style*

Parents who display high levels of control and low levels of warmth demonstrate an authoritarian parenting style. Parents who endorse an authoritarian parenting style show high levels of both behavioural and psychological control, including using rules with strict enforcement and an unwillingness to modify or discuss rules with their children (Baumrind et al., 2010; Levin, 2011).

Researchers have found that too much parental control restricts children's autonomy and prevents children from experiencing and coping with anxious and stressful situations (Field et al., 2020), and high levels of maternal and paternal authoritarian parenting styles have been associated with higher rates of internalizing problems in childhood and adolescence (Anhalt & Morris, 2008; Fletcher et al., 2008; Luyckx et al., 2011; Majdandžić et al., 2014; Rinaldi & Howe, 2012; Timpano et al., 2015; Wang & Zhang, 2012). Children who have experienced an authoritarian parenting style may have difficulties dealing with new and stressful situations because they have not had the opportunity to understand the reasons behind rules and to develop critical thinking skills for dealing with novel situations. Early childhood is a period when children's behaviours become more influenced by their own sense of autonomy and self-regulation. Authoritarian parenting techniques that are high in control and low in warmth, such as yelling and punishment, may be effective for gaining young children's compliance in the short term, due to generating fear and submission (Pope-Edwards & Liu, 2002). However, these types of parenting techniques are less effective in the long run for helping young children to develop and master impulse control and emotional regulation skills (Pope-Edwards & Liu, 2002),



including preventing young children from coping with anxious situations on their own (Field et al., 2020).

### ***Permissive Parenting Style***

The permissive parenting style is characterized by high levels of warmth and low levels of control, and has also been referred to as an indulgent parenting style. Parents who endorse a permissive parenting style often place few demands on their children's behaviours and responsibilities, and believe their children can regulate their own activities (Foo, 2019). Children of parents who endorse a permissive parenting style also have fewer opportunities to learn to put others' needs before their own, which negatively affects their friendships and relationships with others (Levin, 2011).

Researchers have found that higher levels of a permissive parenting style are associated with higher levels of anxiety problems in preschoolers (Rose et al., 2018; Williams et al., 2009) and school-aged children (Timpano et al., 2015; Wang & Zhang, 2012). Other researchers have found that having a father with a more permissive parenting style was related to higher levels of child anxiety, while the relationship was not found with mothers (Dougherty et al., 2013). A permissive parenting style is hypothesized to be related to higher levels of anxiety problems in early childhood, as the lack of guidance and structure provided by parents cause children to learn fewer self-regulation and coping skills (Baumrind, 1975).

### **Comparing Mothers' and Fathers' Parenting Styles**

Early childhood researchers have suggested that mothers and fathers may parent differently, as well as create environments that differentially influence their children's anxiety symptoms (Bogels & Peroti, 2011; Möller et al., 2015). In regards to parenting styles, there have been inconsistent findings between studies investigating differences between mothers and

fathers. Some researchers have found that fathers are more likely to use an authoritarian parenting style (McKinney & Renk, 2008; Russell et al., 1998; Yaffe, 2020), while others have not found significant differences between mothers and fathers (Conrade & Ho, 2001; Simons & Conger, 2007). Researchers have also found that mothers are more likely to use an authoritative parenting style compared to fathers (Conrade & Ho, 2001; Russell et al., 1998; Simons & Conger, 2007; Winsler et al., 2005; Yaffe, 2020). Findings comparing permissive parenting styles have also been inconsistent, with some researchers finding that mothers are more likely to use a permissive parenting style (Conrade & Ho, 2001), while others have not found significant differences (Simons & Conger, 2007).

The relationship between parenting styles and children's development may be especially important in understanding the development of anxiety problems in early childhood. Some researchers have found that mothers of children with anxiety disorders rated themselves as more authoritarian and permissive, while fathers rated themselves as more permissive (Dougherty et al., 2013). Positive associations between infant negative affectivity and maternal permissive parenting have also been found, but not for fathers (Wittig & Rodriguez, 2019). Currently, there is presently a lack of studies investigating parenting styles and child anxiety in early childhood to draw conclusions (Yap et al., 2014). More research is necessary to contribute to our understanding of commonalities and distinctions between mothers' and fathers' parenting styles, and to evaluate the importance of including both mothers and fathers in early childhood research and intervention efforts.

### **Interactions between Parenting Style and Child Temperament**

Chess and Thomas (1996) theorized a goodness-of-fit model to describe the degree of fit between a child's capacities, motivations, and style of behaviour, and their environmental

demands. Chess and Thomas (1996) theorized that compatibility between a child's characteristics and their environment should result in optimal positive development, while a poor fit would lead to maladaptive functioning. Researchers have used the goodness-of-fit model to explore optimal matches between children's temperament and different parenting factors, such as parenting style, in relation to child anxiety problems.

Parenting factors have been investigated as possible moderator variables affecting the relationship between child temperament and anxiety problems in childhood. Researchers have found that children with temperamental vulnerabilities (i.e., high rates of negative affectivity) have more behavioural problems when they also experience high rates of harsh and controlling parenting across early childhood, and fewer behavioural problems when they experience high rates of parental sensitivity (Bradley & Corwyn, 2008; Lewis-Morrarty et al., 2012; Pleuss & Belsky, 2010). These findings suggest that certain temperamental traits, such as negative affectivity, may cause children to be differentially susceptible to different parenting factors (Pleuss & Belsky, 2010).

Parenting styles have also been investigated as moderator variables in the relationship between child temperament and anxiety problems. The permissive parenting style, which is associated with low levels of demandingness, guidance and direction, has been found to moderate the relationship between temperament and child anxiety problems (Williams et al., 2009). Specifically, children who had high behavioural inhibition and parents with a permissive parenting style had the greatest number of internalizing problems in early childhood (Williams et al., 2009).

It is important to study the interactions between child temperament and parenting styles to better understand if certain combinations result in more positive or negative child

development. The present study aims to investigate if there is a goodness-of-fit between certain parenting styles and child negative affectivity that results in more or less anxiety problems in early childhood. Understanding combinations of temperament and parenting styles that are optimal for child development have implications for the development of both prevention and early intervention programs for children who have temperamental vulnerabilities for anxiety problems.

### **Gaps in the Research Literature and Study Contributions**

Despite advances in understanding the role of parenting styles on children's levels of anxiety problems, several limitations in the literature still exist. Firstly, the majority of the existing literature on parenting styles and children's development does not include preschool age participants. As anxiety disorders are one of the most common disorders in the preschool years, more research is needed to better understand if certain combinations of parenting styles and child temperament result in increased anxiety problems in young children. Understanding which parenting styles act as protective factors for children at-risk for anxiety disorders will help to guide early intervention services.

Secondly, existing studies have focused on studying temperament, parenting styles, and children's anxiety problems at a single point in time. Researchers using these methods are unable to investigate the interactive effects of temperament and parenting behaviours on the development of anxiety problems over time. Few studies have examined the trajectories of anxiety problems over the early childhood years. There remains a need for longitudinal studies to examine the predictors of different developmental trajectories of anxiety problems in early childhood. This study will utilize a prospective, longitudinal design to examine how

temperament and parenting styles in early childhood influences children's anxiety problems several years later.

Lastly, the majority of the existing research focuses on maternal parenting styles. There is evidence that both maternal and paternal parenting factors influence children's social-emotional and behavioural development (Anhalt & Morris, 2008; Field et al., 2020; Flouri, 2010). This has important implications for interventions, as this evidence suggests that both mothers and fathers should be involved in interventions when their children have anxiety problems (Anhalt & Morris, 2008). Differences in maternal and paternal parenting styles may also differentially influence the development and maintenance of child anxiety problems. More studies including both mothers and fathers are necessary, as fathers may offer distinct ways of supporting their children's development, and play an important role in the protection against severe anxiety problems (Pahl et al., 2012; Rinaldi & Howe, 2012).

### **Research Purpose and Questions**

The objective of the present study is to assess how children's temperament, mothers' and fathers' parenting styles and children's anxiety problems are associated in early childhood. This study investigates whether the relation of children's temperament to anxiety is moderated by parenting behaviours and parenting styles.

### ***Research Questions***

The current study investigates the following general questions:

1. How much similarity is there between self-reported parenting styles across mothers and fathers of preschoolers? Previous researchers have found that mothers are more likely to use an authoritative parenting style (Conrade & Ho, 2001; Russel et al., 1998; Simons & Conger, 2007; Winsler et al., 2005) while fathers are more likely to use an authoritarian

parenting style (McKinney & Renk, 2008; Russell et al., 1998; Yaffe, 2020). Therefore, it is expected that mothers, on average, will self-report higher levels of an authoritative parenting style, while fathers will self-report higher levels of an authoritarian parenting style in early childhood.

2. Does child negative affectivity and mothers' and fathers' parenting styles predict children's levels of anxiety in early childhood? It is anticipated that high levels of an authoritarian parenting style or permissive parenting style will strengthen the relationship between children's negative affectivity and their levels of anxiety problems in early childhood.
3. Do mothers' and fathers' parenting styles moderate the relationship between child temperament and child anxiety? Child negative affectivity is expected to be more strongly related to anxiety problems for children with mothers' and fathers' who report higher levels of authoritarian or permissive parenting styles. Both fathers' and mothers' parenting styles are expected to have significant interaction effects with temperament on child anxiety problems.

### **Methods**

Secondary data analysis was conducted for this research using data collected from the project "Early childhood parent-child interactions: An examination of the stability of parenting across tasks and over time" (Rinaldi, Howe, & Gokiart, SSHRC IG #435-2014-0794). The primary aim of the project was to investigate how mothers' and fathers' roles as parents change as children develop. Ethics approval for the project was received by the Research Ethics Board at the University of Alberta (Study ID: Pro00048538). Ethics approval for the secondary data

analysis was received from the University of Alberta Ethics Board, Project Name: “Investigating temperament, parenting, and anxiety problems in early childhood” (Study ID Pro00088343).

### **Participants**

Over 1000 families with preschool-aged children were contacted to participate in the project. Families were recruited through preschool and early learning centers, as well as word of mouth procedures, in Alberta, Saskatchewan, and Ontario, with the majority of families being located in Alberta, with 370 families consenting to participate. Parents were asked to complete questionnaire packages at three different time points (Time 1, Time 2 and Time 3), approximately 12 months apart, and 257 families completed the questionnaire packages for all three time points. A demographic questionnaire was included to obtain information on children’s age, gender, family composition and their race/ethnicity, as well as parent’s relationship status, age, education, job and household income. Parents were given the choice of completing the forms in paper copy or on a secure web-based format. Families were given a \$30 Chapters gift card for completing questionnaires at each time point.

Children’s age ranged from 26 to 38 months at Time 1 ( $M = 52.25$  months,  $SD = 7.48$ ) and 48 to 94 months at Time 3 ( $M = 75.04$ ,  $SD = 7.49$ ), and 46.3% of the children were female. Parents rated their primary ethnicity as European/European Canadian (70.0% of mothers, 70.8% of fathers), Asian/Asian Canadian (24.1% of mothers, 22.6% of fathers), African/African Canadian (2.7% of mothers, 3.5% of fathers), Latin, Central or South American/Latin, Central or South American Canadian (2.3% of mothers, 1.6% of fathers), or Indigenous (0.8% of mothers, 1.6% of fathers). Parents reported that they were Canadian citizens (85.6% of mothers, 87.2% of fathers), Immigrants (12.1% of mothers, 10.1% of fathers) or Permanent Residents (2.3% of mothers, 2.7% of fathers). Approximate annual income of their household was reported as:

below \$25 000 (0.8%), \$25 000 to \$49 000 (4.3%), \$50 000 to \$74 999 (8.2%), \$75 000 to \$99 999 (16.4%), \$100 000 to \$124 999 (17.2%), \$125 000 to \$149 999 (14.1%), \$150 000 to \$174 999 (15.2%), \$175 000 to \$199 999 (6.3%) or over \$200 000 (17.6%).

At T1 and T3, the majority of parents reported that both the mother and father were the primary caregivers of the child (89.9%), while other parents reported that only the mother (8.9%), the father (0.4%), or the mother and a grandparent (0.4%) were the primary caregivers. The vast majority of parents reported the child's primary caregivers lived with their child (99.6% at T1, 99.6% at T3). At T1 the majority of parents reported they saw and interacted with their child 7 days a week (98.3% of mothers, 91.3% of fathers), as well as at T3 (98.4% of mothers, 93.4% of fathers). At T1 parents reported their relationship status was married (91.1% of mothers, 90.7% of fathers), common-law (7.4% of mothers, 8.7% of fathers), separated (0.8% of mothers, 0.6% of fathers), single (0.4% of mothers) or divorced (0.4% of mothers). At T3 parents reported their relationship status was married (91.4% of mothers, 91.8% of fathers), common-law (7.8% of mothers, 7.4% of fathers), separated (0.8% of mothers, 0.4% of fathers), or divorced (0.4% of fathers). At T3 3.1% of mothers and 1.2% of fathers indicated their relationship status had changed in the last 12 months.

As for siblings, at T1 57.0% of children had 1 sibling, 23.3% had 2 or more siblings, and 19.8% were only children. At T3 57.2% of children had 1 sibling, 30% had 2 or more siblings, and 12.8% were only children. The majority of parents described their family's composition as nuclear (94.2% at T1, 89.99% at T3), while others described their family composition as blended (4.1% at T1, 5.4% at T3), extended family (0.6% at T1, 3.1% at T3), adopted (1.2% at T1 and T3), or single-parent family (0.4% at T3).



## Measures

### *Children's Temperament*

Mothers and fathers both assessed children's temperament at Time 1 using the *Child Behaviour Questionnaire Very Short Form* (CBQ-VSF; Putnam & Rothbart, 2006). The CBQ-VSF questionnaire allows parents to rate their child's temperament across a variety of situations and environments (Rothbart & Bates, 2006). The CBQ assesses three broad ranges of temperament in children aged three to seven years old: Surgency, Negative Affectivity, and Effortful Control. The questionnaire includes 36 items that ask parents how their child would react in a variety of situations, such as "likes going down high slides or other adventurous activities", "tends to become sad if the family's plans don't work out" and "when building or putting something together, becomes very involved in what s/he is doing, and works for long periods". Items are answered using a 7-point scale: 1 = Extremely Untrue of Your Child, 2 = Quite Untrue, 3 = Slightly Untrue, 4 = Neither True nor Untrue, 5 = Slightly True, 6 = Quite True, or 7 = Extremely True of Your Child.

The authors of the CBQ-VSF reported the composite scale reliability coefficients to be within an acceptable range for each scale (.83 for surgency, .75 for negative affectivity, and .83 for effortful control; Putnam & Rothbart, 2006). The internal consistency reliabilities for the present study ranged from acceptable to good for the Surgency (Cronbach's alpha = .76 for mothers, .74 for fathers), Negative Affectivity (.75 for mothers, .76 for fathers) and Effortful Control (.76 for mothers, .68 for fathers) scales.

### *Children's Anxiety*

Mothers and fathers also assessed children's levels of anxiety problems using the *Behaviour Assessment System for Children, 2<sup>nd</sup> Edition, Parent Rating Scales* (BASC-2 PRS;

Reynolds & Kamphaus, 2004). Parents completed the *BASC-2: Child form* at Time 3, which includes 134 items with a 4-point scale (1 = “Never”, 2 = “Sometimes”, 3 = “Often” or 4 = “Almost Always”). Items on the *BASC-2* include both positive and negative behaviours (e.g. “offers to help other children”; “is easily upset”). *BASC-2* software was used to score the parent reports and standardized *T*-Scores ( $M=50$ ,  $SD=10$ ) were used for data analyses. Children with *T*-Scores of 60 or higher are considered be at-risk, while *T*-Scores of 70 or higher are considered to be clinically significant. For the purpose of the present study, only the *BASC-2* Anxiety subscale was included in the secondary data analyses. The *BASC-2* has well-established evidence of internal consistency, reliability and validity (Reynolds & Kamphaus, 2004).

### ***Parenting Styles***

Parenting styles were measured using parent self-report at Time 1. Both mothers and fathers completed self-report measures on their parenting styles using the *Parenting Styles and Dimensions Questionnaire (PSDQ)* (Robinson et al., 2001). The *PSDQ* is a self-report measure with overall composite scores calculated for the three parenting dimensions of Authoritative (15 items), Authoritarian (12 items), and Permissive (5 items) parenting style. The abbreviated version of the *PSDQ* includes 32-items and parents answer using a 5-point Likert-type scale ranging from “Never” (1) to “Always” (5). The *PSDQ* demonstrates acceptable internal consistency reliabilities, with reliability coefficients of .86 for authoritative, .82 for authoritarian, and .64 for permissive parenting styles (Robinson et al., 2001). The internal consistency reliabilities for the current study ranged from acceptable to good for the Authoritative (Cronbach’s alpha = .85 for mothers, .89 for fathers), Authoritarian (Cronbach’s alpha = .79 for mothers, .77 for fathers), and the Permissive (Cronbach’s alpha = .62 for mothers, .65 for fathers) parenting styles. The *PSDQ* has been used by researchers assessing the relationship

between parenting and child anxiety (e.g. Coplan et al., 2008; Coplan et al., 2009; Dougherty et al., 2013), and has been used in North American, European, African, and Asian populations (Olivari et al., 2013).

## Results

Data was analyzed using the statistical package SPSS version 27.0 (IBM, 2020). Models were tested separately for the data provided by mothers and fathers. Prior to completing the secondary analyses the data was screened for normality.

### Descriptive Statistics

Means, standard deviations, and ranges for mothers' and fathers' reported levels of their children's anxiety at Time 3 and negative affectivity at Time 1 are reported (see Table 2.1). Children's levels of anxiety problems are presented as *T*-scores, with a mean of 50 and a standard deviation of 10. Parent ratings of child negative affectivity are presented as subscale scores with a possible range from 1.0 to 7.0. The percentage of children in the sample who were rated by their parent as being in the at-risk or clinical classification range (with a *t*-score of 60 or higher) for anxiety on the BASC-2 was 13.23% for mothers and 8.95% for fathers. Mothers' and fathers' average ratings of children's anxiety problems at Time 3 did not significantly differ ( $t(256) = 1.82, p = .07$ ). Mothers' and fathers' average ratings of children's negative affectivity at Time 1 were also not significantly different ( $t(256) = -1.35, p = .18$ ).

*Table 2.1 Descriptive Statistics for Parent Reported Child Anxiety and Negative Affectivity*

Measure	Min	Max	Mean	SD
Child Anxiety T3				
Mothers	34	90	52.51	9.518
Fathers	31	79	47.89	8.765

Negative Affectivity T1				
Mothers	1.67	6.42	3.831	.876
Fathers	1.58	5.92	3.901	.807

*Note.*  $N = 257$ ,  $T1 = \text{Time 1}$ ,  $T3 = \text{Time 3}$ .

Means, standard deviations, and ranges for mothers' and fathers' average ratings of their self-reported parenting styles are reported in Table 2.2. On average, parents reported moderate to high levels of authoritative parenting, low levels of authoritarian parenting, and low levels of permissive parenting.

*Table 2.2 Descriptive Statistics for Self-Reported Parenting Styles*

Measure	Min	Max	Mean	SD
Authoritative T1				
Mothers	2.73	5.00	4.14	.48
Fathers	2.00	5.00	3.81	.54
Authoritarian T1				
Mothers	1.00	3.83	1.65	.43
Fathers	1.00	2.92	1.70	.39
Permissive T1				
Mothers	1.00	3.80	1.96	.54
Fathers	1.00	4.20	2.10	.58

*Note.*  $N = 257$ ,  $T1 = \text{Time 1}$ .

### **Correlations**

Bivariate correlations among the studied constructs for both mothers and fathers are reported in Table 2.3. There were weak to moderate associations between the variables. There was a positive and significant correlation between children's anxiety and mothers' and fathers'

ratings of children's negative affect. There was a significant positive correlation between mothers' permissive parenting style and children's anxiety, while fathers' parenting styles were not significantly associated with children's anxiety. There was a significant negative correlation between mothers' authoritative parenting style and child negative affect, and a significant positive correlation between mothers' authoritarian and permissive parenting styles and child negative affect. There was a significant negative correlation between father's authoritative, authoritarian, and permissive parenting styles and children's negative affect.

*Table 2.3 Bivariate Correlations for Children's Anxiety, Negative Affect, and Parenting Styles*

	1	2	3	4	5
1. Child Anxiety T3	--	.36**	-.04	.11	.16*
2. Child Negative Affect T1	.39**	--	-.14*	.27**	.30**
3. Parent Authoritative T1	-.06	-.24**	--	-.40**	-.21**
4. Parent Authoritarian T1	.07	-.31**	-.32**	--	.40**
5. Parent Permissive T1	.10	-.24**	-.24**	.37**	--

*Note.*  $N = 257$ . Mother's ratings reported in the upper triangle above the diagonal line, fathers' ratings reported in the lower triangle below the diagonal line. \* =  $p < .05$ , \*\* =  $p < .01$

### **Differences between Mothers' and Fathers' Parenting Styles**

Table 2.4 reports the bivariate correlations of mothers' and fathers' parenting styles. Correlations between parenting variables were weak to moderate. There was a negative association between fathers' authoritative parenting and mother's authoritarian and permissive parenting, and a positive association between father's authoritative parenting and mothers' authoritative parenting. Fathers' authoritarian parenting was negatively associated with mothers' authoritative parenting, and positively associated with mothers' authoritarian and permissive

parenting. Fathers' permissive parenting was negatively associated with mothers' authoritative parenting and positively associated with mothers' permissive parenting.

*Table 2.4 Bivariate Correlations for Mothers' and Fathers' Parenting Styles*

	1	2	3	4	5	6
1. Mothers' Authoritative	--					
2. Mother's Authoritarian	-.40**	--				
3. Mother's Permissive	-.21**	.40**	--			
4. Father's Authoritative	.26**	-.26**	-.19*	--		
5. Father's Authoritarian	-.14*	.44**	.22**	-.32**	--	
5. Father's Permissive	-.02	.21**	.31**	-.24*	.37**	--

*Note.*  $N = 257$ . \* =  $p < .05$ , \*\* =  $p < .01$

Separate paired-sample  $t$ -tests were conducted to determine if there were significant differences between mothers' and fathers' levels of parenting styles (see Table 2.5). On average, mothers reported higher levels of an authoritative parenting style compared to fathers ( $t(256) = 8.29, p < .001$ ), while fathers reported higher levels of a permissive ( $t(256) = -3.39, p < .001$ ) parenting style compared to mothers. Mothers' and fathers' self-reported authoritarian parenting styles were not significantly different ( $t(256) = -1.74, p = .08$ ).

*Table 2.5 Summary of Group Statistics for Differences between Parenting Style Self-Report Between Mothers and Fathers*

	<i>M</i>	<i>SD</i>	<i>SE</i>
Authoritative			
Mothers	4.14	.48	.03
Fathers	3.81	.54	.03

Authoritarian			
Mothers	1.65	.43	.03
Fathers	1.69	.39	.02
Permissive			
Mothers	1.96	.54	.03
Fathers	2.10	.58	.04

Note.  $N = 257$ .

### Examining Negative Affectivity and Parenting Styles as Predictor Variables for Anxiety

Separate multiple linear regression analyses were completed to examine parenting styles and child temperament at Time 1 as predictor variables for children's anxiety at Time 3. The variables for children's negative affectivity, authoritarian parenting style, authoritative parenting style, and permissive parenting style were added to the multiple regression model using forward selection. Child age, gender and ethnicity, as well as mother's level of education and family annual income, were examined as potential covariates, but were not significant and removed from subsequent analyses. Separate regression models were completed for mothers and fathers. The assumptions for linear regression, including linearity, normality, homoscedasticity, and independence were assessed prior to data analyses, as outlined in Tabachnick and Field (2013) and Hayes (2018).

For both mothers and fathers, only child negative affectivity at Time 1 significantly predicted higher levels of child anxiety at Time 3 for mothers ( $R^2_{adj} = .13$ ,  $F(1,255) = 38.44$ ,  $p = .00$ ) and fathers ( $R^2_{adj} = .15$ ,  $F(1,255) = 44.48$ ,  $p = .00$ ). Parent self-reported levels of authoritative, authoritarian and permissive parenting styles at Time 1 were not significant predictors of children's anxiety at Time 3 for mothers or fathers.

### Parenting Styles Moderation Analyses

Separate models for mothers and fathers investigating the effect of child negative affectivity on child anxiety as moderated by parenting style were completed using the SPSS macro PROCESS (Hayes, 2018).

For mothers, no significant interactions were found between child negative affectivity and maternal parenting style on children's anxiety problems (Authoritative  $\Delta R^2 = .01$ ,  $F(1,253) = .26$ ,  $p = .61$ , Authoritarian  $\Delta R^2 = .00$ ,  $F(1,253) = .001$ ,  $p = .99$ ; Permissive  $\Delta R^2 = .00$ ,  $F(1,253) = .18$ ,  $p = .68$ ).

For fathers, there was a significant interaction found between child negative affectivity and paternal authoritarian parenting style on children's anxiety problems, with  $\Delta R^2 = .01$ ,  $F(1,253) = 3.45$ ,  $p = .06$ , and paternal permissive parenting style on children's anxiety problems, with  $\Delta R^2 = .02$ ,  $F(1,253) = 4.51$ ,  $p = .04$ . No significant interactions were found between child negative affect and paternal authoritative parenting style on children's anxiety problems, with  $\Delta R^2 = .01$ ,  $F(1,253) = 2.61$ ,  $p = .11$ .

### Discussion

The aim of the present study was to examine mothers' and fathers' reported levels of authoritarian, authoritative, and permissive parenting styles in early childhood populations. A further aim of the study was to investigate whether mothers' and fathers' parenting styles moderated the effects of child negative affectivity on anxiety problems in early childhood. The interactions between mothers' and fathers' parenting styles and children's temperament were investigated to better understand if certain parenting styles provided a more advantageous or disadvantageous environment for children who are more temperamentally vulnerable to child anxiety problems.



### **Concurrence between Mothers' and Fathers' Self-Reported Parenting Styles**

Weak to moderate correlations were found between mothers' and fathers' parenting styles. Mothers, on average, self-reported higher levels of authoritative parenting, while fathers reported higher levels of permissive parenting. These findings are in line with previous research that mothers self-report higher levels of acceptance, responsiveness, and support, as well as control, demandingness, and autonomy-granting, while fathers self-report less concern and more permissive parenting (Yaffe, 2020). However, the current findings also differed from previous research, as fathers did not self-report higher levels of authoritarian parenting compared to mothers. It is important to note that despite the significant mean-level differences, both mothers and fathers in the current study reported moderate to high levels of the authoritative parenting style, and low levels of the authoritarian and permissive parenting styles.

The current findings contrast previous research that fathers, on average, report more restrictive control and negativity compared to mothers (Yaffe, 2020). In the traditional view of the family, fathers have been viewed as the enforcers for child compliance and discipline, while mothers are seen as providing more nurturance and guidance (Dette-Hagenmeyer et al., 2014). However, parenting roles have become increasingly egalitarian in many North American and European families (Dette-Hagenmeyer et al., 2014). The assumption that fathers do not engage in as much hands-on parenting compared to mothers are rooted in social norms that are changing, such as viewing fathers as mostly economic providers who are not engaged in the emotional development of their children (Cabrera et al., 2018). The concept of fatherhood has continued to evolve over time, and the current study adds to previous findings that fathers play an important role in the development of their children's social-emotional and behavioural development. The findings of the current study suggest that our historical view of fathers as being more

authoritarian compared to mothers may be outdated, and that fathers may actually exhibit higher levels of the permissive parenting style. More research on parenting styles with samples that include fathers will add to our understanding of fathers' feelings, thoughts, and attitudes on parenting and interactions with their children in a present-day society.

### **Temperament, Parenting Styles and Child Anxiety**

Higher levels of the child temperament trait of negative affectivity at Time 1 significantly predicted higher rated child anxiety problems at Time 3. These results are consistent with previous research findings that children with higher levels of negative affectivity are more vulnerable to the development and maintenance of child anxiety problems, and suggests that early prevention and intervention efforts should consider young children with temperamental vulnerabilities.

In the present study higher levels of maternal and paternal authoritarian and permissive parenting styles were not significantly related to children's levels of anxiety. Other researchers have found the authoritarian and permissive parenting styles, which are considered to be the less ideal parenting styles, to be negatively related to children's emotional development (e.g., Rose et al., 2018; Timpano et al., 2015; Williams et al., 2009; Wang & Zhang, 2012). The results of the current study may be related to the low levels of authoritarian and permissive parenting styles self-reported by mothers and fathers.

### **Moderating Role of Parenting Styles**

It was hypothesized that child negative affectivity would be more strongly related to anxiety problems for children with parents who reported higher levels of authoritarian or permissive parenting styles. No moderating effects were found for mothers.

Fathers' permissive and authoritarian parenting styles at Time 1 did not significantly predict children's anxiety at Time 3 in the regression analyses. However, child negative affectivity was more strongly related to anxiety problems for children with fathers who self-reported higher levels of the permissive and authoritarian parenting styles. Therefore, the results of this study support previous research that the effects of child temperament and parenting styles on the development and maintenance of childhood anxiety problems are interactive in nature.

These result of the moderation analyses suggest that children with higher levels of negative affectivity may be more susceptible to childhood anxiety problems when their fathers exhibit higher levels of an authoritarian parenting style, characterized by high demands and low warmth, or have fathers who exhibit higher levels of a permissive parenting style, characterized by high levels of warmth and low levels of control. Therefore, the current study supports the argument that children with higher levels of negative affectivity may be more susceptible to the effects of father's permissive and authoritarian parenting styles. The findings of the present study add to the literature on the important role fathers play in promoting their children's emotional wellbeing and development in early childhood, and highlights the need to include fathers in research as well as early intervention and prevention efforts.

### **Limitations and Future Directions**

In the present study temperament and parenting styles were examined as possible childhood risk and protective factors for anxiety problems in a longitudinal research design. There were several limitations with the study. First, the families included in the sample were predominately well-educated and of a middle to high socioeconomic status (SES). Therefore, the results of the present study may not be generalizable to different populations. More research with other populations, such as families with low SES, are needed to further our understanding of

parenting styles in a wider range of families. Secondly, the present study included a community sample of families that volunteered to participate. Therefore, the present findings do not provide information about more clinical populations of children who have been diagnosed with an anxiety disorder in early childhood. Thirdly, social desirability is a methodological imitation of using parent questionnaires to measure the parenting style variables in the study. Parents may have answered items in a way that they felt was socially desirable instead of responses that were more reflective of their actual beliefs or feelings. Researchers have found that parents tend to underreport their negativity (Waylen et al., 2008) and overreport their warmth and support (Bögels & van Melick, 2004) when completing survey methods. Therefore, the present study could be strengthened by using multiple methods to assess the variables of child anxiety, child temperament, and mothers' and fathers' parenting styles.

Despite these limitations, findings from this study build upon previous research findings to help elucidate the complex associations between child temperament, parenting styles, and early childhood anxiety problems. This present study extends the results of prior work by following children across two time points in early childhood and examining the moderating role of both mother's and father's parenting styles. The results of the current study highlight that fathers should be included in parenting research as well as early intervention and prevention efforts, and support previous findings that fathers play a significant role in influencing and supporting their young children's social-emotional and behavioural development.

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[6](#)

STUDY 3

Parenting Styles and Early Childhood Outcomes: Exploring Commonalities and Dissimilarities  
between Asian-Canadian and European-Canadian Parents

## Abstract

Similarities and differences between parenting styles of Asian-Canadian and European-Canadian parents were explored in this study, as well as associations between parenting styles and early childhood externalizing and internalizing problems. Both mothers and fathers of 162 European-Canadian children (EC) and 53 Asian-Canadian children (AC) completed self-report measures on their parenting styles and their children's externalizing and internalizing behaviours. On average, EC and AC mothers reported significantly higher levels of an authoritative parenting styles compared to EC and AC fathers. EC fathers reported significantly higher levels of permissive parenting style compared to EC mothers, while AC mothers' and fathers' levels of reported permissive parenting style were not significantly different. Levels of reported authoritarian parenting were also not significantly different between mothers and fathers for both EC and AC parents. Parenting styles did not significantly differ between the AC and EC mothers and AC and EC fathers. In terms of children's functioning, higher levels of the authoritarian parenting style predicted higher levels of child internalizing problems for children of both AC and EC mothers and fathers. For mothers, higher levels of the authoritarian and permissive parenting style predicted higher levels of externalizing problems for both AC and EC children. For fathers, higher levels of the authoritarian parenting style predicted higher levels of externalizing problems for both AC and EC children. These results suggest that Canadian parents of European and Asian heritage share more similarities than differences in their parenting styles, and the authoritative, permissive, and authoritarian parenting styles are associated with similar child social-emotional and behavioural outcomes for both European Canadian and Asian Canadian families.

### **Introduction**

The process of parenting model postulates there are multiple determinants of parenting, including a parent's developmental history, personality characteristics, the social context of their marital or partner relationship, psychological well-being, social supports, and characteristics of their children, such as their temperament (Belsky & Jaffee, 2006; Bornstein, 2022). A parent's cognitive abilities, age, childhood experiences, emotional self-control skills, education, socioeconomic status, and stressors have also been identified as factors that affect parenting (Bornstein, 2022; Crandall et al., 2015; Wertz et al., 2019). Researchers have hypothesized that an individual's ethnicity and cultural context may also influence their parenting, due to differing cultural socialization goals and parenting ideals, demands of their environment (i.e., population size), socioeconomic structure, and type of community (Chao, 2000; Bornstein, 2022; Keller et al., 2006; Putnick et al., 2022). Researchers have found that cultural variations in parenting beliefs and behaviours can often be observed among different ethnic groups within a society (Bornstein, 2022). Culture is often defined as the beliefs, behaviours, customs and values that characterize a particular social group, and can encompass an individual's nationality, ethnicity, geographic region, religion and other socially defined groups (Lansford, 2022). Ethnicity has been defined as a sense of belonging to a group, based on ideas of common origins, history, culture, language and experience (Brown & Langer, 2010). Canada is considered to be a culturally and ethnically-diverse society.

The majority of research on the associations between parenting and children's social, emotional and behavioural outcomes has focused on middle-class white families in the United States, Canada and Western Europe (Lansford, 2022). Currently, there are a limited number of studies that explore similarities and differences between parenting styles and children's

outcomes with samples of Canadian families with different ethnic backgrounds. The focus of the current paper is to explore similarities and differences between parenting styles of European-Canadian and Asian-Canadian parents and child outcomes. On the 2016 Canadian Census of Population approximately 20 million people reported European heritage, with English, Scottish, French, Irish and German being the most common European heritage reported, and 6 million people reported Asian heritage, with Chinese, East Indian and Filipino being the most common Asian heritage reported (Statistics Canada, 2017).

### **Parenting Styles**

Parenting styles are defined as the broad patterns of parenting practices that occur within the same parent, and are related to children's social-emotional and behavioural development (Kuppens & Ceulemans, 2019). Baumrind (1967; 1991) conceptualized the authoritative, authoritarian, and permissive parenting styles based off of research with Western European and American middle-class families. These categories are often referred to as the four Western parenting styles (Foo, 2019) and are based on the dimensions of parental warmth and parental control.

The authoritative parenting style is defined by high levels of parental warmth and positive behavioural control, including providing children with support and clear expectations, and this parenting style been associated with the most positive child and adolescent developmental outcomes (e.g., Baumrind et al., 2010; Lamborn et al., 1991; Lee et al., 2006; Levin, 2011; Luyckx et al., 2011; Pinquart, 2017a). High levels of the authoritative parenting style have also been negatively associated with externalizing problems in both children and adolescents (e.g., Pinquart, 2017b; Ruiz-Hernández et al., 2019; Steinberg et al., 2006), including in samples with Chinese families (e.g., Chen et al., 2011; Zhou et al., 2008). It is hypothesized

that a more authoritative parenting style allows children and adolescents to experience more autonomy, resulting in fewer externalizing behaviours (Pinquart, 2017b).

Parents who endorse an authoritarian parenting style display low levels of parental warmth and high levels of behavioural and psychological control, such as the use of punitive measures. Parents who endorse a more permissive parenting style demonstrate high levels of warmth and low levels of parental control, and tend to be reluctant to enforce limits and make demands on their children (Baumrind, 1966; Foo, 2019; Levin, 2011).

### **Cross-Cultural Research using Baumrind's Parenting Styles**

Researchers have hypothesized that a parent's ethnic and cultural background may influence their parenting style, due to differing socialization goals, parenting ideals and demands of their cultural environment (Foo, 2019; Liu & Guo, 2010; Pinquart & Kauser, 2018). For example, parents living in Western societies may emphasize more individualistic parenting goals, such as the development of children's independence, self-esteem, self-efficacy, self-reliance, and self-expression, whereas parents living in non-Western societies may endorse more collectivist parenting goals, such as the development of children's self-discipline and obedience, and aim to raise children who maintain interdependence, are hardworking, conform to societal norms, and show high levels of emotional self-control and humility (Chao, 2000; Foo, 2019; Park et al., 2010). Researchers have also hypothesized that parents of certain cultural groups, such as African American, Asian American, and Latin American parents, may emphasize the values of respect and obedience to authority in an attempt to maintain harmony within a hierarchical society structure (McLoyd et al., 2019).

Although Baumrind's parenting styles were based on research studies with Western parents, researchers have studied the authoritarian, authoritative and permissive parenting styles

with non-Western populations of parents. However, some researchers have questioned if Baumrind's parenting styles accurately capture the parenting styles of non-Western parents (Ng & Wang, 2019). For example, parental warmth in Western cultures is defined by explicit affection and emotional support, whereas parental warmth may be expressed differently in cultures where the suppression of emotions is traditionally valued, such as in Asian cultures (Ng & Wang, 2019). The majority of the existing literature comparing parenting styles has focused on mothers and the authoritarian and authoritative parenting styles, and results have been inconsistent. For example, some researchers have found that African-American (McLoyd et al., 2019), Chinese (Chao, 1994; Li et al., 2010), Chinese Canadian (Su & Hynie, 2011); Taiwanese (Huang et al., 2017), and Iranian mothers (Rudy & Grusec, 2006) tend to report more authoritarian parenting practices compared to parents of Western European heritage. Other researchers have found the authoritarian parenting style to not be common for Chinese mothers (Zhang et al., 2017) or Arabic parents (Smetana & Ahmad, 2017). More research is necessary to better understand if there are significant differences in parenting styles between groups of Western and non-Western parents, including differences between Western and non-Western fathers.

### **Parenting Styles and Children's Development**

Researchers with a universal perspective towards parenting have proposed the authoritative parenting style as the most ideal for children's development for both Western and non-Western children, while the authoritarian parenting style is universally associated with detrimental effects on children's development (Ng & Wang, 2019). In contrast, culture-specific researchers have hypothesized the authoritarian parenting style to not be as detrimental for non-Western groups of children, as parental controlling behaviours are not interpreted as negative

(Ng & Wang, 2019). Research on associations between parenting styles and children's development have been inconsistent in the literature. For example, some researchers have not found negative associations between the authoritarian parenting style on children's development for Asian youth (Ng & Wang, 2019) while other researchers have found the authoritarian parenting style was related to more internalizing and externalizing problems among both Chinese American and Mainland Chinese children (Lee et al., 2014; Zhou et al., 2008).

### ***Internalizing Problems***

Child internalizing problems include anxious behaviours, withdrawal, and sad affect (Gilliom & Shaw, 2004). Researchers have found that higher levels of an authoritarian parenting style are associated with more internalizing symptoms in children and adolescents (e.g., Braza et al., 2015; Piquart, 2017a, Marcone et al., 2020; Yap et al., 2014), due to the lack of acceptance related to the authoritarian parenting style (Gorostiaga et al., 2018). The authoritarian parenting style has also been positively associated with internalizing problems in samples with school-aged Chinese, Chinese-American and Indian children (e.g., Lee et al., 2014; Liu & Merritt, 2018; Muhtadie et al., 2013; Sahithya & Raman, 2021).

Higher levels of the permissive parenting style have also been associated with more internalizing problems for children in early childhood, as permissive parenting is hypothesized to exacerbate problem behaviours due to the lack of parental guidance and structure causing children to learn fewer self-regulation and coping skills (Baumrind, 1975; Williams et al., 2009). However, the association between permissive parenting and child internalizing problems has been inconsistent between studies (Piquart 2017a), and there are a limited number of studies exploring the permissive parenting style across cultures.



Conversely, higher levels of the authoritative parenting style have predicted decreases in children's internalizing problems over time (Pinquart, 2017a). The authoritative parenting style has been associated with fewer internalizing and externalizing problems across cultures, including for Asian families (Abubakar et al., 2015; Kauser & Pinquart, 2016; Li et al., 2010; Pinquart & Kauser, 2018; Sahithya & Raman, 2021). However, some researchers have suggested there is limited evidence linking higher levels of the authoritative parenting style to lower levels of internalizing problems (Yap et al., 2014).

### ***Externalizing Problems***

Externalizing problems are characterized by overt disruptive behaviours, such as aggression, defiance, and hyperactivity (Gilliom & Shaw, 2004). Researchers have found that higher levels of the authoritarian parenting style are positively associated with externalizing symptoms in children and adolescents (Pinquart, 2017b, Marcone et al., 2020; Ruiz-Hernández et al., 2019). Higher levels of fathers' authoritarian parenting styles have predicted higher levels of externalizing behaviours in early childhood (Rinaldi & Howe, 2012). The authoritarian parenting style has also been positively associated with externalizing problems in samples with Chinese and Chinese-American families (e.g., Chen et al., 2011, Lee et al., 2014; Nelson et al., 2006; Zhou et al., 2008). It is hypothesized that characteristics of the authoritarian parenting style, such as firm parental control without warmth and the frequent use of harsh discipline elicits more negative emotional arousal and impaired emotional regulation in children, which results in higher levels of externalizing problems (Repetti et al., 2002).

Pinquart's (2017b) meta-analysis study found that higher levels of the permissive parenting style predicted higher levels of externalizing problems in both children and adolescents. Higher levels of the permissive parenting style with mothers have also predicted

more externalizing problems in early childhood (Rinaldi & Howe, 2012). It is hypothesized that certain characteristics of the permissive parenting style, such as failing to provide dysregulated children with structure and the removal of aversive activities, may explain the positive association between the permissive parenting style and child externalizing problems (Rubin et al., 1998).

### **Gaps in the Research Literature and Study Contributions**

Researchers have studied ethnic minority families, regardless of their generation in Canada and the United States, with the greatest representation from African, Latin American and Asian heritage backgrounds (Chuang & Yanjie, 2009). However, the majority of studies are focused on populations within the United States, and there are a limited number of studies completed with Canadian parents and children. Although it is largely assumed that European-Canadian and European-American parents share the same parenting ideals, it is unclear if Canadian parents hold their own unique parenting ideals that differ from those of American parents.

Researchers have found that parents from different ethnic and cultural groups often adapt their parenting style and behaviours when moving to the United States (Otto, 2016). However, it is unclear within Canadian samples of parents from different ethnic groups have a strong sense of attachment and identification with Canadian parenting ideals, their own ethnocultural community, or an interaction of both. Additionally, the majority of existing studies on Canadian parenting styles with diverse ethnic groups focuses on the associations between children's and adolescents' academic outcomes and mothers' parenting (Juang et al., 2013). More research is needed that includes early childhood populations, as many internalizing and externalizing problems begin in early childhood. Furthermore, studies that include both mothers and fathers

are also needed, to better understand if there are unique differences between the associations between Canadian mothers' and fathers' parenting styles and children's early internalizing and externalizing problems.

### **Research Purpose and Questions**

The aim of the present study is to examine commonalities and dissimilarities between parenting styles of Asian-Canadian (AC) and European-Canadian (EC) mothers and fathers, and the association between parenting styles on children's social and emotional functioning in early childhood.

### ***Research Questions***

The current study investigates the following general questions:

1. Do AC mothers and fathers and EC mothers and fathers report significantly different levels of authoritative, authoritarian, or permissive parenting styles? Some researchers have found that fathers are rated as more authoritarian in both Asian and Western European cultures (Abubakar et al., 2015; Yaffe, 2020). Therefore, it was expected that both AC fathers and EC fathers would report higher rates of the authoritarian parenting style compared to mothers in the same family.
2. How much similarity is there between AC parents and EC parents' levels of reported authoritarian, authoritative and permissive parenting styles? Some researchers have found that Chinese parents were more likely to support authoritarian practices, while Canadian-Chinese parents were more likely to support authoritative practices (Chuang & Yanjie, 2009). Therefore, it was expected that AC parents would report similar levels of both authoritarian and authoritative parenting styles compared to EC parents.

3. Do parenting styles similarly influence early childhood externalizing and internalizing problems for children of both AC and EC parents? Higher levels of the authoritarian parenting style have been associated with negative outcomes on children's development with both Asian or European backgrounds (e.g., Baumrind et al., 2010; Field et al., 2020; King et al., 2016). Although there have been mixed findings on the negative effects of authoritarian parenting on Asian-heritage children, it was expected that higher levels of maternal and paternal authoritarian parenting behaviours would be positively associated with children's levels of internalizing and externalizing behaviours in early childhood for both AC and EC children. As the authoritative parenting style has been associated with positive child developmental outcomes (Baumrind et al., 2010; Lee et al., 2006; Levin, 2011; Luyckx et al., 2011; Ng & Wang, 2019), it was also expected that higher levels of maternal and paternal authoritative parenting behaviours would be negatively associated with rates of internalizing and externalizing behaviours for both AC and EC children.

### **Methods**

Secondary data analysis was conducted for this research using data collected from the project "Early childhood parent-child interactions: An examination of the stability of parenting across tasks and over time" (Rinaldi, Howe, & Gokiart, SSHRC IG #435-2014-0794). The primary aim of the project was to investigate how mothers' and fathers' roles as parents change as children develop. Ethics approval for the project was received by the Research Ethics Board at the University of Alberta (Study ID: Pro00048538). Ethics approval for the current project was received from the University of Alberta Ethics Board, Project Name: "Investigating temperament, parenting, and anxiety problems in early childhood" (Study ID Pro00088343).

## Participants

Families with preschool-aged children were recruited from early learning centers in Alberta, Saskatchewan, and Ontario, and through word of mouth, with the majority of families located in Alberta (91.6%). Mothers and fathers were asked to complete three questionnaire packages approximately 12 months apart (Time 1, Time 2 and Time 3). The present study focuses on the data collected at Time 1 due to the large sample size. Parents had the opportunity to complete the questionnaire packages in either paper copy or using a secure-web based format. Families were given a \$30 Chapters gift card for completing the mother and father questionnaire at each time point. A demographic questionnaire was included to obtain information on children's age, gender, household income, as well as parent relationship status, age, education and employment.

Parents were asked to identify in order the racial or ethnic background(s) they felt that best described them. Parent ethnicities were then categorized by based on Statistics Canada's (2021) ethnic or cultural classification structure of: (a) North American origins, (b) European origins, (c) Caribbean origins, (d) Latin, Central and South American origins, (e) African origins, (f) Asian origins, or (7) Oceanian origins. Many parents identified "Canadian" as one of their racial or ethnic backgrounds. Mothers reported their primary ethnicity to be European/European-Canadian (70.0%), Asian/Asian-Canadian (24.1%), African/African-Canadian (2.70%), Latin, Central or South American/Latin, Central or South American-Canadian (2.30%), or North American/North American-Canadian (0.8%).

Fathers reported their primary racial or ethnic background to be European/European-Canadian (66.9%), Asian/Asian-Canadian (24.5%), African/African-Canadian (3.9%), Latin,

Central or South American/Latin, Central or South American-Canadian (2.3%), or North American/North American-Canadian (2.3%).

Due to the small number of parents who identified their racial or ethnic background as African, North American, Caribbean, or Latin, Central or South American, the present study focuses on EC and AC dyads of mothers and fathers. For the present study parent dyads were included who reported the same primary ethnic background (i.e., both mother and father reported European-Canadian or Asian-Canadian ethnicity), which resulted in an additional 42 families being excluded. One hundred sixty-two pairs of European-Canadian mothers and fathers and 53 pairs of Asian-Canadian mothers and fathers were included in the present analyses.

### *Asian-Canadian Parents*

Children of AC parents were 45.3% female and 54.7% male, and ages ranged from 42 to 68 months ( $M = 52.62$ ,  $SD = 6.41$ ). Asian-Canadian parents identified their primary racial or ethnic background as Chinese (mothers 46.77%; fathers 42.86%), South Asian (mothers 25.8%; fathers 28.57%), Filipino (mothers 19.35%; fathers 15.87%), South East Asian (mothers 4.84%; fathers 12.70%), Korean (mothers 1.61%; fathers 3.17%), or Arab/West Asian (mothers 1.61%; fathers 1.59%). The majority of AC parents reported they had lived in Canada for longer than five years (mothers 98.3%, fathers 97.1%), with a small number of parents living in Canada for two to five years (mothers 1.7%, fathers 1.7%), or less than two years (fathers 1.2%).

Asian-Canadian parents were either married (96.20%), common-law (1.90%), or divorced (1.9%). Parents reported their family composition as nuclear (90.6%) or an extended family (9.4%). The majority of mothers and fathers reported they were both the primary caregivers of their child (72.00%), while other families indicated only the mother (9.40%), parents and grandparents (4.00%), or grandparents (4.00%) were their child's primary

caregivers. Asian-Canadian parents reported they interacted with their children seven days a week (mothers 100.0%; fathers 92.5%), five to six days a week (fathers 1.90%), or three to four days a week (fathers 5.7%). Parents reported being Canadian citizens (mothers 60.40%; fathers 69.8%), Immigrants (mothers 34.0%; fathers 20.8%) or Permanent Residents (mothers 5.70%; fathers 9.4%). All parents reported the primary caregivers lived with the child (100.0%). Parents' ages ranged from 36 to 45 years old (mothers 62.3%; fathers 64.0%) or 26 to 35 years old (mothers 37.7%; fathers 26.0%), or 46 years old or older (10.0%).

Mothers reported their highest year of school completed as junior high or partial high school training (2.00%), high school diploma/GED (2.00%), certificate in a trade/technology (2.00%), partial college/university (3.90%), college/university degree (35.3%) or graduate/professional education (54.39%). Approximate annual income of AC family's households ranged from \$0 to \$24 999 (5.8%), \$25 000 to \$49 000 (5.80%), \$50 000 to \$74 999 (19.20%), \$75 000 to \$99 999 (15.40%), \$100 000 to \$124 999 (17.30%), \$125 000 to \$149 999 (7.70%), \$150 000 to \$174 999 (7.70%), or over \$200 000 (21.20%).

### ***European-Canadian Parents***

Children of EC parents were 43.2% female and 56.8% male, and ages ranged from 26 to 68 months ( $M = 52.02$ ,  $SD = 7.57$ ). The majority of EC parents reported they lived in Canada for longer than five years (mothers 98.3%, fathers 97.1%), with a small number of parents living in Canada for two to five years (mothers 1.7%, fathers 1.7%), or less than two years (fathers 1.2%). The majority of parents reported being Canadian citizens (mothers 95.10%; fathers 91.7%), Immigrants (mothers 4.30%; fathers 4.90%) or Permanent Residents (mothers .60%; fathers 3.30%).

The majority of EC parents were married (91.40%), common-law (7.40%), single (0.6%) or separated (0.6%). Parents reported their family composition as nuclear (95.0%), blended (4.2%), or adoptive (0.8%). The majority of mothers and fathers reported they were both the primary caregivers of their child (91.70%), while other families indicated only the mother (5.80%), parents and grandparents (0.80%), parents and a nanny (0.80%) or the parent and a step-parent (0.80%) were the primary caregivers. All parents reported the primary caregivers lived with the child (100.0%).

Parents reported they interacted with their children seven days a week (mothers 97.5%; fathers 91.7%) or five to days a week (mothers 2.5%; fathers 5.0%), or three to four days a week (fathers 3.3%). Parents' ages ranged from 36 to 45 years old (mothers 54.90%; fathers 59.3%), 26 to 35 years old (mothers 43.20%; fathers 34.0%), 46 years old or older (mothers 1.20%; fathers 6.20%) or 25 or younger (mothers .60%; fathers .60%).

Mothers reported their highest year of school completed as junior high or partial high school training (1.20%), high school diploma/GED (4.90%), certificate in a trade/technology (11.7%), partial college/university (5.60%), college/university degree (51.2%) or graduate/professional education (25.3%). Approximate annual income of family's households ranged from \$25 000 to \$49 000 (1.90%), \$50 000 to \$74 999 (8.60%), \$75 000 to \$99 999 (13.60%), \$100 000 to \$124 999 (21.60%), \$125 000 to \$149 999 (15.40%), \$150 000 to \$174 999 (12.30%), \$175 000 to \$199 999 (10.50%) or over \$200 000 (16.00%).

## **Measures**

### ***Parenting Styles***

Both mothers and fathers completed self-report measures on their parenting styles using the *Parenting Styles and Dimensions Questionnaire* (PSDQ; Robinson et al., 2001). The PSDQ



is a self-report measure designed to measure Baumrind's parenting dimensions: Authoritative, Authoritarian and Permissive. The authors of the PSDQ report internal consistency reliabilities of .64 for the permissive scale, .82 for the authoritarian scale and .86 for the authoritative scale (Robinson et al., 2001). The PSDQ has been used by researchers assessing the relationship between parenting style and children's behaviour problems (Coplan et al., 2008; Dougherty et al., 2013). The PSDQ has also been used in studies with North American, European, African, and Asian populations (Olivari et al., 2013). The abbreviated version of the PSDQ was used in the present study. Parents responded using a 5-point Likert-type scale, with always = 5, very often = 4, about half of the time = 3, once in a while = 2, and never = 1. For mothers, the internal consistency reliabilities for the current data set ranged from acceptable to good, with Cronbach's alpha = .85 for the authoritative scale, Cronbach's alpha = .79 for the authoritarian scale, and Cronbach's alpha = .62 for the permissive scale. The internal consistency reliabilities were also acceptable to good for fathers, with Cronbach's alpha = .89 for the authoritative scale, Cronbach's alpha = .77 for the authoritarian scale, and Cronbach's alpha = .65 for the permissive scale.

### ***Children's Externalizing and Internalizing Problems***

Children's externalizing and internalizing behaviours were measured using the *Behaviour Assessment System for Children, 2<sup>nd</sup> Edition, Parent Rating Scales* (BASC-2 PRS; Reynolds & Kamphaus, 2004). The BASC-2 includes a parent rating scale with 134 items for preschool-aged children. Parents responded using a 4-point Likert-type scale, with almost always = 4, often = 3, sometimes = 2, or never = 1. The BASC-2 scoring software was used to compute standardized *T*-scores ( $M = 50$ ,  $SD = 10$ ) for data analyses. Children with a *T*-score of 60 to 69 are considered to be at-risk, while *T*-scores of 70 or greater are considered at clinical risk. The BASC-2 has well-

established evidence of internal consistency, reliability and validity (Reynolds & Kamphaus, 2004). The composite scales of externalizing problems and internalizing problems were used for the present study. The internalizing composite scale includes the subscales of: (a) anxiety (tendency to be nervous, fearful, or worried; i.e. “worries”; “is easily stressed”; “is fearful”), (b) depression (feelings of unhappiness, sadness, or stress; i.e. “is easily upset”; “is irritable”; “changes mood quickly”), and (c) somatization (tendency to be sensitive to, and complain about, minor physical ailments; i.e. “complains of physical problems”; “complains of pain”). The externalizing composite scale includes the scales of: (a) hyperactivity (tendency to be overly active and act without thinking; i.e., “has poor self-control”; “is unable to slow down”), (b) aggression (tendency to act in verbally or physically hostile or threatening manner; i.e., “hits other children”; “throws or breaks things when angry”), and (c) conduct problems (tendency to engage in rule-breaking behaviour; i.e. “breaks the rules”; “disobeys”).

## Results

Data was analyzed using the statistical package SPSS version 27.0 (IBM, 2020). Models were tested separately for the data provided by mothers and fathers. Prior to completing the secondary data analyses data was screened for normality.

### Levels of Authoritative, Authoritarian, and Permissive Parenting Styles

To examine the associations between mothers’ and fathers’ parenting styles, means and standard deviations and a series of correlations were conducted separately for AC parents and EC parents. Paired-sample *t*-tests were used to examine parenting style similarities and differences between mothers and fathers. Separate models were completed for EC and AC parents.

European-Canadian mothers’ and fathers’ authoritative ( $r = .25, p < .01$ ) and authoritarian ( $r = .45, p < .01$ ) parenting styles were moderately and positive correlated, while

permissive parenting styles were not significantly correlated ( $r = .24, p < .01$ ; see Table 3.1).

Paired  $t$ -test analyses showed that EC mothers, on average, reported significantly higher levels of the authoritative parenting style compared to EC fathers with a moderate effect size ( $t(161) = 7.73, p = .00$ , Cohen's  $d = .61$ ), while EC fathers reported significantly higher levels of the permissive parenting style with a weak effect size ( $t(161) = -2.32, p = .02$ , Cohen's  $d = -.18$ ).

European-Canadian mothers and fathers did not report significantly different levels of the authoritarian parenting style ( $t(161) = -1.14, p = .25$ , Cohen's  $d = -.09$ ).

*Table 3.1 Descriptive Statistics for European-Canadian Parents*

Parenting Style	<i>M</i>	<i>SD</i>	<i>SEM</i>
<b>Authoritative</b>			
European-Canadian Moms	4.15	.44	.03
European-Canadian Dads	3.80	.51	.04
<b>Authoritarian</b>			
European-Canadian Moms	1.63	.38	.03
European-Canadian Dads	1.67	.34	.03
<b>Permissive</b>			
European-Canadian Moms	1.96	.54	.04
European-Canadian Dads	2.09	.54	.04

*Note.*  $N = 162$ .

Asian-Canadian mothers' and fathers' authoritarian ( $r = .40, p < .01$ ) and permissive ( $r = .46, p < .01$ ) parenting styles were moderately and positively correlated, while authoritative parenting styles were not significantly correlated ( $r = .17, p = ns$ ; see Table 3.2). Paired  $t$ -test analyses showed that AC mothers, on average, reported significantly higher rates of the authoritative parenting style compared to AC fathers with a weak effect size ( $t(52) = 2.50, p =$

.02, Cohen's  $d = .34$ ). Asian-Canadian mothers and fathers did not report significantly different levels of the authoritarian and permissive parenting styles ( $t(52) = -.01, p = 1.00$ , Cohen's  $d = -.00$ ;  $t(52) = -.37, p = .71$ , Cohen's  $d = -.05$ , respectively).

*Table 3.2 Descriptive Statistics for Asian-Canadian Parents*

Parenting Style	<i>M</i>	<i>SD</i>	<i>SEM</i>
Authoritative			
Asian-Canadian Moms	4.08	.61	.08
Asian-Canadian Dads	3.80	.64	.09
Authoritarian			
Asian-Canadian Moms	1.73	.56	.08
Asian-Canadian Dads	1.73	.48	.07
Permissive			
Asian-Canadian Moms	2.04	.55	.08
Asian-Canadian Dads	2.08	.58	.08

*Note.*  $N = 53$ .

### **Similarities between European-Canadian Parents and Asian-Canadian Parenting Styles**

Independent sample  $t$ -tests were completed to investigate differences in parenting styles for AC and EC parents. Separate models were completed for mothers and fathers. The Shapiro-Wilk Test for normality showed a significant departure from normality for the authoritative parenting style variable for both EC fathers ( $W(162) = .99, p = .22$ ) and AC fathers ( $W(53) = .98, p = .42$ ). Despite the significant departure from normality the analyses were continued, as the independent samples  $t$ -test is considered to be robust to violations of the normality assumption (Agresti & Franklin, 2007). Levene's test indicated unequal variances for mother's authoritative ( $F = 6.35, p = .01$ ) and authoritarian ( $F = 6.21, p = .01$ ) parenting styles, as well as for father's

authoritarian ( $F = 9.56, p = .00$ ) parenting styles. Therefore, Welch's  $t$ -test statistics are reported, as Welch's  $t$ -test does not rely on the equality of variances assumption and equal sample sizes are not required (Delacre et al., 2017).

Parenting styles were not significantly different between AC and EC mothers for any of the parenting styles (Authoritative  $t(79.83) = .80, p = .43$ ; Authoritarian  $t(68.35) = -1.18, p = .24$ ; Permissive and  $t(87.20) = -.95, p = .35$ ). Similar to mothers, there were no significant differences found between AC and EC fathers for any of the parenting styles (Authoritative  $t(74.76) = -.07, p = .95$ ; Authoritarian  $t(70.00) = -.90, p = .37$ ; Permissive  $t(83.24) = .11, p = .92$ ).

### Parenting Styles and Children's Externalizing and Internalizing Problems

Means, standard deviations, and ranges for mothers' and fathers' self-reported levels of parenting styles and ratings of children's externalizing and internalizing problems are reported in Table 3.3.

*Table 3.3 Descriptive Statistics for Children's Externalizing and Internalizing Behaviours*

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Parent Ratings of Child Externalizing Problems					
European-Canadian Mothers	162	50.59	7.91	35	76
Asian-Canadian Mothers	53	47.89	7.10	34	73
European-Canadian Fathers	162	51.45	8.45	35	75
Asian-Canadian Fathers	53	49.47	8.01	33	66
Parent Ratings of Child Internalizing Problems					
European-Canadian Mothers	162	50.17	9.08	30	74
Asian-Canadian Mothers	53	51.04	9.90	33	77
European-Canadian Fathers	162	50.31	8.79	31	76

Asian-Canadian Fathers	53	52.32	11.79	31	84
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*Note.* Externalizing and internalizing problems presented as *T-scores*, with a mean of 50 and standard deviation of 10.

Correlations between parenting styles and children's internalizing and externalizing behaviours for both samples are provided (see Table 3.4 and Table 3.5). In both samples, correlations revealed weak to moderate associations between parenting styles and children's internalizing and externalizing problems.

*Table 3.4 Bivariate Correlations for Parenting Styles and Children's Internalizing and Externalizing Problems for European-Canadian Parents*

	1	2	3	4	5
1. Authoritative	--	-.37**	-.26**	-.30**	-.21**
2. Authoritarian	-.29**	--	.36**	.42**	.30**
3. Permissive	-.23**	.29**	--	.36**	.22**
4. Child Externalizing	-.19*	.31**	.22**	--	.43**
5. Child Internalizing	-.10	.22**	.19*	.54**	--

*Note.*  $n = 162$ . Mothers' ratings reported in the upper triangle above the diagonal line, fathers' ratings reported in the lower triangle below the diagonal line. \* =  $p < .05$ , \*\* =  $p < .01$

*Table 3.5 Bivariate Correlations for Parenting Styles and Children's Internalizing and Externalizing Problems for Asian-Canadian Parents*

	1	2	3	4	5
1. Authoritative	--	-.50**	-.13	-.39**	-.28*
2. Authoritarian	-.47**	--	.43**	.50**	.41**
3. Permissive	-.36**	.54**	--	.47**	.38**

4. Child Externalizing	-.38**	.48**	.37**	--	.71**
5. Child Internalizing	-.43**	.46**	.41**	.72**	--

*Note.*  $n = 53$ . Mothers' ratings reported in the upper triangle above the diagonal line, fathers' ratings reported in the lower triangle below the diagonal line. \* =  $p < .05$ , \*\* =  $p < .01$

Separate multiple linear regression analyses were completed to evaluate the predictive relationship between parenting styles and children's internalizing and externalizing problems. The variables for authoritarian parenting style, authoritative parenting style, and permissive parenting style were added to the multiple regression model using forward selection. Children's age and gender were also investigated as potential covariate variables, but were not significant and removed from subsequent analyses. Separate regression models were completed for EC mothers, EC fathers, AC mothers, and AC fathers. The assumptions for multiple linear regression, including linearity, normality, homoscedasticity, and independence were assessed prior to data analyses, as outlined in Tabachnick and Field (2013).

### ***Child Internalizing Problems***

The multiple regression models were significant for AC mothers, AC fathers, EC mothers, and EC fathers, with  $R^2_{adj} = .15$ ,  $F(1,52) = 10.47$ ,  $p < .01$ ;  $R^2_{adj} = .24$ ,  $F(1,52) = 9.15$ ,  $p < .001$ ;  $R^2_{adj} = .08$ ,  $F(1,161) = 15.57$ ,  $p < .001$ ; and  $R^2_{adj} = .04$ ,  $F(1,161) = 8.39$ ,  $p < .01$ , respectively. However, only the authoritarian parenting style had a statistically significant impact on children's internalizing problems in all of the regression models, with higher rates of the authoritarian parenting style predicting higher rates of child internalizing problems.

### ***Child Externalizing Problems***

For mothers, the multiple regression models for parenting styles were significant for both AC mothers and EC mothers, with  $R^2_{adj} = .31$ ,  $F(2,52) = 12.57$ ,  $p < .001$  and  $R^2_{adj} = .22$ ,  $F(2,161) = 23.25$ ,  $p < .001$ , respectively. Only the authoritarian and permissive parenting styles

had statistically significant impacts on children's externalizing problems in the regression models for mothers, with higher rates of the authoritarian and permissive parenting styles predicting higher rates of child externalizing problems.

For fathers, the multiple regression models for parenting styles were significant for both AC fathers and EC fathers, with  $R^2_{adj} = .22$ ,  $F(1,52) = 15.27$ ,  $p < .001$ , and  $R^2_{adj} = .09$ ,  $F(1,161) = 1$ ,  $p < .001$ , respectively. However, only the authoritarian parenting style had a statistically significant impact on children's externalizing problems in the regression models for fathers, with higher rates of the authoritarian parenting style predicting higher rates of child externalizing problems.

### **Discussion**

The aim of the present study was to expand on the current literature on parenting styles of Canadian parents, specifically commonalities and dissimilarities between parenting styles of AC and EC parents, and associations with children's externalizing problems and internalizing problems in early childhood.

#### **Parenting Styles Similarities and Differences between Groups**

On average, both AC and EC mothers reported significantly higher levels of the authoritative parenting style compared to AC fathers and EC fathers. For EC parents, fathers reported significantly higher levels of permissive parenting compared to mothers, while AC mothers and fathers reported similar levels of permissive parenting.

For the authoritarian parenting style, there were not significant differences in the levels reported for both AC mothers and fathers and EC mothers and fathers. These findings are in contrast to previous research findings that fathers tend to report more controlling and negative behaviours in both Asian and North American populations (Abubakar et al., 2015; Yaffe, 2020).



On average, there were no significant differences found between AC and EC mothers' self-reported levels of authoritative, authoritarian, and permissive parenting styles. There were also no significant differences between AC and EC fathers' self-reported levels of authoritative, authoritarian and permissive parenting styles. On average, both groups of parents reported high rates of the authoritative parenting style and low rates of the permissive and authoritarian parenting styles. Therefore, there were many similarities found between the reported parenting styles for AC and EC parents.

Although traditional Asian-heritage parenting styles are often viewed as more controlling and stern, researchers have found that parents of contemporary Asian-heritage allow their children more autonomy than they were allowed as children and value parent-child relatedness (Way et al., 2013). Contemporary parents with Asian-heritage backgrounds whose families have lived in Canada for several generations may also have more similar parenting and child socialization goals to EC parents, rather than to more traditional parenting ideals held by Asian-heritage parents from previous generations. Therefore, both the changing context of Asian-heritage cultures as well as the context of Asian-heritage parents living in Canada may influence contemporary parenting goals and practices that include high levels of parenting warmth and support (Way et al., 2013).

### **Associations between Parenting Styles and Children's Internalizing and Externalizing Problems**

Higher levels of the authoritarian parenting style significantly predicted higher levels of internalizing problems and externalizing problems for children of both AC and EC mothers and fathers. These results are consistent with previous research that higher levels of an authoritarian parenting style, characterized by high levels of behavioural control and low levels of warmth, are

associated with higher levels of internalizing and externalizing problems in early childhood for both Western European-heritage and Asian-heritage children (e.g., Chen et al., 2011; Kauser & Pinquary, 2016; King et al., 2016; Nelson et al., 2006; Zhou et al., 2008).

Higher levels of the permissive parenting also both predicted higher levels of externalizing problems for children of AC and EC mothers. These findings add to the existing literature that high levels of mothers' permissive parenting style, characterized by low levels of structure and boundaries, is associated with higher rates of negative child outcomes, including within early childhood populations (Lamborn et al., 1991; Luyckx et al., 2011; Pinquary, 2017a; Rinaldi & Howe, 2012).

Therefore, the results of the current study suggest that Canadian parents of both European-heritage and Asian-heritage typically share more commonalities than dissimilarities, including children of both groups of parents benefitting from lower levels of the permissive and authoritarian parenting styles. These results add to previous evidence that Baumrind's classic authoritative, permissive, and authoritarian parenting styles have similar outcomes in both European-heritage and Asian-heritage families living in Canada. The authoritarian and permissive parentings styles were related to higher levels of social, emotional and behavioural problems in early childhood for both European-heritage and Asian-heritage children, suggesting the authoritative parenting style is ideal for both groups of Canadian children.

### **Limitations and Future Directions**

There were several limitations with the present study. Firstly, the present study only focused on AC and EC parents, due to the low sample size of parent participants from other ethnic groups, such as parents of African, Indigenous, or Latin, Central or South American heritage living in Canada.. Therefore, the current results are not generalizable to other diverse

ethnic groups within the Canadian population, such as African-heritage families. The sample size of AC families was also significantly smaller compared to the EC families, and therefore may be less representative of the AC population. The large number of immigrant families who have moved to Canada in the recent decades makes it imperative to include a variety of families in research on the associations between parenting and early childhood outcomes. Broadening our understanding of these associations will help researchers, policymakers, and practitioners to assist diverse Canadian families and promote children's positive social and emotional development and well-being.

Secondly, the present study only focuses on a single time point of data. Future research that includes a longitudinal research design is necessary to better understand if the associations between authoritative, authoritarian and permissive parenting styles and children's externalizing and internalizing problems are consistent over time for both AC and EC parents.

Thirdly, the present study asked parents to report their race or ethnicity, and did not include additional parent variables related to culture. Currently, researchers often use an individual's ethnicity or country of origin as a measure of their culture. However, researchers generally do not believe that an individual's country of residence or ethnicity are the indicators of differences in parenting across cultures, but rather the parenting beliefs, values, expectations and norms that differ across national or ethnic groups (Rogoff, 2016; Lansford, 2022). There remains a need for the development of conceptual and empirical models for measuring culture within the parenting literature to better understand if there are significant cultural differences (Lansford, 2022). Future research investigating parenting styles of different ethnic and cultural groups should include additional variables, such as parents' cultural values, norms, beliefs and

behaviours, to provide more insight into understanding Canadian parenting and children's functioning.

A further criticism of efforts to identify parenting differences between European-heritage and Asian-heritage parents is that it can lead to the homogenization of groups, and exclude important within-group variations and contextual situational variables (Okazaki, 2018).

Furthermore, within-culture differences in parenting have been found to often be larger than between culture differences (Deater-Deckard et al., 2018), and it is important to acknowledge that there are significant differences in parenting styles within ethnic groups (Okazaki, 2018).

Despite these limitations, the results of the present study extend previous work by studying the parenting styles of Canadian Asian-heritage and European-heritage parents, as well as including both mothers and fathers and studying internalizing and externalizing behaviours within an early childhood population. The results of the current study support previous findings that the authoritative parenting style is associated with positive social, emotional and behavioural outcomes for children, while the authoritarian and permissive parenting styles are associated with higher levels of externalizing and internalizing problems. The research implications of these findings highlight that clinicians working with diverse groups of Canadian parents should continue to promote the authoritative parenting style as the most ideal for young children's development.

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## **Discussion**

The aim of this dissertation was to expand upon the existing literature on temperament, parenting and children's social-emotional and behavioural wellbeing in early childhood. Specifically, the first study examined if mothers' and fathers' observed parenting behaviours predicted child anxiety problems, and investigated if certain parenting behaviours moderated the relationship between children's temperament and anxiety problems. The second study examined the associations between child temperament, mothers' and fathers' self-reported parenting styles, and children's anxiety problems, and investigated if parenting styles moderated the relationship between child temperament and children's levels of anxiety. Lastly, the third study explored similarities and differences between parenting styles of Asian-Canadian and European-Canadian heritage parents, and examined associations with children's externalizing and internalizing problems in early childhood.

### **Parenting Behaviours and Parenting Styles**

This dissertation investigated the associations between early childhood anxiety problems and parenting factors. The first study assessed parenting behaviours using observational research methods and found that fathers' parenting behaviours at Time 1 significantly predicted children's levels of anxiety at Time 3, approximately two years later. Specifically, higher levels of paternal warmth and lower levels of support during a play task significantly predicted higher levels of child anxiety. In contrast, mother's levels of observed warmth, support, negativity and control at Time 1 did not significantly predict children's levels of anxiety at Time 3. These results highlight the importance of including both fathers and mothers in early childhood parenting research, and add to the evidence that fathers play a unique role in their children's social-emotional and behavioural wellbeing. The second study assessed parenting styles using parent self-report

measures, and neither mothers' nor fathers' self-reported parenting styles at Time 1 were found to significantly predict children's levels of anxiety at Time 3. Previous researchers have found the association between parenting factors and child anxiety to be stronger in studies using observational methods (McLeod et al., 2007). Therefore, the results of this dissertation suggest that researchers should consider using both self-report and observational methods when assessing the relationship between parenting and early childhood anxiety problems.

Parenting behaviours and parenting styles were also studied as possible moderator variables influencing the relationship between child temperament and child anxiety problems. In the first study, higher rates of maternal negative parenting behaviours during the clean-up task were found to moderate the relationship between child temperament and anxiety problems. Specifically, high rates of maternal negative parenting behaviours strengthened the relationship between negative affectivity and anxiety problems. These results are consistent with previous findings that children with high levels of negative affectivity develop higher levels of social-emotional and behavioural problems when they also experience more negative parenting behaviours, compared to children with low levels of negative affectivity (Bradly & Crown, 2008). The moderator analyses were not significant for mothers' parenting behaviours during the unstructured free play task or the structured puzzle task, and fathers' parenting behaviours were not a significant moderator variable for any of the observed tasks.

In the second study, higher levels of fathers' permissive and authoritarian parenting styles were found to moderate the relationship between child temperament and child anxiety problems. Specifically, high rates of paternal permissive and authoritarian parenting styles strengthened the relationship between child negative affectivity and anxiety problems. These findings are consistent with previous research that children with high levels of negative affectivity may be

more affected by high levels of permissive parenting compared to children with low levels of negative affectivity (Williams et al., 2009). Moderator analyses for mothers' parenting styles were not significant.

Currently, there are inconsistent findings in the parenting literature on the moderating role of parenting in the associations between child temperament and child anxiety problems. Researchers studying parenting factors vary between assessing parenting behaviours (i.e., negative and positive parenting behaviours) versus studying the authoritarian, authoritative and permissive parenting styles. The inconsistencies in findings between the first and second study in this dissertation, as well as the inconsistencies across studies found in the parenting literature, may be due to the methodological differences in studying parenting behaviours versus self-reported parenting styles. Future research should consider including both self-report and observational measures when studying parenting factors as a moderator variable influencing the relationship between children's temperament and early childhood anxiety problems.

### **Similarities and Differences between Mothers and Fathers**

The findings of this dissertation also discussed similarities and differences between mothers' and fathers' average levels of self-reported parenting styles. The results of the second study found that mothers, on average, self-reported higher levels of the authoritative parenting style, while fathers self-reported higher levels of the permissive parenting style. In the third study, only European-heritage Canadian fathers reported higher levels of the permissive parenting style compared to European-heritage Canadian mothers, while Asian-heritage mothers and fathers reported similar levels of permissive parenting. In this dissertation both mothers and fathers reported moderate to high levels of the authoritative parenting style, and low levels of both the authoritarian parenting and permissive parenting styles.

The findings of this dissertation suggest that the historical view of fathers utilizing a more authoritarian parenting style compared to mothers may be outdated, and fathers may actually report a more permissive parenting style compared to mothers. It is possible that contemporary fathers experienced higher levels of an authoritarian parenting style during their own childhood, and fathers today may consciously or unconsciously choose to report a more positive and unstructured parenting style compared to the more negative and controlling parenting style they experienced. These findings also add to the literature suggesting that previous stereotypes about fatherhood appear to be changing in our society, such as previously held views of fathers as the financial providers, authority figures and disciplinarians of the family. More research is necessary to better understand the parenting styles of contemporary fathers, as well as father's current parenting beliefs, motivations and goals. Early childhood research that includes both mothers and fathers is paramount to better understand the unique role fathers play in the development of their children's social-emotional and behavioural wellbeing within the contemporary family structures.

### **Similarities and Differences between Asian-Canadian and European-Canadian Parents**

In the third study, similarities and differences between Asian-Canadian and European-Canadian heritage parents were explored. Higher levels of the authoritarian parenting style predicted higher levels of internalizing problems for children of both AC and EC mothers and fathers. Higher levels of the authoritarian parenting style predicted higher levels of externalizing problems for children of AC and EC fathers, while higher levels of both the authoritarian and permissive parenting styles predicted higher levels of externalizing problems for children of AC and EC mothers. These findings are consistent with previous research that both the authoritarian and permissive parenting styles are positively associated with externalizing and internalizing

problems in children and adolescents, including studies with participants with various ethnic backgrounds (e.g., Braza et al., 2015; Chen et al., 2011; Lee et al., 2014; Marcone et al., 2020; Nelson et al., 2006; Pinquart 2017a; Pinquart 2017b, Ruiz- Hernández et al., 2019; Yap et al., 2014; Williams et al., 2009). These findings extend previous research by utilizing a Canadian population of families, and suggest the authoritative parenting style remains to be the most ideal parenting style for children of both Asian-heritage and European-heritage Canadian children.

Overall, the results of the third study contrast previous research that both Asian and North American fathers tend to report higher levels of the authoritarian parenting style (Abubakar et al., 2015; Yaffe, 2020). The findings of this dissertation suggest that previous views of certain groups of parents being more authoritarian, such as Asian-heritage parents (Abubakar et al., 2015; Chao, 1994; Huang et al., 2018), may be outdated. The findings of the current dissertation highlight the importance of early childhood researches, policy makers and clinicians to not make assumptions about an individual's parenting style based on their ethnicity, gender, or other social grouping. Researches have suggested that globalization, or the growing interdependence of the world's economies, cultures and populations, continues to revolutionize parenting and cause an increased universality of parenting behaviours and styles (Cabrera, 2021). Further cross-cultural research with diverse groups is needed to understand if there are universal ideal parenting behaviours and parenting styles to promote children's social-emotional and behavioural wellbeing in early childhood.

### **Clinical Implications**

The results of this dissertation suggest several applications for clinical practice. Firstly, the findings of this dissertation include that children with higher levels of negative affectivity are more temperamentally susceptible to the development of child anxiety problems in early

childhood. These findings suggest that policy makers and practitioners interested in preventing and decreasing early childhood anxiety problems should consider focusing early intervention resources on young children with high rates of negative affectivity. Practitioners working with early childhood populations may also consider screening children for temperamental vulnerabilities to better understand which children may benefit from targeted intervention resources. Early childhood practitioners should also consider providing parents with education about child temperament and temperamental variabilities, as well as guidance on adapting their parenting behaviours and parenting styles to fit their child's unique temperament to help promote their social, emotional and behavioural development.

The results of this dissertation also add to the evidence that fathers play a unique role in their children's social-emotional and behavioural wellbeing, and highlight the importance of engaging both mothers and fathers in parenting interventions. Fathers' participation in parenting interventions are generally low and fathers have reported several barriers to participation, including perceiving interventions as being mother-focused, beliefs surrounding gender roles and seeking help, and a lack of awareness about parenting interventions (Panter-Brick et al., 2014; Sicouri et al., 2018). Early childhood policy makers and practitioners should consider ways to increase the engagement of both mothers and fathers in parenting interventions to further promote young children's social, emotional and behavioural wellbeing.

### **Limitations**

The current dissertation is not without its limitations. Firstly, the first and second studies in this dissertation use only two time points of data, while the third study focuses on a single time point of data. Therefore, no conclusions regarding cause-and-effect relationships can be made on the present research findings. Further longitudinal research with data collected over participants'

childhood and adolescence is necessary to draw conclusions on the causal relationships between temperament, parenting, and child internalizing and externalizing problems.

Secondly, the secondary data analyses that were used for this dissertation utilized data collected from a broader study exploring other research questions. Therefore, the present dissertation was limited in scope to the participants and measures selected for the initial project, such as the observational tasks selected during the parent-child observations. It would be beneficial to include a developmentally appropriate anxiety-provoking task during the observed parent-child interactions to better understand how parents' guide and support their children when they are experiencing feelings of anxiety in early childhood.

Lastly, the participants included in this dissertation consisted of predominantly nuclear families that included both a mother and father. Therefore, the findings of this dissertation are not generalizable to many diverse groups of contemporary families. The majority of the existing parenting literature focuses on two-parent and heterosexual models of families (Lansford, 2022). There is a need for researchers to develop research tools to study contemporary families, including sexual minority and bicultural parent families, in order to generalize findings of studies to a broader population (Cabrera et al., 2021; Lansford, 2022).

Despite these limitations, the findings of this dissertation contribute to the existing research by studying children's social-emotional and behavioural wellbeing in early childhood, including both observational and self-report methods to assess parenting factors, as well as investigating both mothers' and fathers' parenting behaviours and parenting styles.

## **Conclusions**

In summary, the studies comprising this dissertation provide unique contributions to the existing research on parenting and early childhood development. The findings of this dissertation



highlight the importance of including both mothers and fathers in early childhood parenting research and intervention efforts, and add to the growing body of evidence that fathers play an important and unique role in their children's social-emotional and behavioural development. The findings of this dissertation also add to the growing body of evidence that children with high levels of negative affectivity may be temperamentally vulnerable to early childhood anxiety problems, which has implications for early childhood researchers, clinicians and policy makers. Finally, these findings suggest that previous views of certain groups of parents, such as fathers and Asian-heritage parents, as having a more authoritarian parenting style compared to others are outdated, and there are more commonalities than dissimilarities between groups of modern-day parents.

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## Appendix A: Parent Information Form

### Dear Parent or Guardian

I am writing to ask for your participation in a 3-year study about both mothers' and fathers' interactions with their young children called the *Early Childhood Parenting* study. I am looking for preschool children (ages 3 to 4) and both their parents to participate. I will briefly explain the purpose of the study.

### Background

Parenting during the early years sets the foundation for positive, mutual engagement between parents and children and creates a solid base for future socialization to take place. However, we are only beginning to understand the ways that both moms and dads contribute to children's social outcomes. Despite an abundance of available information, parents today are often unsure about how they should parent children at various ages. As children grow and develop they attempt to gain more independence from their parents. I am especially interested in how mothers' and fathers' roles as parents changes as children age.

There are three main parts to this research project.

### Who can participate?

Families (both mothers and fathers) with preschool-age children (ages 3-4).

### What will I have to do?

If you choose to participate in this study, you will be asked to fill out questionnaires at three different time points spaced 12 months apart.

**Time One:** You will be asked to complete a few questionnaires asking about demographics (for example, age of child, what language you speak at home), parenting practices and styles, parental involvement, parenting stress, your child's behaviour and temperament, social awareness, and play skills. You will have the option of filling these forms out in paper copy or on a secure web-based format.

**Time Two:** We will contact you **one year** later. At this point we would like both parents to fill out similar questionnaires about parenting and your child's social behaviors. At this time if your child attends kindergarten we would like to ask your child's primary educator to fill out a short questionnaire about your child's school behaviors (social skills, academic).

**Time Three:** Finally, we will contact you one year later (when your child is in grade 1). At this point we would like both parents to fill out similar questionnaires about parenting and your child's social behaviors. At this time we would like to ask your child's primary educator (grade 1 teacher) to fill out a short questionnaire about your child's school behaviors (social skills, academic).

### Summary of what will happen in each session

<b>Time 1:</b> Parent Questionnaires	Moms and dads will be asked to fill out some preliminary information about their family (e.g., what language they speak at home), and a series of questions. These ask about you and your child and being a parent.
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<b>Time:</b> about 30-40 minutes	
12 months later:	
Parent Questionnaires <b>Time:</b> 20-30 minutes	Moms and dads each fill out questionnaires each regarding their child's social development. If your child attends kindergarten, we would like to ask your child's primary educator to fill out checklists and answer questions regarding your child's school behaviors and return to the researchers in a confidential stamped and sealed envelope or via a secure on-line site.
12 months later:	
Parent Questionnaires <b>Time:</b> 20-30 minutes	Moms and dads each fill out questionnaires each regarding their child's social development. If your child attends grade 1, we would like to ask your child's primary educator to fill out checklists and answer questions regarding your child's school behaviors and return to the researchers in a confidential stamped and sealed envelope.

As part of this study you will be asked if you would like to take part in an additional study portion. If you are interested we will give additional information about the parent-child play home visit.

**Do I have to participate?**

In my experience, families find participating in this type of study to be fun and informative. It is an opportunity for parents to learn more about themselves and about their children, to ask questions and to obtain feedback.

Since participation is completely voluntary, you and your family may withdraw from the study at any time and will not affect you in any way. Just let the researcher know if there is a question you don't want to answer. You can stop participating at any time if you change your mind. You and your family may withdraw from the research at any time during the 3 years of the research study without any consequence

**Are there any benefits or risks to participating in this study?**

Upon your family's completion of participation of each of the study time-points (Time One, Time Two, Time Three) you will receive a Chapters gift card of \$30 as a token of our appreciation for your time and involvement in the study.

Once the study is complete, you can receive a summary of highlights of what we found in our study if you would like.

We do not expect that taking part in the study will be harmful to you or your child.



**How will we protect you and your child's information? Will my information be kept private? How will it be used?**

Your name will not appear on any of the information you give us. Only the researchers and the University Research Ethics Committee will have access to study data. All information will be kept in a locked filing cabinet at the University of Alberta. My research team and I will analyze the information collected. The information will be stored in a locked room and will be shredded or deleted from the computer or destroyed once it is no longer being used. Data will be kept for a minimum of 7 years following the completion of research. The overall results of this study may be presented or discussed publicly or published. However, your family and any information you provide will not be identified and will be kept confidential. For example, study information may be used for conference presentations, thesis research, research publications, as well as additional analyses. This information will never include your name, your child's name, or identifying information about your family.

Your involvement in this study and the information gathered will be kept confidential as described above, with the exception of any instance/evidence of current child abuse, which we would be required to report by law.

**What if I have more questions about the study?**

If you have more questions about the study, please contact:

Main Researcher Contacts

Dr. Christina Rinaldi

Research Assistants at the Social & Emotional Development Lab

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. "If you have concerns about this study, you may contact the Research Ethics Office. This office has no direct involvement with this project.

### Appendix B: Parenting Observational Coding System

This coding system is adapted from the *Parental Warmth and Control Scale Revised* (Rubin & Cheah, 2009).

**Instructions:** The observer watches a recording of the parent and their child engaging in a free play, clean up and structured puzzle task (in random order). The first 10 minutes of the free play and puzzle task are observed and coded. The entire clean up task is observed and coded (typically 2 to 5 minutes long). Each task is coded in 1-minute blocks. A total average score is computed for each parenting dimension and each task.

Coding when a task ends before a 1-minute segment is complete (e.g., during clean up): if the last segment is 30 seconds or longer in length it is coded as a separate segment. If the segment is under 30 seconds it is combined with the previous 1-minute segment.

The coding system follows below.

#### Parental Warmth

Parental warmth is considered a primary dimension of parenting behaviour (Maccoby & Martin, 1983; Rohner, 1986; Skinner et al., 2005). Parental warmth refers to verbal and non-verbal behaviours that reflect acceptance, positive regard, and positive involvement in children's activities, as well as expressions of affection, love, appreciation, kindness, support, and positive affect (Drake & Ginsburg, 2012; Epkins & Harper, 2016; McLeod et al., 2007; Rohner et al., 2012; Skinner et al., 2005). In the present study, parental warmth is defined as the positive quality of parental emotional expressiveness observed towards the child, and includes positive affect, positive feeling, pleasantness, and enjoyment towards the child (Rubin & Cheah, 2009). Parenting behaviours are rated on a 3-point scale, as described below.

1 = *Low Parental Warmth*

- a. No instances of parental affection, positive feeling, or enjoyment are observed.
- b. Parent is instructional or uninvolved.
- c. There is an absence of positive expressiveness (flat).

2 = *Moderate Parental Warmth*

The presence of any of the following:

- a. Parent's facial expressiveness indicates a positive feeling (e.g., smiles, laughing).
- b. Parent communicates with a positive tone of voice.
- c. Instances of parental smiling or laughter and enjoyment are observed.
- d. Parent may use pet names (e.g., Buddy, Sweetie, Babe, Hun) when conversing.

3 = *High Parental Warmth*

The presence of any of the following:

- a. Substantial amounts of positive affect are observed consistently throughout the segment (e.g., parent clearly displays verbal and non-verbal joy and interest)
- b. Parent displays affectionate gestures and touches toward the child (e.g., hugging, kissing, thumbs up, tickling, high-five, fist bump, clapping, patting child's leg/back/head).
- c. Parent verbalizes affection for the child (e.g., "I love you", "I like you").

### **Parental Negativity**

The negativity dimension includes the parental behaviours of hostility, rejection, indifference, neglect, harshness, withdrawal, aversiveness, irritability, disapproval, criticism, punishment, aggression, and other harsh behaviours that express negative feelings toward a child (Epkins & Harper, 2016; McLeod et al., 2007; Rohner et al., 2012; Skinner et al., 2005). In the present study, parental negativity encompasses hostility and negative affect. Parental hostility refers to anger, irritability, annoyance or hostility towards the child; negative affect is the negative quality of parental expressiveness, including sadness, fearfulness, and anxiety in response to a child's behaviour.

#### *1 = Low Parental Negativity*

- a. No instances of hostility, anger, annoyance, sadness, anxiety or fearfulness are observed.

#### *2 = Moderate Parental Negativity*

The presence of any of the following:

- a. Parent's tone of voice is negative, cold, harsh or anxious (e.g., "don't do that" in a negative tone, "we need to clean-up!" in an anxious tone)
- b. Parent exhibits a sad expression or looks worried.
- c. Parent rebuffs the child by turning or moving away from the child.
- d. Parental facial expression indicates annoyance (e.g., frowns, scowls, teeth clenched).
- e. Threatening and psychological control (e.g., counting numbers, "If you don't come in 5 seconds, 1...2...3..., or "you'd better come here or else").

#### *3 = High Parental Negativity*

The presence of any of the following:

- a. Parent insults and criticizes the child (e.g., "don't be so stupid") or vocalizes negative sarcasm (e.g., "I'm not very good at puzzles. Apparently, you aren't either").
- b. Parent verbally expresses sadness, embarrassment, and/or wariness (e.g., "I am unhappy with your behaviour!", "we do not talk like that!") in response to the child's behaviour.
- c. Parent yells or physically punishes the child (e.g., slaps hand, grabs arm, or pulls child).

### Parental Support

A separate dimension of parenting is support, which refers to the positive aspects of influencing children's behaviour. The constructs of instructional and guiding behaviour, autonomy-granting, support, structure, limit-setting, sensitivity, positive control, and the use of praise, explanation and open-ended questions have been used by researchers to describe parental support and guidance (Skinner et al., 2005; Wang, Deater-Deckard, & Bell, 2013). In the present study, parental support = is defined as the extent a parent facilitates their child's behaviour, and actively and positively provides guidance, to allow the child to direct/structure the ongoing activities (Rubin & Cheah, 2009). This includes providing well-timed supportive assistance, and facilitating the child's competent functioning. Parental behaviour must **clearly not** get in the way of the child's autonomous behaviour for it to be coded as support and guidance.

#### *1 = Low Support*

- a. No instances of parental guidance are observed.

#### *2 = Moderate Support*

The presence of any of the following in *response* to their child's behaviour:

- a. When the child is off-task or unoccupied: the parent suggests ways to get the child on task. Example: during free play parent suggests a few activities but allows the child to determine the activity, suggests cleaning up together, or suggests which puzzle piece to start with.
- b. The child chooses the activity and the parent provides guidance. Parent may offer help, verbally assist the child (e.g., "what do you think we should build?"), provide praise, or explain the activity.
- c. Simple guidance is given, but does not guide the child's thinking towards a higher level.
- d. Giving basic directions without elaboration (e.g., "now put this puzzle piece on top") or asking basic questions (e.g., "where does the slide go?").

#### *3 = High Support*

The presence of any of the following in *response* to their child's behaviour:

- a. Scaffolding: parent asks questions that clearly elaborate the activity, take the child's thinking to the next level.
- b. The child is engaged in the activity and the parent provides further guidance, or makes the task more interesting.
- c. Parent joins in the activity and clearly enhances the child's level of social/cognitive play by verbally assisting the child, explaining the activity, elaborating and expanding on the task, providing praise, or providing guidance that is *clearly above and beyond basic instructions*. Puzzle example: parent points to the picture and helps the child think and visualize the task, (e.g., points to the picture on the box and asks "now what goes on top?").

### Parental Control

The dimension of parental control refers to coercive, intrusive, and psychologically controlling parenting behaviours (Skinner et al., 2005; Soenens & Vansteenkiste, 2010). Negative control may include demanding, restricting, inflexible, rigid, intrusive, and strict parenting behaviours (Skinner et al., 2005). During play activities, high parental control is observed when a parent when a parent physically controls toys or play objects, and when a parent physical controls their child's hand, arm or body (Wang, Deater-Deckard, & Bell, 2013). In the present study, parental control is defined by behaviours that are ill-timed, excessive, overcontrolling, and/or dictate the activities of the child regardless of the child's wishes (Rubin & Cheah, 2009). Parenting behaviours are rated on a 3-point scale, as described below.

*1 = Low Negative Control*

- a. No instances of parental intrusiveness or control.

*2 = Moderate Negative Control*

The presence of any of the following:

- a. Parent is verbally intrusive or momentarily distracts the child (e.g., parent talks to child but does not give them time to respond, child is busy playing with toys and parent distracts them and directs their attention elsewhere).
- b. Parent quizzes the child in an interfering way, or continuously gives instructions and does not allow the child the opportunity to respond (excessive instructions or directions).
- c. Parent *dominates* the activity excluding the participation of the child. For example, if parent is controlling during play and clean up and takes over the task.

*3 = High Negative Control*

The presence of any of the following:

- a. Parent uses unnecessary dictatorial instructions (giving orders) to control child's behaviour.
- b. Parent has physical control of the object and gives out dictatorial instructions (takes over the task).
- c. The parent's instructions leave little room for child's autonomous functioning or (e.g., "don't do it that way", "don't touch that").
- d. Parent refuses to let go of an object when the child attempts to regain control of the object.
- e. Parent's hands block the child's access to the object.
- f. Parent uses physical intrusiveness that clearly changes or stops the child's behaviour (e.g., grabbing toy from child to demonstrates its use, grabbing a puzzle piece from the child's hands, pulling child aside, controlling child's hand/arm/body, etc.).
- g. If the parent just builds the Lego, completes the puzzle, or cleans-up by themselves without trying to involve their child (child is not involved in the task, different from parallel play).