The Longitudinal Associations between Parenting Practices and Child Externalizing Behaviour within the School Year

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Abstract

Objective. Studies have examined the associations between parenting practices and child externalizing outcomes. However, there is a need for further research to more causally determine the longitudinal connections between specific parenting practices and child externalizing behaviour during the school year. This study examined the three parenting practices of parental involvement, positive parenting, and inconsistent discipline in relation to child externalizing behaviour. **Methods.** Thirty-six parents of 6–11-year-old children participated in this study by completing questionnaires measuring parenting practices and child behaviour across three time-points during the 2019-2020 academic year. Multiple regressions examined the associations between parenting at Time 1 in predicting child externalizing behaviour at Time 2, while controlling for Time 1 externalizing behaviour. Parenting at Time 2 in predicting child externalizing behaviour at Time 3 was examined, while controlling for child externalizing behaviour at Time 2. **Results.** There were no significant results found in these analyses. Future research should examine these associations among a larger sample and independent from potential impacts of the COVID-19 pandemic on findings.

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Introduction

Parents are the main support systems for children as they progress through school and learn how to navigate their daily lives (Kaiser & Hancock, 2003). Children's adult outcomes are significantly influenced by their early childhood experiences (Parkinson, 2014; Leschied et al., 2008). A main facet of childhood experience involves a child's relationship with their parents. Indeed, many studies have found connections between how children act as adults and their parents' behaviour during their childhood years (Parkinson, 2014; Leschied et al., 2008). Overall, parents provide guidance and structure for their children as they grow, which contribute to the development of important skills in various life domains (Belsky, 1984; Gutman & Feinstein, 2008; Maccoby, 1994).

An important area of child competence is behavioural regulation, and children exhibiting oppositional behaviours have greater challenges in this domain (Shields et al., 1994). According to Coercion Theory (1982), coercive cycles between parent and child are mechanisms which result in aggressive behaviours in children. This theory describes a process of mutual reinforcement where caregivers reinforce children's difficult behaviours. In turn, children's difficult behaviours provoke caregivers' negativity, which then continues the cycle of reciprocal negative influence between parent and child. Research exists regarding the associations between parenting and child behavioural difficulties, and assumes the reciprocal relationships between parenting and child behaviour (Amato & Fowler, 2002). However, there is a need to better investigate the causal process by which maladaptive parenting could lead to child behavioural difficulties. Understanding the effects of parenting on child behaviour will inform clinical interventions aimed at improving child, parent, and family well-being.

This thesis starts by summarizing the literature regarding child externalizing behaviour, parenting styles and practices, and describing the relationships between child externalizing behaviour and parenting practices. These associations are described by examining both cross-sectional and longitudinal studies on the important parenting behaviours of positive parenting, parental involvement, and inconsistent discipline. This thesis will then introduce the current study, along with the research question, hypothesis, methodology, data analysis plan, results, discussion, and conclusion.

Child Externalizing Behaviour

Externalizing behaviours are characterized as problematic behaviours that are directed towards the outside world (American Psychiatric Association, 2013). These behaviours include acts of aggression, disruptive behaviour, and oppositionality (Molina & Musich, 2016). Examples of aggression include physical aggression, psychological aggression, and relational aggression (Molina & Musich, 2016). According to Dodge and Coie (1987), there are two categories of aggression: reactive and proactive aggression. Reactive aggression is defined as responding to a perceived threat, whereas proactive aggression is aggression for a desired goal (Kempes et al., 2005). An example of an item on a questionnaire in regard to reactive aggression is “The child strikes back when made fun of”. On the other hand, an item for proactive aggression is “This child uses threats to get his/her own way” (Kempes et al., 2005). Reactive aggression mainly involves impulsive acts and high levels of arousal, whereas proactive aggression involves bullying and instrumental aggression (i.e., acquiring something through antisocial behaviour) (Kempes et al., 2005). Finally, reactive acts seem to be motivated by ascriptions of hostility towards their peers (perceived threats to self) whereas proactive aggression is most likely motivated by external rewards (Crick & Dodge, 1996).

Oppositional Defiant Disorder (ODD)

Disruptive behaviours are particularly common among children who have been diagnosed with Oppositional Defiant Disorder (ODD). ODD is defined as defiant, hostile, and disobedient behaviours toward authority figures (e.g., teachers, parents) (Hamilton & Armando, 2008). A child who is high in oppositional characteristics is one who is non-compliant to instructions, defiant to authority, argumentative, and/or irritable (American Psychiatric Association, 2013). This type of behaviour disorder is most commonly diagnosed in childhood and leads to strained relationships with parents, teachers, and other peers. In terms of prevalence rate, ODD is found in approximately 3% of children (Hamilton & Armando, 2008). However, some studies show greater variance in prevalence rates based on child age (Hamilton & Armando, 2008). ODD is also more common in boys in comparison to girls, possibly because boys may be more overtly aggressive (Hamilton & Armando, 2008). Finally, ODD is often comorbid with Attention-Deficit/Hyperactivity Disorder (ADHD) and mood disorders (American Psychiatric Association, 2013). Children with ODD may develop Conduct Disorder (CD) and antisocial personality disorder as adults (Hamilton & Armando, 2008).

Conduct Disorder (CD)

Disruptive behaviour and aggression also co-occur with CD (Climie & Mitchell, 2016; Gilbert, 2017; Lifford et al., 2008; Molina & Musich, 2016). Among children and adolescents between the ages of 6-18 years old, the prevalence of CD is approximately 3.2% (Frick, 2016). In the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013), CD is defined as a pattern of aggression towards others which involves breaking rules and infringing on the rights of others. CD and ODD share similarities such as both involving disruptive and impulsive behaviours. However, one of the key

areas in which they differ is that children with ODD are more likely to have difficulty with authority figures, whereas children with CD are more likely to have problems with boundaries in general and may be more likely to control others in return (Diamantopoulou et al., 2011). It is important to note that similar to ODD, CD could also coexist with ADHD (Diamantopoulou et al., 2011). CD could also occur in childhood (childhood-onset) as well as in adolescence (adolescent-onset) and at times, it could have an unspecified onset (where the age at which CD first occurred is unknown) (Johnson et al., 2015). According to a study by Johnson et al. (2015), children diagnosed with childhood-onset CD showed more psychiatric symptoms, greater cognitive impairment, and ended up committing more serious violent offences. Thus, there may be differences in consequences and behavioural severity of childhood-onset versus adolescent-onset CD. Overall, if left untended to, externalizing behaviours generally persist into adulthood and are associated with a number of psychological difficulties, such as substance use and antisocial behaviour, as well as negative academic consequences such as delinquency and lack of high school educational attainment (Brook et al., 2012; Erskine et al., 2016; Stringaris & Goodman, 2009).

Attention-Deficit/Hyperactivity Disorder (ADHD)

Approximately one-third to one-half of children with ADHD could also have ODD (Gilbert, 2017). ADHD also occurs frequently with depressive, anxiety, and learning disorders (Climie & Mitchell, 2016). According to the DSM-5, ADHD is a neurodevelopmental disorder that involves significant inattention and/or hyperactivity/impulsivity, which may violate societal norms (American Psychiatric Association, 2013). It has a 5% prevalence rate in children between the ages of 5-17 years old and occurs in boys twice as frequently in comparison with girls (Climie & Mitchell, 2016). Children with ADHD often face challenges completing tasks, staying

focused for an extended period of time, and sitting in one place for too long (American Psychiatric Association, 2013). Children with ADHD also tend to be more impulsive (e.g., interrupting others, running around) (Climie & Mitchell, 2016). Children with ADHD are more likely to have difficulty listening and complying with instructions from others, thereby violating rules (American Psychiatric Association, 2013). Children and adolescents with ADHD have more academic difficulties in the short-term and long run. For example, they may struggle with completing courses, maintaining their grades, and enrolling in post-secondary education (Arnold et al., 2015). If left untreated, ADHD symptoms could also lead to drug addictions, self-esteem issues, and antisocial behaviours (Shaw et al., 2012).

Parenting Styles

Parenting styles involve the emotional climate in which children are raised by their parents (Spera, 2005). In order words, parenting style is a psychological term that is used to examine the ways in which parents respond to, communicate with, and have demands of their children (Kakinami et al., 2015). A large body of literature has found strong correlations between different styles of parenting and child externalizing behaviours. There are four common styles of parenting which are: authoritarian/disciplinarian, permissive/indulgent, negligent/uninvolved, and authoritative (Kakinami et al., 2015). Authoritarian is when parents have high demand and low warmth/responsiveness towards their child (Kakinami et al., 2015). For instance, the more authoritarian the parent is, the more likely the child is to display externalizing acts of aggression, hostility, and rebelliousness (Burt et al., 2005; Mckee et al., 2008). Permissive parenting is a responsive/warm yet not demanding style where parents are warm but struggle to create rules and boundaries (Kakinami et al., 2015). Generally, as a result of lack of parental discipline, children with permissive parents tend also to have more behavioural problems (Kakinami et al.,

2015). Negligent/uninvolved parenting is not responsive and not demanding as parents with this parenting style set few rules and fail to nurture their children (Kakinami et al., 2015). As a result, uninvolved parenting has been linked with more externalizing behavioural issues in children (Kakinami et al., 2015). These children also tend to struggle with academics and rank lower in happiness (Downey & Coyne, 1990). Finally, authoritative parenting is responsive and demanding, and is known as an optimal style of parenting (Kakinami et al., 2015). These parents tend to validate their children by focusing on positive discipline techniques as well as set rules when necessary (Kakinami et al., 2015). Thus, as a result, authoritative parenting has been correlated with prosocial behaviours and little to no externalizing behavioural concerns (Akhter et al., 2002; Mckee et al., 2008).

In addition to these parenting styles, secure versus insecure attachment styles also make a difference in children's behaviours. Attachment theory is a psychological theory developed by Bowlby (1979) regarding relationships between humans. Specifically, Bowlby (1969/1983) examined early interactions between a child and their caregiver, considered to be essential for a child's healthy social and emotional development (Finzi et al., 2000). Later on, Ainsworth (1978) expanded on Bowlby's attachment theory by observing how children aged 12-18 months responded to their mothers after being left alone for a short period of time (Finzi et al., 2000). Based on infants' responses, Ainsworth (1978) then categorized attachment styles into three main categories, which included secure attachment, anxious-avoidant attachment, and anxious-ambivalent attachment (Finzi et al., 2000). Researchers also added a fourth style of attachment, which was disorganized-insecure attachment based on studies (Finzi et al., 2000).

Primarily, secure attachment is when infants/children are comfortable with both closeness and separation with their parents (Finzi et al., 2000). This type of attachment is formed when

parents are consistently responsive to their child's needs and is viewed as the ideal attachment style (Finzi et al., 2000). Anxious-avoidant attachment is when children are self-reliant and tend to avoid the caregiver (Finzi et al., 2000). This style may be formed as a result of being ignored or neglected by their caregivers (Finzi et al., 2000). The anxious-ambivalent attachment style is when children feel distressed when alone, leading them to seek constant contact with their parent (Finzi et al., 2000). Children with this style of attachment have often been subjected to unpredictable parenting (i.e., inconsistent responsiveness) (Finzi et al., 2000). Finally, disorganized-insecure attachment is similar to anxious-ambivalent attachment where the child feels distressed if left alone or left with strangers. Children with this attachment style tend to be conflicted, disorganized, and apprehensive when reunited with their caregivers (Paetzold et al., 2015). This attachment style may also be a result of inconsistent parental responsiveness, which increases the child's anxiety around uncertain situations (Paetzold et al., 2015). The majority of past research has found that insecure parent-child attachment styles negatively impact child externalizing behaviours, while secure parent-child attachment may decrease such behaviours (Climie & Mitchell, 2016; Fearon et al., 2010).

Parenting Practices

Parenting practices are more specific parental behaviours that facilitate the behavioural, social, and emotional development of their child (Akhter et al., 2002). Similar to the aforementioned parenting styles, there are also particular parenting practices that have been implicated in the development of child behavioural difficulties, which include positive parenting, parental involvement, and inconsistent discipline (Shelton et al., 1996). Indeed, studies have looked at parenting practices such as these in relation to behavioural difficulties such as ODD, CD and ADHD (Hamilton & Armando, 2008; Climie & Mitchell, 2016; Lifford et al., 2008;

Molina & Musich, 2016; Diamantopoulou et al., 2011; Johnson et al., 2015; Arnold et al., 2015; Shaw et al., 2012). In contrast to parenting styles, parenting practices may be more observable, more easily operationalized, and more reliably measurable (Lee et al., 2006). Further research on specific parenting practices and child outcomes is crucial, as such research will help to determine in particular the types of parenting behaviours conducive to positive child outcomes, thereby leading to more specific knowledge and clinical recommendations.

Positive Parenting

Positive parenting involves providing positive reinforcement for adaptive child behaviour, such as offering a reward, praise, and/or positive attention (Shelton et al., 1996). Some examples of positive parenting include providing children with a safe, engaging, and positive learning environment, having reasonable expectations of children, and being assertive in implementing appropriate positive discipline techniques (Sanders, 2003). Also, since positive parenting involves both positive reinforcement and appropriate rule-setting, positive behavioural control is considered a positive parenting technique (McKee et al., 2008). Positive parenting has been correlated with less externalizing behaviours, decreased substance use, improved mental health, better self-image, enhanced social skills, less conduct problems, and better academic performance in children (Amato & Fowler, 2002; Chronis et al., 2007; Gryczkowski et al., 2010; Holtrop et al., 2015). It is important for parents to use positive parenting techniques as often as possible due to the many positive impacts of this style of parenting (Amato & Fowler, 2002; Chronis et al., 2007; Gryczkowski et al., 2010; Holtrop et al., 2015).

Parental Involvement

Parental involvement is characterized by parents participating in their children's activities, such as helping them with a special activity or homework, engaging in games or fun

tasks with their child, asking about their child's day, and planning family activities (Shelton et al., 1996). Similar to positive parenting, more parental involvement has also been associated with better academic performance (Ucus et al., 2019). Greater parental involvement also improves children's motivation and sense of competence in school settings (Ucus et al., 2019). Beyond classroom settings, parental involvement has been correlated with better social skills and fewer externalizing behaviours (Nokali et al., 2010). On the contrary, low parental involvement has been associated with child aggression, hostility, and rebellious behaviours (Mckee et al., 2008).

There are also many factors influencing the degree to which parents become involved in their children's lives. For instance, demographic factors such as parents' own education level and socioeconomic status may be associated with their involvement (Davis-Kean, 2005; Grolnick et al., 1997). In other words, the amount of schooling parents receive themselves may influence the extent of their involvement in their children's academic lives (Davis-Kean, 2005; Grolnick et al., 1997). Other obstacles to parental involvement may include cultural differences with teachers, parental psychological problems, and not having sufficient time off work (Grolnick et al., 1997). Finally, parents' overall beliefs about their parenting capabilities (e.g., general thoughts and attitudes about their own skills as a parent) may play a role in their level of involvement (Grolnick et al., 1997).

Inconsistent Discipline

Inconsistent discipline involves lack of consistency in implementing consequences for child behaviour, such as not following through on a consequence that has been communicated to a child (e.g., loss of privileges following negative child behaviour) or changing the consequences given depending on parental mood (Shelton et al., 1996). It is also important to note that inconsistency in parenting does not necessarily imply negative parental patterns. It could also

include the use of inconsistent positive parenting (Li & Lansford, 2018). Inconsistent parenting has been correlated with greater parent-child conflict, child conduct problems and externalizing behaviours (Acker & O'Leary, 1996; Danforth, Barkley, & Stokes, 1991; Hart, Ladd, & Burleson, 1990; Patterson, 1982; Gardner, 1989). Parents are more likely to exhibit inconsistent discipline when they are faced with more stressors related to work, difficulties in child temperament and behaviour, their own psychopathology, marital distress, household chaos, and other stressors (Li & Lansford, 2018). Thus, various factors may impact the consistency of parental practices.

Parenting Practices and Child Externalizing Behaviour

Cross-sectional Studies

Positive Parenting. Previous research using a cross-sectional design generally show strong associations between parenting practices and child externalizing behaviours. Indeed, higher positive parenting has been linked to lower child externalizing behaviours (e.g., Frick et al., 1999; Gryczkowski et al., 2010; Loeber & Stouthamer-Loeber, 1986; Patterson, 1982, 1986). For instance, Gryzkowski et al. (2010) examined this question among 135 parents of children between the ages of six and twelve. Parents in this study completed self-report questionnaires, including the Alabama Parenting Questionnaire (APQ; Frick, 1991), the Center for Epidemiological Studies-Depression scale (CES-D; Radloff, 1977), the O'Leary-Porter Scale (OPS; Porter & O'Leary, 1980), and the Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001). Multilevel analyses that controlled for marital conflict and parental depression were then utilized to examine the relationship between parenting practices and child externalizing behaviour. This study found that greater positive parenting by mothers was related to lower levels of child externalizing behaviour for their sons (Gryczkowski et al., 2010).

Moreover, Brenner and Fox (1998) examined the relationship between parental harsh discipline (in contrast to positive parenting) and child behaviour problems for children between the ages of 1-5 years old. They used the Parent Behaviour Checklist (PBC; Fox, 1994) to assess parental discipline and the Behaviour Screening Questionnaire (BSQ; Richman & Graham, 1971) to assess child behaviour. Multiple regressions demonstrated that parental discipline (e.g., harsh punishment) was significantly positively associated with behaviour issues in children, which could later develop into conduct disorders.

Moreover, Kerr et al. (2004) examined the relationship between parental discipline (i.e., use of harsh and inductive discipline, which is contrary to positive parenting) and externalizing behaviours amongst children of approximately 3.5 years of age. The researchers used the CBCL to examine children's behavioural problems and used the Harshness of Discipline Scale (HDS; Dodge, Pettit, & Bates, 1984) and the Parenting Dimensions Inventory (PDI; Power, Kobayashi-Winata, & Kelley, 1992) to assess harsh discipline and inductive discipline. They concluded that the more boys received harsh physical discipline, the more externalizing behaviours they displayed. In contrast, inductive discipline and warmth were related to less externalizing behaviour problems among boys.

Holtrop, Smith, and Scott (2015) examined the associations between positive parenting and child externalizing behaviour among a sample of 83 Latino couples with children. They examined parenting practices and included the use of noncoercive discipline, which is closely related to positive parenting. Similar to Gryczkowski et al. (2010), Holtrop et al. (2015) used self-report measures such as the CBCL, the APQ, and the Hispanic Stress Inventory Immigrant Version (HSI-I) (Holtrop et al., 2015). The data analysis was carried out using a Structural Equation Model (SEM) framework, which is a multivariate approach that examines latent

relationships among variables (Holtrop et al., 2015). Holtrop et al. (2015) found that contrary to their hypothesis, the more noncoercive discipline used, the lower the child's externalizing behaviours. These findings are inconsistent with the wider literature (e.g., Eamon & Moulder, 2005; Gonzales et al., 2012). Further analyses suggested that fathers' reports of discipline may explain these results. Holtrop et al. (2015) also contextualized these findings in terms of cultural interactions as well as the possibility that parents reporting higher noncoercive discipline may also exhibit coercive discipline.

Consistent with the literature, an overall review by McKee et al. (2008) found that among children between the ages of two and eighteen, dimensions related to positive parenting were related to higher child externalizing behaviours. This review included seventeen studies of clinical samples of parents who met criteria for current or past depression and community samples of parents with high depressive symptoms. Studies reviewed also included measures of child externalizing and/or internalizing problems and parenting behaviour. This review focused on studies that examined relationships between parenting behaviour(s) (i.e., parental hostility, warmth, behavioural control) with child externalizing behaviours. Twelve of the studies reviewed involved cross-sectional methodology, and analyses such as regressions, correlations, and *t*-tests were used. Findings showed that the dimensions related to positive parenting (i.e., low warmth, high hostility, low behavioural control) are related to externalizing and internalizing problems (McKee et al., 2008). Future research with longitudinal designs was recommended by McKee et al. (2008) to provide more information regarding directionality of association between parenting and child behaviour.

The studies reviewed above only used cross-sectional methodology, which prevents researchers from making more causal conclusions. Cross-sectional studies analyze data at a

specific point in time (Tabachnick et al., 2019). Therefore, causal conclusions cannot be made because what happens before or after that specific point in time is unknown (Tabachnick et al., 2019). There is a need for further study of the association between positive parenting and child externalizing behaviours using longitudinal designs, which include more than one time-point of analysis and provide more information regarding causality (Tabachnick et al., 2019).

Involvement. Research generally shows that parental involvement is a crucial component associated with children's externalizing behaviours as well. Indeed, McKee et al.'s (2008) above review of the literature found that parenting that is low in warmth, a dimension associated with involvement, was related to increased child externalizing behaviours. As well, a study by Ucus et al. (2019) specifically surveyed the impacts of warmth and parental involvement within their children's schools on children's externalizing behaviours. Self-report measures such as the CBCL and an adapted version of questions from the National Institute of Child Health and Human Development (NICHD) study of the early childcare research network (for parental involvement) were utilized. The data was analyzed using correlations and path analysis (Ucus et al., 2019). There was a direct association between parental involvement with schools and reduced externalizing behaviours.

Another study by Amato and Rivera (1999) examined the link between parental involvement and children's behaviour problems. Specifically, researchers examined the independent associations between mothers' and fathers' reports of positive involvement with their children using data from the National Survey of Families and Households (Amato & Rivera, 1999). The researchers carried out their study by using both interviews and questionnaires as part of their methodology. SEM was used for this study to investigate the relationship between positive parental involvement and children's behaviour problems. Amato and Rivera (1999) concluded that father

and mother involvement were uniquely negatively correlated with children's behaviour problems. In other words, the more parents are involved in their child's life, the fewer behaviour difficulties the children have.

Moreover, Roelofs et al. (2006) found that there is a significant relationship between both parental rejection and child aggression between the ages of 9 to 12 years old. Parental rejection is considered to be contrary to parental involvement. This study involved questionnaires of externalizing behaviours and perceived parenting. Analyses included correlations, regressions, *t*-tests, and Analyses of Variances (ANOVAS). Results showed that parental rejection was significantly related to child externalizing behaviour severity.

Additionally, Davidson and Cardemil (2009) examined links in parent-child relationships with a focus on involvement and how this impacts child externalizing behaviour. The study sample involved Latino parents and children between the ages of 10-14. The study examined both school-related parental involvement and personal parental involvement. The CBCL was used to assess child functioning and the parent- and child-reported Parent Involvement Scales (Grolnick & Slowiaczek, 1994) were used to examine parental involvement. The data analysis was carried out using correlations and multiple regression analyses. The researchers concluded that both types of involvement negatively correlated with child externalizing symptoms (Davidson & Cardemil, 2009). In particular, when examining the unique associations of school and personal involvement with child externalizing behaviour, only personal involvement was significantly correlated with child externalizing behaviour, perhaps because personal involvement takes more effort from parents.

Interestingly, Holtrop et al. (2015) also examined positive parental involvement and again, inconsistent with their predictions and the wider literature, they found no significant

associations between positive involvement (defined as parents showing love, attention, and spending time with their children) and reduced child externalizing behaviours (Holtrop et al., 2015). However, the majority of studies reviewed show an association between parenting involvement and child externalizing behaviour. Overall, studies reviewed used a cross-sectional design, so causal conclusions could not be drawn.

Inconsistent Discipline. Parenting that involves inconsistent or no discipline has also been associated with child externalizing behaviours (e.g., Fuentes et al., 2014; Barry et al., 2009). Indeed, Fuentes et al. (2014) specifically examined the emotional relationship children have with their caregivers among a sample of foster children, the type of discipline used and how these relate to children's internalizing and externalizing problems. They examined the parenting style of foster parents and then investigated how this type of parenting was related to behavioural problems in foster children (Fuentes et al., 2014). Similar to many studies, the researchers used self-report measures such as the CBCL, the Affect and Communication Scale (Bersabé et al., 2001), and the Rules and Demands Scale (Bersabé et al., 2001). The results of these questionnaires were then analyzed with correlations and regression analyses (Fuentes et al., 2014). In addition to authoritarian parenting, permissive parenting (involving lax discipline) was positively associated with child externalizing behaviour.

Barry et al. (2009) examined the role of inconsistent discipline in mediating between maternal distress and child aggression (externalizing behaviour) among a sample of boys aged 9-12 years old. Self-report measures such as the CBCL and APQ were also used for this study, and the data was analyzed using multiple regression analyses (Barry et al., 2009). Results indicated that inconsistent discipline was related to higher child aggression (Barry et al., 2009). Thus, inconsistent discipline is significantly associated with children's behavioural problems.

Similarly, the above study by Gryczkowski et al. (2010) found that inconsistent discipline by mothers was related to higher child externalizing behaviours.

Another study by Lindahl and Malik (1999) explored the relationship between parenting processes and externalizing behaviours among boys between the ages of 7-11 years old. Similar to other studies, the CBCL was used to assess children's behaviours. As the researchers were examining discipline within the context of marital conflict and family processes, the O'Leary-Porter Scale (OPS; Porter & O'Leary, 1980) and the Conflict Over Childrearing (CCR) subscale of the Marital Satisfaction Inventory (MSI; Snyder, 1981) was also used. Alongside self-report questionnaires, an observational measure was also used. Various methods of analyses were used such as analyses of variance and multiple regressions. Results indicated that inconsistent parenting was associated with higher levels of child externalizing behaviour (Lindahl & Malik, 1999). Overall, although much of the literature show associations between inconsistent discipline and child externalizing problems, this research is not able to determine causality given the cross-sectional designs used. As for all three of the parenting behaviours of positive parenting, involvement, and inconsistent discipline, further research with longitudinal designs are necessary.

Longitudinal Studies

Positive Parenting. Whereas cross-sectional studies conduct one-time research with a group of participants, longitudinal studies use the same set of measures to follow a group of participants over a longer period of time (Tabachnick et al., 2019). Longitudinal investigations regarding the links between parenting practices and child externalizing behaviour uniquely allows for determining causality and also sheds light on the timing of causal processes. A number of studies have utilized a longitudinal methodology to examine the associations between

the parenting behaviours of positive parenting, involvement, and inconsistent discipline with child externalizing behaviour. For instance, Chronis et al. (2007) examined positive parenting and child conduct problems in a longitudinal study which took place over a period of eight years, staring with a first wave of children with ADHD between the ages of 3 and 7 years old. Measures used included interviews, questionnaires, and observation of parenting in mother-child interactions. To analyze the data, correlations and regressions were used, controlling for initial child behaviour. They found that higher positive parenting was related to lower child conduct problems.

Burt et al. (2005) examined the relationship between child ODD and CD symptoms and parent-child conflict (which is negatively associated with positive parenting). Among parents and 10 to 12 year old children, a longitudinal design with two time-points over several years was used. The study included parent interviews and questionnaires such as the Parental Environment Questionnaire (PEQ) to measure parent-child conflict. Analyses included correlations, *t*-tests, and multivariate modeling. Researchers found that increased conflict between the parent and child worsened and/or maintained the child's externalizing behaviour problems over time, when controlling for its initial association with externalizing behaviour.

Eisenberg et al. (2005) conducted a three-wave longitudinal study with two years between each assessment with children/early adolescents. They examined the relationship between parental warmth/positivity and child externalizing behaviours while controlling for child effortful control, which is related to emotion regulation. The methodology used as part of this study included parents completing questionnaires such as the CBCL, children participating in a behavioural task, and the parent and the child participating in an interactive task together. Confirmatory factor analyses, correlations and structural equation modelling were all used in

order to analyze the data. They concluded that children's effortful control was a mediator for the relationship between high parental warmth and low levels of child externalizing issues, controlling for prior levels of child externalizing behaviour.

Additionally, a longitudinal study by Assel et al. (2002) examined the impact of maternal warmth and responsiveness on children's behavioural outcomes through four years starting at 0 years of age. This study also investigated various other factors impacting both mothers' and children's behaviours besides positive parenting. They used questionnaires such as the CBCL to examine children's problematic behaviours. Alongside questionnaires, parenting behaviours were observed. The data was then analyzed using a multistep structural equation model which yielded the following results. Specifically, they concluded that positive parenting was associated with children's behaviours specifically with respect to social initiating. Prior child behaviour was not controlled for in analyses.

These above studies have several limitations. Chronis et al. (2007)'s study did not examine typically-developing populations. As well, Burt et al. (2005) examined parent-child conflict and not positive parenting per se. Similarly, Eisenberg et al. (2005) investigated parental warmth/positivity and not specifically positive parenting. Moreover, Assel et al. (2002) examined maternal warmth/responsiveness and not positive parenting in particular. In addition, their sample consisted of newborns at the beginning of the study (Assel et al., 2002). Furthermore, the length of time of these longitudinal studies extended across several years, rather than within a shorter span of time.

Involvement. Longitudinal studies also show that parental involvement is important to child externalizing problems. Indeed, Brook et al. (2012) used a longitudinal design across 20 years to examine the relationship between the quality of mutual parent-child attachment, which

includes components of parental involvement, and externalizing behaviours. The measures used were child-reported and parent-reported questionnaires assessed across three generations. There were five timepoints of the study, starting from when participants were at an average age of 14 years old, to when they were approximately 19 years old, to 24 years old, to approximately 26 years old, and to about 32 years of age. The study took place over a time span of about 20 years. Researchers for this study used SEM to analyze the data. The study found that higher mutual parent-child attachment predicted lower later externalizing behaviour, taking into account earlier externalizing behaviour**.**

Another study by Reitz et al. (2006) longitudinally assessed the relationship between parental involvement (responsiveness, relationship quality, and knowledge) and child problem behaviours (externalizing and internalizing behaviours). Thirteen to fourteen year old youth completed questionnaires in one year at two time-points. This study involved the Youth Self-Report (YSR; Achenbach, 1991) to measure child externalizing behaviours. Additionally, the Child-Rearing Questionnaire (NOV; Gerris et al., 1993) and the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) were used to measure parental involvement. The researchers used hierarchical regression analyses. They concluded that externalizing behaviours were predicted by perceived parental involvement, controlling for prior externalizing behaviour. In other words, they found a direct link between parental involvement and externalizing behaviours.

Amato and Fowler (2002) analyzed data across two time-points using data from the National Survey of Families and Households. This longitudinal study examined the links between parenting practices (parental support or involvement) and child outcomes (behavioural) for children of the ages of 5-11 and 12-18 years of age. Researchers aimed to examine whether

parents' reports of their practices at Time 1 predicted children's reports of their behaviour at Time 2. The data was analyzed using path analyses. Specifically, for parental support/involvement, the researchers found that children performed better behaviourally when their parents were supportive/involved. Thus, there was a negative correlation between parental involvement and children's behavioural difficulties. However, this study did not control for prior behaviour difficulties.

In terms of limitations, Brook et al.'s (2012) study involved a long duration for their longitudinal study, and did not measure parental involvement in particular. Amato and Fowler's (2002) study also spanned several years. As well, both Brook et al. (2012) and Reitz et al. (2006) examined a sample of youth who were older than elementary school-aged. Moreover, Reitz et al. (2006) investigated associations with two time-points, rather than several time-points. Given the salience of parenting for elementary school-aged children, there is a need for more research examining parental involvement longitudinally among this population. As well, future research should examine the specific construct of parental involvement longitudinally within a shorter span of time to more specifically determine the length of time that such processes entail. Further research with more than two time-points would help determine whether processes occur between both sets of time-points across different spans of time.

Inconsistent Discipline. As mentioned, there is support within the literature that inconsistent parenting is also associated with an increase in child externalizing problems. However, it is important to note that there is a need for more longitudinal studies examining this dimension of parenting. One particular longitudinal study by Vaillancourt et al. (2007) assessed the relationship between inconsistent parenting at age 2 and child externalizing behaviours (indirect aggression) at ages 4 to 10. The study was conducted at five different time-points over a

span of eight years. For this study, parents were interviewed to answer questions regarding themselves, their family's overall functioning and one of their children. To analyze the data, correlations, regressions, and odds ratios were used. Vaillancourt et al. (2007) concluded that inconsistent parenting at age 2 predicted to later increased indirect aggression, controlling for prior physical aggression.

Similarly, Halgunseth et al. (2013) conducted a longitudinal study across three time-points over approximately two years. This study assessed the association between inconsistent discipline and delinquent behaviours among youth from grades 6 to 8. Interviews were completed by youth and parents as part of this study. The data analysis was carried out using regressions. Researchers concluded that inconsistent parental discipline in sixth grade influenced an increase in delinquent attitudes by seventh grade, which in turn predicted greater antisocial behaviour in grade eight. These analyses controlled for prior delinquent-oriented attitudes and antisocial behaviour.

Additionally, a longitudinal study by Feehan et al. (1991) examined the relationship between maternal inconsistent discipline and children's behaviour issues. This study involved three assessments when children were 7, 9, and 15 years of age. In order to longitudinally assess the link between inconsistent discipline and externalizing behaviours, mothers completed questionnaires, and youth were interviewed. Using logistic regression and chi-square analyses, Feehan et al. (1991) concluded that there was a significant association between maternal inconsistency and child externalizing behaviours. However, this association only approached significance when controlling for childhood behaviour problems.

Moreover, Leschied et al. (2008) conducted a meta-analysis of longitudinal studies that examined the relationship between childhood family dynamics (which entail inconsistent

parenting) and later adult criminality and aggressive behaviours. Thirty-eight longitudinal studies were identified that examined predictors of risk for criminality. Data from all the studies were coded and categorized, and effect sizes were calculated. Based on the results, childhood behavioural problems such as aggression and conduct disorder alongside inconsistent parenting were strong predictors of adult criminality.

In terms of limitations, although the above studies use a longitudinal design, Vaillancourt et al. (2007), Halgunseth et al. (2013), and Feehan et al. (1991) involve longitudinal designs that span at least a few years. There is a need for studies that examine the associations between parental inconsistent discipline and child externalizing problems within shorter spans of time. For instance, a study examining associations between inconsistent discipline and child externalizing behaviours across different time-points within one year (such as during a school year) would allow for better understanding the time that such processes take to occur. Having more than two time-points within a study would also increase the reliability of the results should the same process be found to be occurring across two sets of time-points.

Current Study

This study used a three-wave longitudinal design to examine the processes between specific parenting practices and child externalizing behaviours, thereby shedding light on whether parental practices may influence externalizing behaviours. The specific parenting practices examined were positive parenting, involvement, and inconsistent discipline. A three-wave study is a type of study which assesses participants at three different points in time. Parents completed the same set of questionnaires three times within one academic year. In this study, there was a two-month period between each time-point (Time 1, Time 2 and Time 3), so the overall study occurs over approximately six months.

This thesis is part of a larger study for which data collection is ongoing. Given the literature reviewed, this study predicted that: (1) lower positive parental discipline, higher inconsistent discipline, and lower parental involvement at Time 1 would predict higher child externalizing behaviour at Time 2, controlling for child externalizing behaviour at Time 1, and (2) lower positive parental discipline, higher inconsistent discipline, and lower parental involvement at Time 2 will predict higher child externalizing behaviour at Time 3, controlling for child externalizing behaviour at Time 2.

Methods

This study uses a longitudinal panel method. A panel design is a type of design that allows for the collection of repeated measures from the same sample of participants at different time-points (Frees, 2004). The independent variables were the specific parenting practices of positive parenting, involvement, and inconsistent discipline, and the dependent variable is child externalizing behaviour. The study sample consisted of 36 parents recruited through notices and social media. To be included in the study, parents needed to be a parent of a child between the ages of 6-11, to have lived with the child for at least the past year, to be their legal guardian, and to have been using English for at least the past year to ensure comprehension of study questionnaires. After learning about the study, participants contacted the Attention, Behaviour, and Cognitions (ABC) Lab at Saint Paul University. Upon contacting the lab, a research assistant provided additional information about the study, ensured that they met the inclusion criteria, reviewed the consent form with participants and answered any questions. The research assistant then emailed the participant links to complete the online consent form and questionnaires for Time 1. The same set of questionnaires were emailed to participants again approximately two months later (Time 2), and then again approximately two months after Time 2 (Time 3). Parents

completed a list of questionnaires as part of a larger study in the ABC Lab. Once parents completed these questionnaires at each time-point, they were provided with a $40 online gift card of their choice.

Measures

Child and Family Information Questionnaire

The Child and Family Information Questionnaire (CFIQ) was developed in the lab to measure demographic and family characteristics of children and parents. This self-report questionnaire included questions on parental and child age, number of siblings in the home, marital status, ethnicity, and education.

Alabama Parenting Questionnaire

The Alabama Parenting Questionnaire (APQ; Frick et al., 1991) is a parent-report scale that examines parenting practices related to child externalizing difficulties. This 42-item questionnaire has a 5-point response scale of 0 (*never*), 1 (*almost never*), 2 (*sometimes*), 3 (*often*), and 4 (*always*). The APQ measures five subscales of parenting: 1) involvement: positive involvement with child, 2) positive parenting: use of positive discipline methods, 3) inconsistent discipline: consistency in use of discipline, 4) supervision and monitoring, and 5) use of corporal punishment. The subscales of involvement, positive parenting, and inconsistent discipline were used in this study. Items were summed within subscales to form a total score, which was used in analyses. The APQ is a valid and reliable measure with acceptable psychometric properties (Frick et al., 1991). Essau et al. (2006) reported the Cronbach's alpha for parental involvement as 0.75, positive parenting as 0.77, and inconsistent discipline as 0.73. The APQ also has good criterion validity for differentiating between clinical and non-clinical groups (Essau et al., 2006).

Child Behaviour Checklist

The Child Behaviour Checklist (CBCL; Achenbach & Rescorla, 2001) is a parent-report scale that examines numerous aspects of child psychopathology. The CBCL includes a 120-item scale that assesses behavioural and emotional problems in children. The specific subscales in the CBCL are: delinquent behaviour, aggressive behaviour, withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, externalizing problems (delinquent and aggressive behaviours), and internalizing problems (withdrawn, somatic complaints, and anxiety). This measure has a response scale of 0 (*not true*), 1 (*somewhat/sometimes true*), and 2 (*very true/often true*). This study used the Externalizing subscale. The total raw score in this scale was used for study analyses. The CBCL has adequate psychometric properties, and is reliable and valid. Achenbach and Rescorla (2001) reported an internal consistency of .94 for the externalizing subscale of the CBCL. They also found internal consistency ranges from 0.78 to 0.97 and mean test-retest reliabilities from 0.95 to 1.00.

Data Analysis

This study used multiple regression for analyzing the data. Multiple regression is a statistical method that uses predictor variables (also known as independent variables) in order to predict the result of an outcome variable (dependent variable) (Tabachnick et al., 2019). This study also makes use of covariates which are variables that may have an impact on the results outside of the independent variable being examined (Tabachnick et al., 2019). Generally, by adding a covariate to a model, the likelihood of yielding more accurate results is higher since it controls for potentially confounding effects (Tabachnick et al., 2019). Covariates help account for potential sources of variability within the results (Tabachnick et al., 2019).

For the study, multiple regressions examined whether lower positive parental discipline,

higher inconsistent discipline, and lower parental involvement at Time 1 predicted higher child externalizing behaviour at Time 2, controlling for child externalizing behaviour at Time 1. Regressions also examined whether lower positive parental discipline, higher inconsistent discipline, and lower parental involvement at Time 2 predicted higher child externalizing behaviour at Time 3, while controlling for child externalizing behaviour at Time 2. The three parenting behaviours were in separate regression models such that there were three regression models in total.

Results

Descriptive Statistics

In terms of demographic and family-related variables, parents were between the ages of 30 to 49 years old, M=38.72 (SD=4.50). The majority of parents self-identified as female (91.7%) with 8.3% of them identifying as male. With regard to child age, children were all between the ages of 6-11 years old, M=7.97 (SD=1.63). Twenty-one parents identified their child as male (58.3%) with 15 of them identifying their child as female (41.7%). Out of the 36 participants, 32 reported being married or common law (88.9%), 3 being divorced or separated (8.3%), and 1 being single (2.8%). Thirty out of 36 participants (83.3%) reported having at least one other child with only 6 (16.7%) not having any other children beyond their one child. Eighteen of the siblings were female (50%) with 12 being male (33.3%). Twenty-three (64%) of the sample self-identified as Canadian, with two (6%) identifying as European Canadian, two (6%) as Asian, one (3%) as Asian Canadian, one (3%) as Hispanic Canadian, one (3%) as Indigenous, one (3%) as African Canadian, and one (3%) as Caucasian. The remaining three (8%) selected other which included two participants identifying as mixed ethnicity (6%) with one (3%) not identifying an ethnicity. Finally, 20 (56%) of participants reported being a standard

University or College graduate, 11 (31%) reported having had graduate or professional training, two (6%) reported having partial College/University or special training, two (6%) reported having partial High school education, and one (3%) reported being High school graduates.

Means, Standard Deviations, and Correlations

Please see Table 1 for means and standard deviations of main variables of the study, and see Table 2 for correlations of all of the main variables of the study. There were no significant correlations between the APQ and CBCL subscales across all timepoints. However, there were significant associations within each subscale with the exception of a few (please refer to Table 2 for results). The insignificant correlations are between APQ involvement and APQ inconsistent discipline at all timepoints, APQ positive parenting and inconsistent discipline at all timepoints, APQ positive parenting at Time 1 and involvement at Time 3 and APQ positive parenting at Time 2 and involvement at Time 3.

Main Analyses

Parental involvement as part of APQ at Time 1 did not significantly predict Time 2 child externalizing behaviour on the CBCL, controlling for CBCL child externalizing behaviour in Time 1. $\beta = .12$, $p = .22$. CBCL Time 1 predicted Time 2 CBCL, $\beta = .87$, $p = .00$. Moreover, positive parenting on the APQ at Time 1 did not significantly predict Time 2 child externalizing behaviour on the CBCL, controlling for CBCL child externalizing behaviour in Time 1, $\beta = .10$, $p = .29$. CBCL Time 1 predicted Time 2 CBCL, $\beta = .89$, $p < .001$. Finally, inconsistent discipline as part of APQ at Time 1 did not significantly predict Time 2 child externalizing behaviour on the CBCL, controlling for CBCL child externalizing behaviour in Time 1, $\beta = .00$, $p = .98$. CBCL Time 1 predicted Time 2 CBCL, $\beta = .89$ $p = .00$.

Parental involvement as part of APQ at Time 2 did not significantly predict Time 3 child externalizing behaviour of CBCL, controlling for CBCL child externalizing behaviour in Time 2, $\beta = -.08$, $p = .19$. CBCL Time 2 predicted Time 3 CBCL, $\beta = .96$, $p = .00$. Moreover, positive parenting on the APQ at Time 2 did not significantly predict Time 3 child externalizing behaviour on the CBCL, controlling for CBCL child externalizing behaviour in Time 2, $\beta = -.09$, $p = .14$. CBCL Time 2 predicted Time 3 CBCL, $\beta = .94$, $p = .00$. Finally, inconsistent discipline as part of APQ at Time 2 did not significantly predict Time 3 child externalizing behaviour on the CBCL, controlling for CBCL child externalizing behaviour in Time 2, $\beta = .02$, $p = .76$. CBCL Time 2 predicted Time 3 CBCL, $\beta = .95$, $p < .001$.

Discussion

This thesis examined the relationship between parenting practices and child externalizing behaviours. Given the literature, it was predicted that lower positive parenting, higher inconsistent discipline and lower parental involvement at Time 1 would predict higher child externalizing behaviour at Time 2, controlling for child externalizing behaviour at Time 1. Similarly for the next time-points, it was hypothesized that lower positive parenting, higher inconsistent discipline and lower parental involvement at Time 2 would predict higher child externalizing behaviour at Time 3, while controlling for child externalizing behaviour at Time 2. Results from this study would improve understanding of the more short-term causal effects of specific parenting behaviours on child externalizing behaviour at two time-points across a relatively short time-span.

No significant results were found between the three parenting practices (involvement, positive parenting, and inconsistent discipline) and child externalizing behaviour. Even though the results were not significant, some of the predictor variables were closer to being marginally

significant, suggesting the possibility that if the sample size were larger, there may be significant effects. Indeed, a small sample size can limit the power required to detect an effect, and participant retention can be particularly difficult in longitudinal studies given the multiple times of data collection (Tabachnick et al., 2019). Indeed, a study by Shaffer et al. (2013) aimed to examine the longitudinal changes between parenting practices and child externalizing behaviours. Similar to the current study, the data collection also took place over multiple time-points and was analyzed using a cross-lagged panel design. Specific to Shaffer et al. (2013), the researchers mentioned that their small sample size may have prevented them from finding small effects. On the other hand, and unlike the current study, their sample was large enough to detect larger effects (i.e., significant effects for stable parenting across time). An examination of the standardized regression coefficients of this study suggest that the stability of child externalizing behaviour across time was large, but the effects from parenting to child behaviour were relatively small. Similar to Shaffer et al., (2013), the sample size of this study allowed for detection of the significance of large effects of child externalizing behaviour, but may not have allowed for detection of smaller effects, such as those concerning this study's main questions. The current study also used a control variable in each regression, which although important to account for, also has limitations of its own. Even though control variables help reduce the likelihood of confounding variables, the more such variables that are used in data analysis, the lower the potential power to detect an effect (Tabachnick et al., 2019). Overall, reduced power limits the ability to discover statistically significance within the results (Altafim et al., 2018).

Additionally, the COVID-19 world-wide pandemic began during data collection for this study. For more information on the COVID-19 pandemic, please see Velavan and Meyer (2020). The pandemic itself likely influenced the overall sample size, as it began when participants had

already begun the study and completed data collection at an earlier time-point. Therefore, data collection at later time-points occurred during the few months of the pandemic, when among other life consequences, parents were adjusting to home-schooling their children due to COVID-19-related restrictions on in-person contact (Carroll et al., 2020). It is likely that parents had higher stress levels adjusting to home-schooling their children as well as other impacts of the pandemic on daily life, which may have impacted their parenting practices during that time-point. For example, at the beginning of the pandemic, children being no longer at school may have increased parental involvement but also increased parenting stress, which may have affected positive parenting and consistency of discipline. To better understand the above possibilities, a review of the consequences of COVID-19 on parenting stress and behaviour follows.

Indeed, a study by Chung et al. (2020) aimed to understand the way in which parents' perceived impact of COVID-19 could be associated with higher harsh parenting and more negative parent-child relationships by using parenting stress as a mediator. Chung et al. (2020) recruited parents living in Singapore who had at least one school-aged child. They used self-reports measures and the data was then analyzed using mediation analysis as part of an SEM framework. After data analysis was complete, the researchers concluded that parenting stress was a significant mediator between the perceived impact of COVID-19 and the closeness between parents and their children and harsh parenting. Thus, the stay-at-home orders as a result of the COVID-19 pandemic may have potentially increased parenting stress which in turn, may have result in harsher parenting and a decrease in parent-child closeness.

Moreover, a study by Russell et al. (2020) aimed to assess the challenges of parenting during COVID-19 and the overall impact it may have on the parent-child relationship. Self-

report questionnaires were administered to parents, and after data collection, path analyses were conducted. Russell et al. (2020) found that COVID-19 was associated with significantly high parental stress levels. Additionally, there were significant correlations between parental caregiver burden and mental health with parent-child relationship conflict. Thus, the results of Russell et al. (2020) are consistent with Chung et al. (2020), indicating that parenting stress may be higher due to the COVID-19 pandemic.

Additionally, Brown et al. (2020) reported on the effects of COVID-19 on parental stress levels. They specifically examined the relationship between perceived parental stress as a result of COVID-19 and the potential for child abuse. The participants of the study were parents who had a child under the age of 18. Parents completed questionnaires and analyses included multiple regressions and tests of group differences. It was concluded that parental anxiety and depression were associated with child abuse potential and increased parent-perceived stress. However, the researchers also mentioned that the study is not able to determine that COVID-19 can impact family outcomes in the long-term.

Interestingly, a study by Janssen et al. (2020) assessed the potential impact of COVID-19 on parenting behaviours (warmth and criticism), as well as examined both parents' and adolescents' positive and negative affect. Self-report questionnaires were used. Janssen et al. (2020) had expected parents to demonstrate lower levels of warmth and higher levels of criticism during the pandemic. However, once analyses were conducted, the researchers concluded that even though parents' negative affect had increased in comparison with pre-lockdown, their parenting behaviours had not changed. Thus, contrary to the aforementioned studies, Janssen et al. (2020) did not find a significant correlation between COVID-19 and parenting behaviour. Therefore, although research indicates that COVID-19 may be associated with increased

parenting stress and specific parenting behaviour, there appear to be mixed results as well, suggesting the need for further study.

It is also possible that in the current study, child externalizing behaviour was impacted by the COVID-19 pandemic. Indeed, a review of the literature on COVID-19 and child externalizing behaviours suggests that although studies exist on the impact of the COVID-19 pandemic on child mental health, there is a need for further research that specifically examines child externalizing behaviours during the COVID-19 pandemic. One study in particular by Horiuchi et al. (2020) examined the potential impacts of the COVID-19 pandemic on parents' psychological health and stress as well as child behaviours. Researchers collected data via online questionnaires. Questions regarding child behaviour included use of violence, distractibility, repetitive actions, and disruptive behaviour. The data was then analyzed using univariate and multivariate analyses. The results of the study indicated that there was an association between parental mental health and child behaviours (specifically disruptive behaviours). Horiuchi et al. (2020) also discussed the possibility that children's behaviours may be impacted by the pandemic regardless of their parent's mental health.

Moreover, Zhang et al. (2020) specifically examined the potential consequences of COVID-19 on school-aged children with ADHD. Parents filled out questionnaires, and analyses involved *t*-tests and correlations. Researchers found that children's ADHD behaviours appeared significantly high during the COVID-19 pandemic. Parental and children's negative mood also seemed to be associated with the severity of the ADHD symptoms. Although these results show high ADHD symptoms (i.e., child focus and hyperactivity) during the pandemic, there is a need for future studies to examine the longitudinal impact of the pandemic on children with externalizing behaviours. Therefore, both Horiuchi et al. (2020) and Zhang et al. (2020) found

that COVID-19 was associated with negative child behaviours, and the possibility exists that child behaviour was impacted in the current study due to the COVID-19 pandemic. In the current study, it is possible that child externalizing behaviours increased as a result of the pandemic, and that child externalizing behaviours may have been less sensitive to parenting behaviour due to the stressors of the pandemic.

Indeed, a study by Romero et al. (2020) examined the potential impact of COVID-19-related confinement on children and their families by taking into account both negative and positive child outcomes. Parental resilience, parenting distress, and parenting practices were considered. The researchers concluded that even though parental distress was associated with children's negative outcomes, particular parenting practices were related to child positive outcomes. Specifically, COVID-19 confinement did not appear associated with behavioural (i.e., conduct problems) changes in most children. Indeed, this study suggested that there were positive psychological effects as a result of confinement (e.g., children spending more time with parents). Researchers suggested that parental soothing and focused parenting may be associated with prosocial involvement in children during the pandemic. Indeed, structured parenting was related to greater routine maintenance abilities and more prosocial involvement in children. In the current study, although positive parenting behaviours were measured, positive child outcomes were not. If this study had measured positive child outcomes, it is possible that significant associations between parenting behaviours and child outcomes may have been found.

However, in contrast to the study by Romero et al. (2020), a study by Lee et al. (2021) reported on the potentially negative impacts of COVID-19 on parents and children and the overall parent-child relationship with a focus on parental involvement. Self-report questionnaires were used to assess the level of parental involvement, and questionnaires such as the CBCL were

used to examine child outcomes. Results suggested high child externalizing behaviours during the COVID-19 pandemic. In addition, parental anxiety, depressive, and stress levels were also high. Findings also showed negative outcomes on the parent-child relationship. Thus, in this study, COVID-19 was associated with negative outcomes in parents, children and the parent-child relationship. This study has implications for the current study, and suggests that COVID-19 may have impacted the current study's results by negatively affecting parenting behaviours and child externalizing behaviour.

Furthermore, a study by Wendel et al. (2020) longitudinally assessed the impact of COVID-19 on parental involvement and child ADHD symptoms. Self-report questionnaires were used in the study, and results were then analyzed using a repeated measures general linear model. In regard to child ADHD symptoms, there were significant results found for an increase in child inattention and hyperactivity/impulsivity over the course of a few months during the pandemic. On the other hand, parental involvement had not changed during the pandemic. Thus, Wendel et al. (2020) were not able to draw a correlation between parental involvement and the increase in child ADHD symptoms. However, researchers mentioned that the lack of change may be due to the fact that not enough time had passed since the start of the pandemic, which suggests that there is a need for future longitudinal studies to be conducted on this topic. Similarly, the later time-points of the current study occurred less than a few months after the start of the COVID-19 pandemic, and it is possible that not enough time had elapsed for COVID-19 to have specific consequences on parenting behaviour and child externalizing behaviour. Overall, the limited literature on the impacts of COVID-19 on parenting and child behaviour suggests the importance of continued future study of associations between parenting and child outcomes during the pandemic.

It is also possible that even if the current study had a larger sample size and/or the COVID-19 pandemic had not happened, the main results may continue to be insignificant. If this were to be the case, the nonsignificant results would indicate that perhaps there are no links between parenting practices and child externalizing behaviour, which would suggest the need to explore whether additional parenting and child constructs may be more important to examine. For instance, further research may need to be conducted on the influence of positive parenting practices on children's positive development. In other words, more studies could focus on the positive outcomes of parenting practices on children as opposed to solely focusing on externalizing or negative behaviour problems. Indeed, Brown et al.'s (2020) findings suggest that parents may be less busy and stressed due to stay-at-home orders during the COVID-19 pandemic. These parents may have higher levels of child involvement, and this involvement may have more positive consequences for child outcomes. This research underlines the importance of studying the associations between parenting practices and positive child outcomes in addition to negative outcomes. Such information would be useful to further scientific knowledge. For instance, research could focus on other dimensions of parenting that have more of an impact on child behaviours or examine the child behaviours particularly sensitive to parenting. Such results would also further clinical decision-making. For instance, within clinical settings, more focus could be given to developing interventions for the specific parenting practices that significantly impact specific child behaviours based on this research.

It is also a possibility that external factors aside from parenting practices may influence children's behaviour, which makes it difficult to attribute their behaviour to a particular cause. For instance, maternal depression has also been linked to child conduct problems (Chronis et al., 2007). Indeed, in another study by Gartstein and Fagot (2003), overall parental depression was

found to be correlated with higher levels of child externalizing behaviours. Specifically, parental depression often includes negative emotionality and emotional unavailability, which could impact the child's behaviours (Gartstein & Fagot, 2003). As well, Gartstein and Fagot (2003) found associations between marital/family adjustment and child externalizing behaviours. Additionally, a study by Schachar and Wachsmuth (1990) found that child externalizing behaviours such as ADHD and CD were correlated with parental psychiatric disorders and the parents' childhood history of hyperactivity. Particularly, the highest rates of parental psychopathology were found amongst parents of children who had ADHD and CD combined (Schachar and Wachsmuth, 1990). Thus, parents' own psychopathology and/or childhood history of externalizing behaviours could be associated with their children's externalizing behaviours as well. Given these studies, it is possible that other factors may have influenced the association between parenting practices and child externalizing behaviour in the current study.

Limitations

As discussed above, one of the main limitations of the current study is the small sample size, which may have led to the insignificant results. However, the fact that large effects such as the stability of externalizing behaviours across time were found suggests that the sample size was sufficient to capture larger effects. Nevertheless, future studies should examine the research questions of the current study using a larger sample size. Another issue with the sample was the fact that it relied on participant self-selection. This type of bias is related to issues with the representativeness of sampling as well as generalizability (Costigan & Cox, 2001). Self-selection bias in this particular study could mean that parents who voluntarily took part in the study may have been generally more involved in their children's lives. Additionally, there is also the potential impact of the COVID-19 pandemic, not only on participation but directly on results as

well. With regard to impacts of COVID-19 on participation, parents who were able to complete the questionnaires for T1 may have found themselves busier due to the COVID-19 pandemic, due to home-schooling and confinement. With regard to impacts of COVID-19 on results directly, parents may find themselves more stressed with their children due to COVID-19 restrictions on school, which may have impacted the results. COVID-19-related stress may have also impacted children's behaviours. Future research should examine these research questions outside of the COVID-19 pandemic or with measurement of the specific impacts of COVID-19 on families. These studies can attempt to separate the impact of COVID-19 on parenting practices and child behaviour to assess if and to what extent the pandemic has impacted the results. As well, as discussed above, the inclusion of additional variables may help reduce confounds. In addition, recruitment took place from Ottawa, Ontario, Canada, which may limit the generalizability of results. Future studies could examine these research questions with participants across the country or world-wide. Parent-child processes may differ across cultures and countries. Additionally, as the data collection only focused on obtaining parental self-report, there is a need for future studies that involve other methods of data collection, such as child-report questionnaires and observations of parent-child interactions. In spite of these limitations, there is a lack of studies that longitudinally assess the relationship between the parenting practices examined here and child externalizing behaviour across three time-points in one academic year, which is unique to this study.

Implications

The current study contributes to the existing literature on parenting practices and child behaviour. This is a longitudinal study that examined change processes between parent and child across one school year. The longitudinal relationship was examined at three time-points with two

months between each time-point. The reduced time between time-points allowed for the potential observance of more immediate effects of parenting on the child's externalizing behaviours. The significant correlations of child externalizing behaviour across time suggests that even during the unpredictability of the COVID-19 pandemic, child externalizing behaviour was relatively stable, which adds to the literature on COVID-19 and child behaviour. The fact that parenting practices were not significant predictors of child externalizing behaviour in this study suggests the potential for the effects of parenting practices on child behaviour to be relatively small compared to the stability of child behaviour. These study results could also potentially contribute to the clinical setting. For instance, knowing that prior child behaviour is more predictive of future child behaviour in comparison to parenting behaviour indicates the persistence of child behaviour and the potential challenges of improving child behaviour through parenting. Such knowledge can enhance empathy and perspective-taking for parents and children, and increase the gathering of efforts to improve child behaviour. Future studies of these research questions with a larger sample size will also add to clinical practice. For instance, mental health professionals who have a better understanding of specific parenting practices that affect child behaviour may be better able to prioritize treatment goals. In addition, this study may lead to additional focus on improving child behaviour in order to improve parenting practices. With regards to the potential influence of COVID-19 on families, mental health professionals should take into account the potential effects of the pandemic on both children and their parents. There may be a need for different interventions based on the family's needs during the lock-down periods. Overall, this study has the potential to contribute to both the empirical and clinical literature.

Conclusion

The current study aimed to longitudinally examine the associations between the parenting practices of involvement, positive parenting, and inconsistent discipline and child externalizing behaviour. The data collection for the study was conducted in three waves (Time 1, Time 2, and Time 3), each separated by approximately two months and conducted across one school year. Multiple regression analysis was used for the study. There were no significant associations between parenting practices and child externalizing behaviour, and future studies should examine these associations with a larger sample size and take into account the impact of COVID-19 on results. Indeed, there is a need for more longitudinal studies examining the potential impact of COVID-19 on parenting practices and child externalizing behaviours, as well as more studies in later years comparing parenting and child behaviour at pre-COVID-19, during COVID-19 and post-COVID-19. Overall, findings of this study suggest the stability of child externalizing behaviours across time, and preliminarily suggest that parenting practices may not predict child externalizing behaviours, at least over a short time-span and within the context of COVID-19.

Table 1: Means and standard deviations of parenting behaviours and child externalizing behaviour

Variable	Time 1		Time 2		Time 3	
Parenting practices and child externalizing behaviour	*M*	*SD*	*M*	*SD*	*M*	*SD*
APQ Involvement	3.31	.44	3.31	.44	3.40	.50
APQ Positive parenting	3.34	.38	3.23	.44	3.26	.48
APQ Inconsistent discipline	1.41	.84	1.62	.97	1.41	.85
CBCL Externalizing problems	6.48	7.25	6.87	7.38	5.93	6.82

Note. APQ = Alabama Parenting Questionnaire. CBCL = Child Behaviour Checklist. *M* = mean.

SD = standard deviation.

Table 2: Bivariate correlations of parenting behaviours and child externalizing behaviour

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. APQ Involvement T1	1	.48**	.34**	.67**	.35**	.12	.49**	.41**	.01	.16	.23	.12
2. APQ Positive parenting T1	---	1	.22	.47**	.74**	.09	.24	.65**	-.04	-.02	.07	.01
3. APQ Inconsistent discipline T1	---	---	1	-.02	.20	.63**	.02	-.07	.55**	.28	.18	.22
4. APQ Involvement T2	---	---	---	1	.36**	0.21	.58**	.50**	-.18	0.81	.17	-.02
5. APQ Positive parenting T2	---	---	---	---	1	.17	.08	.67*	.12	-.12	-.10	-.21
6. APQ Inconsistent discipline T2	---	---	---	---	---	1	-.12	-.06	.68**	.08	.06	.04
7. APQ Involvement T3	---	---	---	---	---	---	1	.50**	-.31	-.03	.05	-.06
8. APQ Positive parenting T3	---	---	---	---	---	---	---	1	-.23	-.17	-.21	-.37
9. APQ Inconsistent discipline T3	---	---	---	---	---	---	---	---	1	.03	.06	-.01
10. CBCL Externalizing problems T1	---	---	---	---	---	---	---	---	---	1	.89**	.92**
11. CBCL Externalizing problems T2	---	---	---	---	---	---	---	---	---	---	1	.95**
12. CBCL Externalizing problems T3	---	---	---	---	---	---	---	---	---	---	---	1

Note. APQ = Alabama Parenting Questionnaire. CBCL = Child Behaviour Checklist. T1 = Time 1. T2 = Time 2. T3 = Time 3.

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