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The role of the father in preschool behaviour problems

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The role of the father in preschool behaviour problems

By Vilija Petrauskas

A Thesis
Submitted to the Faculty of Graduate Studies
Through the Department of Psychology
In Partial Fulfillment of the Requirements for the
Degree of Master of Arts at the
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2008
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Abstract

The present study examined the parenting role played by fathers in a sample of preschool-aged children at increased risk ($n = 5$) and low risk ($n = 13$) of ADHD. Fathers completed a revised version of the PSDQ, the APQ-PR, the PSI-SF, and a Quality of Life inventory. Separate MANOVAs were used to evaluate the relationship between group status and the outcome measures of parenting styles, strategies, and stress. Results indicated that group membership was not associated with parenting strategies or parenting styles endorsed by fathers. Lastly, separate ANCOVAs were used to determine whether fathers of at-risk children had higher parenting stress (PSI) or higher stress unrelated to parenting (QLI) after accounting for effects of authoritarian parenting style. Authoritarian parenting style was not related to group status for either parenting stress, or general stress. These data support the notion that fathers employ different parenting styles and strategies than mothers.
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Attention deficit hyperactivity disorder (ADHD) is a chronic debilitating condition of childhood and adolescence that represents an extreme expression of childhood hyperactivity (Derks, Dolan, Hudziak, Neale & Boomsma, 2007; Smids & Oosterlaan, 2007). The ADHD diagnosis is most commonly made when children reach middle childhood (around 8 years of age; Sonuga-Barke, Auerbach, Campbell, Daley, & Thompson, 2005). Recently, however, there has been a noticeable increase in the number of preschool children (e.g. under the age of 5 years) receiving the diagnosis (Zito, Safer, dosReis, Gardner, Boles & Lynch, 2000), and many studies indicate that preschool-aged children are likely to be rated inattentive and overactive by their parents (e.g., Derks et al., 2007; Smidts & Oosterlaan, 2007). In fact, there have been pop culture books written with the aim of addressing these behavioural issues for parents that include strategies parents may find useful in the parenting of their difficult children (e.g., Kurcinka, 2006). Additionally, it has been noted that children identified as “hard-to-manage” at ages 3 or 4 have a high probability of continuing to show difficulties in self-control, behavioural regulation, focused learning and successful adaptation to change and stress throughout the elementary school years and into adolescence (Campbell, 1995).

Attention deficit hyperactivity disorder is the most commonly diagnosed behaviour disorder among children in North America and is one of the most common neurobehavioural disorders of childhood. Prevalence rates vary worldwide. For
example, it has been estimated that in the United States 3% to 5% of the school age population has ADHD (American Psychiatric Association, 2000). Looking at children (aged 0 to 11) in the Canadian National Longitudinal Survey of Children and Youth sample, Willms (2002) found that approximately 14% of children are hyperactive, whereas a different study (Breton, Bergeron, Valla, et al., 1999) found the prevalence rate to be 5% in Canadian children aged 6 - 14. Differences between the US and Canadian prevalence rates may be due to the different ages sampled (e.g., the US prevalence rates are for school age children only, whereas the Canadian statistics include younger children). Prevalence rates in Australian children aged 6 – 17 has been found to be 7.5% (Graetz, Sawyer, Hazell, et al., 2001). In Colombian preschool-aged children the prevalence rate was found to be 18.2% (Pineda, Ardila, Rosselli, lArias, Henao, Gomez, et al., 1999), and in Iranian children aged 5 – 6 the prevalence rate was found to be 12.3% (Hebrani, Abdolahian, Behdani, Vosoogh, & Javanbakht, 2007). In Germany, the prevalence for 5 year old children was found to be 9.6% (Baumgaertel, Wolraich, & Dietrich, 1995), while in India the prevalence was found to be 5.2% in children aged 3 and 4 (Bhatia, Nigam, Bohra & Malik, 1991). Finally, the prevalence rate in the United Kingdom for children aged 5 – 7 is 1.9% (Ford, Goodman & Meltzer, 2003). Taken together, the studies outlined above demonstrate that ADHD truly is a global disorder, with varying prevalence rates. The different prevalence rates may also be reflective of how much of a problem ADHD may seem to be in a particular country and accordingly how much funding is dedicated to the study and prevention of ADHD.

This disorder is seen three times more frequently in males than in females (American Psychiatric Association, 2000), is a chronic childhood disorder characterized
by inattention, distractibility, restlessness, and impulsivity (Valente, 2001), and has been noted to be observed in all ethnic groups, social classes and nationalities (Barkley, 2000). Many home situations involve the child being noncompliant to parental requests and directives (Statistics Canada, 1999). The child is described as having frequent displays of active verbal or physical resistance in complying with parental directives by way of verbal refusal, temper outbursts, and even physical aggression against the parent when the parent attempts to impose compliance (Statistics Canada, 1999). Overall, children with ADHD use disproportionately more medical and mental health services compared to children without ADHD (Rowland, Lesesne & Abramowitz, 2002). The costly toll that ADHD takes on individual adjustment, family life, schools, and social services underscores the importance of understanding the developmental course of ADHD symptoms with the ultimate goal of early identification and treatment (von Stauffenberg & Campbell, 2007).

The cost-effectiveness of prevention is an important area to consider (Bernfort, Norfeldt & Persson, 2008). For example, an American study estimated that the annual excess production loss costs due to ADHD were $690 per male with ADHD, while the difference for females was not significant (Birnbaum, Kessler, Lowe, Secnik, Greenberg, Leong, et al., 2005). Individuals with ADHD can also be expected to consume more healthcare resources compared to the average individual. Studies of children and adolescents have shown that ADHD is associated with higher healthcare costs, even when controlling for psychiatric treatment. Leibson et al. (2001) found that children and adolescents with ADHD had more diagnoses, more healthcare contacts, and cost twice as much as controls. Their findings were consistent for boys and girls as well as for
different ages. A retrospective study found that even when controlling for comorbidity, adult ADHD subjects compared to controls had significantly higher annual costs for outpatient care ($3009 vs. $1492), inpatient care ($1259 vs. $514), and drugs ($1473 vs. $1008; Birnbaum et al., 2005). Another study calculated the costs per year of adult ADHD subjects at $4929 compared to $1473 for controls (Swensen, Birnbaum, Secnik, Marynchenki, Greenberg & Claxton, 2003). Similarly, a recent study of the societal and quality of life costs of children with ADHD in Europe found that not only were the direct medical costs of ADHD significantly higher, but also that children with ADHD scored lower on a psychological health measure (Hakaart-van Roijen, Zwirs, Bouwmans, Tan, Schulpen, Vlasveld, & Buitelaar, 2007). Pelham et al., (2007), using a prevalence rate of 5%, estimated that the annual societal cost of illness for ADHD in childhood and adolescence is $42.5 billion. Clearly, the cost-effectiveness of developing prevention programs is evident.

Parenting is an important contributor to long-term outcome in all children. Parents who are consistent, self-confident, and affectionate raise socially competent children (McCord, 1991; Reid, Webster-Stratton & Hammond, 2003). In contrast, poor parental monitoring and inconsistent or punitive discipline strategies are reported to predict a number of negative outcomes in adolescence and adulthood which include alcohol and substance abuse, delinquency, and academic failure (e.g., Frick & Loney, 1999; Loeber & Hay, 1997; Pelham, Foster & Robb, 2007). In addition to predicting negative outcomes later in life, noncontingent and inconsistent parental discipline is a predictor of the development of future maladaptive parental discipline strategies in future generations (Chamberlain & Patterson, 1995). In fact, harsh parenting during the
preschool years has been shown to be related to fifth grade externalizing behaviour (Bradley & Corwyn, 2007). Results of parent-training programs have been positive. Pelham, Wheeler and Chronis (1998) reviewed the treatment literature on attention deficit hyperactivity disorder and concluded that behavioural parent training (BPT) was a well-established treatment for children with ADHD. Pelham and Fabiano (2008) updated the review of the BPT literature and reached the same conclusions as ten years prior – namely that behavioural interventions for ADHD in the form of BPT is supported as an evidence-based treatment for ADHD.

Research on parents of children with ADHD indicates that these parents often use more negative and reactive discipline strategies than positive parenting skill strategies (Johnston, 1996) in comparison to parents of children not diagnosed with ADHD. Self-report and observational studies across a wide developmental range (preschool through adolescence) indicate that parents of children with ADHD experience more stress, use more directives and commands, display more disapproval, use more physical punishment, cope less efficiently with their children’s behaviour, and exhibit more overall negative behaviour than parents of nonproblem children (Danforth, Barkley & Stokes, 1991; Fischer, 1990; Johnston, 1996; Johnston & Mash, 2001; Woodward, Taylor & Dowdney, 1998). As such, when treating childhood mental health disorders, targeting parenting is an essential area of intervention.

Family stress theory was developed by Hill (1949) after observing war-induced separation and reunion within families. Hill’s model describes how families experiencing the same stressor can react and respond differently. Factors thought to influence the family’s reaction to the crisis included the family’s resources, perceptions, and stressors
Susceptibility to crisis was thought to be determined by the balance between these factors (Robinson, 1997). The ABCX and the Double ABCX Model of family adaptation by McCubbin and Patterson (1983) builds upon Hill's work by including additional variables that influence family adaptation (e.g., pile up of additional stressors, new and existing resources, and family perceptions of the situation and coping strategies). The Double ABCX Model has been expanded further to the Resiliency Model of Family Stress, Adjustment and Adaptation by McCubbin and McCubbin (1991). This model includes the addition of factors of family type, problem-solving capability, and higher level of family perception (Robinson, 1997). In this model, the factors that influence the outcome of the crisis situation (e.g., the child with ADHD's behavioural issues) are family resources and social support, family types and patterns of functioning (i.e., parenting styles and strategies), the family's appraisal of the situation (i.e., the parent's attributions of what causes the ADHD in the child), and their problem-solving and coping abilities, resulting in either bonadaptation (i.e. successful adaptation) or maladaptation (McCubbin & McCubbin, 1993). This theory provides a useful framework for examining the different ways that family members interact and influence each other in times of stress.

Parents of children with ADHD experience elevated levels of parenting stress (Anastopoulos et al., 1992). Children with ADHD often disregard parental commands, requests and rules; fight with their siblings; have more frequent negative encounters with school educators and principals; and disrupt fellow students (Pelham, Lang, Russell, Cooper, Frone & Peirce, 1999). Combined with the chronic disruptive nature of ADHD, the symptoms leave parents feeling emotionally and physically overwhelmed (Barkley,
Parenting a child with ADHD requires continual adjustment to the child’s behaviours and demands and requires more skills compared to parenting a child without ADHD (Lewis-Abney, 1993). Researchers have found increased levels of stress in parents of children with ADHD compared to parents of children without ADHD using self-report measures (Anastopoulos, Guevremont, Shelton & DuPaul, 1992; Mash & Johnston, 1983a; 1983b). Child, parent, and environmental characteristics seem to be related to increased stress levels in parents of children with ADHD. Specifically, elevated levels of parental stress appear to be related to severity of ADHD symptomatology and behaviour problems (Anastopoulos et al., 1992; Baldwin, Brown & Milan, 1995).

Understanding the factors that are associated with parents’ behaviour and their use of ineffectual discipline strategies is an important consideration in the evaluation of the effectiveness of parent training programs. Research is needed to better understand the determinants of authoritarian and permissive parenting styles which have been consistently linked with current and future behaviour problems in children from preschool through adolescence. Permissive parenting refers to parental tendencies to: make few demands; not enforce rules; be inconsistent; and give in to children’s coercive behaviour (Baumrind, 1967, 1991; Franz, McClelland & Weinberger, 1991; Harvery, Danforth, Ulaszek & Eberhardt, 2001). Authoritarian parenting refers to discipline that is punitive, forceful, overly harsh, and hostile (Arnold, O’Leary, Wolff & Acker, 1993; Baumrind 1967, 1991; Franz, McClelland & Weinberger, 1991; Harvey, Danforth, Ulaszek & Eberhardt, 2001; Kendziora & O’Leary, 1992).
Research also suggests that parental stressors, including daily hassles of parenting, marital conflict, and parental psychopathology can disrupt parenting practices and are associated with dysfunctional discipline patterns and children’s externalizing symptoms (Crnic & Low, 2002; Rubin & Burgess, 2002). However, stress does not affect all parents equally (Crnic & Low, 2002), and further research is needed to clarify the relation between stress, parenting behaviours, and children’s behaviour problems.

Much of the parenting literature relies on maternal report, and few studies document the father’s perception of the parenting experience, father-child interactions, and paternal influences on young children with problem behaviour (Amato & Rivera, 1999; Hoza et al., 2000; MTA, 1999; Webster-Stratton, 1985; Yogman, Kindlon & Earls, 1995). Consequently, paternal influences on children with ADHD and the patterns of father-child interactions are largely unexplored (Phares, 1996; Phares, Fields, Kamboukos & Lopez, 2005). Despite the under-representation of fathers, a growing interest is evident in the relationship of paternal factors to child and adolescent adjustment (Phares, 1996; Phares, Fields, Kamboukos & Lopez, 2005; Psychogiou, Daley, Thompson & Sonuga-Barke, 2007; Rolf, Masten, Cicchetti, Neuchterlein & Weintraub, 1990). In fact, fathers of children with ADHD were more likely to be diagnosed with ADHD during their own childhood (Frick, Lahey, Christ, Loebe, & Green, 1991; Mulligan, Gill & Fitzgerald, 2008), and parent psychosocial factors were shown to increase the likelihood of the development of ADHD in children (Barkley, 1990; Psychogiou, Daley, Thompson & Sonuga-Barke, 2007). Considering that fathers play a significant role in the lives of their children (Amato & Gilbreth, 1999), it is
essential to examine the role that the father plays in the manifestation of childhood disorders such as ADHD.
Chapter II

LITERATURE REVIEW

Organization of Review

This chapter begins by reviewing the importance of examining ADHD in preschool children, and outlines studies which have shown ADHD symptoms in preschool to be predictive of later behavioural problems and ADHD diagnosis or symptoms. Since negative parenting practices and styles are often at play in families with children with ADHD, a coercion theory framework will be used to then discuss factors that contribute to parenting stress, as well as the relationship between difficult child temperament and evoked parenting strategies.

The World of the Preschooler

Cognitive and social development is rapid during childhood (Anderson, Northam, Hendy & Wrennall, 2001). Early conceptual models of cognitive development, originating with Piagetian theories (Piaget, 1963) emphasized a hierarchical or stage-like process, with children required to pass through a preset series of developmental stages, not unlike the preset genetic code underpinning cerebral development (Rourke, Bakker, Fisk & Strang, 1983). Although some individual variation is expected to occur with respect to the timing of these stages, the actual stages and the need to pass through each in order are considered invariant. For example, classical Piagetian models, as well as those of more contemporary developmental psychologists, describe a number of stages of development, each characterized by increasing symbolic thought and the ability to deal with increasingly complex information (Bjorklund, 1989; Flavell, 1992; Piaget, 1963). The preschool years correspond to Piaget’s second stage of cognitive development, the
preoperational stage, which lasts from about age two to age six or seven (Lefton, Brannon, Boyes & Ogden, 2008). It is in this stage that children begin to use their newfound ability to represent the world symbolically, and can talk about various people, objects and events (Lefton et al., 2008). It is in this stage also that children are egocentric in that they cannot perceive a situation or event except in relation to themselves (Piaget, 1963). Piaget used a related term, centration, to refer to the consistent tendency of preoperational children to become centered on one salient feature or dimension of a situation they encounter (Lefton et al., 2008). This notion of centration may be particularly salient for the present study in that it emphasizes the fact that preschool-aged children may focus on certain aspects of their interactions with other individuals.

The preschooler’s world clearly involves their interaction with others, including their parents. It has been noted that since 1969 the time that American parents spend with their children has declined by 22 hours per week (Council of Economic Advisors, 1999), and in Canada it has been found that while the proportion of childcare conducted by fathers has increased from 0.4 hours per day in 1986 to 0.5 hours per day in 2006, the number of hours mothers care for children remains double that of fathers (Statistics Canada, 2006a). A study by Sayer, Bianchi and Robinson (2004) assessed the amount of time that parents spent with children using time diary data. They found that between 1965 – 75 there was a decline in the routine child care time for mothers and then a rebound between 1975 – 98 with a steady increase in time doing more developmental activities (Sayer, Bianchi & Robinson, 2004). For fathers, the 1998 report indicated an increase in participation in routine child care as well as in more “fun” activities (Sayer, Bianchi & Robinson, 2004). While it has been noted that there has been an increase in
father involvement with their children (e.g., Sanderson & Sanders Thompson, 2002; Sayer, Bianchi & Robinson, 2004; Yeung, Sandberg, Davis-Kean & Hofferth, 2001), it has also been found that when fathers do engage with young children such as preschoolers, they tend to engage in more playful social interactions than in practical caretaking tasks (e.g., Bailey, 1994; Wood & Repetti, 2004; Yeung et al., 2001).

**Etiology of ADHD**

The specific etiology of ADHD is unknown. ADHD is a highly heritable behavioural condition for which recent estimates suggest a 4-8 fold increase in risk for the condition in first-degree relatives of ADHD cases compared to those in the general population (Christiansen et al., 2008; Faraone et al., 2005; Willcutt, Pennington & DeFries 2000). Transactional models have stressed the interactive nature of contributors in the development of ADHD, including biological, environmental, and psychosocial factors (Faraone & Doyle, 2001). Many suggest that the most common pathway to the development of ADHD is one in which the child is born with a genetic, congenitally acquired predisposition to ADHD (Gillis, Gilger, Pennington & DeFries, 1992; Milberger, Biederman, Faraone, Guite & Tsuang, 1997). Furthermore, heritability has been estimated to be 80% (Lin & Chung, 2002).

Several genetic studies have addressed the contribution of both genetic and environmental factors to the development of ADHD (Albayrak, Friedel, Schimmelmann, Hinney & Hebebrand, 2008). The concordance rates for monozygotic twins (MZ) versus dizygotic twins (DZ) range between 50 – 80% and 30 – 40%, respectively (Thapar, Holmes, Poulton & Harrington, 1999). MZ and DZ correlations for the combined subtype (i.e., hyperactivity and inattention) are between 0.48 and 0.92 and 0.21 and 0.42,
respectively, also indicating substantial heritability (Thapar et al., 1999). Thus, it has been estimated that 60 – 80% of the variance of the phenotype is based on genetic factors (Faraone & Biederman, 1998). Most twin studies indicate a weak contribution of shared environmental factors, with 20 – 40% of the variance explained by non-shared environmental factors (Smidt et al., 2003). Adoption studies also support the importance of genetic factors in the etiology of ADHD. Biological parents and siblings of a child with ADHD are three times more often affected with ADHD than the adoptive parents and siblings (Alberts-Corush, Firestone & Goodman, 1986; Cadoret & Stewart, 1991; Thapar et al., 1999; Sprich, Biederman, Crawford, Mundy & Faraone, 2000).

Family studies help to clarify the role of familial segregation of ADHD phenotypes and associated disorders. The occurrence of ADHD in first-degree relatives of patients is approximately five times higher than that in control families (Epstein et al., 2000; Faraone, Biederman & Friedman 2000). Interestingly, however, the subtype of ADHD of an affected patient within a family does not predict the subtype of other affected members within the same family (Albayrak, Friedel, Schimmelmann, Hinney & Hebebrand, 2008). It appears that even if genetic risk factors are shared with first-degree relatives, different clinical manifestations of ADHD might occur (Smalley, McRacken & McGough, 2001) and therefore the developmental nature of ADHD may need to be taken into account. The genetic susceptibility factors influencing the origins of ADHD may differ across developmental stages (e.g., genes that contribute to ADHD in children may not be the same genes that contribute to ADHD in adulthood) (Albayrak, Friedel, Schimmelmann, Hinney & Hebebrand, 2008) and may differ from those that influence the course and outcome of ADHD including the development of antisocial behaviour.
Role of the Father

As such, gene-environment interactions can be expected in the manifestation of ADHD symptoms.

A Coercion Theory Framework

Models of the relationships between parenting practices and children’s behaviour problems emphasize a bidirectional process (Lifford, Harond, & Thapar, 2008). To better understand the causes of childhood externalizing behaviours, theorists often point to the significance of early developmental periods. A review of current research revealed a number of theoretical frameworks used to describe the complex interactions among parents and their children. Theories of social interactions and coercion seem to be particularly applicable given the nature of the child with ADHD’s behaviour problems.

Similar to attachment theory (Bowlby, 1969), social interactional theories emphasize that the quality of early childhood parent-child interactions is an important risk factor predicting behaviour problems during middle childhood and adolescence (Greenberg & Speltz, 1988; Keenan & Shaw, 1995; Lifford, Harold & Thapar, 2008; Patterson, Reid & Dishion, 1992; Shaw & Bell, 1993; Sroufe, 1989). In contrast to the attachment paradigm, social interactional theories focus on both the solicited and unsolicited affective and behavioural characteristics of parent-child interactions. Specifically, the coercion model hypothesizes that when parent-child exchanges are characterized by negative and intense emotionality, risk for problem behaviours intensifies (Scaramella & Leve, 2004). Through a process of mutual reinforcement, parent behaviour inadvertently reinforces difficult child behaviour; difficult child behaviour similarly amplifies parental negativity. For instance, cycles of negativity may be initiated when children react to a parental request with anger or resistance; this
negativity evokes similar angry and hostile emotions from parents, causing parents to intensify their angry response to the child. Such demand-resistance interactions are not only expected to increase in frequency and intensity during early childhood, they also promote negative, reactive, and acting-out (e.g., externalizing) child behaviour and harsh parenting (Frick, 1998; Patterson, 1982; Shaw & Bell, 1993). Coercion theory also takes child temperament into account and notes that child temperament influences the quality of interactions with parents and the emergence of harsh parenting strategies. When children are temperamentally difficult or exhibit immediate and intense negative emotional reactions to environmental changes, risk for harsh parenting increases (Scaramella & Leve, 2004).

Barkley (1990) reported that parents of hyperactive children make more commands and reprimands, and are more likely to use negative punishment strategies. Patterson and colleagues (1992) suggest that a child’s compliance with parental commands relates to the intensity of the parental directives and/or parental hostility. When a child’s problem behaviour is coupled with negative parent verbalizations, it often results in the parent’s withdrawal or failure to follow through with a command. Each person is reinforced for increasingly negative and aggressive behaviours, and the interdependent negative behaviour between parents and their children contributes to the evolution of childhood behaviour problems (Patterson, 1982). Later work by Patterson and colleagues has produced a wealth of empirical evidence for this theory (e.g., Patterson, Forgatch, Yoeger & Stoolmiller, 1998). However, theoretical models have not generally emphasized the role of hyperactivity in the relation between parenting practices and antisocial behaviour.
ADHD in Preschool-aged Children

Among the first major studies to examine the persistence of behavioural problems in preschool through early childhood was an epidemiological study reported by Richman, Stevenson and Graham (1982) that followed three year olds through to the age of eight. Both maternal and teacher reports indicated that problems persisted through to age eight. Problems were found to more likely persist in boys than girls. Richman and colleagues (1982) noted that externalizing symptoms in preschool age, including hyperactivity, concentration difficulties, discipline problems, tantrums, attention seeking behaviour, and poor sibling relations were especially pronounced in the children whose problems continued in elementary school.

Campbell and various colleagues in assorted studies (1982, 1984, 1990, 1991, 1994) described two cohorts of hard-to-manage preschool children and demonstrated the persistence of behaviour problems identified during the preschool years with later externalizing behaviour problems. The first cohort was identified via maternal complaints of inattention, overactivity, and discipline problems when children averaged 3 years of age (Campbell, Szumowski, Ewing, Gluck & Breaux, 1982), behaviours were then confirmed through teacher reports. Children were followed up at ages 4, 6, 9, and 13. Children identified as hard-to-manage at age three continued to have difficulties at home and school at age 4 (Campbell, Breaux, Ewing & Szumowski, 1984), and by age six, 50% of the problem group met criteria for ADHD or were perceived by parents to have significant problems according to ratings on the Child Behavior Checklist (CBCL) and if problems were reported during interview. These children continued to exhibit
significant externalizing behaviour problems when followed-up at ages 9 (Campbell, Szumowski, Ewing, Gluck & Breaux, 1982) and 13 (Ewing, 1994) also.

A second cohort of overactive and inattentive preschool-aged boys were studied by Campbell and colleagues (Campbell, 1994; Campbell, March, Pierce, Ewing & Szumowski, 1991; Campbell, Pierce, March, Ewing & Szumowski, 1994). When followed up at ages 5 and 6, the boys in the externalizing behaviours group were rated as being more aggressive, delinquent, and oppositional compared to control boys. Both cohorts were followed up by Pierce, Ewing and Campbell (1999). Hard-to-manage children from cohort 1 with problems that persisted from ages 3 through 9 years were much more likely to meet diagnostic criteria of ADHD at age 13 than children whose early problems were less stable in elementary school. Similarly, hard-to-manage boys in cohort 2 whose problems persisted at age 6 were more likely to meet criteria for an externalizing diagnosis at age 9 than hard-to-manage boys whose problems appeared less stable at age 6. Additionally, severity of early problems had prognostic value in that children whose problems persisted showed more severe initial symptoms of externalizing problems generally and of ADHD with little decline in symptoms over time.

The Dunedin epidemiological study also indicates that children identified as problematic in early childhood are likely to show problems that persist into school age and adolescence (McGee, Partridge, Williams & Silva, 1991). Investigators followed a birth cohort of New Zealand children from age 3 at 2-year intervals until they reached the age of 15. At age 11 and 15, 50% of the children, who were classified as “very difficult to manage” at age 3 by the examiner, met DSM-III criteria for an externalizing disorder.
It was also found that only 25% of the original problem group was seen as problem free (McGee, Partridge, Williams & Silva, 1991).

The Preschool ADHD Treatment Study (PATS) examined ADHD treatment in preschoolers through a multicenter, randomized, efficacy trial designed to evaluate the short-term (5 weeks) efficacy and long-term (40 weeks) safety of methylphenidate (MPH) in preschoolers with ADHD (Kollins et al., 2006). In this large-scale study, 303 children aged 3 to 5.5 years who met criteria for a DSM-IV diagnosis of ADHD entered the trial. As part of the screening process, children and their parents underwent behavioural parent-training (BPT) and it was those children who did not benefit from BPT that continued on to receive the MPH treatment. A separate PATS study (McGough et al., 2006) examined the pharmacogenetics of MPH response in preschoolers with ADHD. They found that individual genetic differences contribute to variability in ADHD treatment response when preschoolers were treated with MPH. Results of these two PATS studies, that not all children benefit from BPT and that there are genetic differences in terms of the efficacy of MPH treatment, suggests that complex gene-environment interactions are at play and therefore the outcome of all preschool-aged children with ADHD cannot be reliably predicted. There are some preschool-aged children who benefit from either BPT or MPH, however there will also be another group of children who benefit only from one or both forms of treatment, and another group who will not benefit from either treatment. As such, both genes and environment should be examined.

Taken together, follow-up studies of preschool children identified as having potentially significant problems show surprisingly high rates of behavioural stability.
However, these studies also indicate that not all children originally identified as at risk for developing ADHD do in fact develop the disorder. Among those children whose problems may be severe enough to receive a clinical diagnosis of ADHD, only approximately half will have this same disorder by later childhood or early adolescence (Barkley, 1998; Greenhill, Posner, Vaughan & Kratochvil, 2008). This finding suggests that the appearance of significantly inattentive and overactive behaviour by age 3 to 4 years, by itself, is not indicative of a persistent pattern of ADHD into later childhood or adolescence in at least 50 – 90% of those children so characterized. Additionally, As such, the significance of other factors must also be considered.

Parenting and Associated Stresses

The parent-child relationship has been identified as a significant family factor in accounting for variation in children’s normal and abnormal emotional, behavioural and social development (Cox & Paley, 1997; Paley, Conger & Harold., 2000; Waters & Cummings, 2000). From attachment (Bowlby, 1969) to parenting style traditions (Baumrind, 1966), the affective quality of the parent-child relationship has been regarded as formative in accounting for variation in children’s long-term psychological development. Parenting is an important aspect of the parent-child relationship, and parenting stress undoubtedly influences these interactions.

Parents of children with ADHD symptoms in preschool describe them as restless, always up and on the go, acting as if driven by a motor, and frequently climbing on and getting into things (Barkley, 1998). They are more likely to encounter accidental injuries as a result of their overactive, inattentive, impulsive, and often fearless pattern of behaviour. Persistent in their wants, demanding of parental attention, and often insatiable
in their curiosity of their environment, ADHD preschoolers pose a definite challenge to the child-rearing skills of their parents (Barkley, 1998). Such children require far more frequent and closer monitoring of their ongoing conduct than do normal preschoolers, and the group of children with ADHD who display excessive moodiness, quickness to anger, and low adaptability and rhythmicity are likely to prove the most distressing to mothers (Barkley, 1998). Noncompliance with parental and teacher direction is common, and at least 30 – 60% are actively defiant or oppositional, especially if they are boys (Barkley, 1998). Although temper tantrums may be common instances even for normal preschoolers, their frequency and intensity are often exacerbated in children with ADHD. Mothers of these children are likely to find themselves giving far more commands, directions, criticism, supervision, and punishment than do mothers of preschoolers without ADHD symptoms (Barkley, 1988; Campbell, 1990; Cohen & Minde, 1981). The coexistence of additional difficulties such as sleep problems, toilet training difficulties, and/or motor and speech delays in a small percentage of children with ADHD is likely to further tax the patience and competence of many of their parents. As such, it is not surprising that parents of preschool children with ADHD report their lives to be much more stressful in their parental roles than do mothers of normal preschoolers or mothers of older children with ADHD (Anastopoulos et al., 1992; Fisher, 1990; Mash & Johnson, 1982, 1983b).

Although the role of early parenting in the developmental course of ADHD has yet to be established empirically, examining these variables in young children who meet criteria or are at risk of developing ADHD is particularly important. High levels of negativity in parent-child interactions (Cunningham & Barkley, 1979; Danforth, Barkley
& Stokes, 1991; Mash & Johnston, 1982), parenting stress (Anastopoulos et al., 1992; Fischer, 1990) and parental psychopathology (Chronis, Lahey, Pelham, Kipp, Bauman & Lee, 2003; Lahey, Piacentini, McBurnett, Stone, Hartdagen & Hynd, 1988; Lahey, Russo, Walker & Piacentini, 1989) are common in families of children with ADHD, particularly younger children. Parenting influences are expected to be particularly strong in the preschool years relative to later childhood and adolescence, when the peer group becomes increasingly important.

Typical parenting strategies are often ineffective for children with ADHD. If the child is the first born, parents may come to think they are bad parents (Lerner, Lowenthall & Lerner, 1995). On the other hand if there are older siblings, parents may begin to think the child is defective in some way (Lerner, Lowenthall & Lerner, 1995). Research suggests that these families experience increased levels of parental frustration, marital discord and divorce (National Institutes of Health, 2000). The heterogeneity of ADHD points to multiple causal pathways, with genes and environment interacting to produce the behavioural profile characteristic of the disorder (Campbell, 2000; Faraone, Biederman, Weber & Russell, 1998; Rutter & Sroufe, 2000; Taylor, 1999). Family environment is an important consideration in the development, manifestation, and outcome of the disorder. As such, the stressful, demanding, and often intrusive nature of the child's ADHD characteristics are likely to evoke different parenting strategies than those employed by parents of children without ADHD.

There have been many studies conducted with school-aged children with ADHD and their families (e.g., Alizadeh, Applequist & Coolige, 2007; Gadeyne, GhesQUIere & Onghena, 2004; Hurt, Hoza & Pelham, 2007). It has been noted that parents of school-
-aged children with ADHD experience more negative feelings toward their child, are less likely to employ inductive control methods like reasoning and positive incentives, are more likely to resort to physical punishment, use disciplinary aggression, show less warmth, and use authoritarian parenting strategies (Alizadeh, Applequist & Coolidge, 2007; Gadeyne, Ghesquiere & Onghena, 2004; Gillion & Shaw, 2004; Harrison & Sofronoff, 2002; Hurt, Hoza & Pelham, 2007; Lange et al., 2005; Mash & Johnston, 1990; Psychgriou, Daley, Thompson & Sonuga-Barke, 2007; Tallmadge & Barkley, 1983; Woodward, Taylor & Dowdney, 1998).

Shaw and colleagues (1994) examined developmental precursors of externalizing behaviour from infancy through to age 3. Infant persistence and lack of maternal responsiveness was related to later child disruptive and aggressive behaviour at ages 2 and 3, and gender differences were found. For boys, salient predictors of age 2 and 3 externalizing behaviour were maternal unresponsiveness, infant attention-seeking, aggression, and noncompliance whereas for girls, infant noncompliance was related to both age 3 externalizing and internalizing problems.

Keown and Woodward (2002) examined early parent-child relations and family functioning of preschool boys aged 47 to 62 months with pervasive hyperactivity. Parents of hyperactive boys showed a greater tendency to report using lax and overreactive parenting strategies than parents of comparison boys. These differences (i.e., reporting both lax and overreactive parenting) may be due to differences in the child's behaviours. For example, if the child is exhibiting more of the inattentive symptoms of ADHD the parents may be more lax, whereas if the child is exhibiting more of the impulsive and hyperactive symptoms then the parents may report more
overreactive parenting strategies. Additionally, there were lower rates of father-child communication and less synchronous mother-child interactions in the families of hyperactive boys. In fact, it was found that boys whose mothers had lax disciplinary styles were two times more likely to be hyperactive. Additionally, boys were found to be 13.6 times more likely to be hyperactive if their mothers were coping less well with their child’s behaviour issues.

Cunningham and Boyle (2002) studied 4-year-old children at risk for ADHD, oppositional defiant disorder (ODD), both Attention Deficit Disorder (ADD) and ODD, and compared them to those without externalizing problems. It was found that when solving child management problems, mothers of children in all groups suggested twice as many controlling/negative management strategies as positive/preventive strategies. Additionally, when faced with oppositional or conduct problems, mothers of children in all groups increased controlling/negative suggestions and decreased positive/preventive suggestions. Mothers of girls in all but the control groups gave more rewards for positive behaviour than did mothers of boys. It appears that boys may elicit more negative parenting strategies than do girls, regardless of behavioural issues.

Marks and colleagues (2006) examined objective and subjective assessments of parenting in hyperactive preschoolers. It was reported that hyperactive preschoolers were more non-compliant than controls irrespective of task demands. Parenting styles were found to be task-dependent, and mothers of hyperactive preschoolers tended to exhibit more negative behaviour and less encouragement with increased situational demands. In contrast, parents’ disciplinary practices did not differ between parents of hyperactive preschoolers compared to controls.
Goldstein, Harvey and Friedman-Weieneth (2007) examined differences in parenting practices of mothers and fathers of 3-year-old children who were classified as hyperactive (HYP), hyperactive and oppositional defiant (HYP/OD), or non-problem based on mothers’ reports of behaviour. They found that parents of children with HYP/OD were less warm, showed more negative affect, and were more lax than parents of non-problem children. Parents of the HYP/OD children did not differ from parents of HYP children. Mothers of children in the HYP/OD group did not differ significantly from mothers in the HYP group, and in fact, mothers of children in the HYP group showed significantly more overreactivity and laxness and less warmth than mothers of children in the non-problem group.

Taken together, research focusing on preschool-aged children is consistent with studies of older children with ADHD or similar conditions: children’s disruptive behaviour problems are associated with negative parent-child-interactions (e.g., Shaw, Keenan & Vondra, 1994), overreactive and lax parenting (e.g., Goldstein, Harvey & Friedman-Weieneth, 2007; Keown & Woodward, 2002), and increased maternal restrictive control (Cunningham & Boyle, 2002; Gadeyne, Phesquiere & Onghena, 2004). Additionally, parenting style may be task dependent (Marks et al., 2006) and may differ for boys and girls (Cunningham & Boyle, 2002).

Fathering

Few studies document the father’s perceptions, father-child interaction, and paternal influences on young children (Amato & Rivera, 1999; Hoza et al., 2000; MTA, 1999; Webster-Stratton, 1985; Yogman, Kindlon & Earls, 1995). Consequently paternal influences on children with ADHD and the pattern of father-child interactions are largely
unexplored. Phares (1992), more than fifteen years ago, noted that compared with mothers, fathers are dramatically under-represented in clinical child and adolescent research. In a follow-up article, Phares and colleagues (2005) noted that while there have been modest gains in the research literature on clinical child issues, there remains a wide gap between the inclusion of mothers and fathers in clinical child and family research. This pattern has not changed over the 13 year interval between the publication dates of the two articles (Phares, 1992; Phares, Fields, Kamboukos & Lopez, 2005).

Current research reflects that fathers have complex, multidimensional roles; direct and indirect patterns of influence; and that the social construction of fatherhood varies across cultures (Belsky, 1990; Cummings & O'Reilly, 1997; Furstenburg, 1988; Lamb, 1997; O'Hare, 1995; Pleck & Pleck, 1997; Steinberg, Kruckman & Steinberg, 2000). Amato and Rivera (1999) demonstrated that paternal involvement (reported by fathers) is inversely related to the number of behaviour problems exhibited by their children (reported by mothers), and that this finding holds when the level of maternal involvement is controlled.

*Fathering Children with ADHD*

Few studies have examined how fathers' parenting may be related to hyperactivity (Johnston, 1996; Kashdan, Jacob & Pelham, 2004; Lindahl, 1998; Pfiffner, McBurnett & Rathouz, 2005; Stormont-Spurgin & Zentall, 1995). This reflects a general pattern in developmental psychopathology research in which fathers continue to be under-represented (Phares, Fields, Kamboukos & Lopez, 2005), despite calls for more research (Phares, 1992). Fathers play an important role in child development (Lamb, 1997), and their parenting practices have been linked with disruptive behaviour in children (Loeber,
Loeber (1990) notes that whether or not a child became aggressive was partly dependent on the initial temperament of the child and on the child’s having a close and intense relationship with their father, which acted as a buffer. Thus, fully understanding the role of parenting in the development of ADHD requires more research on fathers.

Harvey-Arnold and colleagues (1997) highlighted the importance of examining paternal ADHD symptoms. They found that father involvement was associated with fathers’ use of *more* effective discipline when fathers had no ADHD symptoms themselves; in contrast, father involvement was associated with fathers’ use of *less* effective discipline and more overreactivity when fathers reported ADHD symptoms. A linear relationship was found between ineffective discipline practices and number of paternal ADHD symptoms.

Both negative and positive dimensions of fathering appear to be associated with the emergence of early onset conduct problems. DeKlyen and colleagues (1998) examined the role that fathering plays in early onset conduct problems in clinic-referred and normal boys. Fathers of clinic-referred boys were more likely to report they engaged in hostile-ineffective practices, interacted with sons in an angry way, and were physically threatening and punitive. Additionally, fathers’ harsh parenting was a more powerful predictor of early conduct problems than positive parenting. Fathers of clinic-referred boys reported significantly less involvement with their sons than comparison fathers, highlighting the importance of fathers and their potential influence over their children’s behaviour problems.
A meta-analysis conducted by Amato and Gilbreth (1999) found that children tended to have higher academic achievement, fewer externalizing problems, and fewer internalizing problems if nonresident fathers exhibited behaviors reflecting authoritative parenting. This finding supports the notion that even minimal father involvement has a positive impact on their child even when the father does not live in the same home as the child, and that parenting styles are important aspects to consider when examining father involvement. Authoritative parenting has been shown to best predict desirable outcomes among children in terms of academic success, lower levels of externalizing and internalizing problems, and more positive social behavior (Marsiglio, Amato, Day & Lamb, 2000). Fathers' authoritative parenting may be a protective factor for the development of ADHD symptoms.

A study conducted by Belsky and colleagues (1998) found different results. They found that mothering rather than fathering, makes a significant contribution to the prediction of externalizing problems. However, fathering rather than mothering makes significant contributions to the prediction of behavioural inhibition in children. The more negative and less positive was the mother's parenting across the second and third year of life, the more externalizing problems the boys had at age 3. In contrast, the more positive and less negative was the father's parenting, the more inhibited the child was at age 3.

Gerdes and colleagues (2003) investigated the relationships of boys with ADHD with their mothers and fathers. Both mothers and fathers of boys with ADHD perceived their relationships with their children as more negative than did mothers and fathers of control children, but boys with ADHD did not differ from control children in their perceptions of their relationships to their parents. Mothers of boys with ADHD reported
being less warm and more power assertive, while fathers of boys with ADHD reported being more power assertive. No significant differences were found overall between mothers’ and fathers’ rated relationships with their children in terms of parental warmth, disciplinary warmth, power assertion, and possessiveness.

Taken together, the literature on fathering, and fathering of children with ADHD indicates that while authoritative parenting produces the most favourable outcomes, most fathers of children with ADHD do not have an authoritative parenting style. Instead, fathers of children with ADHD are less involved with their children, show more hostile and ineffective parenting, engage in interactions characterized by anger, and are more likely to be physically threatening and punitive. However, not all studies agree and it has been shown that fathering may in fact be associated with internalizing rather than externalizing problems in young children, at least in maritally intact, Caucasian, middle class families (Belsky, Kuang-Hua & Crnic, 1998). Finally, there may be gender differences in terms of problem behaviours.

Differences between US and Canadian Families

Most research on preschool behaviour problems has occurred in the United States (U.S.); however, differences exist between the United States and Canada. As such, it cannot simply be assumed that results of American studies hold true for Canadian families. Although Canadian cities have districts of social dysfunction, they do not have large dense regions of inner city decay that concentrate people into homogeneous impoverished areas (Bowman, 2000). Average family income is higher in the U.S. by about US$2,200 (MacKinnon, 1998), although Canadians’ median after-tax income is marginally higher (Wolfson & Murphy, 1998). The latest US Census data indicates that
the median household income across all households is $48,451 (U.S. Census Bureau, 2007), whereas the average total income of Canadian families is $81,700 (Statistics Canada, 2006b), and the median after tax income in Windsor, Ontario specifically is $44,388 (Statistics Canada, 2007). Also, the U.S. has a smaller and shrinking middle class (Burkhauser, Cutts, Daly & Jenkins, 1999), while Canada has a larger and more stable middle class (Wolfson, 1997). Income is more dispersed among the lower quintiles in Canada (Picot & Myles, 1995) because of government transfer payments that yield increases in family income greater for the poorest (Statistics Canada, 2006c), a pattern opposite to that seen in the U.S. (Bowman, 2000).

Such differences are reflected in the amount of time and money American and Canadian families have to dedicate to their children, which consequently affect the child’s well-being. For instance, it has been found that despite fairly similar patterns of parental labor-force participation, U.S. parents, on average, spend considerably more time doing paid work each week than parents in Canada (Burton & Phipps, 2007). Canadian two-parent families have significantly more hours of parental time available each week than American two-parent families (Burton & Phipps, 2007). Roughly one-quarter of two-parent families in the U.S. devote more than 80 hours per week to paid work, compared to 17.6 percent in Canada (Burton & Phipps, 2007). In the U.S., many low- and middle-income families do very long hours of paid work. Combined with relatively larger families (Burton & Phipps, 2007) and hence potentially greater time needs, this creates a situation of “severe time shortage” (p. 482). If parents are less available to their children, it may be presumed that differences in child well-being may exist. Phipps (2002) compared Canadian and American children’s well-being and found that when
compared on physical health outcomes, poor Canadian children are significantly better off in that they are less likely to be low birth weight babies (low birth weight is an important predictor of future health and social problems; Phipps, 2002), and they are less likely to be limited in their ability to engage in activities normal for a child of the same age. Given these outlined differences between the U.S. and Canada, results of studies conducted in the U.S. cannot simply be generalized to Canadian families.

Methodological Issues

The research on fathers of ADHD preschoolers has been scarce. The majority of the current studies focus on maternal reports of child behaviours, or maternal reports of fathering behaviour, neglecting to obtain father data from fathers themselves. From the studies that have explicitly looked at fathers, results, while for the most part convergent, still show some discrepancies, highlighting the need for further study of fathering by gathering information from fathers directly. Additionally, no study to date has examined the role of fathers in child behaviour problems in a Canadian sample.

Purpose of the proposed research

Research Questions

The primary purpose of the proposed research is to address the following research questions in a Canadian sample:

1. Are there differences in father parenting style in light of child behaviour problems in comparison to fathers of control children?

2. Are there differences in father parenting discipline strategies in light of behaviour problems in comparison to fathers of control children?

3. How do parenting and the child's behaviour interact to predict stress?
Hypotheses

Hypothesis 1

Previous studies have shown that fathers of children with externalizing behaviours are more likely to be authoritarian in their parenting style in American samples. Similar results are expected in the present study.

Hypothesis 2

Studies conducted outside of Canada suggest that fathers of children with externalizing behaviours have been shown to be more hostile and angry in interactions with their children. They have also been shown to be more physically threatening and punitive, and to use more negative and ineffective parenting strategies. Similar results are expected in the present study.

Hypothesis 3a

Fathers of children with ADHD (compared to control fathers) will show increased levels of stress after any significant positive associations of authoritarian parenting with stress are taken into account.

Hypothesis 3b

Fathers of children with ADHD (compared to control fathers) will have increased stress, especially if they exhibit higher levels of authoritarian parenting.
Chapter III

METHOD

Participants

The present study is part of a larger study on child behaviour and parent stress in preschoolers with ADHD. Participant recruitment was the first step in this research activity. Inclusionary criteria were: a) no gender or ethnic restrictions; b) both the child and their parents had to be English-speaking; and c) the child’s estimated intelligence quotient (IQ) had to be at least 80 or above. Exclusionary variables were set as: a) if the child was diagnosed with Mental Retardation; b) if the child was diagnosed with a pervasive developmental disorder; c) if the child was diagnosed with a neurologic disorder; d) or if the child was taking systemic medication for a chronic medical condition. Only Canadian resident families were considered, however a cosmopolitan cohort was attained, reflective of the Canadian cultural mosaic.

Twenty six children (13 boys, 13 girls) were recruited from private preschools, public daycares, and listservs focused on mothers. Flyers were also posted in public venues such as restaurants, stores, and community centers. Mall recruitment was also used to recruit participants. It should be noted that an additional 19 potential participants were recruited. Seven of these had concerns either about the research process (e.g., “I don’t believe my child is a lab rat,” “I don’t to frighten my child”), 10 did not return phone calls, and two were repeated no-shows.

Children were recruited using ADHD checklists completed by parents and teachers, with those in the control group exhibiting three or fewer symptoms of ADHD ($n = 18$), and those at-risk for ADHD exhibiting at least six symptoms of inattention or
hyperactivity/impulsivity by either parent or teacher report (n = 8). The mean age for the sample of children was 4.08 years (SD = .54; range = 3.1 – 4.9). Among the participants, 80.8% of the children were non-Hispanic Caucasian, and 19.2% were of “other or mixed ethnicity” according to demographic data obtained from the parents, reflecting the multicultural social context of Canadian society.

Of the 26 children who participated, father data was available for 18 (n = 5 for at-risk, and n = 13 for control). The mean age of control children for whom father data was available was 4.14 years (SD = .54 years, range = 3.1 – 4.9 years), while that of at-risk children for whom father data was available was 3.92 years (SD = .54 months, range = 3.31 – 4.94). The mean age of the father’s of control children was 35.06 years (SD = 6.70; range = 20 – 47), while that of at-risk children was 37.83 years (SD = 4.99; range = 33 – 45). Among control children with father data available, 77.8% of children were non-Hispanic Caucasian, 22.2% were of “other or mixed ethnicity.” Among at-risk children with father data available, 87.5% were non-Hispanic Caucasian, and 12.5% were of “other or mixed ethnicity.” Among fathers of control children, 77.8% were non-Hispanic Caucasian, 11.1% were of “other or mixed ethnicity,” 5.6% were of African descent, and 5.6% were Asian. Among fathers of at-risk children, 87.5% were non-Hispanic Caucasian while 12.5% were of African descent. Families in both groups were of primarily middle class status with a mean SES score of 47.30 (SD = 12.84) for controls and a mean SES score of 53.18 (SD = 12.34) for families of at-risk children on a measure of socio economic prestige (Nakao & Treas, 1994). Mean estimated IQ, based on the Information subtest of the Wechsler Preschool and Primary Scales of Intelligence – Third Edition (Wechsler, 2002), was within the average range for both at-risk children (M =
Children and their parents participated in a full assessment battery as part of the larger study. There were no gender or ethnic restrictions; however both the children and their parents were required to be English-speaking. Children diagnosed with mental retardation, a pervasive developmental disorder, a diagnosed neurological disorder (e.g., epilepsy), or those who were taking systemic medication for a chronic medical condition were excluded from participation. The larger project from which this study was derived was approved by the University of Windsor, Research Ethics Board. All parents gave informed consent for themselves and their child to participate. The accompanying parent was always the mother.

**Measures**

**ADHD Checklists**

Parents and teachers were asked to complete checklists based on ADHD symptoms listed in the DSM-IV as part of the child’s participation in the study. The checklists were used as a screening measure for participation in the study whereby three or fewer symptoms across raters is the criteria for the control group, and more than six items endorsed is the criteria for the at-risk group. The checklists consist of the 18 ADHD behaviours listed in the DSM-IV, which are to be rated on a 4-point scale (0 = not at all; 1 = just a little; 2 = pretty much; 3 = very much). Raters (parents and teachers of
the child) were asked to rate the child’s behaviours over the last 6 months. Previous research indicates that this type of checklist is a reliable and valid assessment tool for children with ADHD (DuPaul, Anastopoulos, Power, Reid, Ikeda & McGoey, 1998) and appropriate for use with diverse populations (Reid et al., 1998).

Medical and Developmental History Form

Demographic information was gathered via a form to be filled out by one of the parents. Racial/ethnic background was determined by parent report. Parental income and education were determined in order to facilitate calculation of the family’s social economic status. Prenatal, perinatal and postnatal complications were assessed along with the child’s medical, developmental and academic history. Children with significant pre-, peri-, and postnatal complications, as well as those children with chronic medical conditions requiring systemic medication were excluded from the study.

Parenting Styles and Dimensions Questionnaire (PSDQ)

The PSDQ (Robinson, Mandleco, Olsen & Hart, 2001) is a 32-item questionnaire that assesses the global parenting dimensions of authoritative, authoritarian, and permissive parenting typologies. Each item is measured on a scale ranging from 1 (never) through 5 (always), and assesses how often the individual exhibits certain behaviours towards their child, resulting in three factor scores that represent the three typologies (authoritative, authoritarian, and permissive). There are 11 items on the Authoritative parenting style scale, and scores on this scale may range from 11 through 55. There are 12 items on the Authoritarian parenting style scale, and scores may range from 12 through 60. Lastly, there are five items on the Permissive parenting style scale, and scores may range from 5 through 25. Robinson and colleagues (2001), with a large
sample \((n = 1251\) total parents\) consisting of predominately school-age target children reported internal consistency reliabilities (Cronbach alphas) to be 0.91, 0.86, and 0.75, respectively, for the authoritative, authoritarian and permissive scales. A study focusing primarily on parents of preschool-aged children (Winsler, Madigan & Aquilino, 2005) found internal consistency reliabilities for father reports to be 0.8, 0.87, and 0.73, respectively, for authoritative, authoritarian and permissive scales. Mother self-report alphas were 0.82, 0.76 and 0.84, respectively, for authoritative, authoritarian, and permissive scales.

*Alabama Parenting Questionnaire – Preschool Revision (APQ-PR)*

The APQ-PR (Clerkin, Marks, Policaro & Halperin, 2007) consists of 32 items from the original APQ (Shelton et al., 1996), rated on a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*always*). This measure assesses parenting characteristics including three distinct aspects of parenting: Positive Parenting, Negative/Inconsistent Parenting, and Punitive Parenting (Clerkin et al., 2007). Cronbach’s alpha for the Positive Parenting, Negative/Inconsistent Parenting, and Punitive Parenting factors were 0.82, 0.74, and 0.63, respectively (Clerkin, Marks, Policaro & Halperin, 2007). One-year stability for Positive Parenting, Inconsistent Parenting, and Punitive Parenting were 0.52, 0.59, and 0.80, respectively (Clerkin, Marks, Policaro & Halperin, 2007). The APQ differentiates between families of children with disruptive behaviour problems and those with normal control children (Shelton et al., 1996). Thus, the measure has adequate discriminant validity and is sensitive enough to detect differences in parenting practices between families.
Quality of Life Index

The Quality of Life Index is a new self-report measure developed for this study, and asks about various aspects of one’s life. It was developed using expert consensus about what constitutes coping with life stressors, assuming that if one has much stress and poor coping they are worse off than if they have fewer stressors and good coping. This measure is intended to represent stress separate from parenting. Each item is measured on a five-point scale ranging from ‘never’ to ‘nearly always.’ Examples of some items include, “I get enough sleep at night,” “I spend time with others doing things I enjoy,” and “When I need extra support, I have someone I can call or visit.” For this study, items were summed to yield a composite score such that the higher the score, the more positive coping behaviours exhibited by the participant. Cronbach’s alpha was found to be .90 for the present study.

Parenting Stress Index - Short Form (PSI-SF)

The level of parenting stress experienced by the fathers taking part in this study was measured by means of the Parenting Stress Index – Short Form (PSI-SF; Abidin, 1995). The PSI-SF is a 36-item self-report questionnaire that was designed to measure the degree of stress a parent is experiencing in the parent-child relationship. It was based on the theory that the total stress a parent experiences is a function of certain salient child characteristics (i.e., a child’s challenging temperament), parental characteristics (i.e., parental depression), and situations that are directly related to the role of being a parent (i.e., negatively reinforcing parent-child interactions). The PSI-SF consists of three subscales: Parental Distress, Parent-Child Dysfunctional Interaction, and Difficult Child. Each subscale consists of 12 items rated on a Likert scale from 1 (strongly disagree) to 5.
(strongly agree), with higher subscale scores indicating greater levels of stress. Subscale scores therefore range from 12 to 60, whereas the total score ranges from 36 to 180. High scores on the subscales and PSI-SF total score indicate greater levels of stress. The Parental Distress subscale reflects a parent’s perception of child-rearing competence, conflict with his or her spouse or partner, social support, and stresses associated with the restrictions placed on other life roles. The Parent-Child Dysfunctional Interaction subscale assesses a parent’s perception that the child does not meet expectations and that interactions with the child are not reinforcing. The Difficult Child subscale surveys the parent’s view of the child’s temperament, defiance, noncompliance, and demandingness. The PSI-SF has a correlation of 0.94 with the full form (Abidin, 1995). The authors of the PSI-SF indicate Cronbach’s coefficient alphas of 0.87 for the Parental Distress subscale, 0.80 for the Parent-Child Dysfunctional Interaction subscale, and 0.85 for the Difficult Child subscale (Abidin, 1995).

**Procedures**

Once approved for inclusion in the study, parents filled out measures pertaining to parenting styles and stress. As part of the larger study, children participated in a brief in-lab assessment while parents complete multiple assessment forms. The accompanying parent was asked to fill out the medical and developmental history form for the child, the PSDQ, APQ-PR, Quality of Life Index, and PSI-SF. An identical packet of questionnaires was sent home in a self-addressed stamped envelope for the child’s other parent to fill out.

All analyses were carried out using SPSS Version 14 (SPSS Inc., 2005).
Chapter IV

RESULTS

Preliminary Analyses

Descriptive statistics were calculated for all dependent variables (APQ Inconsistent Parenting, APQ Positive Parenting, APQ Punitive Parenting, PSDQ Authoritative Parenting, PSDQ Authoritarian Parenting, PSDQ Permissive Parenting, PSI parental distress, PSI parent-child dysfunctional interactions, PSI difficult child, PSI total stress, and the Quality of Life Index). Mean scores and standard deviations are reported in Table 1. All measures were examined for outliers, defined as those individuals with scores exceeding three standard deviations beyond the mean. No individuals met this criterion, and all participants were included in data analyses.

Prior to conducting the main analyses, data was screened to ensure that no assumptions would be violated in order to ensure the validity of the results. Univariate normality was assessed to determine whether the data was skewed. Histograms, skewness and kurtosis values were examined, and the Kolmogorov-Smirnov test was calculated. It was found that for the control group, the PSI parent-child dysfunctional interaction scores were skewed (skewness = 2.56) and kurtotic (kurtosis = 7.64). All other measures for the control group were normally distributed (i.e., skewness less than two, kurtosis less than 7). For the at-risk group, it was found that APQ Positive parenting was negatively skewed (skewness = -2.19). All other measures for the at-risk group were normally distributed. In order to facilitate interpretation of results, the data was not transformed to correct for non-normality. The assumption of homogeneity of variance was assessed using Levene’s statistic. All variables met this assumption.
Main Analyses

Hypothesis 1

To test the hypothesis that fathers of children with externalizing behaviours are more likely to be authoritarian in their parenting style, a one-way multivariate analysis of variance (MANOVA) was calculated with three dependent variables: PSDQ Authoritative Parenting, PSDQ Authoritarian Parenting, and PSDQ Permissive Parenting. The independent variable was group (control or at-risk).

Results of evaluation of assumption of homogeneity of variance-covariance matrices was tested using both Levene's test and Box's test, and was found to be upheld for all dependent variables. With the use of Wilk's Lambda criterion (Field, 2005), it was found that group membership does not have a significant effect on parenting style, \( F [3, 13] = .402, p > .05, \text{Wilk's } \lambda = .915, \text{partial } \eta^2 = .085 \) with a small effect size.

Hypothesis 2

To test the hypothesis of whether fathers of children with externalizing behaviours are more likely to display negative and ineffective parenting strategies, a one-way multivariate analysis of variance (MANOVA) was performed on three dependent variables: APQ Positive Parenting, APQ Inconsistent Parenting, and APQ Punitive Parenting. The independent variable was group (control or at-risk).

Results of evaluation of assumption of homogeneity of variance-covariance matrices was tested using both Levene's test and Box's test, and was found to be upheld for all dependent variables. With the use of Wilk's Lambda criterion (Field, 2005), it was found that group membership does not have a significant effect on parenting strategy, \( F [3, 14] = .117, p > .05, \text{Wilk's } \lambda = .975, \text{partial } \eta^2 = .025 \) with a small effect size.
**Hypothesis 3a**

To test the hypothesis that fathers of children at risk of developing ADHD will show increased stress (both parenting stress and stress unrelated to parenting) after any significant positive associations of authoritarian parenting on stress are accounted for, two one-way analyses of covariance (ANCOVAs) were calculated.

The first ANCOVA tested the hypothesis of ADHD's association with stress unrelated to parenting, and had group membership as an independent variable, total score on the Quality of Life (QLI) Index as the dependent variable, and PSDQ Authoritarian parenting as the covariate. Authoritarian parenting, the covariate, was not associated with Quality of Life, $F(1, 13) = 2.56, p > .05$, partial $\eta^2 = .165$ (Table 2). After parenting was taken into account, group status did not have a significant association with QLI, $F(1, 13) = .008, p > .05$, partial $\eta^2 = .001$ (Table 2). The second ANCOVA tested the hypothesis of ADHD's association with stress related to parenting, and had group membership as the independent variable, PSI total score as the dependent variable, and PSDQ Authoritarian parenting as the covariate. Authoritarian parenting, the covariate, was associated with PSI total score, $F(1, 13) = 7.01, p = .02$, partial $\eta^2 = .350$ (Table 3). After parenting was taken into account, group status did not have a significant association with PSI total score, $F(1, 13) = .423, p > .05$, partial $\eta^2 = .032$ (Table 3). Examination of parameter estimates indicates that if an individual’s Authoritarian parenting score increases by one unit, their PSI total score should increase by 20.85 units.

**Hypothesis 3b**

To test the hypothesis that fathers of children at risk for developing ADHD will have higher stress, especially if they exhibit higher levels of authoritarian parenting, the
interaction term in the ANCOVAs described above was examined (Table 2). The interaction was not significant in either the case of stress that is unrelated to parenting (QLI; \( F[1, 13] = 0.387, p > .05, \text{partial } \eta^2 = .029 \)), nor in the case of parenting stress (PSI total score; \( F[1, 13] = 0.033, p > .05, \text{partial } \eta^2 = .003 \)).
Review of Purpose and Hypotheses

Review of Primary Research Questions

The purpose of this research study was to examine father parenting styles and strategies and how they may relate to their preschool-aged child’s behaviours. The basic assumption is that father-child behaviours are interdependent, and that problem behaviours in children may be a function of the father’s reaction to the child. Reciprocal father-child interaction coupled with child behavioural difficulties may result in negative father interactions and subsequently may create a cycle of coercion that escalates between the father and child. As a result, negative and aggressive behaviours are reinforced and contribute to the evolution of childhood behaviour disorders (Patterson et al., 1991).

A preschool-aged sample was sought because it has been shown that behavioural difficulties in preschool are predictive of later behavioural difficulties at school age and beyond (Campbell, 2000). Additionally, a preschool-aged sample was used because at this age parenting has been shown to be particularly salient (Hurt, Hoza & Pelham Jr., 2007). We also sought to determine whether fathers of children at risk of developing ADHD would be more likely to experience both parenting-related stresses, and general life stress unrelated to parenting.

Past research has found support for the notion that fathers of children with behaviour problems are more likely to exhibit an authoritarian parenting style (e.g., Alizadeh, Applequist & Coolidge, 2007), are more likely to be lax and overreactive (Keown & Woodward, 2002), and are more likely to use punitive and ineffective
discipline strategies (DeKlyen et al., 1998). As such, it was hypothesized that similar results would be found in the present study. Past research has also revealed that parents of school-aged children at risk of developing ADHD experience higher levels of stress (Anastopoulos et al., 1992), and similar results were expected in this study of fathers of preschoolers.

Review of Findings

Study results did not fully support these expectations. Hypothesis one stated that fathers of children at-risk for developing ADHD would be more likely to be authoritarian in their parenting style than fathers of control children. It was expected that fathers of at-risk children would evidence a greater mean score on the PSDQ Authoritarian Parenting factor relative to the control group. There was, however, no significant group mean difference in scores on any of the PSDQ parenting style measures as reported by fathers of the at-risk children and/or the fathers of the control group. This suggests that father’s of at-risk children do not alter their parenting styles in response to their child’s behaviours. Additionally, this finding can also be taken to suggest that children’s behaviours do not provoke different parenting styles. No generalizations are possible however due to the small sample size.

Hypothesis two stated that fathers of children at-risk for developing ADHD would be more likely to display negative and ineffective parenting strategies. It was anticipated that fathers of at-risk children would show higher mean scores on the APQ Inconsistent Parenting and the APQ Punitive Parenting indices, however no evidence was found in support of this hypothesis. Group membership did not have a significant effect on parenting strategy. As such, this finding indicates that the cycle of coercion, as suggested
by coercion theory (Patterson, Reid & Dishion, 1992; Scaramella & Leve, 2004) may not hold true, at least not with preschoolers and their fathers.

Hypothesis three stated that fathers of at-risk children will have increased levels of both parenting stress (PSI) and stress unrelated to parenting (QLI) after authoritarian parenting style was accounted for. It was found that parenting stress is not related to group status, but that authoritarian parenting is related to the total parenting stress. As one’s score on authoritarian parenting increases, so does total parenting stress. It was also hypothesized that fathers of at-risk children would show higher stress, especially if they have higher levels of authoritarian parenting. Based upon the results, there were no significant group differences. These findings suggest that having an authoritarian parenting style may predispose fathers to greater stress, regardless of any child behaviour difficulties.

Taken together, results of this study indicated that fathers of preschool-aged children at risk for developing ADHD do not change or alter their parenting styles or strategies as a reaction to the child’s difficult behaviours. This finding is particularly interesting in light of much of the previous research on parents of children with ADHD which has found that parents tend to be more lax and overreactive (Keown & Woodward, 2002), more controlling (Cunningham & Boyle, 2002), and do not tend to show authoritative parenting styles (Alizadeh et al., 2007; Gadeyne et al., 2004; Psychogiou et al., 2007). The fact that the present study did not find similar results requires further examination. An alternate explanation for the findings would be that preschool-aged children and their fathers, regardless of their behaviours, do not provoke coercive cycles within each other. Perhaps only when the child is older does the coercive cycle begin.
One area to consider in determining the underpinnings of the findings of the present study is that much of the previous research in this area has been conducted via maternal report of fathering behaviours (Alizadeh, Applequist & Coolidge, 2007; Gadeyne, Ghesquiere & Onghena, 2004; Gillion & Shaw, 2004; Goldstein, Harvey & Friedman-Weieneth, 2007; Harrison & Sofronoff, 2002; Hurt, Hoza, & Pelham, 2007; Lange et al., 2005; Mash & Johnston, 1990; Tallmadge & Barkley, 1983; Woodward, Taylor & Dowdney, 1998). This practice of relying on maternal reports of fathering behaviour may introduce maternal bias in the reports. For example, if the mother does not believe that the father is a competent parent perhaps her responses will be more negatively biased than if she believes the father to be an excellent parent. The literature on fathering behaviours that has been gathered directly from fathers is scant (e.g., Belsky, Kuang-Hua & Crnic, 1998; DeKlyen, Speltz & Greenberg, 1998; Gerdes, Hoza & Pelham, 2003), and only one study has looked at fathering behaviour of preschool-aged children and gathered data directly from fathers themselves (DeKlyen, Biernbaum, Greenberg & Speltz, 1998). As such, the research in this area is still limited and different factors should be examined to help explain disparities in the findings of the few past studies compared to the present findings.

Another area to consider in determining the possible underpinnings of the finding that fathers in this sample did not alter their parenting styles nor strategies based on their child’s behaviour is to look at child characteristics. Much of the research conducted in the past that examined fathers of children with ADHD focused on school aged children. Several studies suggest that fathers in two-parent families are less involved with very young children, such as preschoolers, than with school-age children or adolescents.
It has been found that whereas older children spend less time with fathers, the level of involvement with fathers relative to mother’s increases with child age (Yeung, Sandberg, Davis-Kean & Hofferth, 2001). Fathers may feel more comfortable with older children who do not require as many gendered caregiving activities, such as diapering or bathing, as compared with younger children (Deutsch, Lussier & Servis, 1993). When fathers do interact with young children, it has been found that they tend to engage in more playful social interactions than in practical caretaking tasks (e.g., Bailey, 1994; Yeung et al., 2001). Perhaps since the sample of children in the present study was preschool-aged, fathers did not feel as though they needed to be as involved in the child’s care since they may have felt that that was the mother’s role. If the fathers were not as actively involved in childcare, they may not have had as many opportunities to observe and react to the child’s behaviours. As such, parent training programs should be tailored to the age of the child, and a developmental perspective should be taken.

Another possibility for the discrepant findings is that perhaps the scales used in the present study are not measuring the constructs of parenting styles and strategies adequately, at least not when the child is preschool-aged (B.P. Rourke, personal communication, August 11, 2008). The present study pertains to the validity of the scales in a certain circumstance (B.P. Rourke, personal communication, August 11, 2008), namely fathers of preschool-aged children in Windsor, and therefore they may not have adequately assessed the parenting styles and strategies of the particular sample used. If parental styles and strategies have anything to do with ADHD in preschool-aged children, the scales employed by the present study may not be measuring it. While the APQ-PR
was developed specifically for a preschool-aged population (Clerkin et al., 2007), and the psychometric properties of the PSDQ, (Robinson, Mandleco, Olsen & Hart, 2001), have been examined in preschool-aged populations (Wnisler, Madigan & Aquilino, 2005), both measures were developed and normed in the United States. As such, the measures used in the present study may not have been measuring the same parenting constructs as in the American samples.

Another factor to consider is that Windsor is a very multicultural city, therefore prevalence rates may vary in Windsor as compared to the general Canadian population. Therefore, a wide variety of both parenting practices and conceptions of the child's behaviour should be expected. For example, parents from cultures where symptoms of ADHD are less tolerated may be expected to vary from parents from cultures where such symptoms are more socially acceptable in terms of their parenting styles and strategies. In this case, parents from cultures where ADHD symptoms are less tolerated may be more harsh in their parenting styles and strategies. While the present sample size did not allow for the comparisons across self-identified ethnicity or culture, future studies should examine such factors.

Another child characteristic to consider is the child’s gender. While the present sample size did not allow for the comparison of fathering behaviours across child gender, it has been found that child gender influences the degree of father involvement in caregiving (Wood & Repetti, 2004). A consistent cross-sectional finding is that fathers in two-parent families are more likely to be involved in the care of boys than girls (Aldous, Mulligan & Bjarnason, 1998; Larson, Richards, Moneta & Holmbeck, 1996), and this finding has been replicated in a longitudinal study more recently (Wood & Repetti,
Reciprocal role theory proposes that although fathers and mothers both contribute to the development of gender roles in children, fathers make a greater distinction between sons and daughters than do mothers (e.g., Siegal, 1987). More specifically, fathers tend to seek out boys in order to socialize them into traditional instrumental roles, for instance, by teaching them skills and encouraging their independence and autonomy (Wood & Repetti, 2004). Due to the father’s particular investment in socializing boys, interactions with daughters may be less frequent. Since fathers of boys are more likely to spend increased amounts of time with their sons, had more participants been recruited for the study, perhaps differences would have been found across the child’s gender and the father’s parenting styles and strategies. The more time a parent spends with their child, the more likely it is that they will encounter a wider range of behaviours that may evoke differential parenting styles and strategies. Furthermore, future research in parent training programs should examine whether there are any gender differences in terms of effectiveness of the program, and the programs may need to be altered accordingly.

Another factor to consider is characteristics of the father. Since the etiology of ADHD indicates a genetic link (Albayrak, Friedel, Schimmelmann, Hinney & Hebebrand, 2008), the possibility cannot be overlooked that fathers of children with ADHD, or those at risk of developing ADHD, may be more likely to also have symptoms of ADHD. In fact, Harvey-Arnold and colleagues (1997) examined fathers’ ADHD symptom status and their parenting of children either with ADHD or controls. They found that fathers had more effective discipline strategies and were less overreactive if they did not exhibit symptoms of ADHD themselves. Additionally, they found a linear relationship between parenting and ADHD symptom severity in fathers such that the
greater the ADHD symptom severity, the more negative was their parenting (Harvey-Arnold et al., 1997). If a father experiences more symptoms of ADHD themselves they may react to all children, regardless of the child’s behaviours, with the same parenting strategy. Their own ADHD symptoms may predispose them to be overreactive in their parenting regardless of the child’s behaviours. It cannot be overlooked that there may have been a selection bias in terms of which fathers did not respond. Those fathers who did not return the questionnaires may have had more symptoms of ADHD than those who did return forms. Had all fathers returned forms, not only would the sample size increase, but the power to detect any group differences would have been greater.

Another father-related variable to consider is education. The effect of education appears to vary by the age of the child and by the type of activity engaged in with children. Paternal education has no effect on direct physical care of preschool-aged children (Aldous, Mulligan & Bjarnason, 1998; Marsiglio, 1991), but it does increase the time fathers spend playing, reading, or going on outings with their preschool-aged children (Cooney, Pedersen, Indelicato & Palkovitz, 1993; Fields, Smith, Bass & Lugaila, 2001). Taken together, this suggests that fathers’ own potential ADHD symptoms should be taken into account when planning parent training programs. Additionally, since it has been shown that paternal education increases the amount of play time with preschool-aged children, any parent training program focused on this age group should find ways of incorporating parenting strategies into play time since this is one of the areas fathers actively participate in.

Men’s gender ideologies, gender traditionalism, and their own perceptions of their identities as fathers may also help to explain the lack of findings with regard to the
alteration of parenting styles and strategies according to child behaviour. Gender ideologies represent what individuals view as appropriate roles for men and women, which in turn affects their own behaviors (McHale & Huston, 1984). Identity theory posits that the self is a structure of identities organized in hierarchical fashion (Stryker, 1987; Stryker & Serpe, 1994). Identities may be defined as "internalized sets of role expectations, with the person having as many identities as roles played in distinct sets of social relationships" (p.90; Stryker, 1987), or as one's "self-meanings in a role" (p. 145; LaRossa & Reitzes, 1993). As such, fatherhood may be defined differently by different men (Rane & McBride, 2000). It has been noted that despite the fact that both mothers and fathers report spending greater amounts of time with their children compared to the past (Sayer, Bianchi & Robinson, 2004), fathers still spend less time interacting with their children than do mothers (Sayer, Bianchi & Robinson, 2004). Fathers' gender role orientation has been related to involvement: androgynous fathers have been found to be more involved than either masculine or feminine fathers (Palkovitz, 1984; Sanderson & Sanders Thompson, 2004). Bulanda (2004) has found that ideas mothers have about gender are inconsequential to some measures of paternal involvement, and instead it is fathers' ideas about gender that influence their levels of involvement. It may be that cultural expectations are far too ingrained in society to expect more equitable arrangements in child care or family work to emerge (Sanchez & Thomson, 1997). It may be that fathers have more traditional views of gender and therefore tend to leave much of the parenting and associated stressed to the mothers. Mothers may be expected by fathers to be experts in the needs and desires of their children, not to mention the latest child development methods, to cultivate and supervise all aspects of their children's
development and well-being. Perhaps fathers see their roles as primarily the breadwinners and playmates of the children, and therefore do not feel the need to assist as much with the parenting tasks. In fact, it has been shown that fathers are rarely involved in the process through which their children are diagnosed with ADHD (Singh, 2003), therefore they may feel that much of the responsibilities associated with parenting the more difficult child should be relegated to the mother who they may presume has a better understanding of the child’s behaviours. Interestingly, a Statistics Canada (1997) report indicates that while some changes in attitudes towards men’s and women’s roles have occurred, traditional views still persist. For instance, it was noted that women still remained the primary caregivers and that the expectation remains for women, even when employed, to maintain primary responsibility for home and family (Statistics Canada, 1997). As such, if father involvement in childcare and child interaction is to increase, changes in gender role ideologies also must change.

Another factor to consider is maternal gatekeeping. Since it has been shown that fathers still lag behind mothers when considering their involvement with childrearing tasks (Hofferth, Pleck, Stueve, Bianchi & Sayer, 2002), one important influence on father involvement is the extent to which mothers are either supportive or resistant to increased father involvement (McBride, Schoppe, Ho & Rane, 2005). It has been found that mothers’ beliefs about the roles of fathers moderates the association between fathers’ self-perceived commitment to parenting and their accessibility to their children, such that fathers’ perceptions of themselves as highly committed parents were only associated with greater father involvement when mothers believed that the father’s role was important (McBride et al., 2005; Schoppe-Sullivan, Brown, Cannon, Mangelsdorf & Szewczyk...
Sokolowski, 2008). Additionally, mothers who perceived fathers as competent parents were less likely to engage in maternal gatekeeping behaviours, and mothers who reported more maternal gatekeeping reported that their partners were less involved (McBride et al., 2005; Schoppe-Sullivan et al., 2008). If mothers are acting as gatekeepers, fathers may not have the opportunities to spend increased amounts of time with their children. Additionally, perhaps mothers are only permitting certain types of fathering activities (e.g., playing with the child, reading to them) and as such fathers may not gain the confidence and competence in parenting that mothers see a pre-requisite for allowing the father to have increased childcare responsibilities. If this is the case and fathers do not gain adequate opportunity to parent their child, they may not develop the competence that mothers desire and therefore the mothers may continue gatekeeping because they do not perceive the father as competent in the parenting role. As such, in any parent training program aimed at parents of children with ADHD, the importance of the father’s role in child development should be emphasized.

A final factor to consider in attempts to explain the findings of the present study that fathers do not appear to alter their parenting behaviours according to their child’s behaviours would be to examine father perspectives on the diagnosis itself. For example, a book entitled Raising your spirited child: A guide for parents whose child is more intense, sensitive, perceptive, and energetic (Kurcinka, 2006) has recently been published in popular science. Fathers may not see the child’s ADHD behaviours as necessarily problematic; instead, they may see them in a positive light. The ‘Spirited Child’ may be a framework through which fathers perceive their child, and therefore their expectations may change accordingly in terms of expected behaviours. If a parent does not expect
their child to act any differently, they may not see the ADHD behaviours as problematic. A recent study that examined mothers’ and fathers’ attributes and beliefs of children’s ADHD symptoms found that compared to fathers, mothers saw both inattentive and impulsive behaviours as more likely to reoccur in the future and across different situations (Chen, Seipp & Johnston, 2008). In this study, the association between negative parental reactions and perception of child behaviours as due to causes within the child was significant only for fathers, implying that fathers are more likely to endorse beliefs that are less evidence-based (e.g., that ADHD is due to psychological factors such as lack of effort), and to see the symptoms as more transient than do mothers (Chen, Seipp & Johnston, 2008). These results are in accordance with a study conducted by Singh (2003) which found fathers to have a “boys will be boys” (p. 311) rationale, to attribute the child’s ADHD symptoms to indulgent mothering, or to the boys’ lack of motivation. Singh (2003) also found that many fathers appeared to sympathize with their sons’ behaviours because they felt a strong identification with those behaviours through memories of their own boyhoods. Since fathers had been able to ‘outgrow’ or overcome their boyhood excesses, perhaps they tend to feel that their sons will also overcome theirs. Alternatively, perhaps for fathers a ‘threshold’ of ADHD symptoms must be reached in their child before they begin to see it as a problem that requires the altering of their parenting styles and strategies (B.P. Rourke, personal communication, August 11, 2008). There are other clinical conditions, such as nonverbal learning disability (NLD), where the stress and strain on one’s life that NLD causes is not evident until later in life (B.P. Rourke, personal communication, August 11, 2008). Perhaps fathers do not see their child’s ADHD symptoms as problematic at such a young age because the
'threshold' of behaviour problems has yet to be reached. The question is how many symptoms must the child display before the father begins to see the behaviours as a problem that warrants different parenting styles and strategies. Taken together, what is known about the etiology of ADHD and the importance of early intervention efforts should be highlighted to parents.

With regards to the present study's finding that fathers of children at-risk for developing ADHD do not experience elevated levels of stress, either parenting stress or that unrelated to parenting, it should be noted that perhaps mothers and fathers are differentially prone to stressors. For example, maternal depression has consistently been shown to be correlated with behavioural problems in children, including ADHD (Chronis et al., 2007; Cunningham, Benness & Siegel, 1988; Goldstein, Harvey, Friedman-Weieneth, Pierce, Tellert & Sippel, 2007). Mothers of children with ADHD have higher depression scores than fathers of children with ADHD, whereas fathers of children with ADHD do not have significantly different depression ratings than fathers of children without ADHD (Brown & Pancini, 1989). Although both fathers and mothers display parenting-role distress over children's oppositional or aggressive behaviours, mothers also display distress over the inattentive behaviours of ADHD whereas fathers do not (Podolski & Nigg, 2001). This finding seems to indicate that mothers tend to find a greater array of child behaviours as distressing compared to fathers, and therefore fathers would be expected to experience a lesser degree of stress. Another interesting finding is that boys with ADHD are better behaved for their fathers than their mothers (Tallmadge & Barkley, 1983), however there have been no empirical attempts to replicate this finding. If children have a tendency to be better behaved when with their fathers, it
would logically follow that fathers would not be expected to exhibit increased parenting stress.

**Limitations**

Despite the strengths of the present study, including the gathering of data directly from fathers, there are several limitations inherent in the current research. Most notably, the sample size is small, especially for the at-risk group. As such, had the sample size been increased different findings may have come to light. Future recruitment strategies may involve physically being present when forms are distributed to parents so as to better be able to answer any parental concerns at the outset and dispel any potential myths about the research process. For example, anecdotal evidence indicates that when some parents called to enquire about the study, they expressed their concern with the research process and as such were disinclined to participate. Being able to speak directly to the researchers in person so that all concerns were addressed may have resulted in an increased sample size, and therefore better generalizability of research findings.

Due to the limited sample size, the observed power and effect sizes in the present study were very low and therefore had an effect been present, there most likely was not enough power to detect the effect. As such, there may be inflated Type II error in the present study. However, the fact that the effect sizes were small suggests that there may not be a strong relationship between fathering behaviour and child behaviour.

The measures used in this study may not have been as reliable and valid in the sample used (B. P. Rourke, personal communication, August 11, 2008). For example, none of the measures used except the APQ-PR were developed specifically for a preschool-aged sample, and all measures were normed in the United States. Perhaps this
contributed to the different findings in the present study. There may be something different about Canadian samples that is unmeasurable in those measures normed in the US. As such, future research should strive to utilize scales developed specifically for the population to be studied.

Another limitation of the current study is the fact that fathers who were in a cohabiting relationship with their children's biological mothers were not distinguished from fathers who were not cohabiting with their child's mother. As fathers who are cohabiting with their children's biological mothers may be more likely to have more contact with their child, collapsing data across these potentially different groups of fathers may have resulted in the loss of valuable information. For example, since cohabiting fathers may be expected to have more frequent contact with their children, they would presumably have more opportunities to develop their parenting skills. Alternatively, cohabiting fathers may also be seen as having more opportunity to experience difficult child behaviours which may lead to increased stress. Additionally, the experience of becoming a parent may be more positive for fathers who are living with their child's biological mother than fathers who are not, and therefore fathers who are cohabiting may be more likely to experience lower levels of parenting stress and engage in more positive interactions with their children. Thus, examining differences in paternal parenting stress and the quality of the father-child interactions between cohabiting fathers and those who were not cohabiting may have provided further clarification about the relationship between paternal parenting stress and child behaviour problems.

Another limitation of the present study is the fact that important characteristics of both fathers and children were not taken into account when examining paternal parenting
stress. For example, father personality may play a role in their likelihood to utilize particular parenting strategies or styles. Additionally, gathering information on father ADHD symptomatology may have provided more clarification on how father and child variables may be related. The current study did not consider the impact paternal personality characteristics or the child’s temperament may have had on fathers’ levels of parenting stress and interactions with their children.

Clinical Implications

The current study has important implications for the field of psychology. Most notably, the findings of this study highlight the need for future research with fathers directly. This study found evidence to support the notion that fathers employ different parenting styles and strategies than mothers. As such, information about fathering behaviour should be gathered directly from fathers themselves, without sole reliance on maternal reports of fathering behaviour. Fathers should be encouraged to be active participants not only in research, but in their children’s lives.

A further practical application of this study would be to highlight the fact that parent training programs that have been developed primarily for mothers may not necessarily directly apply to fathers. Conversely, that parenting programs may need to be adapted for the way fathers actually parent. Fathers may not see the child’s behaviours as problematic, and may in fact believe that the young preschool-aged child is not in need of any behavioural intervention at all since they will simply ‘grow out’ of their problem behaviours. As such, any behavioural parent training program should make sure to highlight the importance of objectively assessing a child’s behaviours and adequately adapting to them.
Future Directions

Based on the findings and limitations of the present study, several recommendations can be made for future research. First and foremost, future studies should continue to investigate further the relationship between family structure, parenting stress, and father-child interactions through parenting. The various family structures that should be incorporated into these studies include fathers who are single fathers, those who are married, and cohabiting with both their children's biological mothers and women who are not their child's biological mothers. Moreover, future researchers should include both mothers and fathers in their sample so as to enable them to explore the relationships between demographic characteristics, parenting stress, and parent-child interactions and parenting at a familial level.

Future studies should also directly examine the relationship between social support, parenting stress, and parenting styles and strategies. As social support provides parents with emotional, informational, and instrumental support (Middlemiss, 2003), it may in turn enhance parents' psychological well-being, improve their parenting behaviours, foster positive parent-child interactions, and promote positive functioning in children. As such, future studies need to more explicitly clarify the impact social support may have on parenting stress, parenting styles and strategies, and developmental outcomes in children. Additionally, future research should examine the potential mediating and moderating role of parents' coping skills on the relationship between parenting stress and parenting styles and strategies.

Furthermore, future research should continue to examine the association between various risk factors, parenting stress, and parenting behaviours. For instance, the
relationships between paternal personality characteristics, children’s temperaments, and paternal parenting stress would be helpful in more clearly delineating the interactive effects of those variables. Also, future research should examine the associations between parenting stress, parenting styles, and parenting strategies together with sociodemographic characteristics (i.e., age, race/ethnicity, level of education, socioeconomic status) so as to better determine which sociodemographic characteristics have the greatest impact on levels of parenting stress and parent-child interactions.
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Role of the Father


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Table 1

*Means and Standard Deviations for Measures*

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<th></th>
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<td>1.51</td>
<td>.334</td>
<td>1.63</td>
<td>.713</td>
<td></td>
</tr>
<tr>
<td>Permissive</td>
<td>1.91</td>
<td>.579</td>
<td>1.83</td>
<td>.293</td>
<td>2.08</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td><strong>PSI-SF</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PD</td>
<td>25.8</td>
<td>9.41</td>
<td>23.9</td>
<td>9.49</td>
<td>31.0</td>
<td>7.78</td>
<td></td>
</tr>
<tr>
<td>PC</td>
<td>16.1</td>
<td>5.29</td>
<td>15.8</td>
<td>5.05</td>
<td>18.8</td>
<td>5.85</td>
<td></td>
</tr>
<tr>
<td>DC</td>
<td>26.6</td>
<td>11.0</td>
<td>24.1</td>
<td>8.84</td>
<td>33.0</td>
<td>14.6</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>66.7</td>
<td>19.1</td>
<td>63.0</td>
<td>18.1</td>
<td>76.2</td>
<td>20.1</td>
<td></td>
</tr>
<tr>
<td><strong>QLI</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>69.8</td>
<td>11.9</td>
<td>72.0</td>
<td>10.4</td>
<td>64.2</td>
<td>15.0</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* APQ corresponds with Alabama Parenting Question—Preschool Revision, PSDQ with Parenting Styles and Dimensions Questionnaire, PSI-SF with Parenting Stress Index—Short Form, PD with Parental Distress scale, PC with Parent-child Dysfunctional Interaction scale, DC with Difficult Child scale, and QLI to Quality of Life inventory.

<sup>a</sup> $N = 17$, At risk: $n = 5$, Control: $n = 13$.

<sup>b</sup> $N = 17$, At risk: $n = 5$, Control: $n = 12$. 
Table 2

*Test of Between-Subjects Effects for QLI scores.*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean</th>
<th>F</th>
<th>Sig</th>
<th>$\eta^2$</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Square</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADHD Group</td>
<td>1</td>
<td>.718</td>
<td>.008</td>
<td>.929</td>
<td>.001</td>
<td>.051</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>1</td>
<td>224.8</td>
<td>2.56</td>
<td>.134</td>
<td>.165</td>
<td>.317</td>
</tr>
<tr>
<td>Group x Auth.(^b)</td>
<td>1</td>
<td>33.98</td>
<td>.387</td>
<td>.545</td>
<td>.029</td>
<td>.089</td>
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<tr>
<td>Error</td>
<td>13</td>
<td>87.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) R squared = .371 (Adjusted R squared = .226).

\(^b\) Auth. = PSDQ Authoritarian parenting scale score.
Table 3

*Test of Between-Subjects Effects for PSI total scores.*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Mean</th>
<th>F</th>
<th>Sig</th>
<th>$\eta^2$</th>
<th>Observed Power</th>
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<tr>
<td>ADHD Group</td>
<td>1</td>
<td>92.7</td>
<td>.423</td>
<td>.527</td>
<td>.032</td>
<td>.093</td>
</tr>
<tr>
<td>Authoritarian</td>
<td>1</td>
<td>1535.8</td>
<td>7.01</td>
<td>.020</td>
<td>.350</td>
<td>.688</td>
</tr>
<tr>
<td>Group x Auth. b</td>
<td>1</td>
<td>7.23</td>
<td>.033</td>
<td>.859</td>
<td>.003</td>
<td>.053</td>
</tr>
<tr>
<td>Error</td>
<td>13</td>
<td>219.0</td>
<td></td>
<td></td>
<td>.053</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*R squared = .465 (Adjusted R squared = .342).*

*b Auth. = PSDQ Authoritarian parenting scale score.*
CONSENT TO PARTICIPATE IN SCREENING PROCESS FOR RESEARCH

Title of Study: The intersection of stress, sleep, and temperament in preschoolers with ADHD symptoms.

You are asked to participate in a research study conducted by Dr. Carlin Miller in conjunction with her research staff from the Department of Psychology at the University of Windsor. This research is funded by the Women's Research Grant (#103731) under the auspices of the Office of Research Services at the University of Windsor.

If you have any questions or concerns about the research, please feel free to contact Dr. Miller by phone during the day (519-253-3000, ext. 2226) or via email (cjmill@uwindsor.ca).

PURPOSE OF THE STUDY
The purpose of this study is to compare preschool children with and without high activity level, impulsivity, and attention problems on a number of characteristics. These include: parent personality, child temperament (a biological precursor to personality present early in life), parent stress, quality of child sleep, and parenting styles and strategies. It is anticipated that parents of children with increased behaviour problems experience increased stress, and this relationship will be increased with other risk factors such as difficult child temperament.

In this phase of the study, Dr. Miller is gathering information about the rate of behaviour problems and the impairment these problems cause in preschoolers in Windsor. This phase of the study does not require participation beyond the screening process by parents or teachers.

PROCEDURES
If you volunteer to participate in this study, we would ask you to do the following things:

You are being asked to complete the attached double-sided one-page form about your child. Many of the behaviours described in this form are commonly exhibited by children who are 3-4 years old. Endorsing these behaviours does not necessarily mean that your child has a disorder or behaviour problems. These forms have been developed for research purposes.

By signing this consent form and returning the pages labelled “RETURN” to your child’s school in the attached envelope, you are agreeing to allow your child’s teacher to complete very similar forms about your child. Your child’s teacher will not be able to view your responses on these forms.

Based on your responses and your child’s teacher’s responses, you may be invited to participate in a more in-depth evaluation process at the University of Windsor that will require additional time. You are NOT consenting to participate in that study with this form. Dr. Miller will contact you to let you know if your child will be part of this more in-depth evaluation. She will explain the process of the more in-depth evaluation and you will be able to decide at that time if you are interested in continuing to participate.

POTENTIAL RISKS AND DISCOMFORTS
It is not anticipated that you will experience increased risk or discomfort associated with completing this paperwork. If you feel distressed by your child's behaviour, completing these forms may be upsetting in some cases. If you are upset by these questions, you are welcome to call Dr. Miller's office at the University (519-253-3000 ext. 2226) to discuss the forms with her.

By returning the forms in a sealed envelope, your child's teacher will not be able to view your responses. The school has been asked to not open the sealed envelope. Dr. Miller and her research team will be picking up the rating forms at the school.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY
There are no specific benefits to you for participating in this phase of this study. You may experience a sense of satisfaction from participating in the research process. Results from this study across all phases may help scientists and society better understand how behaviour problems and childhood difficulties affect parental stress.

PAYMENT FOR PARTICIPATION
You will not be paid or otherwise compensated for completing these forms.

CONFIDENTIALITY
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your written permission. Once your forms are received in Dr. Miller's office, your child and family will be assigned a unique subject identification number and your names will be removed from all forms. These unique subject identification numbers will be used for data entry involving your responses. Consent forms and rating forms will be store separately in locked cabinets in a locked on-campus office. Only Dr. Miller will have access to your personally identifying information. In the event these data are ever to be destroyed, their destruction will be carried out in a manner to preserve your confidentiality.

PARTICIPATION AND WITHDRAWAL
You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so, such as it is discovered that your child does not meet eligibility criteria. In that event, Dr. Miller will discuss with you the reasons your child is not eligible.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS
Results on these ratings forms are purely experimental in nature and are designed as part of the screening process for the in-depth evaluation. Thus, the number of items you endorse does not have any clinical significance. If your child is eligible for the next phase of the study, Dr. Miller will contact you. If you would like to discuss this phase of the study or the on-campus assessment phase of the study with Dr. Miller, you are welcome to call her office at the University (519-253-3000 ext. 2226).

Additional information about Dr. Miller's research, including information about the findings from this study, will be posted on her website: http://www.uwindsor.ca/cjmillerresearch.

SUBSEQUENT USE OF DATA
These data will be used in subsequent studies.

RIGHTS OF RESEARCH SUBJECTS
You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics
SIGNATURE OF PARENT OR LEGAL GUARDIAN
I understand the information provided for the study “The intersection of stress, sleep, and temperament in preschoolers with ADHD symptoms” as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Name of Child

Name of Parent or Guardian

Signature of Parent or Guardian Date

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

Signature of Investigator Date
CONSENT FOR A MINOR CHILD TO PARTICIPATE IN RESEARCH

Title of Study: The intersection of stress, sleep, and temperament in preschoolers with ADHD symptoms.

You are asked to participate in a research study conducted by Dr. Carlin Miller in conjunction with her research staff from the Department of Psychology at the University of Windsor. This research is funded by the Women's Research Grant (#103731) under the auspices of the Office of Research Services at the University of Windsor. If you have any questions or concerns about the research, please feel to contact Dr. Miller by phone during the day (519-253-3000-2226) or via email (cjmiller@uwindsor.ca).

PURPOSE OF THE STUDY
The purpose of this study is to compare preschool children with and without high activity level, impulsivity, and attention problems on a number of characteristics. These include: parent personality, child temperament (a biological precursor to personality present early in life), parent stress, quality of child sleep, and parenting styles and strategies. It is anticipated that parents of children with increased behaviour problems experience increased stress, and this relationship will be increased with other risk factors such as difficult child temperament.

In this phase of the study, Dr. Miller has asked you to come to her laboratory at the University of Windsor for you and your child to participate in a more in-depth evaluation. This form is for you to consent to your child participating in this research project.

PROCEDURES
It is anticipated that this assessment will take 30-60 minutes to complete. Your child will be asked to do the following things if he/she participates in this research study:

- Your child will be asked to wear 2 actigraphs, which are small digital watch-like devices, one on a belt around his/her waist and one on his/her non-dominant ankle. These devices count how often that body part moves. These devices cannot hurt or cause discomfort for your child in any way. These devices will be put on your child in front of you.
- Your child will be administered a brief intelligence screening. These two subtests from the Wechsler Preschool and Primary Scales of Intelligence, Third Edition do not provide an "IQ score" and are being administered to ensure that your child does not have significantly subaverage cognitive ability or low intelligence.
- Your child will be administered a brief school readiness test. The Bracken Basic Concepts Scale, Revised Version School Readiness Composite will provide information about your child's current knowledge, such as the names of letters and colours.

Following the evaluation, the examiner will complete a brief rating form to describe your child's overall activity level and performance using the assessment process.

POTENTIAL RISKS AND DISCOMFORTS
There is no reasonably foreseeable risk or discomfort associated with your child participating in this assessment process. Most children experience this process as enjoyable games with an
adult in a one-on-one setting. If your child is upset by the assessment or refuses to participate, we will attempt to reschedule the appointment for another time. If your child is upset by being separated from you in the unfamiliar environment, we make ask you to sit in the assessment room with your child. All of the people who will be working with your child have extensive training and experience in working with young children.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY
Dr. Miller and her staff will complete a brief one-page summary about your child’s participation in this study which will be sent to you by mail within 2-4 weeks of your participation. In the event this evaluation uncovers a possible clinically significant problem Dr. Miller will make a referral to a clinician working in the community for further assessment and/or intervention. It is your choice whether or not to pursue additional services. If you have questions about this summary, please contact Dr. Miller (519-253-3000 ext. 2226).

The main purpose of this study is to increase our understanding of the relationship between child behaviour problems and stress experienced by parents. Society may benefit if we better understand these relationships.

PAYMENT FOR PARTICIPATION
If you and your child complete all phases of this research your family will receive a $10 gift certificate for Chapter Bookstore.

CONFIDENTIALITY
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. We will not discuss your child’s results with anyone, including school personnel, without your written permission. Once your child’s evaluation is completed, his/her unique subject identification number will be written on every form and his/her names will be removed from all forms. These unique subject identification numbers will be used for data entry involving your responses. Consent forms and other materials will be stored separately in locked cabinets in a locked on-campus office. Only Dr. Miller will have access to your personally identifying information. In the event these data are ever to be destroyed, their destruction will be carried out in a manner to preserve your child’s confidentiality.

There is one set of circumstances that would possibly necessitate a breach in confidentiality. In the event your child discloses that you or he/she is in imminent danger or that your child is experiencing abuse/neglect, we may disclose this information to the appropriate authorities. Before this disclosure is made, we will discuss our concerns with you. As someone who works with children and families, Dr. Miller is a mandatory reporter for child abuse/neglect and is required by law to protect the rights of the child.

PARTICIPATION AND WITHDRAWAL
You can choose whether or not your child participates in this study. If you volunteer your child to be in this study, you may withdraw your child at any time without consequences of any kind. You and your child may also refuse to answer any questions you don’t want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so, such as if it is discovered that your child does not meet eligibility criteria. In that event, Dr. Miller will discuss the reasons your child is not eligible with you.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS
When this study is completed, we hope to publish these results in a scientific journal so other scientists and clinicians may help families who are struggling with a child’s behaviour problems. If you would like to receive a copy of these articles when they are published in 2-3 years, please let Dr. Miller know.

Additional information about Dr. Miller’s research, including information about the findings from this study, will be posted on her website at: http://www.uwindsor.ca/cjmillerresearch.
SUBSEQUENT USE OF DATA
These data will be used in subsequent studies.

RIGHTS OF RESEARCH SUBJECTS
You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; telephone: 519-253-3000, ext. 3916; e-mail: lsbunn@uwindsor.ca.

SIGNATURE OF PARENT OR LEGAL GUARDIAN
I understand the information provided for the study "The intersection of stress, sleep, and temperament in preschoolers with ADHD symptoms" as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

______________________________
Name of Child

______________________________
Name of Parent or Legal Guardian

______________________________  ________________
Signature of Parent or Legal Guardian  Date

SIGNATURE OF INVESTIGATOR
These are the terms under which I will conduct research.

______________________________  ________________
Signature of Investigator  Date
PARENT CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: The intersection of stress, sleep, and temperament in preschoolers with ADHD symptoms.

You are asked to participate in a research study conducted by Dr. Carlin Miller in conjunction with her research staff from the Department of Psychology at the University of Windsor. This research is funded by the Women's Research Grant (#103731) under the auspices of the Office of Research Services at the University of Windsor.

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In this phase of the study, Dr. Miller has asked you to come to her laboratory at the University of Windsor for you and your child to participate in a more in-depth evaluation. This form is for you to consent to participate in this research project.

PROCEDURES
If you volunteer to participate in this study, you will be asked to complete several forms about yourself and your child. These forms may include the following measures:

- **Developmental and medical history form** – This is a form designed to collect information about your child's medical history and their development thus far (only 1 parent completes this form).
- **Parenting Stress Index** – This is a form designed to measure how much stress you experience while parenting your child.
- **Quality of Life Index** – This is a brief form designed to measure how many positive and negative experiences you have in your life.
- **NEO-PI-R** – This is a brief measure of your overall personality style. For example, it measures how sociable you are, how much you worry, how much you like to try new things, and how motivated you are by what you want.
- **Child Behavior Questionnaire** – This is a measure of your child's temperament, which is the biological part of personality that is present very early in life (only 1 parent completes this form).
- **Alabama Parenting Questionnaire, Preschool revision** – This is a brief form designed to measure what strategies you use to discipline your child.
- **Parenting Style and Dimensions Questionnaire, Revised Version** – This is a brief form designed to measure what parenting strategies you use with your child.
- **Television Viewing Questionnaire** – This is a brief form designed to report how much time your child spends watching television/videos and/or playing video games (only 1 parent completes this form).
• **Sleep Questionnaire** - This is a brief form designed to describe your child's sleep (only 1 parent completes this form).

We anticipate you will be able to complete these forms while we work with your child. If you are not able to complete these forms or would feel more comfortable completing them at home, we will be happy to allow you to take these forms home.

**POTENTIAL RISKS AND DISCOMFORTS**

There is no foreseeable and significant risk or discomfort associated with participating in this study. You may experience mild to moderate distress while completing these measures, especially if you are having difficulty with your child. If you experience any distress, please discuss your concerns with Dr. Miller. If you begin to experience distress after you leave the laboratory, please call Dr. Miller in her office (519-253-2000 ext. 2226).

**POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY**

Dr. Miller and her staff will complete a brief one-page summary about your participation in this study which will be sent to you by mail within 2-4 weeks of your participation. If you have questions about this summary, please contact Dr. Miller (519-253-3000 ext. 2226).

The main purpose of this study is to increase our understanding of the relationship between child behaviour problems and stress experienced by parents. Society may benefit if we better understand these relationships.

**PAYMENT FOR PARTICIPATION**

If you and your child complete all phases of this research, your family will receive a $10 gift certificate for Chapter Bookstore.

**CONFIDENTIALITY**

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. We will not discuss your results with anyone, including your spouse or significant other, without your written permission. Once your forms are completed, your unique subject identification number will be written on every form and your names will be removed from all forms. These unique subject identification numbers will be used for data entry involving your responses. Consent forms and rating forms will be stored separately in locked cabinets in a locked on-campus office. Only Dr. Miller will have access to your personally identifying information. In the event these data are ever to be destroyed, their destruction will be carried out in a manner to preserve your confidentiality.

There is one set of circumstances that would possibly necessitate a breach in confidentiality. In the event you disclose that you or your child is in imminent danger or your child is experiencing abuse/neglect, we may disclose this information to the appropriate authorities. Before this disclosure is made, we will discuss our concerns with you. As someone who works with children and families, Dr. Miller is a mandatory reporter for child abuse/neglect and is required by law to protect the rights of the child.

**PARTICIPATION AND WITHDRAWAL**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so, such as it is discovered that your child does not meet eligibility criteria. In that event, Dr. Miller will discuss the reasons your child is not eligible with you.

**FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS**

When this study is completed, we hope to publish these results in a scientific journal so other scientists and clinicians may help families who are struggling with a child's behaviour problems. If
you would like to receive a copy of these articles when they are published in 2-3 years, please let Dr. Miller know.

Additional information about Dr. Miller's research, including information about the findings from this study, will be posted on her website at: http://www.uwindsor.ca/cjmillerresearch.

SUBSEQUENT USE OF DATA
These data will be used in subsequent studies.

RIGHTS OF RESEARCH SUBJECTS
You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario, N9B 3P4; telephone: 519-253-3000, ext. 3916; e-mail: lbunn@uwindsor.ca.

SIGNATURE OF RESEARCH SUBJECT
I understand the information provided for the study "The intersection of stress, sleep, and temperament in preschoolers with ADHD symptoms" as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

______________________________
Name of Subject

______________________________
Date

SIGNATURE OF INVESTIGATOR
These are the terms under which I will conduct research.

______________________________  ______________________
Signature of Investigator          Date
PRESCHOOL DEMOGRAPHIC INFORMATION

Child's Name: ________________________________________________________________

Date of Birth: __/__/__   Today's Date: __/__/__   Age: ______   Sex:_____

Are you the (circle all that apply): Parent   Legal Guardian   Physical Guardian

Home Address: ________________________________________________________________

Home Phone: ____________________________

Email: ___________________________________________________________________

Child’s Current School or Daycare Center:
____________________________________________

Your Name: ________________________________
Relationship to Child: ______________________

Instructions: The items in this questionnaire address issues pertaining to your child’s developmental history and family background. For questions that include numbered choice options, please circle the number(s) that best describes your child and/or family. Other items will provide you with space(s) to provide a written response. Be sure to read each item carefully, and direct any questions to a member of the research staff. Try to answer each item as best you can, however, if you feel uncomfortable with any question, you do not need to answer it. Please know that your answers will be kept completely confidential. Please do not write your child’s name on any page but this front page. (This cover page will be detached and stored with your consent forms to protect your and your child’s confidentiality.)

(FOR PROJECT USE ONLY - ID # ___________________________)

Role of the Father  102
I. BACKGROUND INFORMATION

A. CHILD DEMOGRAPHICS

Date of Birth: ___/___/___  Today’s Date: ___/___/___  Sex: ______

B. RACIAL/ETHNIC BACKGROUND

Please circle all that apply:

Background of biological mother:  Background of biological father:

[1] ABORIGINAL

[2] ASIAN OR OF ASIAN DESCENT

[3] HISPANIC/LATINA

[4] BLACK OR OF AFRICAN DESCENT

[5] NON-HISPANIC WHITE OR CAUCASIAN

[6] OTHER (please indicate) __________________

II. HOUSEHOLD INFORMATION

Marital Status of biological parents (circle one):

[1] MARRIED/COMMON-LAW

[2] MARRIED BUT SEPARATED

[3] DIVORCED (if divorced, how old was your child at the initial separation? ________)

   Mother: single___ remarried___

   Father: single___ remarried___

[4] DIVORCED & REMARRIED

[5] NEVER MARRIED/SINGLE

If SEPARATED OR DIVORCED, specify:

Mother’s contact with child:

[1] DAILY

[2] WEEKLY

[3] MONTHLY

[4] YEARLY

[5] NONE

Father’s contact with child:

[1] DAILY

[2] WEEKLY

[3] MONTHLY

[4] YEARLY

[5] NONE
Total number of household members *(including child)*: ______

# of children *(under 18 yrs. of age)*: ______  # of adults: ______

Primary language spoken in the home: ________________________________

Other languages spoken in the home: -

Please list all household members:

<table>
<thead>
<tr>
<th>FIRST NAME</th>
<th>SEX</th>
<th>AGE</th>
<th>RELATION TO CHILD</th>
<th>OCCUPATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

III. INCOME/EDUCATION INFORMATION

Major source of Household Income:  
[1] PATERNAL EMPLOYMENT  
[2] MATERNAL EMPLOYMENT  
[3] COMBINED PARENTAL EMPLOYMENT  
[4] OTHER'S EMPLOYMENT, specify whose  

[5] ENTITLEMENTS *(Pensions, disability insurance, etc.)*  
[6] PUBLIC ASSISTANCE  
[7] OTHER, Please specify
If YES,
Current employer: ________________________________  Date started: 

Current position: ________________________________

If YES,
Current employer: ________________________________  Date started: 

Current position: ________________________________

_Highest grade father completed:  Highest grade mother completed: (circle one)
[1] Did not complete grade 12  [1] Did not complete grade 12
[99] Don’t Know  [99] Don’t Know

IV. PRENATAL/PERINATAL/POSTNATAL COMPLICATIONS

Was there any maternal illness during pregnancy? 
If YES, specify ________________________________

Child's place of birth: ________________________________

If YES, What month of pregnancy did prenatal care start: 
Age of biological mother at child's birth ________________

Age of biological father at child's birth ________________

Length of pregnancy:  
1] FULL-TERM  2] PREMATURE, specify gestational age________

Type of delivery:  
1] VAGINAL  2] C-SECTION, specify reason

Child's birth weight: _____ lbs _____ oz

Were there any complications during delivery?  
1] NO  2] YES, specify: ____________________________

Was child discharged from hospital with mother?  
1] NO  2] YES

If NO, why not? / For how long was the child hospitalized?

During the pregnancy did the mother use:

Tobacco  
1] NO  2] YES, specify amount (cigarettes/day)__________

Alcohol  

Illegal/I illicit Drugs  
1] NO  2] YES

If YES, specify type of drug used and how often?

____________________________________

____________________________________
Other than prenatal vitamins, did the mother take any prescription or non-prescription medications during pregnancy? [1] NO [2] YES, please specify

V. CHILD'S MEDICAL HISTORY

Has the child ever had any serious physical or mental illness where he/she was hospitalized overnight? [1] NO [2] YES

If YES, please list:

<table>
<thead>
<tr>
<th>DATE</th>
<th>AGE</th>
<th>TYPE OF ILLNESS</th>
<th>LENGTH OF STAY</th>
<th>TREATMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


IF YES, specify

[1] Allergies, specify

[2] Asthma

[3] Chronic Ear Infections

tubes? Y or N specify age: ______

antibiotics? Y or N

[4] Blood Deficiency (ex. anemic), specify

[5] Diabetes

[6] Other, specify:

IF YES, what happened

____________________________________________________________________________________

IF YES, was there a loss of consciousness?  [1] NO  [2] YES

IF YES, for how long (in hours)?


IF YES, specify type:
  [1] FEBRILE, specify # of times
  [2] PETIT MAL/ABSENCE, specify # of times
  [3] GRAND MAL/TONIC-CLONIC, specify # of times
  [4] OTHER, please specify type and # of times


Specify type of medication:


IF YES, specify medication, ____________________________ dosage: __________________________

freq: __________________

V. DEVELOPMENTAL HISTORY

Approx. Age____________

Approx. Age____________

Approx. Age____________

Approx. Age____________

Approx. Age____________

Have you ever felt that your child may have difficulties in one or more of the following areas? (circle all that apply)
[1] speech/language
[2] sensory perception (e.g., hearing, vision, etc.)
[3] inattention/impulsivity/hyperactivity
[4] motor skills
[5] social skills
[6] aggression

IF YES, please describe the nature of the difficulty or difficulties
Have you pursued treatment for the above difficulty or difficulties? [1] YES  [2] NO

IF YES, please specify the type(s) of treatment received for each difficulty:


VI. ACADEMIC HISTORY

Child's current school: ________________________________

How long had your child attended this school/daycare center?


How old was your child when he/she was first enrolled in school or daycare?


Please list all other schools your child has attended:

<table>
<thead>
<tr>
<th>NAME OF SCHOOL</th>
<th>GRADE</th>
<th>DATES (MO/yr)</th>
<th>SCHOOL ADDRESS</th>
<th>REASON FOR CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

VII. ADDITIONAL INFORMATION / COMMENTS:


THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE!! ☺
ADHD RATING SCALE-IV – HOME VERSION

Child’s name: ___________________________ Sex: M F Age: ______
Grade: __________________
Completed by: Mother ___ Father ___ Guardian _____________ Grandparent ____________
Date of Birth: __________________

Circle the number that best describes your child’s home behavior over the past 6 months.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Never or Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fails to give close attention to details or makes careless mistakes on schoolwork.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Fidgets with hands or feet or squirms in seat.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Has difficulty sustaining attention in tasks or play activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Leaves seat in classroom or in other situations in which remaining seated is expected.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Does not seem to listen when spoken to directly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Runs about or climbs excessively in situations in which it is inappropriate.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Does not follow through on instructions and fails to finish work.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Has difficulty playing or engaging in leisure activities quietly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Has difficulty organizing tasks and activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Is “on the go” or acts as if “driven by a motor.”</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Avoids tasks (e.g., schoolwork, homework) that require sustained mental effort.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Talks excessively.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. Loses things necessary for tasks or activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Blurs out answers before questions have been completed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. Is easily distracted.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. Has difficulty awaiting turn.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. Is forgetful in daily activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. Interrupts or intrudes on others.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From ADHD Rating Scale-IV: Checklists, Norms, and Clinical Interpretations by George J. DuPaul, Thomas J. Power, Arthur D. Anastopoulos, and Robert Reid. Copyright 1998 by the authors. Permission to photocopy this scale is granted to purchasers of ADHD Rating Scale-IV per personal use only (see copyright page for details). ADHD criteria are adapted by permission from DSM-IV. Copyright 1994 by the American Psychiatric Association.
### Problems Checklist

<table>
<thead>
<tr>
<th>Problem</th>
<th>Problem?</th>
<th>If YES, how much of a problem?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disrupt family life?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Have difficulty getting along with siblings (or if no siblings leave blank)?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Have difficulty making or keeping friends?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Have difficulty getting along with adults?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Have trouble staying organized?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Feel bad about him/herself?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Have trouble settling down to sleep?</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Have many accidents (e.g., falls, gets hurt, spills things)?</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>
ADHD RATING SCALE-IV: SCHOOL VERSION

Child's name: _____________________  Sex: M  F  Age: _______
Grade: _______
Completed by: ____________________

Circle the number that *best describes* this student's school behavior over the past 6 months (or since the beginning of the school year).

<table>
<thead>
<tr>
<th></th>
<th>Never or Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fails to give close attention to details or makes careless mistakes on schoolwork.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>Fidgets with hands or feet or squirms in seat.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>Has difficulty sustaining attention in tasks or play activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4.</td>
<td>Leaves seat in classroom or in other situations in which remaining seated is expected.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>Does not seem to listen when spoken to directly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>Runs about or climbs excessively in situations in which it is inappropriate.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>Does not follow through on instructions and fails to finish work.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>Has difficulty playing or engaging in leisure activities quietly.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>Has difficulty organizing tasks and activities.</td>
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<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>Is “on the go” or acts as if “driven by a motor.”</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11.</td>
<td>Avoids tasks (e.g., schoolwork, homework) that require sustained mental effort.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>Talks excessively.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13.</td>
<td>Loses things necessary for tasks or activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14.</td>
<td>Blurs out answers before questions have been completed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15.</td>
<td>Is easily distracted.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16.</td>
<td>Has difficulty awaiting turn.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17.</td>
<td>Is forgetful in daily activities.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18.</td>
<td>Interrupts or intrudes on others.</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

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Problems Checklist – Teacher Version

<table>
<thead>
<tr>
<th>Does your child</th>
<th>Problem?</th>
<th>If YES, how much of a problem?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disrupt the classroom?</td>
<td>N</td>
<td>Mild</td>
</tr>
<tr>
<td>Have difficulty getting along with children at school?</td>
<td>N</td>
<td>Moderate</td>
</tr>
<tr>
<td>Have difficulty making or keeping friends?</td>
<td>Y</td>
<td>Severe</td>
</tr>
<tr>
<td>Have difficulty getting along with teachers and/or other adults?</td>
<td>Y</td>
<td>Severe</td>
</tr>
<tr>
<td>Have trouble staying organized?</td>
<td>Y</td>
<td>Severe</td>
</tr>
<tr>
<td>Feel bad about him/herself?</td>
<td>Y</td>
<td>Severe</td>
</tr>
<tr>
<td>Have difficulty completing assignments?</td>
<td>Y</td>
<td>Severe</td>
</tr>
<tr>
<td>Have many accidents (e.g., falls, gets hurt, spills things)?</td>
<td>Y</td>
<td>Severe</td>
</tr>
</tbody>
</table>
You are (please circle):  MOTHER    FATHER    ID #

PARENTING STYLES & DIMENSIONS QUESTIONNAIRE (PSDQ)

Directions:

This questionnaire is designed to measure *how often* you exhibit certain behaviors towards your child ______________ (name).

Example:

Please read each item on the questionnaire and think about *how often* you exhibit this behavior and place your answer on the line to the left of the item.

  3  1. I allow my child to choose what to wear to school.

  I EXHIBIT THIS BEHAVIOR:
  1 = Never
  2 = Once in Awhile
  3 = About Half of the Time
  4 = Very Often
  5 = Always
REMEMBER: For each item, rate how often you exhibit this behavior with your child.

I EXHIBIT THIS BEHAVIOR:
1 = Never
2 = Once In Awhile
3 = About Half of the Time
4 = Very Often
5 = Always

1. I am responsive to my child's feelings and needs.
2. I use physical punishment as a way of disciplining my child.
3. I take my child's desires into account before asking him/her to do something.
4. When my child asks why he/she has to conform, I state: because I said so, or I am your parent and I want you to.
5. I explain to my child how I feel about the child's good and bad behavior.
6. I spank when my child is disobedient.
7. I encourage my child to talk about his/her troubles.
8. I find it difficult to discipline my child.
9. I encourage my child to freely express (himself)(herself) even when disagreeing with me.
10. I punish by taking privileges away from my child with little if any explanations.
11. I emphasize the reasons for rules.
12. I give comfort and understanding when my child is upset.
13. I yell or shout when my child misbehaves.
14. I give praise when my child is good.
15. I give into my child when the child causes a commotion about something.
16. I explode in anger towards my child.
17. I threaten my child with punishment more often than actually giving it.
18. I take into account my child's preferences in making plans for the family.
19. I grab my child when being disobedient.
20. I state punishments to my child and do not actually do them.
21. I show respect for my child's opinions by encouraging my child to express them.
22. I allow my child to give input into family rules.
23. I scold and criticize to make my child improve.
24. I spoil my child.
25. I give my child reasons why rules should be obeyed.
26. I use threats as punishment with little or no justification.
27. I have warm and intimate times together with my child.
28. I punish by putting my child off somewhere alone with little if any explanations.
29. I help my child to understand the impact of behavior by encouraging my child to talk about the consequences of his/her own actions.
30. I scold or criticize when my child's behavior doesn't meet my expectations.
31. I explain the consequences of the child's behavior.
32. I slap my child when the child misbehaves.
PARENTING STYLES & DIMENSIONS QUESTIONNAIRE (PSDQ)
Constructs Scoring Key

AUTHORITATIVE PARENTING STYLE (FACTOR 1*)

Item No. Fact Load Subfactor 1 - Connection Dimension (Warmth & Support)
1. .82 Responsive to child’s feelings or needs
12. .77 Gives comfort and understanding when child is upset.
14. .73 Gives praise when child is good.
7. .61 Encourages child to talk about the child’s troubles.

[To obtain a Connection Dimension score - mean the above 4 items]

Item No. Fact Load Subfactor 2 - Regulation Dimension (Reasoning/Induction)
31. .80 Explains the consequences of the child’s behavior.
25. .76 Gives child reasons why rules should be obeyed.
29. .72 Helps child to understand the impact of behavior by encouraging child to talk about the consequences of his/her own actions.
5. .65 Explains to child how we feel about the child’s good and bad behavior.

[To obtain a Regulation Dimension score - mean the above 4 items]

Item No. Fact Load Subfactor 3 – Autonomy Granting Dimension (Democratic Participation)
18. .81 Takes into account child’s preferences in making plans for the family.
22. .73 Allows child to give input into family rules.
3. .57 Takes child’s desires into account before asking the child to do something.

[To obtain an Autonomy Granting Dimension score - mean the above 3 items]

*Alpha = .83; Sample = 1414

[To obtain an overall Authoritative Parenting Style score - mean all 12 items.]
AUTHORITARIAN PARENTING STYLE (FACTOR 2*)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Fact. Load</th>
<th>Subfactor 1 - Physical Coercion Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>.86</td>
<td>Uses physical punishment as a way of disciplining our child.</td>
</tr>
<tr>
<td>6.</td>
<td>.84</td>
<td>Spanks when our child is disobedient.</td>
</tr>
<tr>
<td>32.</td>
<td>.69</td>
<td>Slaps child when the child misbehaves.</td>
</tr>
<tr>
<td>19.</td>
<td>.50</td>
<td>Grabs child when being disobedient.</td>
</tr>
</tbody>
</table>

[To obtain a Physical Coercion Dimension score - mean the above 4 items]

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Fact. Load</th>
<th>Subfactor 2 - Verbal Hostility Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.</td>
<td>.75</td>
<td>Explodes in anger towards child.</td>
</tr>
<tr>
<td>13.</td>
<td>.70</td>
<td>Yells or shouts when child misbehaves.</td>
</tr>
<tr>
<td>23.</td>
<td>.70</td>
<td>Scolds and criticizes to make child improve.</td>
</tr>
<tr>
<td>30.</td>
<td>.54</td>
<td>Scolds and criticizes when child’s behavior doesn’t meet our expectations.</td>
</tr>
</tbody>
</table>

[To obtain a Verbal Hostility Dimension score - mean the above 4 items]

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Fact. Load</th>
<th>Subfactor 3 - Non-Reasoning/Punitive Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>.81</td>
<td>Punishes by taking privileges away from child with little if any explanations.</td>
</tr>
<tr>
<td>28.</td>
<td>.71</td>
<td>Punishes by putting child off somewhere alone with little if any explanations.</td>
</tr>
<tr>
<td>26.</td>
<td>.61</td>
<td>Uses threats as punishment with little or no justification.</td>
</tr>
<tr>
<td>4.</td>
<td>.48</td>
<td>When child asks why (he)(she) has to conform, states: because I said so, or I am your parent and I want you to.</td>
</tr>
</tbody>
</table>

[To obtain a Non-Reasoning/Punitive Dimension score - mean the above 4 items]

Alpha = .81; Sample = 1414

[To obtain an overall Authoritarian Parenting Style score - mean all 12 items]
PERMISSIVE PARENTING STYLE (FACTOR 3*)

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Fact. Load</th>
<th>Indulgent Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>.70</td>
<td>States punishments to child and does not actually do them.</td>
</tr>
<tr>
<td>15.</td>
<td>.61</td>
<td>Gives into child when (he)(she) causes a commotion about something.</td>
</tr>
<tr>
<td>17.</td>
<td>.59</td>
<td>Threatens child with punishment more often than actually giving it.</td>
</tr>
<tr>
<td>24.</td>
<td>.57</td>
<td>Spoils child.</td>
</tr>
<tr>
<td>8.</td>
<td>.54</td>
<td>Finds it difficult to discipline child.</td>
</tr>
</tbody>
</table>

Alpha = .65; Sample = 1414

[To obtain an overall Permissive Parenting Style score - mean all 5 items]

Note: Please use the following when referencing the PSDQ:

Alabama School-aged Assessment Service  
APQ – Preschool Revision  
(Parent Form)

Child’s name: __________________________ ID#: __________________________
Date Completed: ________________________
Parent Completing Form (Circle one):  Mother  Father  Other

Instructions: The following are a number of statements about your family. Please rate each item as to how often it TYPICALLY occurs in your home. The possible answers are Never (1), Almost Never (2), Sometimes (3), Often (4), Always (5). PLEASE ANSWER ALL ITEMS.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. You have a friendly talk with your child.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. You let your child know when he/she is doing a good job.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. You threaten to punish your child and then do not actually punish him/her.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. You volunteer to help with special activities that your child is involved in.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. You reward or give something extra to your child for obeying you or behaving well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. You play games or do other fun things with your child.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Your child talks you out of being punished after he/she has done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. You asked your child about his/her day at school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. You help your child with his/her work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. You feel that getting your child to obey you is more trouble than it’s worth.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. You compliment your child when he/she does something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. You drive your child to a special activity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. You praise your child if he/she behaves well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. You hug or kiss your child when he/she has done something well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. You talk to your child about his/her friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. You let your child out of a punishment early (like lift restrictions)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td></td>
</tr>
<tr>
<td>17. You get so busy that you forget where your child is and what he/she is doing.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Your child is not punished when he/she has done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. You attend parent-teacher meetings/conferences, or other meetings at your child’s school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. You tell your child that you like it when he/she helps out around the house.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. You don’t tell your child where you are going.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. The punishment you give your child depends on your mood.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. Your child is at home without adult supervision.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. You spank your child when he/she has done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. You ignore your child when he/she is misbehaving.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. You slap your child when he/she has done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. You take away privileges from your child as punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. You send your child to his/her room as a punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. You hit your child with a belt, switch or other object when he/she has done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. You yell or scream at your child when he/she has done something wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>31. You calmly explain to your child why his/her behavior was wrong when he/she misbehaves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. You use time out (make him/her sit or stand in a corner) as a punishment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Parenting Stress Index – Short Form

Instructions

This questionnaire contains 36 statements. Read each statement carefully. For each statement, please focus on the child you are most concerned about, and circle the response that best represents your opinion.

Circle the SA if you strongly agree with the statement.
Circle the A if you agree with the statement.
Circle the NS if you are not sure.
Circle the D if you disagree with the statement.
Circle the SD if you strongly disagree with the statement.

For example, if you sometimes enjoy going to the movies, you would circle A in response to the following statement:

I enjoy going to the movies SA A NS D SD

While you may not find a response that exactly states your feelings, please circle the response that comes closest to describing how you feel. YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

Circle only one response for each statement, and respond to all statements. DO NOT ERASE! If you need to change and answer, make an “X” through the incorrect answer and circle the correct response. For example:

I enjoy going to the movies. SA A NS D SD

Before responding to the statements, write your name, gender, date of birth, ethnic group, marital status, child’s name, child’s gender, child’s date of birth, and today’s date in the spaces at the top of the questionnaire.
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I often have the feeling that I cannot handle things very well.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>2.</td>
<td>I find myself giving up more of my life to meet my children's needs than I ever expected.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>3.</td>
<td>I feel trapped by my responsibilities as a parent.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>4.</td>
<td>Since having this child, I have been unable to do new and different things.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>5.</td>
<td>Since having this child, I feel that I am almost never able to do things that I like to do.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>6.</td>
<td>I am unhappy with the last purchase of clothing I made for myself.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>7.</td>
<td>There are quite a few things that bother me about my life.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>8.</td>
<td>Having a child has caused more problems than I expected in my relationship with my spouse (or male/female friend).</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>9.</td>
<td>I feel alone and without friends.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>10.</td>
<td>When I go to a party, I usually expect not to enjoy myself.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>11.</td>
<td>I am not as interested in people as I used to be.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>12.</td>
<td>I don't enjoy things as I used to.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>13.</td>
<td>My child rarely does things for me that make me feel good.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>14.</td>
<td>Sometimes I feel my child doesn't like me and doesn't want to be close to me.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>15.</td>
<td>My child smiles at me much less than I expected.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>16.</td>
<td>When I do things for my child, I get the feeling that my efforts are not appreciated very much.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>17.</td>
<td>When playing, my child doesn't often giggle or laugh.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>18.</td>
<td>My child doesn't seem to learn as quickly as most children.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>19.</td>
<td>My child doesn't seem to smile as much as most children.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>20.</td>
<td>My child is not able to do as much as I expected.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
<tr>
<td>21.</td>
<td>It takes a long time and it's very hard for my child to get used to new things.</td>
<td>SA</td>
<td>A</td>
<td>NS</td>
</tr>
</tbody>
</table>

For the next statement, choose your response form the choices "1" to "5" below.

22. I feel that I am: 1. Not very good at being a parent 2. a person who has some trouble being a parent 3. an average parent. 4. a better than average parent. 5. a very good parent.

23. I expected to have closer and warmer feelings for my child than I do and this bothers me.

24. Sometimes my child does things that bother me just to be mean.

25. My child seems to cry or fuss more often than most children.
26. My child generally wakes up in a bad mood.  
27. I feel that my child is very moody and easily upset.  
28. My child does a few things which bother me a great deal.  
29. My child reacts very strongly when something happens that my child doesn’t like.  
30. My child gets upset easily over the smallest thing.  
31. My child’s sleeping or eating schedule was much harder to establish than I expected.  

For the next statement, choose your response from the choices “1” to “5” below.

32. I have found that getting my child to do something or stop doing things is:
   1. much harder than I expected.
   2. somewhat harder than I expected.
   3. about as hard as I expected.
   4. somewhat easier than I expected.
   5. much easier than I expected.

For the next statement, choose your response from the choices “10+” to “1 – 3”

33. Think carefully and count the number of things which your child does that bother you.  
   For example, dawdles, refuses to listen, overactive, cries, interrupts, fights, whines, etc.  
34. There are some things my child does that really bother me a lot.  
35. My child turned out to be more of a problem than I had expected.  
36. My child makes more demands on me than most children.
Quality of Life Index

There are many indicators of quality of life. Below are some questions about different aspects of your life. Please answer each question as usually feel. Please circle only one response for each item.

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Sometimes</th>
<th>Nearly</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>I get enough sleep at night.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>I have people I trust in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>There are times I have to change routines because of unexpected events.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4.</td>
<td>My spiritual practices help me deal with day-to-day problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5.</td>
<td>I spend time with others doing things I enjoy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6.</td>
<td>I have enough help to manage everyday tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>I miss more days of work due to illness or family problems than others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8.</td>
<td>I have time to pursue independent leisure activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9.</td>
<td>It upsets me that my current situation is not how I expected my life to be.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10.</td>
<td>I have time to exercise or pursue activities that promote my physical health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>There is enough money in our family budget to cover our expenses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>My work is a positive part of my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>People in my life are intrusive or unhelpful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14.</td>
<td>I wish I could change major parts of my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>When I need extra support, I have someone I can call or visit.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16.</td>
<td>I feel appreciated by others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17.</td>
<td>I have many headaches and other bodily complaints.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18.</td>
<td>The people around me are a positive influence in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19.</td>
<td>I worry about what will happen tomorrow.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20.</td>
<td>I often have to adjust what I want or do because of another person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
VITA AUCTORIS

NAME: Vilija Petrauskas
PLACE OF BIRTH: Toronto
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1995 – 2000
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