

Factors Contributing to the Successful Transition of Preschoolers with and without
Developmental Delay into School

by

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Abstract

Entry into kindergarten marks the beginning of formal education and has the potential to pave the way for future academic success or failure. The transition into school is expected to be a challenging time for children and their families and these challenges are likely to be enhanced for children with developmental delays (DD). Despite the importance of this period, school transition for children with DD has not been well researched.

Twenty-nine parents of preschool aged children with DD, and 17 parents of children without DD participated in three one-hour phone interviews throughout the course of the child's transition into school. The Double ABCX Model was used as a framework for the current study to measure the outcome of transition (X) (using quality of life and school readiness), which is influenced by characteristics of the child (A), resources (B) and parental perceptions (C). The objectives of the study were to: 1) describe a sample of children and their families who were transitioning into school, investigate the similarities and differences between children with DD and without DD, and investigate changes over the course of transition; and 2) determine which factors contribute to a successful transition for children with and without DD.

Results showed that children with DD had lower adaptive and higher maladaptive behaviour; and were utilizing more formal services and participating in less social activities than children without DD. Parents of children with DD reported lower family income, higher parental stress, different patterns and types of perceptions, and different use of coping. Very few variables changed over the course of transition. There were no

significant predictors of the child's quality of life; and only adaptive behaviour predicted all aspects of school readiness, with family income also predicting the child's social and emotional well-being. Implications and directions for future research are discussed.

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Chapter 1: Introduction

The importance of successful transition into kindergarten cannot be overstated, as the entry into kindergarten marks the beginning of formal education and has the potential to pave the way for future academic success or failure (Schulting, Malone, & Dodge, 2005). The transition into school is expected to be a challenging time for all children and their families and these challenges are likely to be greater for children with developmental delays (DD).

The transition into elementary school marks a critical period in a child's development. During this phase, children will encounter more responsibilities, and will be expected to adapt to the demands of the classroom. Children with DD are at a heightened risk for academic and social difficulties in school due to their deficits in cognitive and adaptive behaviours (McIntyre, Blacher, & Baker, 2006). In an effort to ease the transition into school, appropriate and effective planning for transition must consider the specific needs of the child with the disability in conjunction with the child's family and other service providers (Lazzari & Kilgo, 1989). However, it has been shown that despite the importance of planning for transition, appropriate planning is less widespread than would be expected (Kemp, 2003).

Few studies have targeted the transition into school for children with developmental disabilities. Furthermore, to date, no published studies have investigated the transition of preschoolers with and without DD into school using the Double ABCX Model of Adaptation (McCubbin & Patterson, 1983) as a theoretical framework. The

ABCX model shows how characteristics associated with a stressor (e.g., a child with a disability) (A), family resources (B), and perceptions associated with the stressor (C), can influence an outcome such as family well-being (X). The present study will thus evaluate the relationship between child characteristics, resources, and parental perceptions (i.e., parental stress and coping) as described in the Double ABCX Model in a group of children with and without DD, using quality of life and school readiness as outcome measures of the success of transition.

Intellectual Disabilities and Developmental Delay

An intellectual disability (ID) as defined in the Diagnostic and Statistical Manual – 4th edition (American Psychiatric Association, 2000) is synonymous with a developmental disability and Mental Retardation (MR). These disabilities are characterized by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social, and practical adaptive skills (i.e., communication, self-care, social/interpersonal skills). This disability originates before the age of 18. In contrast, a developmental delay (DD) involves deficits in two or more areas of functioning such as cognitive development, speech and language development, social and emotional development, fine motor skill development, or gross motor skill development. Developmental delay is usually indicated when a child does not meet developmental milestones by the expected time period. The term DD is commonly applied to young children, as it is not as yet clear whether they will meet criteria for an intellectual disability (Baker, McIntyre, Blacher, Crnic, Edelbrock, & Low, 2003). When

examining the experiences of preschool aged children, researchers frequently include children with developmental delays with children with intellectual disabilities, since the diagnoses are related and often overlap (e.g., Baker, Blacher, & Olsson, 2005). In our sample, the majority of the children have a diagnosis of autism, Down syndrome or Fragile X syndrome. Only a few of the children have been diagnosed as having only a developmental delay. However, due to the age of the children, the term developmental delay was chosen to represent the sample. Since the literature does not always differentiate between the terms ID and DD when referring to young children, it should be noted that all information presented will be applicable to the sample of children whether the terms ID, MR, developmental disabilities or DD are used.

Transition for Individuals with Intellectual Disabilities and Developmental Delay

A considerable amount of research has focused on the transition of adolescents or adults with ID from high school into the community (Kraemer & Blacher, 2001; Kraemer, McIntyre, & Blacher, 2003). Studies have investigated the quality of life of individuals during transition by looking at factors such as independence/empowerment, size of social networks, employment and the role of parental involvement (Kraemer et al, 2003). In addition to family involvement, the role of the school system in facilitating transition planning from high school into the community is especially useful (Kraemer & Blacher, 2001).

Less research has focused on the transition into school for children with DD. Due to the inherent nature of having a DD (i.e., deficits in cognitive and adaptive abilities)

children with DD are at heightened risk for early school difficulties (McIntyre et al., 2006). Both parents and teachers have reported that child skills (e.g., social skills, language skills) are important predictors of successful transition (Kemp, 2003). Effective planning for transition must begin early and appropriate supports must be in place if the child is expected to make a successful transition into school. One measure of successful transition for children with DD is thought to be successful inclusion (Chadwick & Kemp, 2002 as cited in Kemp, 2003). Inclusion refers to the education of students with disabilities in the same educational environment as typically developing students (Kemp, 2002). In addition, a goal of inclusion should be to facilitate and foster social integration of children with disabilities in inclusive classrooms (Guralnick, 1990). A study of the transition of children with disabilities into school found that children with ID had less positive early school experiences than their peers without ID (McIntyre et al., 2006). In addition, this study showed that social skills were an important predictor of adaptation to school, after controlling for IQ and adaptive behaviour. These results suggest that children with DD could potentially benefit from intervention aimed at fostering the development of social skills and social competencies that will be essential to successful transition and subsequent inclusion.

Children with ID also have more difficulty adjusting to the demands of the classroom. Children with ID have been reported to show significantly lower on-task behaviour during classroom instruction, and to be less able to follow teacher instructions than their typically developing peers (Kemp & Carter, 2000). Making accommodations

for children with DD to address deficits in these critical classroom skills, such as sitting the child close to the teacher, may be necessary if children with DD are expected to learn in inclusive settings.

Typical School Transition

Research on typical school transition has generally centered on intervention efforts aimed at increasing school readiness for children from undereducated and economically disadvantaged families (Mangione & Speth, 1998; Ramey & Ramey, 2004; Schulting et al., 2005). These children are often referred to as being “at risk” in the literature. A substantial amount of research has been conducted regarding the issue of school readiness, which refers to the child’s preparedness to enter school with the necessary skills to facilitate success. Readiness assessments most often measure children’s pre-academic skills and behaviours in an effort to assess whether children enter school ready to learn (La Paro & Pianta, 2000). These may include the child’s ability to count to 20, recognize letters from A-Z, follow rules and instructions, demonstrate self confidence, etc. A number of studies have investigated the transition of typically developing children from preschool into elementary school, while focusing on intervention offered in preschool to promote school readiness (Ramey & Ramey, 2004), school readiness as a predictor of children’s competence in elementary school (La Paro & Pianta, 2000), or the importance of education policies targeting children from low socio-economic status families (Schulting et al., 2005; Redden et al., 2001). School readiness

assessments are often used in the literature and provide a useful measure of the child's academic abilities and social competence.

Additional research on typically developing children's transition into school has focused on the benefits of parental involvement. Parent involvement includes things such as parent-teacher interactions, participation in educational activities at home, and participation in activities at school (e.g., attending field trips, volunteering in the classroom, etc.) The link between parental involvement and improved school outcome (i.e., social and academic functioning) is well established in the literature (Izzo, Weissberg, Kasprow, & Fendrich, 1999; Kohl, Lengua, & McMahon, 2000). Parental beliefs and expectations about early education have also been shown to contribute to greater school involvement, which in turn influences child academic achievement (Sy & Schulenberg, 2005). In addition to parental involvement, school transition practices (e.g., preschoolers spend time in elementary classes, shorter school days at the beginning of the year, teachers visit student homes) are associated with successful transition, and subsequent academic achievement. Schulting et al. (2005) have shown that the number of school transition practices was associated with more positive academic achievement scores at the end of the kindergarten year.

The transition into school is a significant time in the lives of children, and their families. The importance of a positive start in kindergarten has been identified as a central factor in later school success, and as a result, there is a need to develop transition

programs and intervention efforts to facilitate a smooth transition into school (Dockett & Perry, 2004).

Theoretical Framework

The Double ABCX model (McCubbin & Patterson, 1983) was originally adapted from Hill's ABCX model (1949) that incorporated several factors believed to affect family adaptation to a stressor. In general, the ABCX model can be used to show how characteristics associated with a stressor (e.g., a child with a disability) (A), family resources (B), and perceptions associated with the stressor (C), can influence family outcome or well-being (X). In addition, the model can be used to represent changes over time as represented in the Double ABCX model. The Double ABCX model shows that pile up of stressors (aA), new and existing family resources used for meeting the demands associated with the stressors (bB), and the meaning the family assigns to the situation (cC) affect family adaptation over time (xX).

In the intellectual disability literature, the Double ABCX model is widely used to organize factors that influence a certain outcome (e.g., Minnes, 1988; Nachshen & Minnes, 2005; Saloviita, Italinna, & Leinonen, 2003; Shin & Crittenden, 2003). For example, Saloviita et al. (2003) used the model to determine how demands associated with the child (A), family adaptive resources (B), and family definition of the situation (C) would influence parental stress (X). The Double ABCX model has also been used in studies examining family adaptation to a child with MR (Shin & Crittenden, 2003), factors predicting parental stress (Minnes, 1988), empowerment (Nachshen & Minnes,

2005) and well-being in parents of children and young adults with developmental disabilities (Minnes, Woodford, & Passey, 2007).

Recently, Blacher (2001) investigated the transition from adolescence into young adulthood within a theoretical framework that followed an ABCX model. This conceptual model hypothesizes that individual characteristics (A), the environment (B) and the family (C) will contribute to a successful transition (X). Following Blacher (2001) and previous studies, the Double ABCX Model was adapted for use with preschoolers, and used as a framework for the current study. The outcome variable (X) measured the success of transition, which is influenced by characteristics of the child (A), resources (B) and parental perceptions (C). In addition, changes in each factor (aA, bB, cC, and xX) were measured over time. See Figure 1 for the adapted ABCX model.

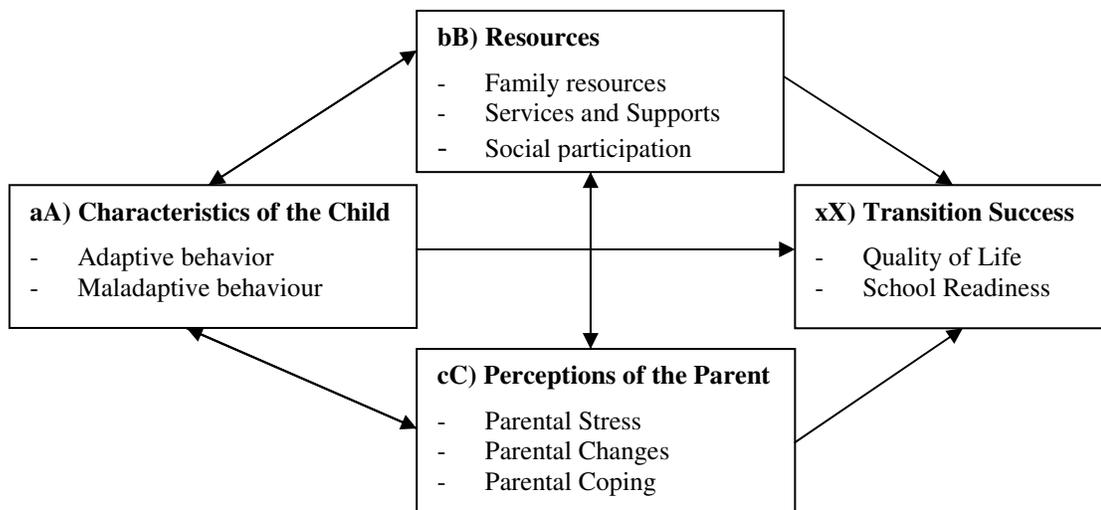


Figure 1. Theoretical framework for the current study.

Factors Contributing to Successful Transition

It has been well established in the general population that the transition into school has a considerable impact on the child's academic and social functioning both in kindergarten and in later school success, however, less research has focused on the characteristics of successful transitions (Dockett & Perry, 2004). It has been previously noted that transition can be an especially vulnerable time for children with disabilities and their families. Effective planning must consider the needs of the child with a disability, the family and service providers (Lazzari & Kilgo, 1989). In the following section, characteristics that are believed to be important in predicting successful outcomes of transition are described. These include characteristics of the child, resources, and parental perceptions, as well as how these factors change over the course of transition.

Child Characteristics (a factor)

Characteristics of the child such as the child's age, adaptive and maladaptive behaviour, and type and severity of disability may be factors involved in the success of transition into elementary school.

Adaptive behaviour. A child's level of adaptive functioning (e.g., motor skills, communication, self-care, social skills) is likely to have an effect on the child's transition into school. In a study by Kemp and Carter (2005), teachers identified skills that they considered to be crucial to school success. The skills identified were in the categories of classroom behavior (e.g., being on task, group participation, initiating activities,

following routines, etc.), social skills, and self-help skills (e.g., toileting, eating and dressing). Factors that were associated with a difficult transition into school included the child's specific behavioural problems, and lack of skills such as social skills and language or communication skills (Kemp, 2003). Children with autism and other DD's are expected to have lower adaptive behavior because of deficits in both gross and fine motor skills (Provost, Lopez, & Heimerl, 2007); and lower receptive and expressive language (Tervo, 2007) than their typically developing peers.

Maladaptive behaviour. Child maladaptive behavior is likely to have an effect on the family and the child's transition into school. Young children with or at risk for DD are at a heightened risk for behavioural problems (Feldman, Hancock, Rielly, Minnes, & Cairns, 2000). In general, research has shown that children with DD show more clinically significant behavioural problems than children without DD (Baker, Blacher, Crnic, & Edelbrock, 2002; Baker et al., 2003; Maes, Broekman, Dosen, & Nauts, 2003). Baker et al. (2002) showed that three-year-old children with DD were 3 to 4 times more likely to have behavioural scores in the clinical range on the Child Behavior Checklist than their non-delayed peers. Specifically, children with autism and cerebral palsy have been shown to have the highest levels of behavioural problems, whereas, children with Down syndrome and typically developing children have the lowest levels in the five groups of children studied (typically developing, undifferentiated developmental delays, Down syndrome, autism, cerebral palsy) (Eisenhower, Baker, & Blacher, 2005).

In addition, child behavioural problems can also have a considerable effect on parental stress. Parents of children with significant behavioral problems reported more stress and lower well-being (Nachshen, Garcin, & Minnes, 2005). Additionally, a child's behavioural problems have been shown to be a much stronger contributor to parental stress than the child's cognitive delay (Baker et al., 2002). However, some studies indicate that the characteristics of the child may make a smaller contribution to outcomes than would be expected. Saloviita et al. (2003) reported that child characteristics predicted only a marginal amount of parental stress when investigating the parental stress of mothers and fathers caring for a child with an ID. In addition, the characteristics of the child (such as skills and ability) have been shown to account for less than 25% of the variance in academic outcomes in kindergarten (La Paro & Pianta, 2000). As a result, factors such as parental characteristics (e.g., stress and coping) and resources must also be considered when evaluating factors that may contribute to a child's transition into school.

Resources (b factor)

Family resources. Family resources, such as parental income, parental level of education and marital status are likely to have an effect on the child and on the outcome of school transition. Families of children with DD are more likely to experience lower socioeconomic positions (Fujiura & Yamaki, 2000; Emerson, 2004; Emerson & Hatton, 2005; Leonard, et al., 2005). The results of a large scale epidemiological study conducted in Australia showed that children of mothers in the most disadvantaged 10% of the

socioeconomic groups sampled had more than five times the risk of mild and moderate ID compared to children living in the least disadvantaged 10% of the population (Leonard et al., 2005). The experience of poverty can have detrimental effects on both parental and child well-being. Poverty has been associated with poor parental health and well-being, and poorer parenting practices (Emerson, 2004). Poorer parental practices are likely to have adverse effects on the child. In addition, children and adolescents with ID were reported to have poorer health than their typically developing peers, and 31% of the elevated risk for poor health could be accounted for by differences in socio-economic position between groups of children with and without ID (Emerson & Hatton, 2007). In addition, the association between having a disability and living in a single parent household has been reported previously (Fujiura & Yamaki, 2000; Leonard et al., 2005). Lastly, lower socio-economic status is likely to be associated with poorer child outcomes, as parents with lower socio-economic status are less likely to engage with specialized services. A study of the Canadian universal health care showed that Canadians with lower income and fewer years of education see specialists less than those with moderate to high incomes and more years of schooling (Dunlop, Coyte, & McIsaac, 2000). In addition, less integrated services and lower SES were associated with more unmet service needs (Wiersma, 2006). Finally, Wu et al. (2008) have shown that parents of higher socioeconomic status were more concerned about inadequate educational services and the need for more specialized medical services for their children with epilepsy than lower SES parents. Children with DD are therefore at an increased risk for poorer outcomes, as

they are more likely to be living in lower socio-economic environments, which are associated with poorer health and well-being and more unmet medical and specialized service needs.

Services and supports. Access to external resources, such as services (e.g., intervention programs, occupational or speech therapy, etc.) or supports (e.g., respite, social activities) can have a considerable effect on a child's transition into school. High quality preschool programs have been shown to contribute to improved school readiness and to subsequent improvements in academic achievement in math and reading skills in typically developing, high-risk children (Ramey & Ramey, 2004). Early intervention programs targeting language and social skill development, self-help, problem-solving skills and gross and fine motor development, have also been shown to be very effective for children with disabilities (Baker & Abbott Feinfield, 2003; Kemp, 2003). Kemp (2003) reports that an important component of an intervention program is planning for the transition from the intervention program into the school setting. Early intervention programs can also be tailored to address behavioural problems that can help families support children through the transition into school (Fox, Dunlap, & Cushing, 2002). Overall, high quality preschool and early intervention programs have the potential to significantly improve cognitive, academic and social outcomes for both typically developing children who are considered to be "at risk," and for children with disabilities (Ramey & Ramey, 1998).

In addition to early intervention services for children, services and supports offered to parents (e.g., support groups, respite) may have an effect on parents' ability to cope with their child's needs (Floyd & Gallagher, 1997). However, it is important to note that the use of services will depend on the availability of such programs, as well as on parental awareness of programs and parental motivation, including their assessment of perceived need (Floyd & Gallagher, 1997). Parents may seek assistance in the form of respite to help them manage the increased demands of caring for a child with a disability. In an Ontario study of parents of children with cerebral palsy, nearly half (46%) of the individuals sampled had used respite in the past year. Parents who had lower functioning children, a male child, or a child with a number of additional medical conditions were more likely to seek respite services. Nearly all of the families who had used respite said that it was beneficial for their child, yet 60% of those using respite experienced barriers when trying to access the service (Damiani, Rosenbaum, Swinton, & Russel, 2004). Lastly, it has been shown that increased use of formal services is related to the presence of child behavioural problems (Floyd & Gallagher, 1997); and lower adaptive behaviour (Lavigne et al., 1998). Children with DD will require more services because of their lower adaptive behaviour and higher maladaptive behaviour than children without DD.

Social participation. Children with DD could also benefit from supports that facilitate social inclusion. It has been shown that even preschool children with DD have difficulties forming and maintaining appropriate peer relationships (Guralnick, 1999). One of the few studies examining variables associated with successful transition for

children with ID found that social skills was a key variable in predicting outcome (McIntyre et al., 2006). Preliminary data from the present study have shown that the majority of children with DD were not participating in organized social activities with peers, and the two main reasons cited for lack of participation were lack of availability of one-to-one support and financial reasons (Clifford, Lopes, Minnes, & Ouellette-Kuntz, 2008). However, this study lacked a comparison group of typically developing children to determine how much social participation is typical for preschoolers. Nevertheless, it showed that children with DD are not being exposed to peers in an organized social setting. While it cannot be guaranteed that mere exposure to peers in social activities will lead to the formation of friendships or peer groups, inclusion in social activities is still the goal (Odom, 2000).

Parental Perceptions (c factor)

There is considerable research describing the influences that parents have on their children as they transition into school (Perry & Weinstein, 1998). Parental appraisal of their situation, their level of stress and use of coping strategies can have a considerable effect on their child's development. Parental influences are also thought to play a considerable role in their child's school transition. Kemp (2003) showed that teachers rated the attitudes of the family as being the most important factor contributing to success in transition.

Parental stress. Research has shown that caregivers of children with disabilities experience greater stress than caregivers of children without disabilities (Hassall, Rose, &

McDonald, 2005). Similarly, Baker et al. (2003) have shown that parents of young children with developmental delays report experiencing greater stress than parents of children without delays. Although a number of factors can contribute to the increased level of stress experienced by caregivers of children with delays, severity of the child's behaviour problems is often the strongest predictor of parental stress (Baker et al., 2003; Floyd & Gallagher, 1997; Hassall et al., 2005; Nachshen et al., 2005). Similarly, Shin and Crittenden (2003) report that factors such as the child's adaptive and maladaptive functioning are important to the well-being of families who care for children with disabilities. These findings have important implications for the child's well-being as parental stress contributes to a worsening in child behavior problems over time, which in turn increases parental stress (Baker et al., 2003). Moreover, parental distress is associated with a wide range of adverse outcomes for children including less than optimal parenting, failure to engage with services, impeded child development and higher rates of child psychopathology (Emerson, Hatton, Llewellyn, Blacher, & Graham, 2006). However, it has been suggested that the experience of stress is related to how the individual perceives the stressful event and whether coping strategies can be used effectively to manage stress (Mak & Ho, 2007).

Parental changes. It is also important to evaluate transformations (i.e., positive changes) that occur in the lives of parents of children with DD. Positive parental perceptions are related to stress and coping. Saloviita et al. (2003) have shown that the strongest predictor of parental stress was the parent's negative definition of the situation

(e.g., seeing the child as a burden, absence of experience of meaning, etc.). However, mothers' perceptions of the child as a source of happiness, strength, and personal growth were all associated with coping (e.g., positive reframing). As a result, positive parental perceptions of the situation can potentially facilitate coping and reduce stress in parents of children with DD.

Coping. Coping refers to behaviours that that can be used to manage or reduce stress (McCull & Skinner, 1995). Parents of children with DD report higher stress, and as a result are likely to use more coping. There are three main types of coping strategies: problem-focused, emotion-focused, and perception-focused coping (Daniels, 1999; McCull & Skinner, 1995). Problem-focused coping attempts to reduce stress by altering the problem or situation, emotion-focused coping attempts to reduce the emotional distress caused by the situation, and perception-focused coping attempts to change the individuals' appraisals of the situation. Problem-focused approaches are generally regarded as more effective at reducing stress and increasing well-being than are emotion-focused approaches (Glidden, Billings, & Jobe, 2006; Hastings et al., 2005; McCull & Skinner, 1995). Glidden et al. (2006) showed that parents used more problem-focused than emotion-focused coping when adapting to the challenges of raising a child with developmental disabilities. The use of an emotion-focused technique, called "escape-avoidance" predicted higher levels of depression and lower levels of child related subjective well-being. However, in a study of parents of children with autism, the authors reported that parents were using "active avoidance" more than any other strategy,

a type of emotion-focused technique that was associated with increased anxiety, depression and stress (Hastings et al., 2005). In certain situations however, the use of an emotion-focused technique called positive reframing/appraisal is very effective in situations that are difficult or impossible to change (Glidden et al., 2006). The use of coping strategies has been shown to lower stress in parents of children with disabilities (Jones & Passey, 2004). In the absence of positive coping, parental stress is likely to have an effect on the child (Hadadian & Merbler, 1996).

Parental involvement. Lastly, parents can play a very important role in their child's transition into school by initiating involvement with the school and teachers (e.g., attending open-house night or back to school activities, requesting parent-teacher meetings, participating in volunteering activities). In addition to parent-initiated involvement, school based programs that implement policies to support children through the transition into school (e.g., sending home information about the school program, shortening school days at the beginning of the year, offering an orientation session, etc.) have been associated with more positive academic achievement scores at the end of kindergarten. However, the effect of transition policies on higher academic achievement was mediated by the amount of parent-initiated involvement, providing support for the importance of parental involvement in their child's transition into school. Moreover, this effect was higher for children from lower socioeconomic families (Schulting, Malone, & Dodge, 2005). Similar effects may be expected for children with disabilities, as they

require more accommodations that could be facilitated by increased parental involvement and parent-teacher interactions.

Transition Success (x factor)

Quality of life. The outcome of transition can be measured in a number of ways. The research on the transition of young adults moving into the community has often used quality of life as an outcome measure (Kramer et al, 2003). Although frequent references are made to the quality of life of children with disabilities in government policies, service delivery and intervention, the concept has not been well conceptualized in the literature (Renwick, Fudge Schormans, & Zekovic, 2003). In addition, quality of life is difficult to define, and difficult to measure (Eiser, Mohay, & Morse, 2000). Despite these obstacles, quality of life is an important construct especially as it pertains to service delivery and its potential for application in the field of education/special education (Schalock, 2004). In an effort to develop an appropriate measure of quality of life for children, Renwick et al. (2004) created a questionnaire that considers the aspects of the child's life that are thought to be most fulfilling by the child's parents. Through the use of parental report, the child's quality of life is evaluated in three domains. These include: being - who the child is perceived to be (e.g., "people treat my child first and foremost as a child"), belonging - the child's connections to people and places (e.g., "my child has friends") and becoming - who the child will become with nurtured growth and development (e.g., "the teaching staff at my child's school are meeting my child's needs"). A high quality of life for children involves the interaction between the characteristics of the child, the

family and the broader environment (Kemp, 2003; Renwick et al., 2004). When the overlap between these factors is substantial, the child is expected to have a higher quality of life. Previous research on quality of life with school aged children with and without disabilities has shown that children with disabilities reported lower quality of life in all domains such as lower well-being, and social belonging (Watson & Kenneth, 2002).

School readiness. The outcome of transition can also be measured by looking at the child's performance in kindergarten after the child has transitioned into school. A standard measure of school performance is a measure of "school readiness". Traditional school readiness measures typically assess the child's academic and cognitive abilities without measuring other skills such as being cooperative or getting along with peers that may help the child meet the demands of school. Assessing only the child's academic abilities without investigating how these factors interact with the environment has been shown to be problematic (La Paro & Pianta, 2000). More comprehensive measures of school readiness investigate the child's social, emotional and communication skills in addition to physical health and cognitive abilities. A comprehensive model of school readiness must consider the combined influences of the school, home and peers, and how the relationship among these contexts affects the child (Rimm-Kaufman & Pianta, 2000). Research has consistently documented the value of high quality child care in improving school readiness for children of families with lower socioeconomic status (Doherty, 1997). High quality and comprehensive programs have demonstrated effectiveness in increasing readiness for school and are associated with later reductions in grade

retentions and placement in special education (Anderson et al., 2003). Children with DD are expected to show less readiness for school than their typically developing peers.

Children with DD have been shown to have more teacher-reported problem behaviours, lower social skills, and lower ability to self-regulate (McIntyre et al., 2006). Lastly, it has been suggested that studies of school readiness must take into account the perspectives of teachers (Nachshen et al., 2005), since teachers can provide a valuable perspective on the child's readiness and the interplay between the child's competencies and teacher expectations (Rimm-Kaufman, Pianta & Cox, 2000).

Changes over Time

Changing Characteristics of the Child (aA factor)

A number of studies have documented changes in adaptive behaviour over time for children with DD (e.g., Charman, Howlin, Berry, & Prince, 2004; Hauser-Cram, Warfield, Shonkoff, & Kraus, 2001; Sigafos, Roberts-Pennell, & Graves, 1999). In general, the longitudinal research on children with DD has shown gradual increases in adaptive behaviour over time. Specifically, Charman et al. (2004) measured adaptive behaviour over the period of 1 year in young children with autism on the *Vineland Adaptive Behaviour Scale*. The results showed that the age-equivalents scores at time 2 were higher than at time 1 for Communication, Daily Living Skills, Socialization, and Motor skills. However, there was no significant difference in the Adaptive Behaviour Composite score over time. Similar findings occurred in a group of preschool aged children with developmental disabilities who were attending a center-based service.

Children were assessed at one year and were tested every 6 months for 3 years. At the end of the study, the children had shown substantial improvements in adaptive behaviour (Sigafoos et al., 1999).

In contrast to increases in adaptive behaviour, maladaptive behaviour has been found to remain relatively stable over time. Preschool children's behavioural problems remained stable over the span of one year when the children were tested at 36 and then again at 48 months. At both time points, children with DD were rated higher on behavioural problems than their non-delayed peers (Baker et al., 2003). Similarly, parental reports of their child's behavioural problems remained stable over time (Lecavalier, Leone, & Wiltz, 2006).

Changing Resources (bB factor)

The transition into school is often referred to as a change from one service to another (Kemp & Carter, 2000). Often publicly funded services (e.g., speech and language therapy) are only provided while the child is in preschool. For example, the most common reason for discharge from the preschool speech and language program in Ontario, Early Expressions, was that the child had entered kindergarten and hence was no longer eligible for preschool speech and language services (Stewart et al., 2006). Due to the changing nature of services, the number of formal social services and supports utilized by parents of preschool children with and without DD are expected to change over time.

Changing Parental Perceptions (cC factor)

The findings regarding changes in parental perceptions are mixed, and often depend on the length of time between measures and whether or not there have been considerable changes in the situation. Longitudinal studies of parental stress over lengthy periods of time have demonstrated mixed findings. Studies have shown that parental stress of children with disabilities is highest in early childhood, declining as the child gets older (Baker & Blacher, 2002); and conversely, that parenting stress increases from infancy to age 10 (Hauser-Cram et al., 2001). However, in the short term (e.g., 1 year), parenting stress has been found to remain relatively stable over time (Baker et al., 2003; Lecavalier et al., 2006). In addition, the experience of stress is related to coping and positive parental perceptions. Positive parental perceptions have also been found to remain relatively stable over time (Baker et al., 2003). Although no studies have specifically investigated changes in parental stress or positive parental changes over the course of transition, it would be expected that both will remain stable due to the short period of time in between assessments.

Coping depends on stable or situational factors (Terry, 1994) and coping may or may not change over time depending on how it is defined and measured. Coping is unlikely to change over time if parents are asked to report on how they cope with stable factors, such as being asked how they cope with knowing that their child has a disability (Glidden et al., 2006). However, coping can also depend on the demands of a particular situation, and thus, can vary over time (Ising, Weyers, Reuter, & Janke, 2006). In the

current study, coping was evaluated based on the situational factors, and may therefore change over time.

Changes in Quality of Life (x factor)

Research has suggested that quality of life is strongly related to the nature and number of services provided, and therefore should change as services change (Schalock, 2004). Since quality of life is often used an indicator or outcome of a service delivery or intervention, it is expected to change at the end of intervention if the intervention was effective. Moreover, there is evidence to suggest that good quality childcare can have beneficial effects on a child's quality of life (Eiser et al., 2000). Therefore, changes in quality of life over the course of the transition into school is likely to depend on whether or not the child was in good quality childcare prior to the transition to school, and on the number and types of services received.

Summary

The transition into school can be both an exciting and challenging time for parents, especially for parents of children with DD. Successful school transition can have a positive effect on the child's academic and social functioning both in kindergarten and in later school success (Dockett & Perry, 2004). It has been suggested that the transition into school should focus on the needs of the child, the family and other community resources. However, there have been no comprehensive studies investigating the role of characteristics of the child, resources, and parental perceptions during the child's transition to school, however these variables have been linked individually to stress or

other outcomes, and have been hypothesized to affect the child's school transition. The Double ABCX model was used to conceptualize these factors, using success of transition as an outcome.

Objectives and Hypotheses

The study had two main objectives: 1) to determine how children with developmental delay and their families differ from their typically developing (non-DD) peers on all factors (i.e., child adaptive behaviour, child maladaptive behaviour, child and parental use of formal services and support, child social participation, parental stress, parental coping, positive parental perceptions, parental school involvement, child quality of life and the child's school readiness) during the transition into elementary school; and 2) to examine which factors contribute to a successful transition from preschool into elementary school for children with and without DD.

It was hypothesized that children with DD would show less adaptive behaviour and more maladaptive behavior than children without DD; and that the child's age-equivalent adaptive behavior would increase throughout transition, while maladaptive behaviour would remain stable.

In addition, it was expected that children with DD would be using more formal services and supports and would be participating less in organized social activities than children without DD. The use of formal services and social participation was expected to decrease over the course of transition.

It was expected that parents of children with DD would report higher stress, and use less effective coping (i.e., use emotion-focused more than problem focused) than parents of children without DD. No differences in positive parental perceptions were expected between groups of parents with or without DD. In addition, parental stress and parental perceptions were not expected to change over time. It was hypothesized that coping may change over the course of transition as its measurement was based on situational factors.

In addition, it was expected that teachers would report that children with DD had lower physical well-being, lower language and cognitive development, and lower social emotional development than their peers without DD. It was also expected that parents would report lower satisfaction with their child's quality of life. It was not clear whether or not quality of life would change over the course of transition.

Lastly, it was expected that the characteristics of the child (i.e., higher adaptive behaviour, lower maladaptive behaviour), parental perceptions (i.e., lower stress, positive coping, and greater school involvement) and resources (i.e., higher income, total number of services utilized) would predict a higher quality of life for both children with and without DD; and that these same characteristics would be associated with higher school readiness.

Chapter 2: Method

Participants

Eight parents of preschool children with DD who were entering school for the first time in September of 2007 were contacted and recruited through 46 agencies affiliated with the South Eastern Ontario Community University Research Alliance in Intellectual Disabilities (SEO CURA in ID). The SEO CURA in ID incorporates service providers, advocates, planners and researchers committed to generating and using evidence to plan how best to meet the needs of individuals with ID. These data were combined with archival data for 21 parents or guardians of children with DD, who were entering school for the first time in September, 2006. The archival data were collected the previous year. The recruitment strategies and methodology were identical to that of the current study. The total sample thus consisted of 29 parents or guardians who had preschool children with DD who would be transitioning into school. The sample consisted of 27 mothers, 1 father and 1 grandmother whose mean age was approximately 35 years old ($M = 34.44$; $SD = 6.07$). The children included 22 boys and 7 girls, ranging in age from 43 to 71 months ($M = 55.65$; $SD = 7.24$). The children had a variety of diagnoses including autism spectrum disorders ($n = 18$), developmental delay ($n = 7$), Down syndrome ($n = 1$), Fragile X ($n = 1$), and rare neurodevelopmental conditions ($n = 2$). Children also had secondary diagnoses of Cerebral Palsy ($n = 1$), epilepsy ($n = 3$), Attention Deficit Hyperactivity Disorder ($n = 3$), mobility ($n = 3$), hearing ($n = 1$), or vision problems ($n = 1$). In addition, 17 parents of typically developing children were

recruited from daycare centers in Kingston and surrounding areas. The sample consisted of 16 mothers, and 1 father ($M = 35.52$; $SD = 4.37$). The children included 8 boys and 9 girls, ranging in age from 44 to 61 months ($M = 49.47$; $SD = 4.52$). These typically developing children were recruited to serve as a comparison group of non-disabled children. Due to the small number of participants, the samples could not be matched on any particular characteristic.

Procedure

A recruitment package was sent by several agencies throughout South Eastern Ontario to eligible parents of children with DD who would be entering school in September 2006 and 2007. Recruitment packages were also mailed or delivered to local daycares in the Kingston and surrounding area. The procedure was the same for collection of the archival data as well as the data for the current study. If parents expressed a willingness to participate, they were asked to return the signed consent form in the envelope provided. Once the consent form was received, all parents were contacted via telephone to schedule their first telephone interview. Since transitions have three elements: a) a planning or preparation phase, b) the point of change from one service to another and c) the period immediately following the change (Lazzari & Kilgo, 1989), the families were contacted for telephone interviews at three survey points. These points were prior to the transition (summer before school entry), the time of transition (late fall) and the year following the transition (late winter). All interviews were conducted by the primary investigator, and by a research assistant. All survey measures

were administered in the same order for all participants. Parents were mailed the quality of life questionnaire, which they were asked to complete and return by mail after the first and third interview. During the second interview, parents were asked to nominate their child's classroom teacher. The child's kindergarten teacher was then mailed information about the study, a consent form and the school readiness questionnaire after the third interview. Teacher's returned the school readiness questionnaire and the consent form in the envelope provided.

Data collection

Information was obtained through structured interviews with parents and questionnaires completed by parents and teachers. The survey measures provided demographic information about the child, such as type and severity of disability and information about parental income, marital status, education, etc. In addition, information was collected about the child's adaptive functioning and maladaptive behaviour and the child's use of a variety of formal services (e.g., early intervention, speech therapy). The surveys also include measures of parental stress, coping and positive perceptions. Parents also reported on their child's quality of life. Lastly, teachers completed a measure about the child's readiness for school. The measures used in the study are described below.

Measures

Characteristics of the Child (a factor)

a) Demographic Information. Demographic information such as the child's date of birth, gender, and diagnosis (for the ID group) were obtained from the parent during the first interview.

b) Scales of Independent Behavior – Revised, Early Development Form. The SIB-R EDF (Bruininks, Woodcock, Weatherman, & Hill, 1996) is a measure of adaptive and maladaptive behaviour. Adaptive behaviour is measured in four domains: Motor Skills, Social Interaction and Communication Skills, Personal Living Skills, and Community Living Skills. A respondent rates how well the individual being assessed can or could perform a particular task, using a scale from 0 (rarely or never) to 3 (does very well). The frequency and severity of problem behavior was assessed and a total score for a generalized maladaptive behaviour index was obtained. Normative data for the SIB-R are available from over 2000 individuals aged 3 months to 90 years and from a sample of children with mental retardation. The SIB-R has excellent internal consistency reliability (.98), high test-retest reliability (.98), and good inter-rater reliability (.95). It has also demonstrated moderate to good convergent validity with the Vineland Adaptive Behavior Scales (.55 -.58), and has been found to differentiate between levels of mental retardation and degree of restrictiveness of school placement. The Early Development Form was adapted from the full scale SIB-R to provide a quick overall screen of developmental age of children from infancy to age 6. It takes approximately 15-20 minutes to administer and

is administered in an interview format. The SIB-R is applicable for both individuals with and without DD. Internal consistency, as measured by Cronbach's alpha (α), was not obtained in the current study as only total scores were obtained, entered and analyzed.

Resources (b factor)

a) *Family resources.* Information regarding parental income, parental level of education and marital status was obtained during the first interview.

b) *Services and Supports Questionnaire* (Woodford & Minnes, 2000). The questionnaire was adapted by Clifford (2007, unpublished) for use with preschoolers and includes a list of services and support services which are likely to be available for young children with developmental delay and their families. Parents are asked if they currently use or have used the service, and if so, they are asked to rate their satisfaction with the service. If the service is not currently being used, they are asked a follow-up question to determine why the service or support is not used (e.g., no need or not aware of the service). An additional questionnaire was used to evaluate the services and supports that the parents or primary caregiver of the person with the disability currently use for themselves. Similarly, they were asked to rate their satisfaction with the service or state why they are not using the service. The questionnaire is applicable for both children with and without DD; however, a number of specialized services may not be utilized by a non-DD sample.

c) *AIMS Interview- Child Version - Social Domain* (Minnes, Buell, & Solish, 2005). The AIMS is a measure of community integration developed within an

acculturation framework. It is administered in a structured interview format. Caregivers are asked questions in 10 domains that include access to medical and dental services, educational services, housing, social, recreational, and spiritual activities to determine if an individual's needs are being identified and supported in a way that promotes community integration. Based on the information gathered in the 10 areas, a person's level of community integration can be classified into four outcomes: assimilation, integration, marginalization and segregation. An individual is considered to be integrated if the unique needs of the individual have been identified and the correct supports are provided such that the person is involved in the community. In contrast, a person is classified as marginalized if their needs are neither identified nor supported. An individual is segregated when the disability-related needs are identified and supported, but the person is not involved in the community. Lastly, assimilation occurs when the person is involved in the community but their disability-related needs are not identified and supported. Preliminary validation of the AIMS when used with adults with intellectual disabilities and brain injuries demonstrates that it has sound psychometric properties including content validity ($r = .76-.84$) and construct validity ($r = .27$ to $.46$ for AIMS subscales and CIQ subscales) (Minnes, Buell, Nolte, McColl, Carlson, & Johnston, 2001; Minnes, Buell, Feldman, McColl, & McCreary, 2002). In addition, the use of the measure has been expanded for use with children, after a pilot study demonstrated good content and face validity and high inter-rater reliability (.92-.97) (Solish, Minnes, & Kupferschmidt, 2003). The AIMS was administered as part of an

interview with parents and took approximately 20 – 40 minutes to complete. Parents of children without DD were administered the AIMS to learn about the child's access to services and supports (such as medical, dental, education, participation in social activities, etc.), however, the AIMS total score was not calculated and an acculturation category (i.e., assimilation, integration, segregation, marginalization) was not determined because the categories were developed for, and are only applicable for individuals with disabilities. For the purposes of the current study, only the social domain of the AIMS was used to determine whether children with and without disabilities were participating in organized social activities (e.g., team soccer, gymnastics, swimming lessons, etc.). Only one item from the AIMS – Social domain was used and as a result, internal consistency for the current study was not calculated.

Parental Perceptions (c factor)

a) The Family Stress and Coping Interview (FSCI) (Nachshen, Woodford, & Minnes, 2003). The Family Stress and Coping Interview is designed to quantitatively examine the experiences of parents of children with developmental disabilities. Parents are asked to report how stressful they find a number of experiences related to raising a child with a disability on a scale of 0 (not stressful) to 3 (extremely stressful). The FSCI has 24 items; however, items 15 and 16 were removed for the present study to adapt the interview for use with preschoolers. Moreover, five items were not applicable for parents of children without DD, as they make specific references to the child's disability (e.g., feelings about the cause of the child's disability). Although, the individual items can be

summed to create a Total Score, a total score was not computed in the current analysis for both groups of participants. In contrast, a mean score was calculated for the remaining 17 items and used in the current analysis. The FSCI has been shown to have adequate reliability (internal consistency, $\alpha = .89$ and test-retest reliability, $r = .80$) and face validity (Nachshen et al., 2003). In the present study, the FSCI demonstrated adequate reliability (internal consistency, $\alpha = .83$ based on all 22 items and $\alpha = .87$ for the 17 items used in the analysis).

b) The Life Management Survey Part III-Parental Changes Subscale (Parental Changes) (Scorgie & Sobsey, 2000). The life management survey is a 59-item questionnaire that was constructed from qualitative interviews with 15 parents of children with disabilities who had been identified as “good copers”. The interview was designed to determine how parents who appeared to be managing life successfully would describe positive aspects of parenting a child with a disability. From the interviews, the quantitative life management survey was developed. The survey consists of three subscales: Effective Strategies, Parent Characteristics, and Parental Changes. The Parental Changes subscale was used for the current study to reflect the positive impact that having a child with a disability can have on the family. The Parental Changes Subscale consists of 18 items that are measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). These questions reflect three types of positive parental transformations (personal, relational, and changes in perspective) that can arise from raising a child with a disability. The measure was adapted for parents of children

without DD by asking them to describe the positive impact of raising a child in general. Comparison data are available from Scorgie & Sobsey (2000); however, psychometric properties have not been published. The Parental Changes subscale had low to adequate reliability in the current study. Cronbach's $\alpha = .84$ for the overall scale, $\alpha = .68$ for the personal change domain, $\alpha = .36$ for the relational change domain, and $\alpha = .80$ for the change in perspective domain. Comparisons over time were conducted using only the change in perspective domain.

c) The Ways of Coping Scale (WAYS) – Revised (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; revised by McColl & Skinner, 1995). The ways of coping scale is a 31 item questionnaire that assesses the coping strategies used by parents when asked how they approached a difficult situation related to their child's special needs. Parents are first asked to qualitatively describe a difficult situation and are then asked to rate if they used a particular coping strategy on a scale of 0 (not at all) to 3 (used a great deal) for the 31 items. The measure was adapted for parents of children without DD, by asking them how they approached a difficult situation related to their child. The original measure was comprised of eight scales that were derived through factor analytic procedures. However, several researchers working in the field of disabilities have found that this original factor structure does not readily generalize to samples of individuals with a disability. A three factor structure has been found to be more applicable to populations with disabilities and coping strategies can be classified into three domains: Problem-, perception-, and emotion-focused coping (McColl & Skinner, 1995).

Although the WAYS is considered to have acceptable internal consistency ($\alpha = .61$ to $.79$), the authors indicate that test-retest reliability is not relevant given the expected changes in coping strategies across different situations. The WAYS is frequently used in stress and coping research (Folkman & Lazarus, 1988). The WAYS demonstrated adequate internal consistency in the current study. Cronbach's α ranged from $.67$ to $.74$. Internal consistencies for the emotion-focused coping domain, the problem-focused coping domain, and the perception-focused coping were $.67$, $.74$, and $.73$, respectively.

d) Parental Involvement and School Transition Practices Questionnaire. This questionnaire was developed by the primary investigator based on Schulting et al. (2005), to assess the amount and type of parental involvement initiated by the parent and by the child's school (including school board personnel, special education teachers or classroom teachers). The parental involvement and school transition practices questionnaire is applicable for both groups of participants. See appendix F for the Parental Involvement and School Transition Practices Questionnaire. No reliability or validity information was obtained due to the nature of the questions (i.e., not measured on the same scale).

Transition Success (x factor)

a) Quality of Life Scale (Renwick et al., 2002). The Quality of Life Scale is a 60 item questionnaire that was developed based on qualitative interviews with 31 parents of children with intellectual disabilities. Three domains of quality of life emerged from the qualitative interviews: being, belonging and becoming. The being domain asks questions concerning who the child is perceived to be (e.g., "my child is like any other member in

my community”). The belonging domain relates the child’s connections to others (e.g., “my child plays with his brothers and sisters”). The becoming domain asks questions relevant to the child’s development (e.g., “my child gets the programs that he needs to grow and develop”). Parents are asked to rate how much statements in each of these three domains apply to their child’s situation on a scale of 1 (does not apply) to 5 (applies very much); how important it is for their child on a scale of 1 (not at all important) to 5 (extremely important); and how satisfied they are with the way things are on a scale from 1(not at all satisfied) to 5 (extremely satisfied). Normative data for the Quality of Life instrument are available from a sample of 186 individuals aged 3 years to 12 years, and who have developmental disabilities or delays. The Quality of Life has adequate to acceptable internal consistency reliability (domain scores ranging from $\alpha = .39$ to $\alpha = .91$), adequate test-retest reliability (domain scores ranging from $r = .24$ to $r = .89$). The internal consistency scores were higher for the satisfaction domains, which will be the only domain used in this study, ranging from $\alpha = .85$ to $\alpha = .91$. Similarly, the test-retest reliability was also higher for the satisfaction scores, ranging from $r = .64$ to $r = .80$. The Quality of Life questionnaire demonstrated only weak concurrent validity with the WeeFIM Instrument, a measure of function and with the Children’s Health Questionnaire, a measure of health related quality of life. The correlations among the sub-domains of the two instruments were weak, ranging from only .01 to .40. The Quality of Life Questionnaire was developed as a measure to be used with children with disabilities; however, the measure can be completed by parents of children without

disabilities. All the items include an option, “does not apply” and thus the five items applicable for only children with DD were excluded from the analyses. Parents were mailed the questionnaire after they completed the first and third telephone interview. Internal consistency for the satisfaction domains was high in the present study, ranging from $\alpha = .76$ to $\alpha = .92$. The internal consistencies for the being, belonging and becoming domains were .76, .92, and .87, respectively.

b) The Early Development Inventory (EDI) (The Offord Centre for Child Studies, 2005). The EDI is a 120-item questionnaire completed by teachers that measures the child’s school readiness in five developmental domains: physical health and well-being, language and cognitive development, social competence, emotional maturity, and communication skills. The EDI consists of five sections of questions that are answered as either yes, no or don’t know or on a 3-point scale ranging from very good/good to poor/very poor. The EDI produces mean scores in three domains: physical health and well-being, language and cognitive development, and social and emotional development. The EDI has excellent test-retest reliability, and moderate concurrent and convergent validity (Janus & Offord, 2007). The EDI is currently being used to assess school readiness across Canada. The instrument has undergone a variety of evaluations and has been shown to have high test-retest reliability ($r = .76$ to $r = .96$) and very high intra-teacher reliability ($r = .70$ to $r = .95$) across several locations and times. The questionnaire takes approximately 20 minutes to complete. The EDI demonstrated good internal consistency in the current study. Cronbach’s $\alpha = .85$ for the physical health and

well-being domain, $\alpha = .94$ for the language and cognitive domain, and $\alpha = .95$ for the social and emotional development domain.

Chapter 3: Results

Participants will be described on all variables at time 1. For each measure, descriptive information will be presented for children with DD, and for children without DD. Comparisons will then be made across the two groups of children at time 1. Changes across the three time points will be described later in the results, in the section entitled, “Changes over Time.” Skewness and kurtosis values were examined, and all variables were normally distributed unless otherwise stated. All analyses for data collected at time 1 will be performed with an $n = 29$ for children with DD, and with an $n = 17$ for children without DD, for a total sample size of 46 participants. The only exception will be the analyses involving the quality of life measure, which will be based on a sample size of 42 participants ($n = 27$ for children with DD, and $n = 15$ for children without DD). The sample size for the quality of life measure is smaller, as it was mailed to participants after the first interview, and not all questionnaires were returned.

Participants (Time 1)

Child Characteristics (a factor)

As previously mentioned in the participants section, the children with DD had a variety of diagnoses. Scores on the SIB-R indicate that children with DD were functioning below their chronological age of 55.65 months, at an age equivalent of 39.10 months. Age equivalent scores ranged from 6 months to 71 months, while their chronological age ranged from 43 to 71 months. Their maladaptive behavior scores fell in the marginally serious range, at a mean score of -16.62. Maladaptive behaviour scores

ranged from 1 to -40 for children with DD. Maladaptive behaviour scores on the SIB-R can range from normal (+10 to -10), to marginally serious (-11 to -20) to moderately serious (-21 to -30), to serious (-31 to -40) and finally to very serious (-41 to -70). For the children with DD, one child's maladaptive behavior score emerged as an outlier. This score was replaced with a maladaptive behavior score that was 3 standard deviations away from the mean. The rationale for replacement was to allow the score to remain in the analysis because it was correctly sampled from the target population (i.e., it was a legitimate score), but to reduce its impact on the data by making it less deviant (Tabachnick & Fidell, 2007). See Table 1 for descriptive statistics for children with DD.

Table 1

Descriptive Statistics for Children with Developmental Delay (n = 29) at Time 1

Variable	Mean	Standard Deviation
Chronological Age (months)	55.65	7.24
Adaptive Behaviour Age Equivalent (months)	39.10	16.17
General Maladaptive Index	-16.62	10.15

Children without DD ranged in age from 44 to 61 months. Scores on the SIB-R indicate that children with DD were functioning above their chronological age of 49.47 months, at an age equivalent of 61.12 months. Age equivalent scores ranged from 38 months to 81 months. Their maladaptive behavior scores fell in the normal range, at a

mean score of -2.71. Maladaptive behaviour scores ranged from 3 to -11 for children without DD. See Table 2 for descriptive statistics for children without DD.

Table 2

Descriptive Statistics for Children without Developmental Delay (n =17) at Time 1

Variable	Mean	Standard Deviation
Chronological Age (months)	49.47	4.51
Adaptive Behaviour Age Equivalent (months)	61.12	11.13
General Maladaptive Index	-2.71	4.06

Independent-samples *t* tests were conducted to determine if children with DD differed from children without delay in their chronological age, adaptive behavior and maladaptive behavior scores. Children with DD were significantly older on average than children without delays, $t(43.76) = -3.57, p < .01$. Levene's test for equality of variance was significant, and therefore, the corrected degrees of freedom and *t* value were used. The effect size, as measured by Cohen's *d*, was .99, indicating a large effect. In terms of adaptive behavior, children with DD had lower age equivalent scores when compared to children without delays, $t(44) = 4.96, p < .001$. Cohen's *d* was .99, indicating a large effect. Finally, children with DD had more maladaptive behaviors on average, than children without delays, $t(40.13) = 6.54, p < .001$. Levene's test for equality of variance was significant, and therefore, the corrected degrees of freedom and *t* value were used. The effect size, Cohen's *d*, was 1.68, indicating a very large effect.

Resources (b factor)

Family resources. The 46 families who participated in the study varied in age, marital status and socioeconomic status. Of the 29 participants of children with DD, 1 participant was male and 28 were female. One of the participants was a grandmother, 1 was a father and the remaining 26 participants were mothers. The mean age of the parents or guardians of children with DD was 34.44 years, with a standard deviation of 6.07 years. The participants ranged in age from 22 to 49 years. Almost half of the participants (48.3%) reported that their household income was less than \$25,000. Three participants (10.3%) reported their household income to be greater than \$95,000. The other 41.4% reported that their household income was between \$25,000 and \$75,000 (Figure 2). In terms of education, 86.2% of participants had at least a high school education. Specifically, 13.8 % had a high school diploma, 6.9% had completed some college, 51.7% indicated that they a community college certificate, and 13.8% reported that they had a university or graduate/professional degree. See Figure 3 for a graph of parental education. Participants were married (55.2%), separated (20.7%), remarried (3.4%), living in a common law relationship (3.4%), or single (17.2%) (Figure 4).

Of the 17 participants of children without DD, 1 participant was male and 16 were female. All participants were the child's parents. The mean age of the parents or guardians of children with DD was 35.53 years, with a standard deviation of 4.37. The participants ranged in age from 28 to 43 years. Participants were married (88.2%), living in a common law relationship (5.9%), or single (5.9%). In terms of income, only 17.6% of participants reported their household income to be less than \$25,000 and 70.5%

reported their income to be greater than \$75,000. The remaining 11.8% had incomes in the \$25,001 to 35,000, or the \$45,001 to \$55,000 range. See Figure 2 for a graph of reported income. In terms of education, 100% of participants had at least a high school education. Specifically, 11.8 % had a high school diploma, 11.8% had completed some college, 47.1% indicated that they a community college certificate, 17.6% had a university degree and 11.8% indicated that they had some post graduate training or a graduate/professional degree. See Figure 3 for a graph of parental education, and Figure 4 for marital status.

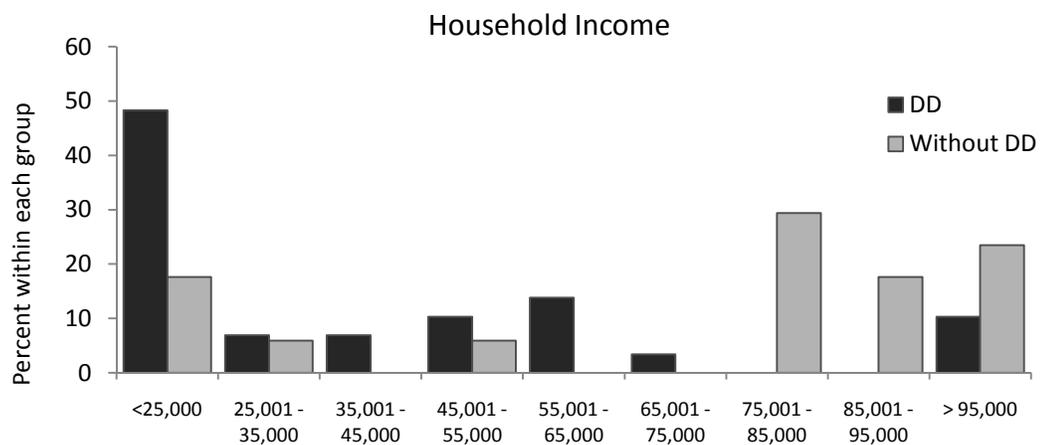


Figure 2. Annual household income reported as a percentage of participants within each group.

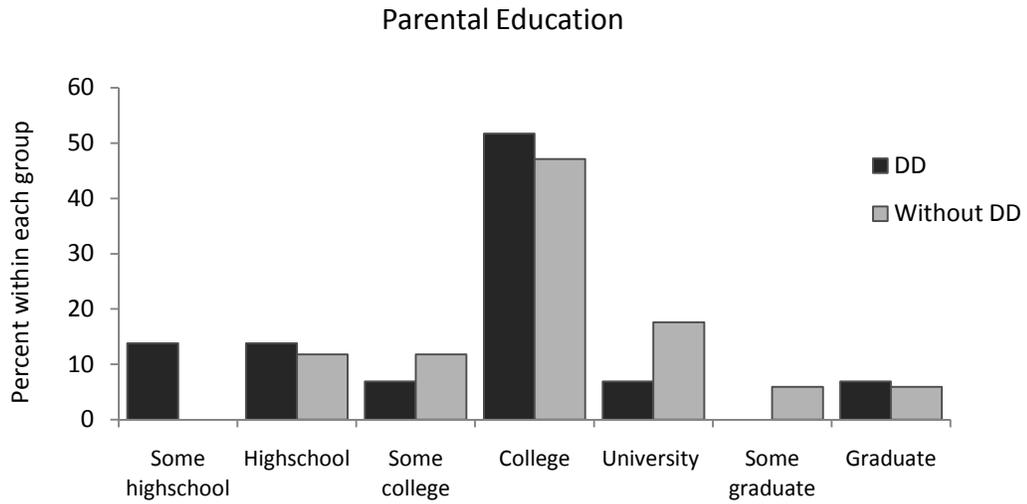


Figure 3. Parental education reported as a percentage of participants within each group.

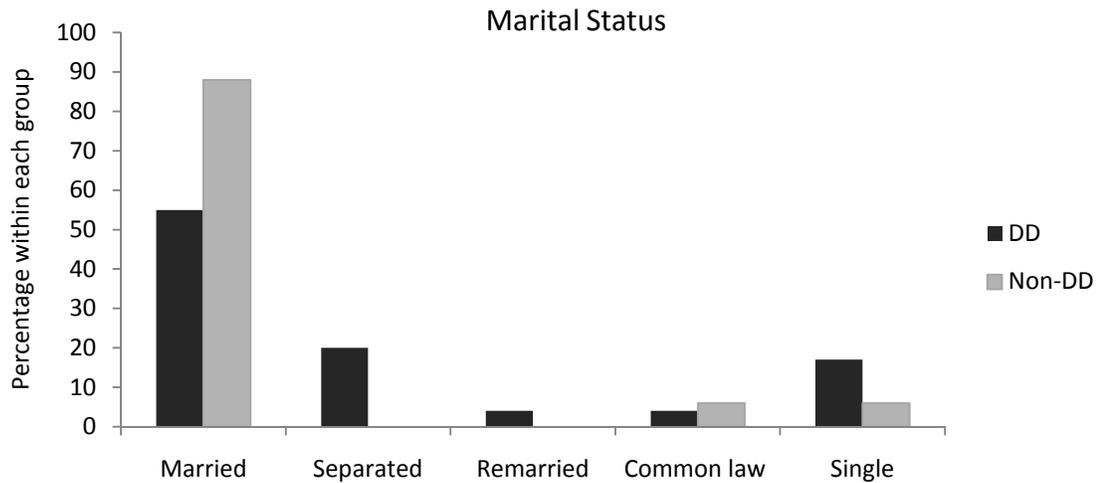


Figure 4. Marital status reported as a percentage of participants within each group.

An independent-samples *t* test was conducted to determine if parents of children with DD differed from parents of children without delay in their level of reported income. Parents of children with developmental delay reported significantly less income ($M =$

3.07, $SD = 2.63$) on average than parents of children without delays ($M = 6.12$, $SD = 3.04$), $t(44) = 3.58$, $p < .001$. Cohen's d was 1.12, indicating a very large effect. A mean of 6.12 corresponds to an average income bracket of \$65,000 to \$75,000; whereas a mean of 3.07 corresponds to an average income bracket of \$35,000 to \$45,000. It is important to note that since families of children with DD were more likely to be of lower income, the results of the current study were confounded by SES, and may not solely be a function of the effect of disability.

Services and supports. Results from the Services and Supports Questionnaire showed that children with DD were using a variety of services. The services listed were not mutually exclusive and families could report using more than one service. Therefore, the percentages reported exceed 100%. Specifically, 97% were in preschool, 28% were in early intensive behavioural intervention, 68% were using occupational therapy, 21% were using physical therapy, 90% were using speech therapy, 28% were using psychology services, 31% were using social work services, 38% were using community behavior management services, and 45% were utilizing respite care (Figure 5). In terms of the AIMS social participation, only 34%, or 10 of the 29 children with DD were participating in at least 1 organized social activity (e.g., soccer, swimming, etc.). Lastly, 52% of parents of children with special needs reported using counseling or formal social support.

As would be expected, parents of children without DD reported that their children were not using many services with the exception of attending preschool and participating

in organized social activities. Specifically, 94% were in preschool, 0% were in early intensive behavioural intervention, 6% were using occupational therapy, 6% were using physical therapy, 24% were using speech therapy, 0% were using psychology services, 0% were using social work services, 6% were using community behavior management services, and 0% were utilizing respite (Figure 5). In terms of the AIMS social participation, 76% or 13 of the 17 children without DD were participating in at least one organized social activity. Lastly, only 6% of parents of children without DD reported using counseling or formal social support.

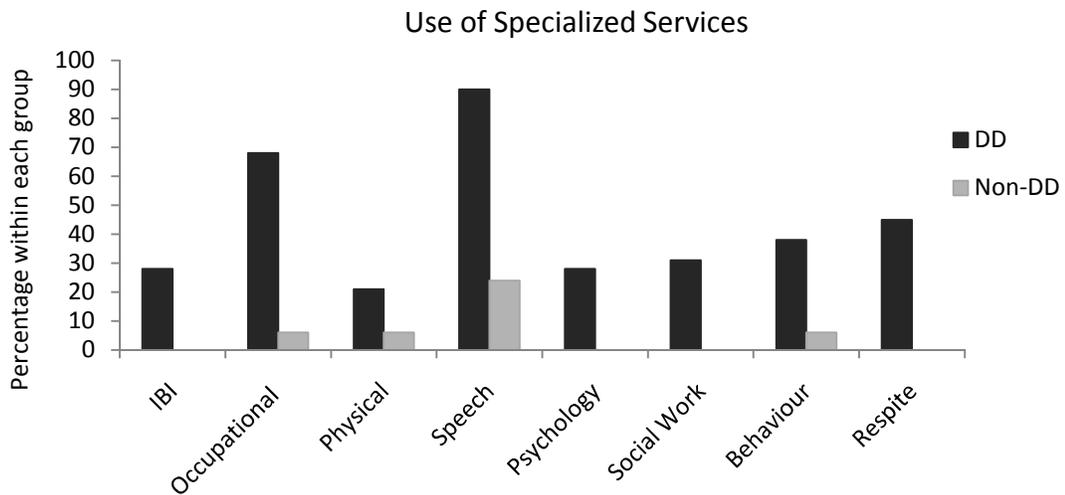


Figure 5. Specialized service use reported as a percentage of participants within each group.

The eight specialized services (i.e., early intensive behavioural intervention, occupational therapy, physical therapy, speech therapy, psychology services, social work services, community behavior management services, and respite) were summed to create a total possible score of 8 services. An independent samples *t* test was conducted to

determine if children with DD were using more formal services than children without DD. As expected, children with DD were using significantly more services ($M = 3.31$, $SD = 1.49$) than children without delays ($M = .41$, $SD = .87$), $t(44.00) = -8.33$, $p < .001$. Levene's test for equality of variance was significant, and therefore, the corrected degrees of freedom and t value were used. Cohen's d was 2.28, indicating a very large effect.

Social participation. Lastly, a crosstabs analysis was performed to compare participation in organized social activities (yes/no) across groups (children with DD, and children without DD). See Table 3 for the number and percentage of children with and without DD participating in social activities. A chi-square test of the relationship between disability and social participation produced $X^2(1, N = 46) = 7.56$, which is statistically significant at $p < .01$. The odds ratio indicates that children with DD are 1.9 times more likely to not be participating.

Table 3

Participation in Social Activities for Children with and without Developmental Delay at Time 1

	Participating in Social Activities	Not participating in Social Activities	Total
Developmental Delay ($n = 17$)	13/17 76.47%	4/17 23.53%	17
Without Developmental Delay ($n = 29$)	10/29 34.48%	19/29 65.52%	29
Total	23	23	46

Parental Perceptions (c factor)

Parental stress. Parents of children with DD reported mild to moderate stress on the FSCI. Mean stress scores ranged from 0 (not at all stressful) to 3 (extremely stressful). The mean stress score for parents of children with DD was 1.35. The particular items that were rated most stressful were “dealing with financial and insurance issues,” “meeting the needs of your other children,” and “finding opportunities for the child to make friends and participate in social activities.” Although the adapted FSCI contains 22 items, only 17 items were used to compute the mean stress score, as 5 items were not applicable for families of children without DD. See Figure 6 for mean level of stress reported for individual items on the FSCI.

Overall, parents of children without DD reported no to mild stress on average on the FSCI. For each item, a score of 0 corresponds to “not stressful” and a score of 1 corresponds to “mild stress” The mean stress score for parents of children without DD was .81. The particular items that were rated most stressful were, “meeting the needs of your other children,” “arranging time when you can be apart from child,” “the time you spend apart from the child,” and “meeting your own personal needs.” See Figure 6 for mean level of stress reported for individual items on the FSCI.

Parental Level of Stress Reported for Individual Items on the FSCI

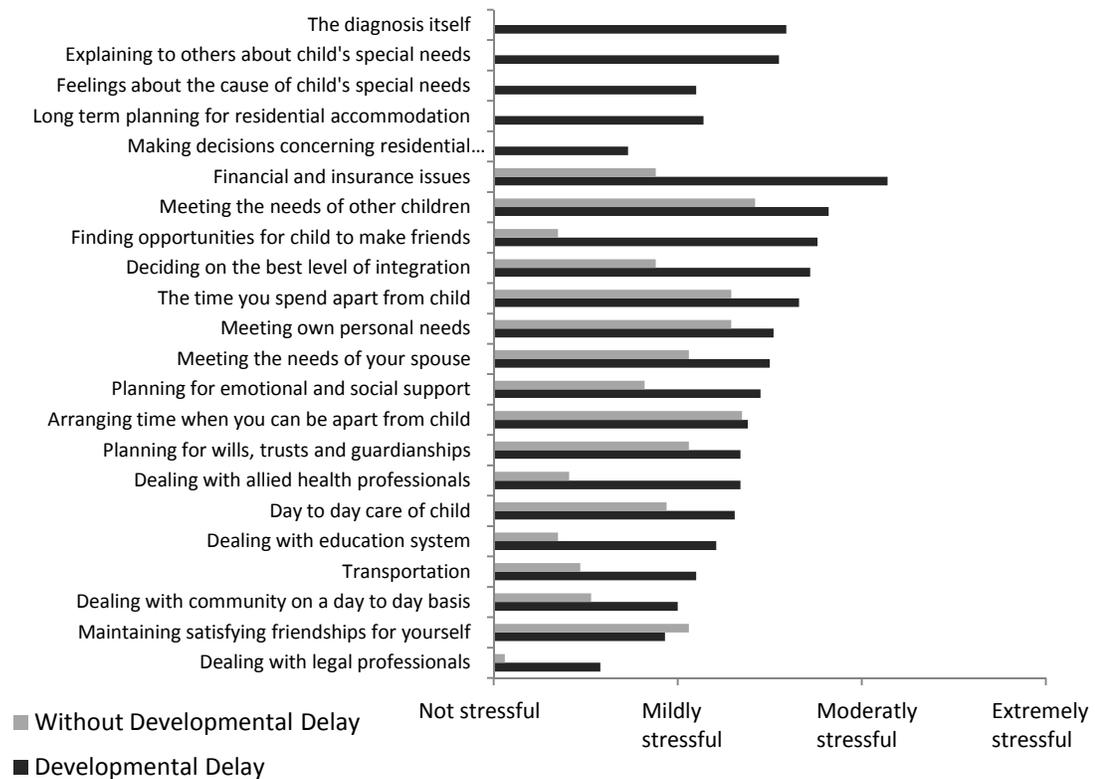


Figure 6. Parental level of stress reported for individual items on the FSCI for children with and without Developmental Delay.

To compare the level of stress reported between families of children with and without DD, an independent samples *t* test was conducted. Parents of children with DD reported significantly more stress ($M = 1.35, SD = .50$) than parents of children without delays ($M = .81, SD = .45$), $t(44) = -3.66, p < .001$. Cohen's *d* was 1.14, indicating a very large effect.

Parental changes. Parents of children with DD generally agreed with statements that evaluated the positive impact that having a child with a disability can have on the

family. Parents rated their agreement on a Likert scale ranging from 0 (“strongly disagree”) to 5 (“strongly agree”). Parents of children with DD agreed with statements in each category; personal changes ($M = 3.94, SD = .64$), relational changes ($M = 3.67, SD = .72$), and changes in perspective ($M = 4.10, SD = .71$). Similarly, parents of children without DD agreed with statements in each category; personal ($M = 3.79, SD = .51$), relational ($M = 3.94, SD = .59$), and changes in perspective ($M = 4.17, SD = .55$). A multivariate analysis of variance (MANOVA) was performed to determine if there were any significant differences in types of changes (i.e., personal, relational and perspective) made by parents of children with and without DD, and to determine if there were any significant differences between the groups in the types of changes. Significant differences were found within the groups in the types of changes, Wilks’ $\lambda = .72, F(2, 43) = 8.25, p < .01, \eta^2 = .28$. Simple within subject contrasts to the main effect of parental changes showed that parents of children with and without DD made significantly more changes in perspective ($M = 4.12, SD = .65$) than personal changes ($M = 3.89, SD = .60$), $F(1, 44) = 13.33, p < .01$. They also made significantly more changes in perspective than relational changes ($M = 3.77, SD = .68$), $F(1, 44) = 8.16, p < .01$. However, there was no significant difference between personal and relational changes, $F(1, 44) = .29, p = .59$. Lastly, there was no significant difference between the groups in the types of parental changes, $F(1, 44) = .16, p = .69, \eta^2 = .01$; and no significant interaction between the groups and types of change, $F(2, 43) = 2.04, p = .14, \eta^2 = .09$. It should be noted however, that parents of children with DD experienced the least change in the area of

relational changes; whereas, parents of children without DD experienced the least change in the area of personal change.

Coping. Parents of children with DD reported using a number of different approaches to coping. Values on the coping measures could range from 0 (not at all using the particular strategy) to 3 (using the particular strategy a great deal). Parents of children with DD reported using problem-focused coping ($M = 1.82, SD = .62$), perception-focused ($M = 1.72, SD = .62$), and emotion-focused coping ($M = 1.19, SD = .57$). Similarly, parents of children without DD reported using a number of coping techniques including problem-focused coping ($M = 1.70, SD = .48$), perception-focused ($M = 1.57, SD = .47$), and emotion-focused coping ($M = .92, SD = .25$). A MANOVA was performed to determine if there were any significant differences in coping strategies (i.e., problem-focused, emotion-focused and perception-focused coping) adopted by parents of children with and without DD, and to determine if there were any significant differences between the groups in types of coping. Significant differences were found within the groups in the types of coping strategies adopted, Wilks' $\lambda = .45, F(2, 43) = 26.47, p < .001, \eta^2 = .55$, indicating a strong effect. Simple within subject contrasts to the main effect of coping showed that parents of children with and without DD were using problem-focused coping ($M = 1.78, SD = .57$) significantly more than emotion-focused coping ($M = 1.09, SD = .49$), $F(1, 44) = 46.20, p < .001$. They were using perception-focused coping ($M = 1.66, SD = .57$) significantly more than emotion-focused coping, $F(1, 44) = 43.87, p < .001$. However, there was no significant difference between use of

problem-focused and perception-focused coping, $F(1, 44) = 2.23, p = .14$. Lastly, there was no significant difference between the groups in types of coping used, $F(1, 44) = 1.99, p = .17, \eta^2 = .04$; and no significant interaction between the groups and types of coping, $F(2, 43) = .25, p = .78, \eta^2 = .01$.

Parental involvement and school transition practices. Parents of children with and without DD were asked a number of questions regarding the amount and type of school involvement they initiated. In addition, parents were asked a number of questions about activities the school planned to prepare for the child's transition and to accommodate the child and parent through transition. Crosstabs analyses were performed on all variables. Only one of the chi-square tests of the relationship between diagnosis and involvement was significant, and thus with the exception of that question, all results will be reported for both groups of families combined to simplify interpretation.

Most parents registered their child for school in the spring (March to May) before school started (39.5%), 30.2% registered the child in the winter (Dec to Feb), another 25.6% registered in the summer (June to August), and 4.7% registered their child in the fall (i.e., September) of the school year. The majority of the parents said that they asked for information about the kindergarten program when they registered their child (73.8%), whereas, the other 26.2% said they did not. Almost all of the parents (88.4%) reported that their child was invited to visit the kindergarten classroom prior to the beginning of the school year, and only 11.6% said they were not invited. In addition, most parents (90.7%) reported that they were able to meet with school personnel (not necessarily the

teacher) prior to the beginning of school. When asked whether or not they were invited to an orientation session with the child's classroom teacher and other parents, there was a significant difference found in the relationship between diagnosis and being invited, $\chi^2(1, N = 46) = 6.98$, which is statistically significant at $p < .01$. Of the 48.8% of parents who were invited to an orientation session, 42.9% had a diagnosis, and 57.1% did not. However, of the 51.2% who were not invited, 81.8% had a diagnosis, whereas, only 18.1% did not. Lastly, nearly 75% of parents said that activities were planned to ease their child's transition into school. These activities included a staggered start with smaller groups of children (usually 5 children at a time), shorter school days or half days, and parents staying in the classroom.

During the school year, most parents reported that they had the opportunity to meet with their child's teacher for a formal meeting at least once (51.2%), whereas, only 4.7% had not met, and 44.2% had met more than once. In terms of volunteering and participating in fundraising activities, 41.9% of parents said they had volunteered, and 53.5% were participating in fundraising activities.

Transition Success (x factor)

Quality of life. Overall, parents of children with DD reported being satisfied with their child's quality of life in all three domains (i.e., being, belonging and becoming) (Table 4).

Table 4

Mean Satisfaction in Quality of Life Domains at Time 1 for Children with Developmental Delay

Variable	Mean	Standard Deviation
The person your child is supposed to be ^a	3.63	.68
Your child's connections to people and places ^b	3.56	.54
How your child's growth and development is nurtured ^c	3.69	.60

Note. Scores reflect parents mean rating of satisfaction within each domain based on a 5-point scale (1 = *not at all satisfied* to 5 = *extremely satisfied*).

^a "Being", ^b "Belonging", ^c "Becoming"

Similarly, parents of children without DD reported being satisfied with their child's quality of life in all three domains (i.e., being, belonging and becoming) (Table 5).

Table 5

Mean Satisfaction in Quality of Life Domains at Time 1 for Children without Developmental Delay

Variable	Mean	Standard Deviation
The person your child is supposed to be ^a	3.58	.69
Your child's connections to people and places ^b	3.91	.73
How your child's growth and development is nurtured ^c	3.58	.77

Note. Scores reflect parents mean rating of satisfaction within each domain based on a 5-point scale (1 = *not at all satisfied* to 5 = *extremely satisfied*).

^a "Being", ^b "Belonging", ^c "Becoming"

A MANOVA was conducted to determine if there were any significant differences in satisfaction in the domains of the child's quality of life (i.e., being, belonging and becoming) reported by parents of children with and without DD, and to determine if there were any significant differences between the groups. No significant differences were found within the groups across the domains of quality of life, Wilks' $\lambda = .95$, $F(2, 39) = 1.09$, $p = .35$, $\eta^2 = .05$. In addition, there was no significant difference between the groups in satisfaction with the child's quality of life across all domains, $F(1, 40) = .19$, $p = .73$, $\eta^2 = .00$. However, there was a significant interaction between the groups and the child's quality of life, $F(2, 39) = 4.33$, $p < .05$, $\eta^2 = .18$. Inspection of the means shows that parents of children with DD reported higher quality of life scores in the being and becoming domains, and lower quality of life scores in the child's sense of belonging domain; whereas, parents of children without DD reported lower scores in the being and becoming domains, and higher quality of life scores in the child's sense of belonging domain.

School readiness. A MANOVA was conducted to determine the effect of diagnosis (with or without DD), on three dependent variables, physical well-being, language and cognitive ability, and social emotional development. Significant differences were found between the groups on the dependent measures, Wilks' $\lambda = .47$, $F(3, 33) = 12.29$, $p < .001$, $\eta^2 = .53$, indicating a strong effect. See Table 6 for the means and the standard deviations of the dependent variables for the two groups.

Analyses of variances (ANOVAs) were conducted as follow-up tests to the MANOVA for each of the dependent variables. Using a Bonferroni correction for three tests, each ANOVA was tested at the .017 level. The ANOVA on the physical and well-being variable was significant, $F(1, 35) = 9.89, p < .001, \eta^2 = .22$. The ANOVA on the language and cognitive scores was significant, $F(1, 35) = 21.72, p < .001, \eta^2 = .38$. Finally, the ANOVA on the social emotional development variable was significant, $F(1, 35) = 37.37, p < .001, \eta^2 = .52$. These results show that children with DD had lower scores on all of the domains of the EDI measuring school readiness.

Table 6

School Readiness Scores in each Domain of the Early Development Inventory for Children with and without Developmental Delay

Early Development Inventory		Mean	Standard Deviation
Physical well-being	DD	6.14	2.16
	(<i>n</i> = 22)		
	Non – DD (<i>n</i> = 15)	8.23	1.83
	Total (<i>n</i> = 37)	7.00	2.27
Language and cognitive ability	DD	3.36	2.13
	(<i>n</i> = 22)		
	Non – DD (<i>n</i> = 15)	6.34	1.53
	Total (<i>n</i> = 37)		

	15)		
	Total	4.56	2.40
	(<i>n</i> = 37)		
Social emotional development	DD	4.54	1.56
	(<i>n</i> = 22)		
	Non –	7.83	1.68
	DD (<i>n</i> =		
	15)		
	Total	5.88	2.28
	(<i>n</i> = 37)		

Note. Scores reflect teachers mean rating of the child’s ability within each domain based on a 10-point scale (0 = *not at*, 5 = *sometimes*, and 10 = *always*).

Changes over Time

Repeated measures ANOVAs were used to analyze changes in dependent variables across the three time points. The model was used to test the main effects of between subjects factors (i.e., delay vs. no delay), the main effects of within subject factors (i.e., adaptive behaviour at time 1, time 2 and time 3), and the interaction between within- and between-subject factors. All analyses were based on a sample size of *n* = 40, as repeated measures ANOVA removes cases that have missing values at any time point. Data from two participants were missing at time 2, and data from five participants were missing at time 3. However, one participant that had missing data at time 2 was the same participant that was missing data at time 3 and therefore, 40 participants remained. Of the 40 participants remaining, 26 were children with DD, and 14 were children without DD. Summary scores for the SIB-R adaptive behaviour, SIB-R general maladaptive

behaviour, number of formal services used, AIMS social participation, FSCI mean stress, WAYS problem-focused and emotion-focused coping subscale, change in perspective domain of the parental CHANGES subscale, and Quality of Life satisfaction with belonging subscale were investigated to determine changes over time. The rationale for choosing the particular subscale to be used in the analyses is explained in each section.

Child Characteristics (aA factor)

A repeated measures ANOVA was conducted with adaptive behaviour at time 1, time 2 and time 3 as the within-subject dependent variable and whether the child had a diagnosis of DD, as the between subject factor. The means and standard deviations for age equivalent adaptive behaviour scores, across the groups, are presented in Table 7.

The results for the ANOVA indicated a significant time effect, Wilks' $\lambda = .45$, $F(2, 37) = 22.54$, $p < .001$, multivariate $\eta^2 = .55$.

There was also a significant between-subjects effect of diagnosis, $F(1, 38) = 19.32$, $p < .001$, partial $\eta^2 = .34$, indicating that children with DD had lower adaptive behaviour than children without DD. The ANOVA indicated no significant interaction between time and diagnosis. The observed power was .19.

Follow up polynomial contrasts indicated a significant linear effect with means increasing over time, $F(1, 38) = 46.09$, $p < .001$, partial $\eta^2 = .55$ (Figure 7). Higher order polynomial contrasts (e.g., quadratic) were not significant. These results indicate that adaptive behavior increased linearly at all time points tested.

Table 7

Age Equivalent Adaptive Behaviour Scores (in months) over Time for Children with and without Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD (<i>n</i> = 26)	38.38	16.95	42.62	18.85	46.04	20.49
Non – DD (<i>n</i> = 14)	61.79	11.88	63.93	10.92	70.86	9.38
Total (<i>n</i> = 40)	46.58	18.95	50.07	19.33	54.73	21.03

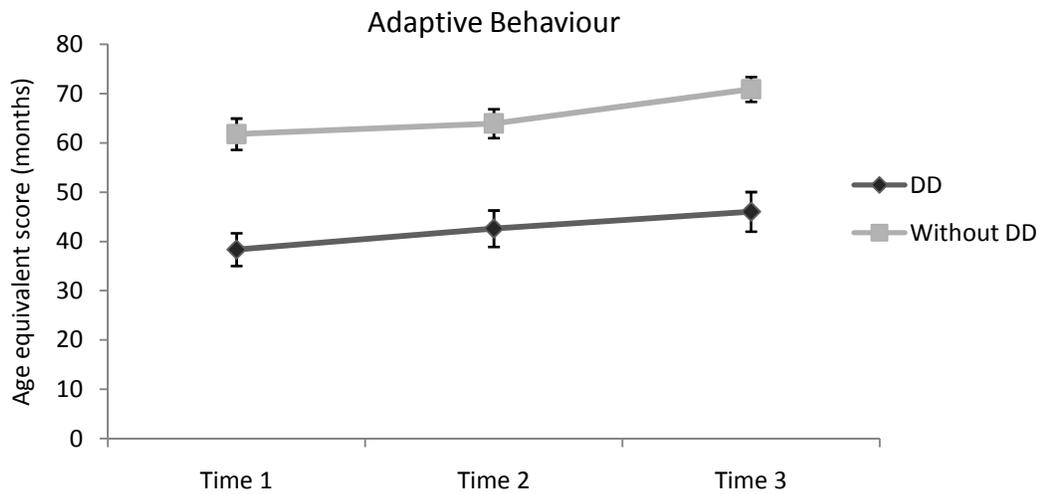


Figure 7. Age equivalent adaptive behaviour over time for children with and without Developmental Delay.

In terms of general maladaptive behaviour, the overall repeated measures ANOVA was not significant and there were no significant changes over time. The means

and standard deviations for maladaptive behaviour scores, across the groups, are presented in Table 8. The observed power was low, at .21, indicating a low ability to detect a significant effect at $\alpha = .05$. As expected, there was a significant main effect of diagnosis, $F(1, 38) = 24.43, p < .001, \text{partial } \eta^2 = .40$, indicating that children with DD had higher maladaptive behaviour, when compared to children without DD.

Table 8

Maladaptive Behaviour Scores over Time for Children with and without Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD ($n = 26$)	-15.62	10.24	-17.92	13.71	-14.96	11.65
Non – DD ($n = 14$)	-1.93	3.83	-1.07	3.77	-.21	4.68
Total ($n = 40$)	-10.82	10.76	-12.03	13.84	-9.80	12.05

Resources (bB factor)

Changes in services and supports. A repeated measures ANOVA was conducted with total services accessed at time 1, time 2 and time 3 as the within-subject dependent variable and whether the child had a diagnosis of DD, as the between subject factor. The means and standard deviations for total services accessed, across the groups, are presented in Table 9. The assumptions of the multivariate model (i.e., the homogeneity of the variance-covariance matrices) were not met as Box's M test was significant at $p <$

.001. As a result, only the multivariate model was interpreted. The results for the MANOVA indicated a significant effect of time, Wilks' $\lambda = .70$, $F(2, 37) = 7.82$, $p < .01$, multivariate $\eta^2 = .30$, and a significant interaction between time and diagnosis, Wilks' $\lambda = .78$, $F(2, 37) = 5.12$, $p < .05$, multivariate $\eta^2 = .22$.

There was also a significant main effect of diagnosis, $F(1, 38) = 37.94$, $p < .001$, partial $\eta^2 = .50$, indicating that children with DD were accessing more formal services than children without DD.

Polynomial contrasts to the main effect of time indicated a significant linear effect with mean number of services accessed decreasing over time, $F(1, 38) = 37.94$, $p < .001$, partial $\eta^2 = .50$. However, higher order quadratic contrasts were significant only for the time by diagnosis interaction. Pairwise comparisons and visual inspection of the means show that number of services accessed decreased significantly for children with and without DD between time 1 and time 2, $F(1, 38) = 13.11$, $p < .001$, $\eta^2 = .26$; and between time 1 and time 3, $F(1, 38) = 9.64$, $p < .01$, $\eta^2 = .20$. However, this loss of services was greater for children with DD. There was no significant change in number of services accessed between time 2 and time 3, $F(1, 38) = .01$, $p = .94$, observed power = .05 (Figure 8).

Table 9

Mean of Total Number of Services Accessed over Time for Children with and without Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD (<i>n</i> = 26)	3.46	1.50	2.38	1.53	2.50	1.68
Non – DD (<i>n</i> = 14)	.43	.94	.36	.84	.21	.43
Total (<i>n</i> = 40)	2.40	1.97	1.68	1.64	1.70	1.76

Note. Scores reflect the mean of total number of services accessed out of six possible services.

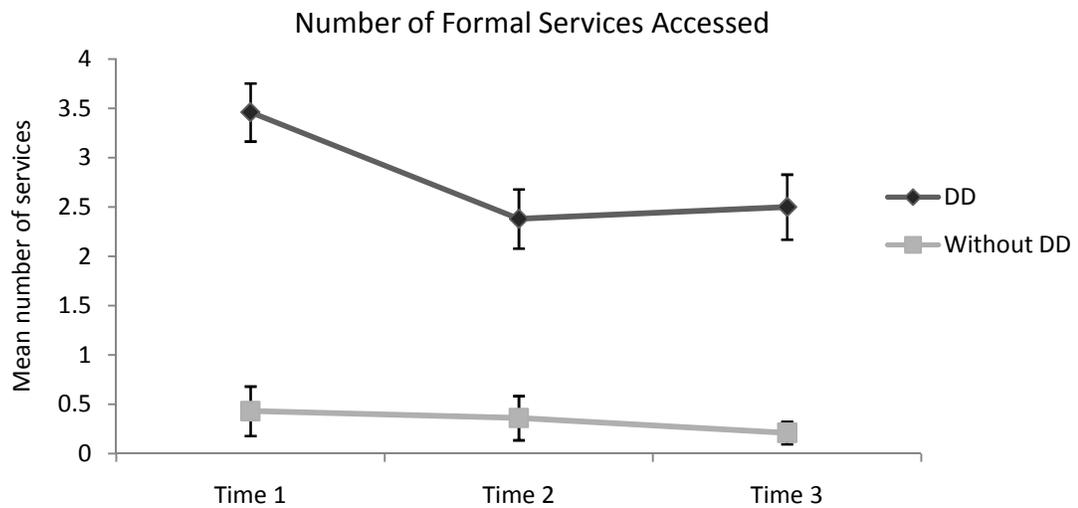


Figure 8. Number of formal services accessed over time for children with and without Developmental Delay.

Changes in social participation. In terms of changes in social participation across the three points, the majority of children (67.5%) experienced no change in participation (i.e., always participating or not participating). Another 25% experienced a change across time 1 to time 3, from either not participating to participating (7.5%), or from participating to not participating (17.5%). Lastly, only 7.5% experienced a change only at time 2, meaning they were either participating at time 1, not participating at time 2, and then participating again at time 3, or vice versa. A chi-square analysis of the relationship between change in participation over time and diagnosis was not significant, $\chi^2(3, N = 40) = 1.86, p = .60$.

Parental Perceptions (cC factor)

Stress. To determine if there was a change in reported stress over time, a repeated measures ANOVA was performed. The means and standard deviations for parental stress, across the groups, are presented in Table 10. The overall model was not significant and there were no significant changes over time. The observed power was low, at .14. As expected, there was a significant main effect of diagnosis, $F(1, 38) = 23.05, p < .001$, partial $\eta^2 = .38$, indicating that parents of children with DD reported higher stress when compared to parents of children without DD (Figure 9).

Table 10

Mean Parental Stress over Time for Children with and without Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD (n = 26)	1.39	.51	1.33	.43	1.38	.45
Non – DD (n = 14)	.79	.47	.75	.44	.64	.47
Total (n = 40)	1.18	.57	1.13	.51	1.12	.58

Note. Scores reflect parents mean rating of stress based on a 4-point scale (0 = not stressful to 3 = extremely stressful).

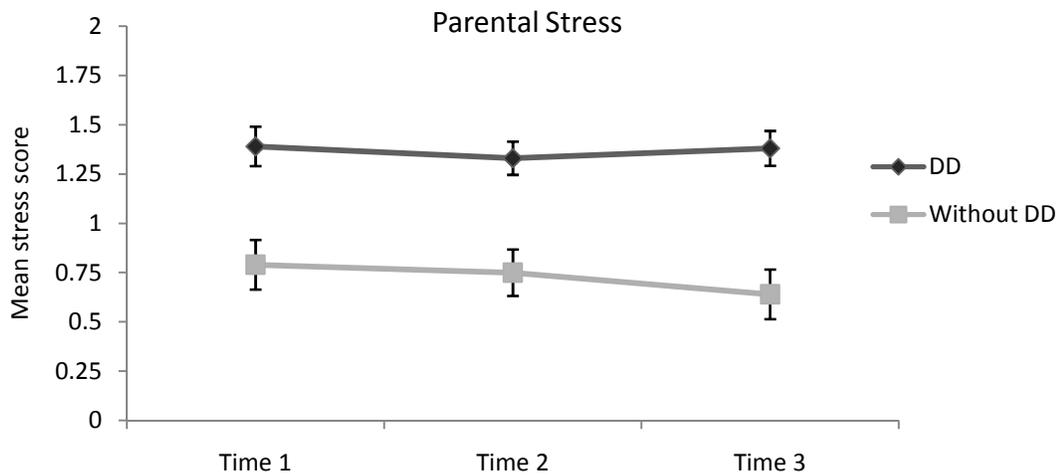


Figure 9. Parental stress over time for children with and without Developmental Delay.

Parental changes. A repeated measures ANOVA was performed to evaluate whether parent’s perspective changed over the course of their child’s school transition. Due to the small sample size, a multivariate, repeated measures design using all three

types of changes (i.e., personal, relational and perspective) was not appropriate. Therefore, the positive parental change, change in perspective, was hypothesized to be most applicable within the model for parental adjustment over the course of the child's school transition. Changes in perspective rely on the parental perceptions of their child and their situation, and not solely on their own personal change or change in their relationships. Positive change in perspective at time 1, time 2 and time 3 was entered as the within-subject dependent variable and whether the child had a diagnosis of DD, as the between subject factor. The means and standard deviations for positive changes in perspective are presented in Table 11. The overall ANOVA was not significant, observed power = .56. In addition, there was no significant interaction between positive changes in parental perspective and the child's diagnosis, observed power = .06. Lastly, there were no significant differences between the group of parents of children with and without DD in the parental change in perspective domain of the positive changes subscale, observed power = .05.

Table 11

Parental Change in Perspective over Time for Children with and with Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD (<i>n</i> = 26)	4.08	.75	4.15	.74	3.99	.78
Non – DD (<i>n</i> = 14)	4.10	.56	4.15	.68	3.95	.72
Total (<i>n</i> = 40)	4.09	.68	4.15	.71	3.98	.74

Note. Scores reflect parents mean rating of positive change in the change in perspective domain based on a 5-point scale (1 = *strongly disagree* to 5 = *strongly agree*).

Coping. To determine if there were changes in use of coping techniques over the course of the child's transition, repeated measures ANOVAs were performed. Due to the small sample size, a multivariate, repeated measures design using all three types of changes was not appropriate. Instead, two repeated measures ANOVAs were performed using problem- and emotion-focused coping. These particular approaches to coping were selected because they differed significantly from each other in the within group comparisons at time 1, whereas, there was no significant difference between problem- and perception-focused coping within each group. Moreover, the literature shows that although the three approaches to coping are independent constructs, the correlation between problem- and perception-focused coping is high ($r = .73$), whereas the

correlation between problem- and emotion oriented coping is lower ($r = .54$). Therefore, both analyses were run as they were expected to provide different information. In terms of problem-focused coping, results from the ANOVA show that there was no overall effect of time; however, there was a significant interaction between time and whether the child had a diagnosis, Wilks' $\lambda = .82$, $F(2, 37) = 3.99$, $p < .05$, multivariate $\eta^2 = .18$. Follow up polynomial contrasts to the significant interaction between use of problem-focused coping and diagnosis, showed a significant quadratic effect, $F(1, 38) = 8.16$, $p < .01$, partial $\eta^2 = .18$. Visual inspection of the means shows that the use of problem-focused coping increased for parents of children with DD at time 2, whereas, the use of problem-focused coping decreased for parents of children without DD at time 2 (Figure 10). There was no significant difference between the groups in problem-focused coping, when collapsed across time, observed power = .24. The means and standard deviations for problem-focused coping are presented in Table 12.

Table 12

Problem-focused Coping over Time for Parents of Children with and without Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD (<i>n</i> = 26)	1.84	.65	1.99	.55	1.66	.67
Non – DD (<i>n</i> = 14)	1.68	.48	1.51	.58	1.69	.36
Total (<i>n</i> = 40)	1.79	.59	1.82	.60	1.67	.57

Note. Scores reflect parents mean rating of use of coping strategies based on a 4-point scale (0 = not at all to 3 = used a great deal).

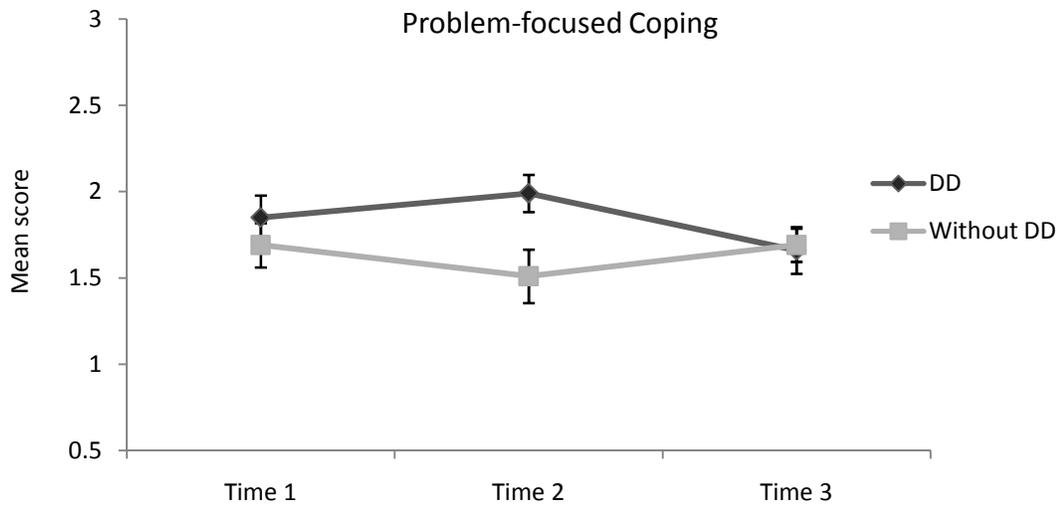


Figure 10. Problem-focused coping over time for parents of children with and without Developmental Delay.

In terms of emotion-focused coping, results from the ANOVA show that there was no significant effect of time, observed power = .06; and no significant interaction between time and whether the child had a diagnosis, observed power = .29. There was a significant between groups effect of diagnosis, $F(1, 38) = 5.12, p < .05$, partial $\eta^2 = .12$ indicating that parents of children with DD were using significantly more emotion-focused coping than parents of children without DD (Figure 11). The means and standard deviations for emotion-focused coping are presented in Table 13.

Table 13

Emotion-focused Coping over Time for Parents of Children with and without Developmental Delay

	Time 1		Time 2		Time 3	
	Mean	SD	Mean	SD	Mean	SD
DD (<i>n</i> = 26)	1.20	.56	1.26	.52	1.05	.60
Non – DD (<i>n</i> = 14)	.91	.28	.81	.40	.97	.51
Total (<i>n</i> = 40)	1.10	.50	1.10	.52	1.03	.56

Note. Scores reflect parents mean rating of use of coping strategies based on a 4-point scale (0 = *not at all* to 3 = *used a great deal*).

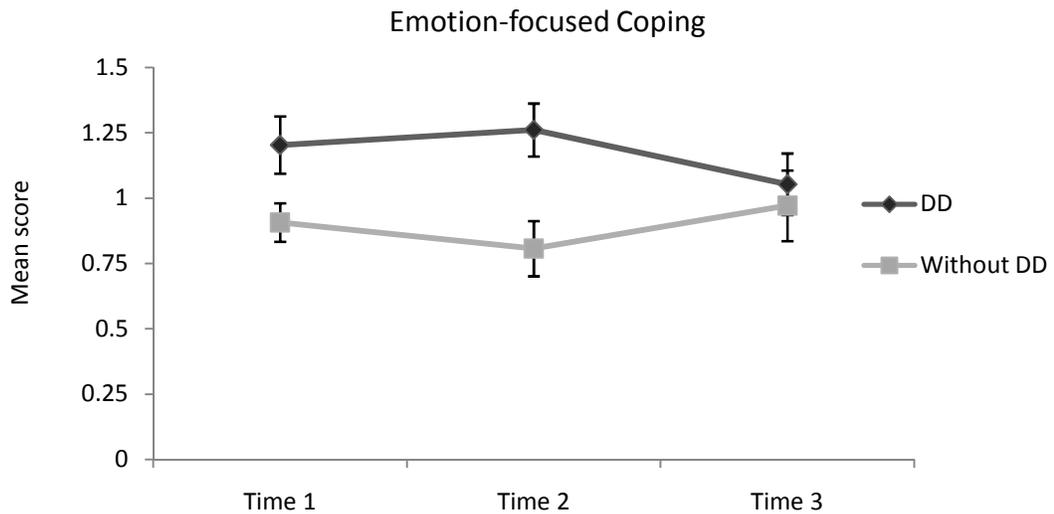


Figure 11. Emotion-focused coping over time for parents of children with and without Developmental Delay.

Transition Success (xX factor)

Quality of life. To investigate changes in the satisfaction with the child’s sense of belonging over the course of transition, a repeated measures ANOVA was performed. The means and standard deviations are presented in Table 14. The overall model was not significant and there was no significant change over time, and no significant interaction between time and diagnosis. The observed power was .05 indicating a low ability to detect a significant effect at $\alpha = .05$. There was a significant main effect of diagnosis, $F(1, 24) = 5.68, p < .05$, partial $\eta^2 = .19$, indicating that parents of children with DD reported lower satisfaction with their child’s sense of belonging than parents of children without DD. Results from the between-groups *t*-tests at time 1 indicated that there was no significant difference between children with and without DD on parent-reported

satisfaction with the child's sense of belonging. To further evaluate this effect, two independent sample *t*-tests were conducted. As previously described, there were no differences in sense of belonging at time 1, however, at time 3, parents of children with DD reported lower satisfaction with their child's sense of belonging than parents of children without DD, $t(26) = 2.50, p < .05$. This effect remained after a Bonferroni correction for two tests. The Cohen's *d* effect size was .99, indicating a large effect. See Figure 12 for satisfaction with belonging over the course of transition.

Table 14

Mean Satisfaction in Quality of Life Sense of Belonging Domain at Time 1 and Time 3 for Children with and without Developmental Delay

	Time 1		Time 3	
	Mean	SD	Mean	SD
DD (<i>n</i> = 15)	3.38	.60	3.34	.50
Non – DD (<i>n</i> = 11)	3.88	.82	3.93	.68
Total (<i>n</i> = 26)	3.60	.73	3.59	.64

Note. Scores reflect parents mean rating of satisfaction in the Sense of Belonging subscale based on a 5-point scale (1 = *not at all satisfied* to 5 = *extremely satisfied*).



Figure 12. Satisfaction with belonging over time for children with and without Developmental Delay.

Predicting Quality of Life and School Readiness

To investigate the factors that contribute to the child’s sense of belonging (as measured by the Sense of Belonging domain of the Quality of Life Questionnaire) and readiness for school (as measured by the Physical Health and Well-Being, Social and Cognitive Development and Social and Emotional Development subscales of the EDI), four multiple regressions were performed. Due to the small sample size, specifically $n = 28$ for the quality of life outcome measure at time 3 and $n = 37$ for the school readiness outcome measure at time 3, only three predictors were entered into the regression for quality of life; and only four predictors were entered into each regression for the school readiness outcome. In addition, the regressions were not performed separately for children with and without DD due to the small sample size within each group. For the regression predicting quality of life, a predictor from each part of the ABCX model was

chosen, so that A) characteristics of the child, B) resources and C) parental perceptions could all be adequately represented in the overall model. In terms of child characteristics (A Factor), adaptive behavior was selected as a proxy measure for disability. Disability status (yes/no) was not selected as a predictor because diagnoses were not confirmed, and adaptive behavior served as a functional measure of ability or deficit. In addition, there was a bimodal distribution in adaptive behaviour scores across the two groups, which represented the two groups. Adaptive behaviour was selected over maladaptive behaviour because there was very little variability in maladaptive behaviour scores, especially for children without DD. Moreover, maladaptive behaviour was not or only weakly correlated with the outcome measures. For the resource component (B Factor), the total number of services used was entered as a predictor. Service use was selected as the literature suggests that service use (e.g., early intervention) is associated with better child outcomes. Lastly, for the parental perceptions (C Factor), mean level of stress was selected, as it was hypothesized to have adverse effects on the child. Parental perceptions or coping were not chosen, as the magnitude of difference between the groups on these factors was not as substantial as the difference in parental stress. In addition, there was no reason to believe that the effects of parental perceptions or coping on child outcomes would be greater than the effect attributable to parental stress. The same predictors from the ABCX model used to predict quality of life were used to predict school readiness. In addition, the family resource, income, was added to the school readiness regressions as it

was expected to have an effect on child outcomes, particularly, child physical health and well-being. Please see Table 15 for the inter-item correlations among the predictors.

Table 15

Correlations among Various Predictors Entered in the Regression Models

	Adaptive behaviour	Number of services used	Parental Stress	Income
Adaptive behaviour	1.00	-.78***	-.42**	.25
Number of services used	-.78***	1.00	.57***	-.26
Parental stress	-.42**	.57***	1.00	-.26
Income	.25	-.26	-.26	1.00

* $p < .05$, ** $p < .01$, *** $p < .001$

A multiple regression analysis was conducted to evaluate how well adaptive behaviour, number of services used, and parental stress predicted satisfaction with the child's sense of belonging. The linear combination of predictors was not significantly related to satisfaction with the child's sense of belonging. In addition, none of the bivariate correlations between predictors and sense of belonging were significant. The observed power was .17, indicating a low ability to detect a significant effect.

A multiple regression analysis was conducted to evaluate how well adaptive behaviour, parental income, number of services used, and parental stress predicted

physical well-being. The linear combination of predictors was significantly related to the child's physical well-being, $F(4, 32) = 12.37, p < .001$. The sample correlation coefficient R was .78, and $R^2 = .61$ indicating that approximately 61% of the variance in physical well-being in the sample was accounted for by the linear combination of predictors (adaptive behaviour, parental income, number of services used, and mean parental stress).

Indices indicating the relative strength of the individual predictors are presented in Table 16. The bivariate correlations between stress and physical well-being; and number of services used and physical well-being were negative. The negative correlation between service use and physical well-being implies that children who used more services had lower physical well-being. The bivariate correlations between adaptive behaviour and physical well-being; and between parental income and child physical well-being were positive. Both the correlation between adaptive behaviour and physical well-being; and number of services used and physical well-being were significant, $p < .001$. However, only the semi-partial correlation between adaptive behaviour and physical well-being was significant, $p < .001$. On the basis of these analyses it appears that the only useful predictor is the adaptive behaviour measure. Adaptive behaviour alone accounted for 59% of the variance in physical health and well-being. However, making conclusions about the relative importance of these predictors is difficult because some were significantly correlated, ranging from $r = .25$ to $r = .78$. As a result, it is helpful to look at the unique contribution of adaptive behaviour to physical health and well-being

when all other predictors are considered. Adaptive behaviour accounted for 20% of the unique variance in the outcome. The standardized beta coefficient for adaptive behaviour, service use, stress and income are .72, -.09, .13, and .11, respectively.

Table 16

The Bivariate and Semi-partial Correlations of the Predictors with Physical Well-Being

Predictors	Correlation between each predictor and physical health and well-being	Correlation between each predictor and physical health and well-being accounting for all other predictors (semi-partial correlation)
Adaptive behaviour	.77***	.45***
Mean stress	-.25	.11
Total number of services used	-.61***	-.05
Income	.28	.11

* $p < .05$, ** $p < .01$, *** $p < .001$

A multiple regression analysis was conducted to evaluate how well adaptive behaviour, parental income, number of services used, and parental stress predicted language and cognitive development as measured by the EDI. The linear combination of predictors was significantly related to the language and cognitive development, $F(4, 32) = 12.90, p < .001$. The sample correlation coefficient, $R = .79$, and $R^2 = .62$, indicated that approximately 62% of the variance in language and cognitive development in the sample was accounted for by the linear combination of predictors (adaptive behaviour, parental income, number of services used, and mean parental stress).

Indices indicating the relative strength of the individual predictors are presented in Table 17. The bivariate correlations between stress and language and cognitive development; and number of services used and language and cognitive development were negative. The bivariate correlations between adaptive behaviour and language and cognitive development; and between parental income and the child's language and cognitive development were positive. The correlations between adaptive behaviour and language and cognitive development; and number of services used and language and cognitive development were significant, $p < .001$. The correlations between income and language and cognitive development were significantly correlated at $p < .05$. However, only the semi-partial correlation between adaptive behaviour and language and cognitive development was significant, $p < .01$. On the basis of these analyses it appears as though the only useful predictor is the adaptive behaviour measure. Adaptive behaviour alone accounted for 56% of the variance in language and cognitive development. However, caution should be used when interpreting the relative importance of these predictors because they were significantly correlated, ranging from $r = .25$ to $r = .78$. The unique variance accounted for by adaptive behaviour was 14%. The standardized beta coefficient for adaptive behaviour, service use, stress and income are .60, -.22, .16, and .19, respectively.

Table 17

The Bivariate and Semi-partial Correlations of the Predictors with Language and Cognitive Development

Predictors	Correlation between each predictor and language and cognitive development	Correlation between each predictor and language and cognitive development accounting for all other predictors (semi-partial correlation)
Adaptive behaviour	.75***	.37**
Mean stress	-.26	.13
Total number of services used	-.65***	-.12
Income	.35*	.18

* $p < .05$, ** $p < .01$, *** $p < .001$

A multiple regression analysis was conducted to evaluate how well adaptive behaviour, parental income, number of services used, and parental stress predicted social and emotional development. The linear combination of predictors was significantly related to social and emotional development, $F(4, 32) = 10.54$, $p < .001$. $R = .75$, and $R^2 = .57$, indicating that approximately 57% of the variance in social and emotional development in the sample was accounted for by the linear combination of predictors (adaptive behaviour, number of services used, mean parental stress and parental income).

Indices indicating the relative strength of the individual predictors are presented in Table 18. The bivariate correlations between stress and social and emotional development; and number of services used and social and emotional development were negative. The bivariate correlations between adaptive behaviour and social and emotional

development; and between parental income and social and emotional development were positive. All of the bivariate correlations between the predictors and social and emotional development were significant. However, only the semi-partial correlations between adaptive behaviour and social and emotional development; and between income and social and emotional development were significant, $p < .05$. On the basis of these analyses it appears that both adaptive behaviour and parental income are significantly related to social and emotional development. Adaptive behaviour alone accounted for 49% of variance and income alone accounted for 18% of the variance in social and emotional development. However, the variance between these variables overlaps. Therefore, it is important to look at the unique contribution of each predictor on the outcome variable. Adaptive behaviour accounted for 10% of the variance; and income accounted for an additional 7% of the variance in social and emotional development. The standardized beta coefficient for adaptive behaviour, service use, stress and income, are .50, -.18, .02 and .27 respectively.

Please refer to Table 19 for a summary of the results.

Table 18

The Bivariate and Semi-partial Correlations of the Predictors with Social and Emotional Development

Predictors	Correlation between each predictor and social and emotional development	Correlation between each predictor and social and emotional development accounting for all other predictors (semi-partial correlation)
Adaptive behaviour	.70***	.31*
Mean stress	-.36*	.02
Total number of services used	-.63***	-.10
Income	.43**	.26*

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 19

Summary of results for all variables for children with and without DD

Variable	Children and parents of children with DD	Children and parents of children without DD
Adaptive behaviour	<ul style="list-style-type: none"> • Lower than chronological age • Gradual increase over time 	<ul style="list-style-type: none"> • Higher than chronological age • Gradual increase over time
Maladaptive behaviour	<ul style="list-style-type: none"> • Marginally serious • No change over time 	<ul style="list-style-type: none"> • Normal range • No change over time
Parental Income	<ul style="list-style-type: none"> • Mean income bracket \$35,000 to \$45,000 	<ul style="list-style-type: none"> • Mean income bracket \$65,000 to \$75,000

Number of formal services used	<ul style="list-style-type: none"> • 3.3 used prior to transition • Drastic decrease between time 1 and time 2, little change between time 2 and time 3 	<ul style="list-style-type: none"> • 0.4 used prior to transition • Little change between time 1 and 2, and time 2 and time 3
Social participation	<ul style="list-style-type: none"> • Majority not participating • No change over time 	<ul style="list-style-type: none"> • Majority participating • No change over time
Parental Stress	<ul style="list-style-type: none"> • Mild to moderate stress • No change over time 	<ul style="list-style-type: none"> • No to mild stress • No change over time
Parental Changes	<ul style="list-style-type: none"> • Agreed with positive changes in all domains • Relational < personal < change in perspective • No change in perspective over time 	<ul style="list-style-type: none"> • Agreed with positive changes in all domains • personal < relational < change in perspective • No change in perspective over time
Parental Coping	<ul style="list-style-type: none"> • Using problem-focused = perception-focused > emotion-focused • More problem-focused coping at time 2 • More emotion-focused coping than parents of children without DD over time 	<ul style="list-style-type: none"> • Using problem-focused = perception-focused > emotion-focused • Less problem-focused coping at time 2 • Less emotion-focused coping than parents of children with DD over time
Quality of Life	<ul style="list-style-type: none"> • Satisfied with being, belonging and becoming at time 1; however, lower satisfaction with belonging than children without DD over time • No change in sense of belonging over time 	<ul style="list-style-type: none"> • Satisfied with being, belonging and becoming • No change in sense of belonging over time

School readiness

- Teacher reported lower scores in all domains in comparison to children without DD
 - Teacher reported higher scores in all domains in comparison to children with DD; consistent with instrument norms
-

Chapter 4: Discussion

This study had two main objectives: 1) to describe a sample of preschool children and their families who were transitioning into school in September 2006 or 2007, to investigate the similarities and differences between children with DD and children without DD, and to investigate any changes over time; 2) determine which factors contribute to a successful transition from preschool into elementary school for children with and without DD.

Participants

Child Characteristics (a factor)

Adaptive behaviour. In our sample, preschool children with DD were chronologically older on average than children without DD; however, children with DD had lower age equivalent adaptive behaviour scores than children without DD. As would be expected, children with DD were functioning below their age based norms in adaptive behaviour. These findings are consistent with previous studies that have shown that children with DD have lower adaptive behaviour skills in the areas of gross and fine motor, language skills and social skills than their typically developing peers (Goldstein, 2004; McIntrye et al., 2006; Provost, 2007). Interestingly, scores on the adaptive behaviour measures showed that children without DD were functioning above their chronological age. Although the SIB-R has been shown to have very precise age norms (Spector, 1999), it is not unusual for respondents to rate age equivalent adaptive behaviour higher than chronological age, especially for typically developing children

(Hundert, Morrision, Mahoney, Mundy, & Vernon, 1997). In addition, children are likely to be able to perform some tasks, even if not well, such as, printing their first name or covering their mouth or nose while sneezing. Such instances could contribute to higher scores than would be expected at the average chronological age of approximately 50 months.

Maladaptive behaviour. In terms of maladaptive behaviour, children with DD had more maladaptive behaviors on average, than children without delays. As would be expected, children without DD had maladaptive behaviour scores in the normal range. The maladaptive behavior scores for children with DD fell in the marginally serious range, which corresponds with mild behavioural problems. This again is fairly consistent with the literature showing that parents of children with DD reported more problem behaviours than parents of typically developing peers (Baker et al., 2002; Eisenhower et al., 2005). Previous accounts of behavioural problems in young children with DD have shown that children with DD were 3 to 4 times more likely to have a maladaptive behaviour score in the clinical range than their typically developing peers (Baker et al., 2002). Increased problem behaviour is especially problematic for both the child and the family as it correlated highly with increased parental stress (Baker et al., 2002; Baker et al, 2005; Floyd & Gallagher, 1997; Nachshen et al., 2005). Moreover, problem behaviour is frequently related to a child's level of self-regulation (e.g., delay of gratification) and student-teacher relationship, which in turn is often related to the child's transition and subsequent adjustment in school (McIntrye et al., 2006).

Resources (b factor)

Family resources. Parents of children with DD reported significantly less household income than parents of children without DD despite reporting fairly similar levels of education. The average income bracket for parents of children with DD was \$35,000 to \$45,000; whereas, it was \$65,000 to \$75,000 for parents of children without DD. This finding is especially concerning considering that nearly half of the families of children with DD reported earning less than \$25,000 per year. In both groups of participants, approximately half of the parents reported that they had a college diploma; however, the parents of children without DD reported higher levels of university or professional degrees than parents of children with DD (29.4% and 13.8%, respectively). Although the majority of parents in both groups were married, considerably more parents reported their marital status as “single” (17.2%) or “separated” (20.7%) in the DD group in comparison to only 5.9% who reported themselves as being single in the non-DD group. As a result, the higher proportion of households headed by single parents in the group of children with DD account for some of the discrepancy in income, since the overwhelming majority (88.2%) of parents of children without DD were married and therefore likely to have two incomes. Nevertheless, this finding is consistent with previous literature. It has been fairly well established that families of children with DD are more likely to have lower socioeconomic status (Fujiura & Yamaki, 2000; Emerson, 2004; Emerson & Hatton, 2005; Leonard et al., 2005). Children with ID are at greater risk than their non-disabled peers of experiencing poverty. This increased risk of experiencing poverty is likely to reflect the combined effects of an increase in the

incidence of intellectual disabilities among lower SES families; and the downward social mobility of families due to the increased financial and social costs of raising a child with an intellectual disability (Emerson, 2004). In addition, it has been shown that the odds of having a child with a disability, of mild to moderate ID, are higher in single parent households (Fujiura & Yamaki, 2000; Leonard et al., 2005). This finding was illustrated in the current study, as many more children with DD, were living in single parent households in comparison to typically developing children. Lastly, it has been shown that lower socioeconomic status is related to lack of engagement with specialized services (Dunlop, Coyte & McIsaac, 2000; Wiersma, 2006; Wu et al., 2008). This finding has important implications since nearly half of the families reported low income (i.e., less than \$25,000). Children with DD have more specialized needs and it is therefore essential that they are able to access specialized services. Being of lower socioeconomic status and having additional expenses associated with the costs of raising a child with a disability can impose increased stress on the family. This finding was represented in the current study, as parents of children with DD experienced significantly more stress than parents of children without DD; and dealing with financial issues was the most stressful item reported by parents of children with DD. The experience of poverty is likely to be associated with poor parental health and well-being and consequently poorer parenting practices which can have adverse effects on the child (Emerson, 2004). Further research is needed to investigate the barriers that parents meet when trying to access services, and

explore strategies to overcome these barriers to ensure that all families are able to access required services and cope with the demands of raising a child with special needs.

Services and supports. As would be expected, children with DD were using significantly more services, than children without delays. On average, children with DD were using approximately 3.5 specialized services (including early intensive behavioural intervention, occupational therapy, physical therapy, speech therapy, psychology services, social work services, community behavior management); whereas, children without DD were using 0.5 services on average. Speech therapy was the service utilized the most by both children with DD and typically developing children. Although the reason for the use of speech therapy was not obtained during the interviews, parents were likely seeking speech services for their children who may have had general delays in speech or other speech impediments (e.g., lisp, stuttering, etc.).

Almost all children either with or without DD were attending daycare, 97% and 94% respectively. This finding is not surprising for children without DD, as they were recruited predominantly from daycares. However, children with DD were recruited through agencies, and yet, almost all children were enrolled in daycare. Although the daycares attended were not specialized for children with special needs (with the exception of one daycare) or oriented towards preparing for school transition, this finding is nevertheless encouraging. High quality non-maternal childcare has been shown to predict higher adaptive behaviour (Booth & Kelly, 2002); and it has been suggested that high quality preschool programs have the potential to significantly improve cognitive,

academic, and social outcomes for children at risk and for children with disabilities (Ramey & Ramey, 1998).

In terms of support for parents, 45% of families of children with special needs were utilizing either in home or out of home respite support. Of the families not using respite the most frequently cited reasons were that the respite service was not needed, or that the family could not afford it. In Ontario, funding for respite services is available through the Ministry of Community and Social Services, yet many families reported that the funding provided was used for other sources (e.g., replacing eyeglasses that the child would break because of behavioural problems). Similar findings regarding respite use were reported in another Ontario study of children with cerebral palsy (Damiani et al., 2004). Lastly, 52% (17/29) of parents of children with DD reported using counseling or formal social support, while only 6% of parents of children without DD reported utilizing support. Of note, of the parents of children with DD who were using formal social support, 15/19 were parents of children with autism, and only 2/10 were parents of children with other developmental disabilities. This raises important questions about parental perceptions of the benefit of support and the availability of support groups/networks for all families, especially for families of children with disabilities other than autism.

Social participation. The results of the current study show that children with DD were 1.9 times more likely than their typically developing peers to not be participating in organized social activities. Despite the overall 50% participation rate of children, only

34% of children with DD were participating in contrast to 76% of children without DD who were participating in organized social activities. Preliminary analysis of this data has shown that the discrepancy in social participation is mediated entirely by parental income, such that, income rather than disability accounts for the discrepancy in social participation (Clifford, Lopes, Minnes, & Ouellette-Kuntz, 2008, April); however, such analyses are beyond the scope of the current study. Participation in organized social activities provides increased opportunities for social interaction and the formation of peer relationships. Social relationships with peers can have considerable impact on a child's development, and are associated with successful adjustment to school, ongoing social participation, academic performance and long term social adjustment (Odom, Li, Sandal, Zercher, Marquart, & Brown, 2006). In addition, social relationships provide the opportunity to hone social skills which are also important for successful adaptation to school (McIntyre et al., 2006). When the benefits of peer interaction are so well established, it is disappointing to see that so few children with DD were participating in activities with peers. Moreover, it has been shown that children with DD who lacked social skills were more likely to be rejected by their peers (Odom et al., 2006). Children with DD in the current study had significantly lower scores on social and emotional functioning than their typically developing peers; and parents of children with DD reported lower satisfaction with their child's sense of belonging. Without opportunities for peer inclusion and interventions aimed at improving social skills, young children with DD are likely to remain on a developmental trajectory leading to later adjustment

problems, lack of appropriate peer relationships, and social rejection. Further research is needed to evaluate targeted interventions aimed at increasing social skills, such as implementing classroom based practices to promote peer-related social competence for children with DD (Guralnick, 1999); and to study the benefit of participation in formal social activities for the development of social skills.

Parental Perceptions (c factor)

Stress. Parents of children with DD reported significantly more stress than parents of children without delays, which is consistent with large body of literature suggesting that parents of children with DD experience higher stress than parents of children without DD (Baker et al., 2003; Hassall et al., 2005). Whereas parents of children without DD reported no stress or only mild stress; parents of children with DD reported mild to moderate stress on the FSCI. Similarly, findings from previous studies using the FSCI indicate that on average parents of individuals with ID (aged 2 to 59 years) reported mild to moderate stress (Nachshen et al., 2003). Parents of children with DD reported the most stress concerning the items, “dealing with financial and insurance issues,” “meeting the needs of your other children,” and “finding opportunities for the child to make friends and participate in social activities.” This is understandable in light of the previous findings indicating that parents of children with DD reported significantly less income and had children who were participating less in organized social activities than their typically developing peers. In addition, previous research suggests that stress is correlated with socioeconomic status (Emerson, 2003); therefore it is not surprising that

parents of children with DD from lower SES groups were also more stressed. Parents of children with DD also had children with more behavioural problems which has been found to be associated with increased stress (Floyd & Gallagher, 1997; Hassel et al., 2005).

Parental changes. In general, both parents of children with and without DD reported very positive perceptions (i.e., “transformations”), consistent with original research showing that most parents agree fairly strongly with statements in all three domains (Scorgie & Sobsey, 2000). Changes in perspective refers to changes in the way that people view life, such as, “I make the most of each day,” and “I celebrate life more now.” Relational changes refer to changes in the way parents of children with disabilities relate to other people, such as “my marriage has emerged stronger” and “I have met many people that I would not have met otherwise.” Lastly, personal changes are changes in the way parents view themselves, such as, “I am more compassionate” and “I take better care of myself.” Although the survey was originally developed and tested on parents who had been selected by agency representatives on the basis of being identified as “effective life managers,” the study has been replicated using parents who were not preselected and has found similar results (Wilgosh, Nota, Scorgie, & Soresi, 2004). In our study, parents were not preselected on the basis of being good copers, yet reported very positive perceptions overall. Although no differences emerged in mean agreement with statements in each type of parental change (i.e., personal, relational or changes in perspective) between parents of children with and without DD; parents of

children with and without DD differed in the pattern in which they agreed with the various types of changes. Both parents with and without DD reported the most positive changes in the area of perspective; however, they differed in the amount they agreed with statements in the personal and relational categories. Parents of children with DD agreed the least with relational changes, secondly with personal changes, and the most with changes in perspective; whereas, parents of children without DD agreed with personal changes the least, secondly with relational changes, and the most with changes in perspective. Although only speculative, it is possible that the parents of children with DD were least positive in the area of relational changes because of the strain of having a child with a disability on the marriage, or because of reduced opportunities for contact with social networks due to the lack of their child's participation in various activities. In addition, parents of children without DD may have reported the least personal change, as they may have had to make fewer adjustments in the areas of increased confidence and advocacy while parenting a typically developing child in comparison to parents of children with DD. Future research should investigate the types of perceived changes that different parents make in an effort to determine which types of changes would be most effective for parents of preschoolers with and without DD.

Coping. There were no significant differences in use of any of the types of coping between parents of children with and without DD, despite reporting different level of stress. The use of coping strategies has been found to be strongly associated with reduced stress (Jones & Passey, 2004), however, it should be noted that this study used

different measures of both stress and coping (i.e., the Questionnaire on Resources and Stress; and the Coping Health Inventory for Parents), although the measures were related to having a child with DD or chronic illness. Both groups of parents in our study were using similar amounts and styles of coping, but showed considerable differences in reported stress. In addition, both parents of children with and without DD reported using problem-focused and perception-focused coping significantly more than emotion-focused coping. More frequent use of problem-focused coping as opposed to emotion-focused coping has been reported previously (Glidden et al., 2006). This is encouraging as problem-focused coping has been shown to be more effective at reducing stress and increasing parental well-being. Reducing stress is essential to parent and child well-being, as maternal stress is associated with poorer parental health, and a range of adverse outcomes for the child, such as delayed child development and higher rates of psychopathology (as cited in Emerson et al., 2006). Similar to previous findings, our study found that both groups of families were using positive forms of coping and had very positive perceptions of their child (Hastings et al., 2002). Despite reporting mild to moderate levels of stress, parents of children with DD were using effective coping and had positive perceptions of the changes associated with parenting a child with disabilities.

Parental involvement and school transition practices. The importance of parental involvement during the child's transition into school cannot be overstated. Parents can play a very important role in their child's transition into school by initiating involvement with the school and teachers. Both groups of parents in our study were generally very

well involved. Many parents (39.5%) reported that they registered their child for school in the spring (March to May) before school started, and the majority of the parents (73.8%) said that they asked for information about the kindergarten program when they registered their child. Approximately half of parents (51.2%) reported that they had the opportunity to meet with their child's teacher for a formal meeting at least once, 41.9% reported volunteering, and 53.5% were participating in fundraising activities. There were no differences between parents of children with and without DD in terms of the parental initiated involvement items measured. Although parents of children without DD had higher scores on all measures of school outcome, this effect was largely due to the initially higher adaptive behaviour scores of typically developing children. Parent initiated involvement is likely to be associated with subsequent positive school outcomes for children with and without DD (Izzo, Weissberg, Kaspro, & Fendrich, 1999; Kohl, Lengua, & McMahon, 2000), and should continue to be investigated as an important component of school success. Lastly, a number of transition practices were organized by the school. Almost all parents (88.4%) reported that their child was invited to visit the kindergarten classroom prior to the beginning of the school year and 75% of parents said that activities were planned to ease their child's transition into school. These activities included a staggered start with smaller groups of children (usually 5 children at a time), shorter school days or half days, and parents staying in the classroom.

Transition Success (x factor)

Quality of life. Both parents of children with and without DD reported being satisfied with their child's quality of life in all three domains (i.e., being, belonging and becoming) prior to the child's entry into school. There were no significant differences in mean satisfaction across any of the domains, meaning that parents were equally satisfied with their child's sense of being, as they were with their child's sense of belonging and who they thought their child was becoming. In contrast to other studies that have reported lower parent reported quality of life for children with disabilities in comparison to the instrument norms (Vargus-Adams, 2006), parental reported satisfaction with their child's quality of life for children with DD in our study was highly consistent with the norms from the instrument manual. The different findings in the Vargus et al. (2006) study may be related to the focus on health-related quality of life for children and adolescents with disabilities, as opposed to a more holistic and multidimensional approach, measuring applicability, importance, and satisfaction with who the child is (being), who the child is becoming and how well the child is included (belonging) used in the current study. Furthermore, based on the lack of concurrent validity of the Child Health Questionnaire and the Quality of Life Scale for Children with Disabilities, results are not expected to be highly convergent. There were also no significant differences detected in reported satisfaction in any of the domains of quality of life between children with and without DD in our study, although there was a significant interaction, with as trend towards greater satisfaction with belonging for children without DD, and lower satisfaction with sense of belonging for children with DD. This finding is generally

inconsistent with previous studies that have shown that quality of life scores for children with or at risk of developmental disabilities were significantly lower than those of their typically developing peers (Lau, Chow, & Lo, 2006; Watson & Keith, 2002). Although Lau et al. (2006) measured health-related quality of life, using the Chinese Pediatric Quality of Life Inventory; Watson and Keith (2002) measured social belonging in school aged children with and without disabilities, using the Quality of Student Life Questionnaire. The lack of a significant finding in the current study may have been related to the relatively small sample size, and resulting loss of statistical power.

School readiness. Mean scores obtained from the sample of typically developing preschoolers were highly consistent with the means obtained from over 16,000 kindergarten children evaluated in the instrument's validation sample. Specifically, on the physical health and well-being domain, children in our study have a mean score of 8.23, which was consistent with the norm score of 8.05. Similarly, in the language and cognitive development domain, children in our study have a mean score of 6.34, which is again consistent with the mean score of 6.26. Lastly, for the social and emotional domain, children in our sample have a mean score of 7.83, which is again consistent with the mean of 7.49. Children with DD had significantly lower scores on all of the domains of the EDI measuring school readiness, including physical health and well-being, language and cognitive development, and social and emotional development. These findings are consistent with large body of research showing that children with DD demonstrate more skill deficits (Kemp & Carter, 2000; McIntyre et al., 2006;) which

places them at a heightened risk for academic and social difficulties in school (McIntyre et al., 2006). In addition, social skills were found to be an important predictor for adaptation to school, which could result in less positive early school experiences for children with DD in comparison to their typically developing peers (McIntyre et al., 2006; Odom et al., 2006).

Changes over Time

Child Characteristics (aA factor)

Adaptive behaviour. As would be expected, adaptive behaviour increased linearly at all time points tested for both children with and without DD. Gains in adaptive behaviour were on par with changes in the child's chronological age. Age equivalent adaptive behaviour increased significantly, by 7.6 months for children with DD (from 38.38 months at time 1, to 42.62 months at time 2, to 46.04 months at time 3); and by 9.1 months for children without DD (from 61.79 months at time 1, to 63.93 months at time 2, 70.86 months at time 3) over the course of the 8 months of the study. Gradual gains in adaptive behaviour have been shown consistently in the literature (Charman et al., 2004; Hauser-Cram et al., 2001; Sigafos, 1999). Hauser-Cram et al. (2001) showed that communication skills, social skills, and daily living skills increase over time for children with disabilities with average gains between .16 and .24 months per month between age 3 and age 10. This linear change over time for both groups of children was encouraging as it shows that the children with DD in this sample were developing at roughly the same pace as the children without DD.

Maladaptive behaviour. Similar to previous studies that have shown that behavioural problems remain relatively stable in the short term (Baker et al., 2003; Lecavalier et al., 2006); there were no significant changes over time in the general maladaptive behaviour of the children in this study. Children with DD continued to show significantly higher maladaptive behaviour when compared to children without DD. It is likely that behavioural problems increase or become more problematic as a child gets older. Subsequent research should evaluate changes in child maladaptive behaviour throughout childhood and adolescence, and investigate the effects of maladaptive behaviour on the child's quality of life and later school outcomes.

Resources (bB factor)

Services and supports. Quite substantial changes occurred in the number of services utilized by families of children with DD over the course of the study. Results showed that there was a significant effect of time, such that, the number of services used declined over time for children with and without DD. In addition, parents of children with DD were utilizing more formal services than children without DD. This finding was expected as children without DD reported using so few services because there was simply no need for the service. There was also a significant interaction between time and whether the child had a diagnosis of DD. The interaction between the change over time and whether the child had a disability can largely be explained by looking at service use between time 1 and time 2. The number of services accessed decreased significantly between time 1 (3.5 services) and time 2 (2.4 services) for children with DD, while it

remained fairly constant for children without DD between time 1 (.43 services) and time 2 (.36 services). There was no significant change in number of services accessed between time 2 (2.4) and time 3 (2.5) for children with DD, and time 2 (.36) and time 3 (.21) for children without DD. This decline in service use corresponds with the transition into school. It is not surprising therefore, that service use declined as children become ineligible for services (e.g., preschool speech and language) as they start school. Although not significant, services also declined for families of children without DD. The service being utilized the most by children without DD was speech and language therapy. Anecdotally, many parents reported the loss of services as a large source of frustration. In addition, many parents faced barriers to continuing their existing service use when the child started school. For example, some school boards prohibit intensive behavioural intervention (IBI) staff from performing IBI in the school, and as a result, parents had to continue with IBI on the days that the child was in daycare, or make alternative arrangements to continue with home based IBI after school. Although the rationale for terminating preschool services (e.g., speech and language, occupational therapy, etc.) was that the services would resume and be delivered by school board personnel, it can be seen by the data collected that service use had not resumed by the third time point of the study as service use remained constant between time 2 and time 3.

Social participation. In terms of social participation, the majority of children (67.5%) experienced no change in participation (i.e., always participating or not participating). Another 25% experienced a change across time 1 to time 3, from either

not participating to participating (7.5%), or from participating to not participating (17.5%). Lastly, only 7.5% experienced a change only at time 2, meaning they were either participating at time 1, not participating at time 2, and then participating again at time 3, or vice versa. Only a small percentage therefore showed changes in social participation which coincided with the start of school. In the spring following the transition into school, only 42% of children with and without DD were participating in organized social activities. In addition, 60% of the typically developing children were participating in contrast to only 31% of children with DD who were participating. Social participation was likely lower in the spring following the transition into school, as there are fewer activities available during the winter. These results are bleak, especially for children with DD, as the potential benefits of participation are well established.

Parental Perceptions (cC factor)

Stress. Similar to other studies (Baker et al., 2003; Lecavalier et al., 2006), parental levels of reported stress remained relatively stable throughout the course of this study. As would be expected, parents of children with DD continued to report higher levels of stress compared to parents of children without DD. Although it may be expected that the transition into school would be associated with increased stress, especially for parents of children with disabilities, this effect was not observed, as there was no increase in stress at time 2. Perhaps the association between parental stress and the child's maladaptive behaviour can partially account for the finding. There were no

significant changes over time in child maladaptive behaviour scores, and no changes in parental stress.

Parental changes. There were no changes observed over time in parental reported transformations, particularly in parental change in perspective. Of the domains of the parental changes measure, change in perspective was hypothesized to be most applicable as parents would have to make a number of adjustments during their child's transition into school. Although Baker et al. (2003) showed that positive parental perceptions were relatively stable over time; parental changes in perspective over the course of the child's school transition had not been evaluated. In the current study, both parents of children with and without DD reported similar agreement with statements corresponding to their changing beliefs in the area of perspective and this agreement remained consistent across time.

Coping. In terms of problem-focused coping, there were no changes over time detected when coping scores for parents of children with and without DD were collapsed and compared across the three time points. There was however, a significant interaction between time and whether the child had a diagnosis of DD. Specifically, the use of problem-focused coping increased for parents of children with DD at time 2, whereas, the use of problem-focused coping decreased for parents of children without DD at time 2. The cause of this effect is not clear. Existing literature on coping has shown that the use of problem-focused coping techniques is associated with the most positive results. It may be that parents of children with DD encountered more challenges during the time of

their child's transition into school (e.g., corresponding with teachers or schools, helping the child adjust to the new setting, managing with loss of services, etc.) that required the use of increased coping. The use of problem-focused coping may have helped parents manage situational factors that occurred at the time of transition. These findings are similar to other literature showing changes in situational coping over time (DeRutter & Kerssens, 2003; Ising et al., 2006). Since the Ways of Coping questionnaire was based on situational assessments of coping styles, coping was likely to change as the situation changed.

In terms of emotion-focused coping, there was no significant effect of time or significant interaction between time and whether the child had a diagnosis. These results suggest that use of emotion-focused coping remained fairly consistent over time, for both parents of children with and without DD. However, results demonstrated that parents of children with DD were using significantly more emotion-focused coping than parents of children without DD across the three time points however; this finding was not observed at time 1. Inspection of the means shows that the largest difference between use of emotion-focused coping for parents of children with and without DD occurred at time 2. Parents of children with DD were using more emotion-focused coping at time 2, whereas parents of children without DD were using less emotion-focused coping at time 2, however, this interaction was not statistically significant. This result is similar to the finding that occurred for the use of problem-focused coping and indicates a trend towards increased use of coping in general for parents of children with DD during the time of

their child's transition into school. Although the use of emotion-focused coping has been associated with less positive outcomes in comparison to problem-focused coping, these findings demonstrate that parents of children with DD were nevertheless using strategies to cope with the increased demands that they may have experienced during their child's transition into school.

Changes in Quality of Life (xX factor)

Previous research has suggested that quality of life is strongly related to the nature and number of services provided, and therefore should change as services change (Schalock, 2004). Surprisingly, there were no changes in parent reported satisfaction with the child's sense of belonging over the course of transition. Although normative data for the Quality of Life Scale for Children with Disabilities is not available for changes over time, other studies have reported that parental reported quality of life in a study of children with cerebral palsy was stable over the course of one year (Vargus-Adams, 2006). In addition, there was no significant interaction between time and diagnosis, meaning that parental reported satisfaction with belonging remained fairly consistent for both children with and without DD throughout the course of the study. However, results indicated that parents of children with DD reported lower satisfaction with their child's sense of belonging than parents of children without DD, when collapsed across time. This difference was not significant at time 1, although there was a trend toward higher reported satisfaction with sense of belonging for children without DD. The discrepancy between parental reported satisfaction with belonging for children with DD

in comparison to children without DD was greater at time 3, after the transition into school. Parents of children with autism and parents of children with disabilities other than autism were not evaluated separately. As a result, it is not clear whether the finding of lower sense of belonging is related to the large proportion of children with autism in the sample. Nevertheless, these findings are disheartening, for even as early as kindergarten, parents of children with DD are reporting less satisfaction with their child's belonging than typically developing children. Guralnick (1999) showed that preschool children with DD have difficulties forming and maintaining appropriate peer relationships. In this study, the results from parent reported satisfaction with their child's sense of belonging, and the teachers' report of lower social and emotional functioning provide further support for this claim. Moreover, the results highlight the importance of facilitating inclusion in preschool and school settings (Guralnick et al., 1996, Meyer, 2001, Odom et al., 2006) so that children can have opportunities to form appropriate peer relationships, improve their social skills and gain social competence.

Predicting Quality of Life and School Readiness

A large body of literature has shown that family demographics (income), child characteristics (adaptive and maladaptive behaviour), parental stress and coping, and service utilization are all interconnected. We have seen that lower household income is associated with increased parental stress (Emerson, 2003), failure to engage with services (Dunlop et al., 2000; Wiersma, 2006; Wu et al., 2008), and lower child participation in social and recreational activities (Clifford et al., 2008). Moreover, child problem

behavior has been related to parental stress, and stress can contribute to less than optimal parenting which in turn can influence child problem behaviour (Baker et al., 2003; Floyd & Gallagher, 1997; Hassel et al., 2005). However, parental perceptions of the child and their use of coping can have positive effects on reducing parental stress (Jones & Passey, 2004). In addition, access to positive supports and services, such as respite, can have an effect on parents' ability to cope with their child's needs (Floyd & Gallagher, 1997). Moreover, high quality child care services and early intervention have been very effective at improving child skills, especially for children who are "at risk" or who have DD, and are associated with improved school readiness and subsequent school success (Ramey & Ramey, 1998). We have seen that parental beliefs and expectations are associated with increased involvement in their child's education, and that increased parental involvement is associated with more positive school outcomes for the child (Schulting et al., 2005; Sy & Schulenberg, 2005). Moreover, participation in organized social activities can create opportunities for the development of social skills, which can have positive effects on the child's adaptation to school (McIntrye et al., 2006). Lastly, we have seen that child skills, predominately social skills, are associated with successful transition and children with DD who lacked social skills were more likely to be rejected by their peers (Odom et al., 2006). Peer rejection is likely to affect the child's quality of life, particularly with their satisfaction with their sense of belonging and can contribute to later adjustment problems, lack of appropriate peer relationships and poor academic outcomes. Although each of these individual factors has been shown to be related to one another, or to directly

or indirectly influence the child's school transition; they have not been evaluated in the context of assessing the contribution of the combined factors to the outcome of school transition.

In an effort to investigate the factors that contribute to school transition, using the child's sense of belonging and school readiness as outcomes, four multiple regressions were performed. The child's sense of belonging was measured using the Satisfaction with the Sense of Belonging domain of the Quality of Life Questionnaire. The child's readiness for school was measured using the Physical Health and Well-Being, Social and Cognitive Development and Social and Emotional Development domains of the Early Development Inventory. Due to the small sample size within each group (i.e., children with and without DD), the regressions could not be performed individually for each group of participants. This poses a problem as the variance within each predictor was large and may not have captured the effect on the outcome. For example, if stress was used as a predictor for only more highly stressed parents (i.e., parents of children with DD), stress may have emerged as a significant predictor of child quality of life or school readiness for children with DD. Future research should aim to collect larger samples of children with and without DD, so that the factors contributing to the outcome of transition can be evaluated individually for both groups of children.

A predictor from each part of the ABCX model was selected, so that A) characteristics of the child, B) resources, and C) parental perceptions, could all be adequately represented in the overall model. In terms of child characteristics, adaptive

behavior was selected because it is a proxy measure for disability, and it has been shown to be predictive of successful school outcomes. In terms of parental characteristics, family stress was chosen as it has been shown to have considerable effects on parenting practices and child development. Lastly, the number of specialized services utilized was selected as a predictor because service use is associated with improvements in child skills and positive outcomes on child development. In addition, parental income was added as an additional predictor of the outcome of school readiness, as it has been shown to have an effect on child development, health and well-being.

To determine which factors would predict a higher quality of life for children with disabilities during the transition into school, a multiple regression was performed. The results showed that the linear combination of predictors (i.e., adaptive behaviour, number of services used and parental stress) was not significantly related to satisfaction with the child's sense of belonging. In terms of predictors of the child's quality of life after school entry, none of the correlations between any of the predictors and the child's sense of belonging were significant. This finding was especially surprising as none of the predictors known to influence outcomes (e.g., lower stress, higher adaptive behaviour) were significantly related to belonging. Moreover, we know that children with DD were reported to have a lower sense of belonging than children without DD, yet none of the factors that were significantly different between the groups of children with and without DD predicted quality of life. This finding is both puzzling and intriguing as it shows that there are other important factors that need to be considered when determining the types of

variables that will be predictive of a higher quality of life for children with DD. Many of the items in the Sense of Belonging questionnaire concern larger issues which can serve as barriers to a child's sense of belonging and inclusion both in school, and in the larger community. These issues are related to accessibility (e.g., accessible transportation, accessible schools and parks, etc.), the role of professionals in providing appropriate services and supports for child, and the perceptions of other individuals in the community. Future research should investigate the role of larger social factors and the general public's perception of children with DD, to determine whether accommodations are being made to include children with DD into the larger community.

In a similar effort to determine the factors that would predict school readiness, three multiple regressions using: 1) physical health and well-being, 2) language and cognitive development, and 3) social and emotional development as outcomes were performed. The predictors of school readiness were child adaptive behaviour, family income, number of services used, and parental stress. The results of the regressions show that the only useful predictor of the child's physical health and well-being; and language and cognitive development was the adaptive behaviour measure. Adaptive behaviour accounted for a proportion of the variance in the outcome measure in each regression. The linear combination of predictors (adaptive behaviour, income, number of services used, and mean parental stress) accounted for 61% of the variance in physical health and well-being scores; however adaptive behaviour accounted for 20% of unique variance. Similarly, the predictors accounted for 62% of the variance in language and cognitive

development and 57% of the variance in social and emotional development, but adaptive behaviour accounted for 14% and 10% of the unique variance, respectively. In terms of the factors predicting social and emotional development, parental income also emerged as a significant predictor, accounting for an additional 7% of the variance in outcome. Interestingly, income was not a significant predictor of physical health and well-being. This finding is inconsistent with previous literature showing that lower socio-economic status was associated with poorer child health. However, the measure of school readiness used in the current study did not address specific health related needs, and instead addressed more independence skills (e.g., toilet trained), gross and fine motor ability. In all of the regressions, the bivariate correlations between stress and the outcome measures of school readiness (physical health and well-being, language and cognitive development and social and emotional development) were negative. This finding shows that lower parental stress is associated with higher scores in the school readiness domains. The bivariate correlation between number of services used and the outcome measures of school readiness were negative. The negative correlation between service use and the school readiness measures, although initially surprising, implies that children who used more (or needed more) services had lower physical well-being, language and cognitive development and social and emotional development. The bivariate correlations between adaptive behaviour and the outcomes of school readiness were positive, meaning that higher adaptive behaviour was associated with more positive scores in the areas of physical health, language and cognitive development and social and emotional well-

being. This was in the expected direction as there is a wealth of information showing that higher adaptive behaviour and child skills (classroom skills, social skills, and self-help skills) are associated with school success (Kemp & Carter, 2005; McIntrye et al., 2006). Lastly, the correlations between income and the outcome measures of school readiness were in the expected direction, such that higher income was associated with higher social readiness skills. Only the correlations between income and language and cognitive development; and income and social and emotional development were significant. These factors are likely to be related as parents who have higher incomes may be more likely to have higher well-being, engage in more positive parenting practices, and may place more emphasis on the child's education. These findings have a number of implications. Firstly, they are encouraging as they show the importance of the child's skills in predicting success in school. This implies that targeted interventions aimed at increasing the child's skills can be very beneficial for school readiness and highlights the potential value of child preparation to the success of transition and early integration (Kemp, 2003). Secondly, these findings demonstrate that the key factors thought to influence the transition into school account for only a fraction of the variance in outcomes. This demonstrates the need for subsequent research in this area to determine which other factors are likely to influence the transition into school for preschool children. These could include health related issues, such as childhood anxiety, ADHD or co-morbid medical conditions; or other parental factors, such as self-efficacy or the priority the parent places on the child's education. Consideration of other factors that

could contribute to the child's transition into school will hopefully provide new insight into the process of transition and help parents, educators, and policy makers' plan for this period in child development.

Limitations and Directions for Future Research

Sample Size

The current study has a number of limitations. The first limitation is the relatively small sample size. Although the sample size is comparable to other samples commonly found in the disability literature, it limited the number and types of analyses that could be performed. For example, one of the main objectives of the study was to determine the factors that would predict the transition into school using a multiple regression analysis. When performing a multiple regression, a conservative guideline is to start with 50 participants and add one predictor for each additional 8 participants (Tabachnick & Fidell, 2007) to detect a medium size effect at an $\alpha = .05$. Using this guideline, a multiple regression would not be possible since the sample size in the existing study was only $n = 28$ for quality of life and $n = 37$ for the school readiness measure. Thus, a more liberal guideline was followed, and three predictors were used in the analysis for quality of life, and only four predictors for school readiness, however, this meant sacrificing the ability to detect small effects. In addition, our sample sizes were unequal. Fortunately, the majority of the statistical tests are robust enough to deal with unequal samples. However, corrected values were used when violations of the assumptions of the particular tests occurred. Lastly, many of the non-significant findings had very low statistical power

indicating a low ability to detect a statistical result if the study were to be repeated. In order to address the particular needs of children with and without DD, further research is needed to obtain larger samples of participants. This goal could be achieved by recruiting participants across multi-site populations, or across time. These samples could then be combined and investigated both longitudinally and cross sectionally.

Recruitment

Another limitation of the current study concerns response bias. The strategy for recruitment was to mail or deliver information packages to eligible participants in South Eastern Ontario who were receiving services from a number of community agencies. Although a number of agencies ($n = 10$) and daycares ($n = 11$) participated in the recruitment process, and over 600 packages were distributed, only 49 consent forms were returned and only 46 participants participated in at least one telephone interview. This is a response rate of approximately 8%. Moreover, many of the eligible participants received services from more than one agency, and therefore received multiple packages. As a result, the number of actual eligible participants could not be determined. A strategy to improve the response rate of mail out recruitment is to follow-up with a telephone call. However, this approach was not possible as the agencies could not provide the names of clients they served, and therefore the researchers could not contact the eligible participants directly. If the study was to be repeated, a different recruitment strategy could be used, such as targeting only daycare centers earlier in the school year, or asking school boards to include an information letter about the study in the

kindergarten information packages that are given to all parents at the time they register their child for school.

Generalizability

Another limitation of the current study concerns the lack of generalizability of the sample. It was difficult to obtain a representative sample as recruitment was limited to children who had been receiving services in the community. Although contacting families of children with DD through the aid of community agencies was thought to be one of the best ways to reach families of children with DD prior to school entry, these families may represent a particular group of individuals who are adept at accessing services and who were self-selected to participate. Therefore, there may have been a selection bias towards parents who were already less stressed, who used positive coping, and who were generally managing life effectively. Despite these factors, there was still a wide range of variability in income and level of education represented in the sample. Moreover, the parents of typically developing children were also a self-selected group of individuals who were generally of higher income and tended to be well educated. These parents participated knowing that they could potentially improve school transition for other parents of children with DD. Although the motivations for participating were likely the same; the group of parents of children with DD had the potential to benefit more from the study. Lastly, there could have been a recruitment bias. Perhaps the lower income families were participating because they needed the \$25 honourarium, and the higher SES families were interested in participating in research. A replication of the study

should incorporate matched control groups (e.g., groups matched on income) to control for the confounding effects of income on disability status. Further research is needed to investigate the income discrepancy between families of children with and without DD to determine reasons for such differences.

Measures

The majority of the measures used in the study had not been evaluated psychometrically with preschool children. These measures were: the Services and Supports Questionnaire, the Child AIMS Interview - Social Domain, the Family Stress and Coping Interview (FSCI) for use with preschool aged children, the Life Management Survey Part III-Parental Changes Subscale, the Ways of Coping Scale (WAYS), and the Parental Involvement and School Transition Practices Questionnaire. These particular measures were selected because of the lack of appropriate measures which are applicable for preschool children with disabilities. In addition, a number of measures are in the process of being evaluated psychometrically, however, it will take some time to recruit large number of children with disabilities. In addition, a large proportion of the measures, such as the AIMS, the FSCI, and the WAYS have been used extensively with adults with disabilities and were adapted for use with children. The transition practice questionnaire was developed by the first author based on a measure created by Schulting et al. (2005). The original authors asked a series of yes/no questions and then summed the responses to create a total score. Not all of the questions were applicable for the current study and as a result, only some of the items were chosen to provide more

descriptive information about parental involvement and school transition practices.

Therefore, no psychometric data were available.

An additional problem with the use of the measures is that some of the measures had too many individual domains and could not be summed to create a total score because they represented individual factors, that did not load onto a second-order general factor (e.g., coping). This applied to all of the measures with the exception of the Services and Support Questionnaire, Scales of Independent Behavior-Early Development Form, and the FSCI. This made for a number of problems with the overall analyses especially since the sample size was so small, and multiple measures could not be evaluated simultaneously without having to correct for multiple tests. As a result, particular domains that were the most applicable to the research questions were selected and used in the analyses.

Moreover, since a number of measures were not entirely applicable to families of children without disabilities, there is a lack of variability in scores. For example, there was very little variability in the reported use of services for families of children without DD, as the services were generally not needed for typically developing children. In addition, there was little variability in the parental stress and positive perceptions scores, especially for families of children without DD, which may be another indicator of the self-selected nature of this group. These families were generally not stressed, had positive perceptions and the time and/or motivation to participate in research.

The results of the study could have been more meaningful if other measures had been used, particularly in the areas of service use and parent initiated involvement, such as the Family- Centered Elementary School Practices Scale, measuring family centered involvement in elementary school. The service use measure was highly correlated with adaptive behaviour and thus did not add anything to the overall regression. If another indicator of resource use was used, it could have possibly been included in the overall model. The parental involvement factor could have also been used more effectively. There is considerable literature in the school readiness domain showing the benefits of parent initiated involvement on improved school outcomes. If an existing measure of parent initiated involvement was available, or if the current measure could have been summed to create a total involvement score, it could have been used in the regression. However, there were too few questions in each section to create a total score and there is no psychometric data available to show that it is a valid or reliable indicator of parental involvement. Although individual items from the questionnaire could have been used as a dichotomous variable in the analyses, only one item would have to be selected and there is no literature to suggest that attending school meetings is a better indicator of involvement than participation in fundraising activities, or volunteering for school trips, etc. In the future, more careful selection of psychometrically sound instruments that are able to load on to general factors representing overall concepts, such as “coping” without respect to the particular type (i.e., problem-, perception-, or emotion-focused coping) would be better suited for this type of study.

Report by Proxy

Another limitation of the current study was that only parent report and teacher report were used. Although there is some evidence to suggest that children as young as four years old are able to self report on items such as quality of life (Eiser et al., 2000) this seems unlikely for preschool aged children especially for children with DD. The results of the study and the outcomes of transition could have been evaluated more systematically if direct observation was used. The outcomes of transition particularly in the areas of involvement in classroom tasks and social inclusion and participation could have been assessed by documenting frequencies of verbal initiations and responses made to other peers and teachers, the number of times the child was called on in group activities, the number of times the child initiated and responded to a play invitation, etc. Such systematic, behavioural approaches to data collection are needed to provide a different perspective and a perhaps a more reliable predictor of the outcome of transition than parent or teacher report alone.

Theoretical Implications

The Double ABCX Model was adapted for use with preschoolers, and used as a framework for the current study. It is important to note that the overall model was not tested, as the interactions between factors (e.g., child factors and resources) were not evaluated due to the small sample size. Only the factors that contributed to the outcome of transition were tested statistically. The outcome variables, satisfaction with the child's sense of belonging, and school readiness were used to measure the success of transition.

Children with DD had lower physical health and well-being, lower language and cognitive development, lower social and emotional development and lower parental reported sense of belonging than their typically developing peers. Adaptive behaviour, measuring the child's ability to adapt and function effectively in their environments, emerged as a significant predictor of successful transition. This finding was expected because of the existing literature suggesting that child skills are essential for outcomes (e.g., Kemp, 2003; Kemp & Carter, 2005). Interestingly, service use did not emerge as a predictor despite the research showing the benefit of service use for child outcomes (Baker & Abbott Feinfield, 2003; Ramey & Ramey, 2004). It is likely that service use failed to emerge as a significant predictor as the services utilized were not targeted interventions aimed at improving school transition. In contrast to other studies showing the effect of income on health and well-being (Emerson, 2004; Emerson & Hatton, 2007), income emerged as a significant predictor for only the child's social and emotional development. Income may not have emerged as a predictor of health as the school readiness measure did not target specific health related issues (e.g., number of visits to the child's family doctor, specific illness, etc.). Lastly, parental stress did not emerge as a significant predictor. This latter finding was surprising as stress has emerged as a predictor of quality of life, especially in caregivers of older children with DD (Minnes et al., 2007). Stress may not have emerged as a significant predictor in this study, however, because parents of preschoolers did not report high levels of stress. Perhaps pile up of

stressors, as represented in the Double ABCX model, will be an important factor over time, as stress is expected to increase as parents of preschoolers age.

Clinical Implications

The results of this and other studies have shown that child skills, and child adaptive behaviour are important predictors of readiness for school. This is an important and encouraging finding as a child's repertoire of skills is amenable to change, providing support for the benefit of early intervention, such as high-quality preschool programs and intensive behavioural intervention for children with autism. In addition, interventions aimed at increasing social skills for children with DD could be beneficial. The results of the current study showed that parents of preschool children reported lower satisfaction with their child's sense of belonging and teachers reported deficits in social development. If interventions aimed at improving social skills are not applied early, children will likely become more socially inept, leading to later adjustment problems and peer rejection. Problems with adjustment and peer rejection are far reaching as social relationships are a major influence on development and learning in the school years, and are related to successful adjustment and academic performance (Odom et al., 2006). Furthermore, social competence and peer acceptance are essential if the goals of inclusion are to be truly met (Odom, 2000; Odom et al., 2006).

Parents of children with DD reported significantly lower income than parents of children without DD. This finding could be beneficial to the implementation of services or policies aimed at increasing the welfare of families with lower incomes and families of

children with DD. It has also been established that lower income families are less adept at engaging with and coordinating services. In the current study, families of children with DD were using only three services on average. This finding has implications for families of children with DD who could benefit from the use of well coordinated services and intervention during the preschool years. Psychoeducation and training to increase parental advocacy for lower income families and families of children with DD could prove to be beneficial in helping families access services (Nachshen & Minnes, 2005).

In the current study, parents of children with and without DD reported different patterns of parental changes in their perceptions. This is an interesting finding as it refers to the meaning that parents place on themselves, or their relationships, such as taking better care of themselves or reporting themselves as being more confident or compassionate. This has implications for practitioners and service providers who provide support for families of children with special needs, as having a child with a disability may require more personal adaptation on the part of the parent, particularly the mother.

Parents with DD were using more problem-focused coping during the time of their child's transition, and more emotion-focused coping over the course of the study, yet their level of stress remained constant and higher than that of parents of children without DD. This finding may support the existing literature that shows that emotion-focused coping is less effective at stress reduction. This has important implications for intervention efforts that could encourage the use of problem-focused approaches to

coping. Reductions in parental stress could have positive effects on parent well-being and parenting practices, which can have beneficial effects for the child.

Conclusions

The findings from this study offer a Canadian perspective on the experiences of families of preschool children with and without DD during their child's transition into school. The results of the study are limited by the sample size, and as a result, more variables and their interactions could not be evaluated simultaneously. However, valuable information about the changes that occur during the child's transition into school has been provided. In addition, the study has incorporated the perspectives of a number of parents and teachers to obtain information about the process of transition and subsequent school performance in kindergarten. The current study has replicated a number of findings from past literature; however, offers new information about the experiences of preschoolers, particularly preschoolers with DD. By looking at a broad range of factors that can influence transition, this study makes an important contribution to the sparse existing literature on the transition of children with DD into school. It is expected that further research focusing on predictors of school transition will provide greater understanding of this critical period in child development for preschoolers and their families.

References

- Anderson, L. M., Shinn, C., Fullilove, M. T., Scrimshaw, S. C., Fielding, J. E., Normand, J. et al. (2003). The effectiveness of early childhood development programs: A systematic review. *American Journal of Preventive Medicine, 24*, 32-46.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th ed. Text Revision)*. Washington, DC: Author.
- Baker, B. L., & Abbott Feinfeld, K. (2003). Early Intervention. *Current Opinions in Psychiatry, 16*, 503-509.
- Baker, B. L., & Blacher, J. (2002). For better or worse? Impact of residential placements on families. *Mental Retardation, 44*, 1-13.
- Baker, B. L., Blacher, J., Crnic, K. A., & Edelbrock, C. (2002). Behaviour problems and parenting stress in families of three-year-old children with and without developmental delays. *American Journal on Mental Retardation, 107*, 433-444.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnic, K., Edelbrock, C., & Low, C. (2003). Pre-school children with and without developmental delay: Behaviour problems and parenting stress over time. *Journal of Intellectual Disability Research, 47*, 217-230.
- Baker, B. L., Blacher, J., & Olsson, M. B. (2005). Preschool children with and without developmental delay: Behaviour problems, parents' optimism and well-being. *Journal of Intellectual Disability Research, 49*, 575-590.

- Blacher, J. (2001). Transition to adulthood: Mental retardation, families and culture. *American Journal on Mental Retardation, 106*, 173-188.
- Booth, C. L., & Kelly, J. F. (2002). Child care effects on the development of toddlers with special needs. *Early Childhood Research Quarterly, 17*, 171-196.
- Bruininks, R. H. Woodcock, R. W., Weatherman, R. E., & Hill, B. K. (1996). *Scales of Independent Behavior—Revised (SIB-R)*. Itasca, Illinois: Riverside Publishing.
- Charman, T., Howlin, P., Berry, B., & Prince, E. (2004). Measuring developmental progress of children with autism spectrum disorder on school entry using parent report. *Autism, 8*, 89-100.
- Clifford, T. (2007, unpublished). Transition into School: Experiences of Children with Intellectual Disabilities and their Families. Master's thesis, Queen's University. (Available from Tess Clifford, 4tc29@queensu.ca).
- Clifford, T., Lopes, V., Minnes, P., & Ouellette-Kuntz, H. (2008, April). *Participation of young children with and without developmental delay in organized social activities: Is it all about the money?* Paper presented at the Ontario Association on Developmental Disabilities 19th Annual Conference Research Special Interest Group, Barrie, ON.
- Clifford, T., Lopes, V., Minnes, P., & Ouellette-Kuntz, H. (2008). Inclusion of preschoolers with intellectual disabilities in organized social activities. *Journal on Intellectual Disabilities, 14*, 11-18.

- Damiani, G., Rosenbaum, P., Swinton, M., & Russel, D. (2004). Frequency and determinants of formal respite service use among caregivers of children with cerebral palsy in Ontario. *Child: Care, Health and Development, 30*, 77-86.
- Daniels, K. (1999). Coping and the job demands-control-support model: An exploratory study. *International Journal of Stress Management, 6*, 125 -144
- De Ridder, D. & Kerssens, J. (2003). Owing to the force of circumstances? The impact of situational features and personal characteristics on coping patterns across situations. *Psychology and Health, 18*, 217-236.
- Dockett, S. & Perry, B. (2004). What makes a successful transition to school? Views of Australian parents and teachers. *International Journal of Early Years Education, 12*, 217-230.
- Doherty, G. (1997). Zero to six: The basis for school readiness. Research paper released by the Applied Research Branch of Human Resources Development Canada. Available from <http://www.hrsdc.gc.ca/en/cs/sp/sdc/pkrf/publications/1997-002557/page00.shtml>
- Dunlop, S., Coyte, P. C., & McIsaac, W. (2000). Socio-economic status and the utilization of physicians' services: Results from the Canadian National Population Health Survey. *Social Science & Medicine, 51*, 123-133.
- Eisenhower, A. S., Baker, B. L., & Blacher, J. (2005). Preschool children with intellectual disability: syndrome specificity, behavior problems, and maternal well-being. *Journal of Intellectual Disability Research, 49*, 657-671.

- Eiser, C., Mohay, H., & Morse, R. (2000). The measurement of quality of life in young children. *Child: Care, Health and Development, 26*, 401-414.
- Emerson, E. (2004). Poverty and children with intellectual disabilities in the world's richer countries. *Journal of Intellectual & Developmental Disability, 29*, 319 - 338.
- Emerson, E., & Hatton, C. (2007). Poverty, socio-economic position, social capital and the health of children and adolescents with intellectual disabilities in Britain: a replication. *Journal of Intellectual Disability Research, 51*, 866-874.
- Emerson, E., Hatton, C., Llewellyn, G., Blacher, J., & Graham, H. (2006). Socio-economic position, household composition, health status and indicators of well-being of mothers of children with and without intellectual disabilities. *Journal of Intellectual Disability Research, 50*, 862-873.
- Feldman, M. A., Hancock, C. L., Rielly, N., Minnes, P., & Cairns, C. (2000). Behavior problems in young children with or at risk for developmental delay. *Journal of Child and Family Studies, 9*, 247-261.
- Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology, 50*, 992-1003.
- Fox, L., Dunlap, G., & Cushing, L. (2002). Early intervention, positive behavior support, and transition to school. *Journal of Emotional and Behavioral Disorders, 10*, 149-157.

- Floyd, F. J., & Gallagher, E. M. (1997). Parental stress, care demands, and use of support services for school-age children with disabilities and behavior problems. *Family Relations, 46*, 359-371.
- Fujiura, G. T., & Yamaki, K. (2000). Trends in demography of childhood poverty and disability. *Exceptional Children, 66*, 187-99.
- Glidden, L. M., Billings, F. J., & Jobe, B. M. (2006). Personality, coping style and well-being of parents rearing children with developmental disabilities. *Journal of Intellectual Disability Research, 50*, 949-962.
- Goldstein, P. (2004). Helping young children with special needs develop vocabulary. *Early Childhood Education Journal, 31*, 39-43.
- Guralnick, M. J. (1990). Social competence and early intervention. *Journal of Early Intervention, 14*, 3-14.
- Guralnick, M. J. (1999). Family and child influences on the peer-related social competence of young children with developmental delays. *Mental Retardation and Developmental Disabilities, 5*, 21-29.
- Hadadian, A., & Merbler, J. (1996). Mother's stress: Implications for attachment relationships. *Early Child Development and Care, 125*, 59-66.
- Hassall, R., Rose, J., & McDonald, J. (2005). Parenting stress in mothers of children with an intellectual disability: The effects of parental cognitions in relation to the child characteristics and family support. *Journal of Intellectual Disability Research, 49*, 405-418.

- Hastings, R. P., Kovshoff, H., Brown, T., Ward, N. J., degli Espinosa, F., & Remington, B. (2005). Coping strategies in mothers and fathers of preschool and school-age children with autism. *Autism, 9*, 377-391.
- Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., & Krauss, M. W. (2001) Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development, 66*, 1 -131
- Hill, R. (1949). *Families under stress*. New York: Harper & Row.
- Hundert, J., Morrison, L., Mahoney, W., Mundy, F., & Vernon, M. L. (1997). Parent and teacher assessments of the developmental status of children with severe, mild/moderate, or no developmental disabilities. *Topics in Early Childhood Special Education, 17*, 419-434.
- Ising, M. Weyers, P., Reuter, M., & Janke, W. (2006). Comparing two approaches for the assessment of coping: Part II. Differences in stability in time. *Journal of Individual Differences, 27*, 15-19.
- Izzo, C. V., Weissberg, R. P., Kasrow, W. J., & Fendrich, M. (1999). A longitudinal assessment of teacher perceptions of parent involvement in children's education and school performance. *American Journal of Community Psychology, 27*, 817-839.
- Janus, M., & Offord, D. (2007). Psychometric properties of the Early Development Instrument (EDI): A teacher-completed measure of children's readiness to learn at school entry. *Canadian Journal of Behavioural Science, 39*, 1-22.

- Jones, J., & Passey, J. (2004). Family adaptation, coping and resources: Parents of children with developmental disabilities and behaviour problems. *Journal on Developmental Disabilities, 11*, 32-46.
- Kemp, C. (2003). Investigating the transition of young children with intellectual disabilities to mainstream classes: An Australian perspective. *International Journal of Disability, Development and Education, 50*, 403-433.
- Kemp, C., & Carter, M. (2000). Demonstration of classroom survival skills in kindergarten: A five-year transition study of children with intellectual disabilities. *Educational Psychology, 20*, 393-411.
- Kemp, C., & Carter, M. (2005). Identifying skills for promoting successful inclusion in kindergarten. *Journal of Intellectual & Developmental Disability, 30*, 31-44
- Kohl, G. O., Lengua, L. J., & McMahon, R. J. (2000). Parent involvement in school: Conceptualizing multiple dimensions and their relations with family and demographic risk factors. *Journal of School Psychology, 38*, 501-523.
- Kraemer, B. R., & Blacher, J. (2001). Transition for young adults with severe mental retardation: School preparation, parent expectations, and family involvement. *Mental Retardation, 39*, 423-435.
- Kraemer, B. R., McIntyre, L. L. & Blacher, J. (2003). Quality of life for young adults with mental retardation during transition. *Mental Retardation, 41*, 250-262.
- Lazzari, A. M., & Kilgo, J. L. (1989). Practical Methods for supporting children in early transitions. *Teaching Exceptional Children, 22*, 40-43.

- La Paro, K. M., & Pianta, R. C. (2000). Predicting children's competence in the early school years: A meta-analytic review. *Review of Education Research, 70*, 443-484.
- Lau, K. M., Chow, S. M. K., & Lo, S. K. (2006). Parents' perception of the quality of life of preschool children at risk or having developmental disabilities. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 15*, 1133-1141.
- Lavigne, J. V., Arend, R., Rosenbaum, D., Binns, H. J., Christoffel, K. K., Burns, A., & Smith, A. (1998). Mental health service use among young children receiving pediatric primary care. *Journal of the American Academy of Child and Adolescent Psychiatry, 37*, 1175-1183.
- Lecavalier, L., Leone, S., & Wiltz, J. (2006). The impact of behaviour problems on caregiver stress in young people with autism spectrum disorders. *Journal of Intellectual Disability Research, 50*, 172 -183
- Leonard, H., Petterson, B., De Klerk, N., Zubrick, S. R., Glasson, E., Sanders, R., & Bower, C. (2005). Association of sociodemographic characteristics of children with intellectual disability in Western Australia. *Social Science & Medicine, 60*, 1499 -1513
- Maes, B., Broekman, T. G., Dosen, A. & Nauts, J. (2003). Caregiving burden of families looking after persons with intellectual disability and behavioural or psychiatric problems. *Journal of Intellectual Disability Research, 47*, 447-455.

- Mangione, P. L., & Speth, T. (1998). The transition to elementary school: A framework for creating early childhood continuity through home, school, and community partnerships. *The Elementary School Journal*, 98, 381 -397.
- Mak, W. S., & Ho, S. M. (2007). Caregiving perceptions of Chinese mothers of children with intellectual disability in Hong Kong. *Journal of Applied Research in Intellectual Disabilities*, 20, 145-156.
- McCubbin, H. I. & Patterson, J. M. (1983). The family stress process: The double ABCX model of adjustment and adaptation. *Marriage & Family Review*, 6, 7-37.
- McColl, M. A., & Skinner, H. (1995). Assessing inter- and intrapersonal resources: Social support and coping among adults with a disability. *Disability and Rehabilitation*, 17, 24-34.
- McIntyre, L. L., Blacher, J. & Baker, B. L. (2006). The transition to school: adaptation in young children with and without intellectual disability. *Journal of Intellectual Disability Research*, 50, 349-361.
- Minnes, P. M. (1988). Family resources and stress associated with having a mentally retarded child. *American Journal on Mental Retardation*, 93, 184-192.
- Minnes, P. M., Buell, M. K., Feldman, M., McColl, M. A. & McCreary, B. (2002). Evaluating Community Integration from an Acculturation Perspective: Preliminary validation of the AIMS Interview. *Journal of Applied Research in Intellectual Disability*, 15, 377-387.

- Minnes, P. M., Buell, M. K., Nolte, M. L., McColl, M. A., Carlson, P. & Johnston, J. (2001). Defining community integration of persons with brain injuries as acculturation: A Canadian perspective. *NeuroRehabilitation, 16*, 3-10
- Minnes, P. M., Buell, M. K., Solish, A. (2005). *Child AIMS Interview*. (Available from Dr. Patricia Minnes, minnesp@post.queensu.ca).
- Minnes, P., Woodford, L., & Passey, J. (2007). Mediators of well-being in ageing family carers of adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities, 20*, 539 -552
- Nachshen, J. S., & Minnes, P. (2005). Empowerment in parents of school-aged children with and without developmental disabilities. *Journal of Intellectual Disability Research, 49*, 889-904.
- Nachshen, J. S., Garcin, N. & Minnes, P. (2005). Problem behaviour in children with intellectual disabilities: Parenting stress, empowerment and school services. *Mental Health Aspects of Developmental Disabilities, 8*, 105-114.
- Nachshen, J., Woodford, L. & Minnes, P. (2003). The Family Stress and Coping Interview for families of individuals with developmental disabilities: A lifespan perspective on family adjustment. *Journal of Intellectual Disability Research, 47*, 285-290.
- Odom, S. L. (2000). Preschool inclusion: What we know and where to go from here. *Topics in Early Childhood Special Education, 20*, 20-27.

- Odom, S. L., Li, S., Sandall, S., Zercher, C., Marquart, J. M., & Brown, W. H. (2006). Social acceptance and rejection of preschool children with disabilities: A mixed-method analysis. *Journal of Educational Psychology, 98*, 807-823.
- The Offord Centre for Child Studies (2005). *Early Development Instrument*. (Available from <http://www.offordcentre.com/readiness/>)
- Perry, K. E., & Weinstein, R. S. (1998). The social context of early schooling and children's school adjustment. *Educational Psychologist, 33*, 177 -194
- Provost, B., Lopez, B. R., & Heimerl, S. (2007). A comparison of motor delays in young children: Autism spectrum disorder, developmental delay, and developmental concerns. *Journal of Autism and Developmental Disorders, 37*, 321-328.
- Ramey, C. T. & Ramey, S. L. (1998). Early intervention and early experience. *American Psychologist, 53*, 109-120.
- Ramey, C. T. & Ramey, S. L. (2004). Early leaning and school readiness: Can early intervention make a difference? *Merrill-Palmer Quarterly, 50*, 471-491.
- Redden, S. C., Forness, S. R., Ramey, S. L., Ramey, C. T., Brezausek, C. M., & Kavale, K. A. (2001). Children at risk: Effects of a four-year Head Start transition program on special education identification. *Journal of Child and Family Studies, 10*, 255-270.
- Renwick, R., Fudge Schormans, A., Friefeld, S., Rosenfield, J., Brown, I., et al. (2004). *Quality of life for children with long-term disabilities: Instrument development and validation*. (Available at www.utoronto.ca/qol).

- Renwick, R., Fudge Schormans, A., & Zekovic, B. (2003). Quality of life for children with developmental disabilities: A new conceptual framework. *Journal on Developmental Disabilities, 10*, 107-114.
- Renwick, R., Fudge Schormans, A., Zekovic, B., McPhail, E., Brown, I., Rosenfield, J., et al. (2002). *Quality of life for children with developmental disabilities: Parental perspective*. (Available at www.utoronto.ca/qol).
- Rimm-Kaufman, S. E., & Pianta, R. C. (2000). An ecological perspective on the transition to kindergarten: A theoretical framework to guide empirical research. *Journal of Applied Developmental Psychology, 21*, 491-511.
- Rimm-Kaufman, S. E., Pianta, R. C. & Cox, M. J. (2000). Teacher's judgment of problems in the transition to kindergarten. *Early Childhood Research Quarterly, 15*, 147-166.
- Saloviita, T., Italinna, M. & Leinonen, E. (2003). Explaining the parental stress of fathers and mothers caring for a child with intellectual disabilities: A double ABCX model. *Journal of Intellectual Disability Research, 47*, 300-312.
- Schalock, R. L. (2004). The concept of quality of life: what we know and what we do not know. *Journal of Intellectual Disability Research, 48*, 203-216.
- Schulting, A. B., Malone, P. S., & Dodge, K. A. (2005). The effect of school-based kindergarten transition policies and practices on child academic outcomes. *Developmental Psychology, 41*, 860-871.

- Scorgie, K. & Sobsey, D. (2000). Transformational outcomes associated with parenting children who have disabilities. *Mental Retardation*, 38, 195-206.
- Shin, J. Y. & Crittenden, K. S. (2003). Well-being of mothers of children with mental retardation: An evaluation of the Double ABCX model in a cross-cultural context. *Asian Journal of Social Psychology*, 6, 171-184.
- Sigafoos, J., Roberts-Pennell, D., & Graves, D. (1999). Longitudinal assessment of play and adaptive behavior in young children with developmental disabilities. *Research in Developmental Disabilities*, 20, 147 -161
- Solish, A., Minnes, P. & Kupferschmidt, A. (2003) Integration of children with developmental disabilities in social activities. *Journal on Developmental Disabilities*, 10, 115-121.
- Spector, J. E. (1999). Precision of age norms in tests used to assess preschool children. *Psychology in the Schools*, 36, 459-471.
- Stewart, S., O'Connor, K., MacRae, K., Brignell, A., & Bianchet, S. (1996). Parental satisfaction with Early Expressions. Early Expressions Speech and Language Preschool services. (Available from http://www.kflapublichealth.ca/Files/Reports/Parental_Satisfaction_with_Early_Expressions.pdf)

- Sy, S. R., & Schulenberg, J. E. (2005). Parent beliefs and children's achievement trajectories during the transition to school in Asian American and European American families. *International Journal of Behavioural Development, 29*, 505-515.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (5th ed.). Boston: Pearson Education Inc.
- Terry, D. J. (1994). Determinants of Coping: The role of stable and situational factors. *Journal of Personality and Social Psychology, 66*, 895-910.
- Trevo, R. (2007). Language proficiency, development, and behavioral difficulties in toddlers. *Clinical Pediatrics, 46*, 530-539.
- Vargus-Adams, J. (2006). Longitudinal use of the Child Health Questionnaire in childhood cerebral palsy. *Developmental Medicine & Child Neurology, 48*, 343-347.
- Watson, S. M. R., & Keith, K. D. (2002). Comparing the quality of life of school aged children with and without disabilities. *Mental Retardation, 40*, 304-312.
- Wiersma, D. (2006). Needs of people with severe mental illness. *Acta Psychiatrica Scandinavica, 113*, 115-119.
- Wilgosh, L., Nota, L., Scorgie, K., & Soresi, S. (2004). Effective life management in parents of children with disabilities: A cross-national extension. *International Journal for the Advancement of Counseling, 26*, 301-312.

Woodford, L. & Minnes, P. (2000). *Service and support use for person with a disability*.

(Available from Dr. Patricia Minnes, minnesp@post.queensu.ca).

Wu, K. N., Lieber, E., Siddarth, P., Smith, K., Sankar, R., & Caplan, R. (2008). Dealing with epilepsy: Parents speak up. *Epilepsy & Behavior, 13*, 131-138.

Appendix A
Recruitment Letter for Agencies

**Factors Contributing to the Successful Transition into
School of Preschoolers with and without
Developmental Delay**

Recruitment Letter for Agencies



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Thank you for your interest in our project on Transition into School and for agreeing to participate! This study has been approved by the Queen's University Research Ethics Board. Here is some information about the study that may be useful for you.

What is this study about? We want to learn what the transition into elementary school is like for children with and without developmental delay (DD) and their families. We want to learn what factors contribute to successful outcomes of transition, so we know what can help make the transition into school easier for all children, especially those with DD.

What is a developmental delay? A developmental delay involves deficits in two or more areas of functioning such as cognitive development, speech and language development, social and emotional development, fine motor skill development, or gross motor skill development. Developmental delay is usually indicated when a child does not meet developmental milestones within the expected time period.

Who would we like to speak to? We would like to speak with parents or guardians of children with a developmental delay who are attending school for the first time in September 2007. The children may be entering Junior Kindergarten, Senior Kindergarten or Grade 1.

What does my agency need to do? We are asking that you send one of the information packages provided, to the parents of eligible children. These packages include an information sheet for

parents, a consent form, an honorarium form and a stamped envelope. After the parents have received this package they can contact us if they are interested in participating. The rest of our contacts will be directly with the parents or guardians. A copy of the documents that will be included in the information package is attached.

What will happen to the information collected? Once all of the information is gathered, we will be preparing a report on our findings. Your agency will receive a copy of the report. Also, you will be invited to attend an information session where the results of the study will be presented and you will be able to meet with representatives from the other agencies who are involved with the project.

What if I have questions? If you have any questions or concerns about the study please contact:
Vicki Lopes, Project Leader, Queen's University, at (613) 533-3059 or 5v18@qlink.queensu.ca
Dr. Patricia Minnes, Project Supervisor, Queen's University, at (613) 533-2885
Hélène Ouellette-Kuntz, SEO CURA in ID Director, (613) 548-4417 or 1-866-656-4417
Dr. Vern Quinsey, Head of the Psychology Department, at (613) 533-2492

If you have any concerns about your rights as a research participant, please contact:
Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board, at (613) 533-6081.

Thank you for your help. We look forward to working with you!

Appendix B
Recruitment Letter for Daycares

**Factors Contributing to the Successful Transition into
School of Preschoolers with and without
Developmental Delay**

Recruitment Letter for Preschools and Day Care Centers



Thank you for your interest in our project on Transition into School and for agreeing to participate! This study has been approved by the Queen's University Research Ethics Board. Here is some information about the study that may be useful for you.

What is this study about? We want to learn what the transition into elementary school is like for children with and without developmental delay (DD) and their families. Learning more about the typical course of transition for children *without* developmental delay can provide us with very useful information that can help us understand school transition for children with DD. We want to know what factors contribute to successful outcomes of transition for children and their families, so we know what can help make the transition into school easier for all children.

What is a developmental delay? A developmental delay involves deficits in two or more areas of functioning such as cognitive development, speech and language development, social and emotional development, fine motor skill development, or gross motor skill development. Developmental delay is usually indicated when a child does not meet developmental milestones within the expected time period.

Who would we like to speak to? We would like to speak with parents or guardians of typically developing children or parents of children with DD who are attending school for the first time in September 2007. The children may be entering Junior Kindergarten, Senior Kindergarten or Grade 1.

How can your preschool participate? We are asking that you send one of the information packages provided, to the parents of children who will be entering into elementary school for the first time in September 2007. These packages include an information sheet for parents, a consent form, an honorarium form, and a stamped envelope. After the parents have received this package they can contact us if they are interested in participating. The rest of our contacts will be directly with the parents or guardians. A copy of the documents that will be included in the information package is attached.

What will happen to the information collected? Once all of the information is gathered, we will be preparing a report on our findings. Your preschool will receive a copy of the report. Also, you will be invited to attend an information session where the results of the study will be presented.

What if I have questions? If you have any questions or concerns about the study please contact:
Vicki Lopes, Project Leader, Queen's University, at (613) 533-3059 or 5vl8@qlink.queensu.ca
Dr. Patricia Minnes, Project Supervisor, Queen's University, at (613) 533-2885
Hélène Ouellette-Kuntz, SEO CURA in ID Director, (613) 548-4417 or 1-866-656-4417
Dr. Vern Quinsey, Head of the Psychology Department, at (613) 533-2492

If you have any concerns about your rights as a research participant, please contact:
Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board, at (613) 533-6081.

Thank you for your help. We look forward to working with you!

Appendix C
Information and Consent Form for Parents

**Information Sheet and Consent Form for
Parents and Guardians**



**Factors contributing to the successful transition into school of preschoolers with and
without developmental delay**

Background

You and your child are invited to participate in a research study about the transition of preschool children with and without developmental delay into elementary school. This study is being conducted by Vicki Lopes, graduate student in the Department of Psychology at Queen's University, under the supervision of Dr. Patricia Minnes in the Department of Psychology at Queen's University. This study has been reviewed for ethical compliance by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board and is being supported in part by the South Eastern Ontario Community-University Research Alliance in Intellectual Disabilities (SEO CURA in ID).

Details of the study

What is the study about? We want to learn what the transition into elementary school is like for children with developmental delays and children without developmental delays and their families. We want to know how this transition may be different for children with and without developmental delays and their families. By learning more about school transition, we hope to make the transition into school easier for all children.

Who would we like to talk to? If you are a parent of a child who will be starting school in September 2007, we would like to speak with you!

How long will it take? We would like to talk with you three times: 1) in the summer before your child starts school, 2) when your child enters school in September, and 3) after your child has settled into his/her elementary school classroom in January or February of the following year. Each interview will occur over the telephone and will take approximately 1 to 1 ½ hours. We may ask if you are willing to be contacted again within the next 24 months for a 1 ½ hour follow up interview.

What will you be asked to do? You will be asked some questions about your child's skills, your experiences as a parent and about any services you may use. You will also be mailed a questionnaire that you will be asked to complete and return to us, by mail. The questionnaire will take approximately 20 minutes to complete. Lastly, you will be asked if you are willing to nominate a teacher at your child's elementary school. With your consent, this teacher will be contacted and will be asked if he/she is willing to complete a questionnaire about your child's school readiness. The questionnaire will take about 15 minutes to complete.

Are there any risks to participating? There are no anticipated risks of participation in the study and many parents report that the interviews are interesting and rewarding.

What are the benefits of participation? You can help us understand the experiences of your child and your family. While you may not benefit directly from participating, results from this study will help us understand what the transition into school is like for children and how this transition may be different for children with developmental delay. After talking with many parents we hope to get a better idea of this important point in a child's life, so that the transition into school can be made easier for all children and their families.

What will happen to my information? The information we collect is confidential. No one will see your answers except members of our research team, and all information will be kept in a locked filing cabinet. When the information is entered into the computer, all names will be removed and the file will be protected with a password.

After gathering all of the information, the data will be made into a report that will be available for parents. Your name will not appear in the report and no one will know your answers to the questions. Your non-identifiable data may be combined with data from related SEO CURA in ID projects.

What happens if I would like to withdraw from the study? Your participation in this study is voluntary and you may withdraw from the study at any time.

Will I be compensated for participating? Yes, after your third interview, you will be given a \$25 honorarium as compensation for taking the time to participate.

How can I become part of this study? If you wish to participate in the study, please read the consent form enclosed in the information package. Please fill in, sign and return the consent form in the stamped addressed envelope enclosed. If you wish receive the \$25 reimbursement, please read the honorarium form enclosed in the information package. Please fill in, and return the honorarium form, along with your consent form in the stamped addressed envelope enclosed. You will be contacted to schedule an interview once the consent form has been received. We will send you a copy of the consent form for your records. Please feel free to contact the project leader if you have any questions.

Who can I contact for more information?

Vicki Lopes, Project Leader, Queen's University, at (613) 533-3059 or 5v18@qlink.queensu.ca

Dr. Patricia Minnes, Project Supervisor, Queen's University, at (613) 533-2885

Hélène Ouellette-Kuntz, SEO CURA in ID Director, (613) 548-4417 or 1-866-656-4417

Dr. Vern Quinsey, Head of the Psychology Department, at (613) 533-2492

If you have any concerns about your rights as a research participant, please contact:

Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board, at (613) 533-6081.

Transition into School Project: Consent Form

I have read and understand the information about this study. I have had the purposes and procedures of the study explained to me. I have had the opportunity to ask questions which have been answered to my satisfaction. I understand that my participation is voluntary and that I may refuse to participate or withdraw at any time without penalty. I understand that my information will be kept confidential. I will receive a copy of this consent form for my information.

If I have any further questions, or problems, I may contact:

Vicki Lopes, Project Leader, Queen's University, at (613) 533-3059 or 5v18@qlink.queensu.ca
Dr. Patricia Minnes, Project Supervisor, Queen's University, at (613) 533-2885
Hélène Ouellette-Kuntz, SEO CURA in ID Director, (613) 548-4417 or 1-866-656-4417
Dr. Vern Quinsey, Head of the Psychology Department, at (613) 533-2492

If you have any concerns about your rights as a research participant, please contact:

Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board, at (613) 533-6081.

By signing this consent form, I am indicating that I agree to participate in this study.

Participant Name (Please Print): _____

Address:

Phone Number: _____

Participant Signature: _____

Date: _____

I am willing to be contacted regarding future studies on similar topics Yes No

Participant Name (Please Print): _____

Participant Signature: _____

Date: _____

PLEASE MAIL THIS FORM IN THE ENVELOPE PROVIDED

**PLEASE SIGN THE NEXT PAGE TO ENABLE US TO SEND YOU THE \$25
HONORARIUM**

Transition into School Project: Honorarium form

As a participant in our study – *Transition into School* – we are pleased to offer a \$25.00 honorarium for completing the telephone interviews and the questionnaires as compensation for your time. We hope that this will assist with recouping the costs of any childcare needed while the interviews and questionnaires are completed.

The Financial Services Department at Queen’s University requires a Social Insurance Number in order to process this request. If you would like to receive the \$25, please record your SIN on the line below and return it to us along with your signed consent form. Please note that we will ONLY use this number for the purposes of providing you with the \$25 reimbursement. Your information will NOT be shared with any other parties and will NOT be kept on file. If you have any concerns or questions, feel free to contact us at any time at (613) 548-4417 x 1153, or toll free at 1-866-656-4417.

Thank you again for your participation in our study. We appreciate your help.

Name: _____

Mailing Address: _____

SIN #: _____

PLEASE MAIL THIS FORM IN THE ENVELOPE PROVIDED.

YOUR HONORARIUM WILL BE MAILED TO YOU AFTER THE THIRD INTERVIEW.

Appendix D
Teacher Information Letter



DEPARTMENT OF PSYCHOLOGY
Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel 613 533-6005
Fax 613 533-2499

School

February 25, 2008

Dear Mrs. _____,

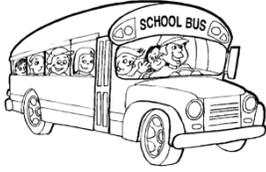
Parent name, the parent of child name, is participating in a study about the transition into school for children with or without developmental delays. Parent name has nominated you as the teacher who knows her child best and has given us permission to contact you to collect some information about child name's functioning at school. (Please see the enclosed permission form). We would like you to complete the enclosed measure, Early Development Inventory, and send it back to us in the envelope provided. We have provided a teacher guide to completing the Early Development Inventory, which offers some explanations that may be useful when completing the questionnaire. It should take approximately 20 minutes to complete the questionnaire.

Please see the enclosed Information Sheet for more information about this study, and feel free to contact me if you have any questions or concerns. I can be reached at (613) 533-3059 or 5v18@queensu.ca

Thank you for your help with this study.

Sincerely,

Vicki Lopes
Master's Candidate, Queen's University
Project Leader



Information Sheet for Teachers



Factors Contributing to the Successful Transition of Preschoolers With and Without Developmental Delay into School

What is this study about? We want to learn what the transition into elementary school is like for children with and without developmental delay (DD) and their families. We want to know what can help make the transition into school easier for all children, especially those with DD.

What would we like you to do? One of the families participating in this study has identified you as the teacher who knows their child best. They have given us permission to contact you for more information about their child, particularly related to how the child functions at school. We would like you to complete the Early Development Instrument for this child.

What will happen to my information? The information collected will be confidential, and we will ask that you do not indicate the child's name or your name anywhere on the form; rather we will ask you to use the participant number we give you. Only members of the research team will have access to the information you provide, and this information will be kept in a locked filing cabinet. When the information is put in the computer there will be no names associated with it and the information will require a password to be accessed.

None of the information you provide about the child or yourself will be given to anyone without your written permission, unless this information is required by law. It is the law that professionals must report a suspicion of child abuse.

After gathering all of the information we will be writing a report to give to parents, teachers and agencies involved in the study. Your name will not be in any of the information and no one will know your answers to our questions. You will receive a copy of the report, and you will be

invited to attend an information session where the results of the study will be presented and you will be able to meet with representatives from the agencies and schools involved with the project.

How can I become part of this study? If you are willing to be a part of this study, you will need to fill out the consent form on the next page. We have also included the Early Development Instrument and the Teacher's Guide for the instrument, please complete the instrument and send it and the consent form to us in the envelope provided.

Thank you very much for taking the time to read this letter. We look forward to working with you. If you have any questions about the study please contact Vicki Lopes at (613) 533-3059 or 1-866-656-4417 ext. 1207, or 5v18@queensu.ca

You can also contact the following people for more information:

Dr. Patricia Minnes, Queen's University, Project Supervisor, (613) 533-2885

Hélène Ouellette-Kuntz, Research Director, (613) 548-4417 ext. 1198 or 1-866-656-4417

Dr. Vern Quinsey, Head of the Psychology Department, at 533-2492

Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board, at (613) 533-6081.

Transition into School Project: Teacher Consent Form

I have read and understood the information sheet. I have had the study explained to my satisfaction. I understand that my participation is voluntary and that I may refuse to participate or withdraw at any time without any penalties of any kind. I understand that my information will be kept confidential. If I have any questions I will contact the people listed above. I agree to participate by completing this form.

Teacher Name (Please Print): _____

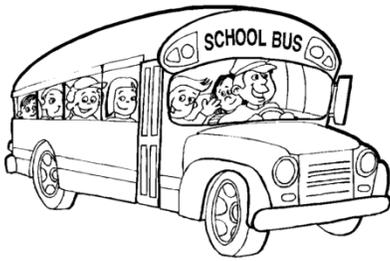
Address: _____

Phone Number: _____

Teacher Signature: _____

Date: _____

Appendix E
Interview Booklet



Transition into School

Telephone Interview Guide and
Administration Booklet

Interview 1

General Instructions:

This booklet is to be used for telephone interviews with parents and guardians who have volunteered to participate in the Transition into School project. Before starting the interview, make sure you have a copy of the signed Consent Form for the individual you will be interviewing. The layout of this booklet is designed to optimize consistency in data collection. Please read all instructions before making the phone call. Follow the format in order and as directed. Make sure you have a complete interview package and blue-ink pen before starting the interview. **DO NOT WRITE THE STUDENT or PARENT or GUARDIAN'S NAMES ON THIS BOOKLET.**

Starting the Interview:

Conduct the interview in a distraction-free area. Make the phone call. **IF NO ANSWER**, use the tracking sheet to record the attempt. **IF ANSWERED**, continue. **Note the start time of the interview in the space provided at the top of the "START" page.** Introduce yourself and verify that you are talking with the individual who is identified on the Consent Form. To begin the interview, **follow the script on Page 2.**

Administration of Instruments:

In addition to the demographic data, there are five primary instruments used in this interview. Two of the instruments, SIB-R and Child AIMS, are separate from this booklet. As well the Quality of Life measure will be sent to the parent after completing this interview. At the end of the interview you will be prompted to tell the parent we will be sending this questionnaire soon.

It is important to follow the instructions for each of the instruments. Do not score these instruments as part of the interview.

Completing the Interview:

After completing the interview, do a quick check to make sure no steps or parts of the interview have been missed. **Follow instructions on page 15.** Ask the parent or guardian if he or she has any questions or comments before ending the call and thank him or her for talking with you and answering the questions. Be sure to give contact information provided at the end of this booklet and remind the parent we will be contacting them again in a few months to complete the next interview.

Post-interview Instructions:

After the call has terminated, complete the Interviewer section on the back inside cover of the booklet including any comments about the interview you feel may be important (e.g., parent was distracted several times by family members). **After scoring, put the interview booklet and other instruments in the participant's Minnes Lab folder. Return Cover Page, Tracking Sheet copy of Consent Form, and Completion Sheet to the CURA office ASAP.**

START

time _____ a.m. / p.m.

Interviewer Instructions: **Read the italicized statement shaded in grey to the parent or guardian. Mark responses where indicated. Answer any questions he or she may have at this time about the interview. Be sure to confirm consent and verify the identity of both the person you are talking with and the child who is the person of interest.**

Hello, is [name of parent or guardian] available? [If asked to identify self, state your name and that you are affiliated with a Queen's University research group.]

No, not available. Thank the person on the phone and tell him or her that you will call back later – note on telephone tracking sheet.

Yes, available or speaking. Continue when interviewee is on the phone.

[If interviewee is not the person who answers phone, when person comes to the phone verify he or she is the interviewee.] Is this [name of parent/guardian]?

Yes – confirmation

This is [your name] with the Department of Psychology at Queen's University. We sent you a letter about the study we are currently conducting to learn more about the transition into school for young children. I understand that you volunteered to do a telephone survey as part of this research. Is this a good time to do the interview?

No – Ask when would be a good time to call again and note on telephone tracking sheet. Thank the person and tell him or her you will call again at the agreed time. IF THE PERSON CHANGED HIS OR HER MIND AND DOES NOT WANT TO DO AN INTERVIEW, NOTE REASONS.

Yes – confirmation

Good, thank you. You have a preschool aged child with special needs, right?

Yes – confirmation

12. Who else lives in your home? Check box if the person has special needs.

Relationship	Gender	Age	Person with SN
			<input type="checkbox"/>

Information about Child

11. What is the name of your child with special needs?

12. Gender? 1...Male 2...Female

13. What is [child's name]'s date of birth? ____/____/_____
(dd)/(mm)/(yyyy)

14. Where was [child's name] born (town/city) _____ (province/state) _____
(country, if other than Canada) _____

15. Has [child's name] always lived with you? 1...YES 2...NO

16. If NO, where did [child's name] live before his or her present home?

17. Does [child's name] have a diagnosis for his/her special needs? 1...YES
2...NO

18. If YES, What is it? (circle all that apply):

22. How satisfied are you with the daycare/preschool program?

- | | |
|---------------------------------------|------------------------|
| 1...Very unsatisfied | 4...Somewhat satisfied |
| 2...Somewhat unsatisfied | 5...Very satisfied |
| 3...Neither Satisfied nor unsatisfied | |

23. a. Is [child's name] currently in an early intervention program? 1...YES 2...NO

- b. If YES, what kind?
- 1...School readiness
 - 2...Intensive Behavioural Intervention
 - 3...Other_____

24. How satisfied are you with the early intervention program?

- | | |
|---------------------------------------|------------------------|
| 1...Very unsatisfied | 4...Somewhat satisfied |
| 2...Somewhat unsatisfied | 5...Very satisfied |
| 3...Neither Satisfied nor unsatisfied | |

25. Has [child's name] attended school before? 1...YES 2...NO

If YES, Why is he/she no longer attending?_____

26. What school will child be attending in the September? _____

27. Has your child used any of the following specialized services? How satisfied are you with this service?

- | | |
|---------------------------------------|------------------------|
| 1...Very unsatisfied | 4...Somewhat satisfied |
| 2...Somewhat unsatisfied | 5...Very satisfied |
| 3...Neither Satisfied nor unsatisfied | |

1...Occupational therapy _____

2...Physiotherapy _____

- 3...Speech therapy _____
- 4...Psychology _____
- 5...Social Work _____
- 6...Community behaviour management services _____

28. Have you used any respite services? 1...YES 2...NO

If YES, is it 1...In home 2...Out of home

29. How satisfied are you with respite services?

- 1...Very unsatisfied 4...Somewhat satisfied
- 2...Somewhat unsatisfied 5...Very satisfied
- 3...Neither Satisfied nor unsatisfied

30. Have you used any counseling or support programs? 1...YES 2...NO

If YES, is it 1...Counselling 2...Support Groups 3...Online Support Group

31. How satisfied are you with counseling/support programs?

- 1...Very unsatisfied 4...Somewhat satisfied
- 2...Somewhat unsatisfied 5...Very satisfied
- 3...Neither Satisfied nor unsatisfied

**Scales of Independent Behavior – Revised Early Development
Form (SIB-R)**

(Bruininks, Woodcock, Weatherman, & Hill, 1996)

Instrument not enclosed due to copyright limitations

Child AIMS Interview

(Minnes, Buell, & Solish, 2005)

Instrument not enclosed due to copyright limitations

Ways of Coping Scale

(Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986; revised by McColl & Skinner, 1995).

Instrument not enclosed due to copyright limitations

**The Life Management Survey Part III - Parental Changes
Subscale**

(Scorgie & Sobsey, 2000)

Instrument not enclosed due to copyright limitations

Family Stress and Coping Interview (FSCI)

(Nachshen, Woodford, & Minnes, 2003)

Instrument not enclosed due to copyright limitations

That's all the questions I have for you. We will be sending you a package with your payment for participation, a copy of your consent form, and a questionnaire for you to complete by hand. It

should take about 15 minutes to complete this questionnaire. We decided to send it to you rather than do it over the phone because it is easier to complete by hand, and will shorten the length of the phone call. Is that alright? [Note if parent asks it takes about 20-30 minutes to complete over the phone]

[If the parent says yes, say *Good. You should be receiving the questionnaire in the next couple weeks. Please send the send it back in the envelope provided as soon as possible.* Proceed to the Instructions for Ending the Interview]

[If the parent would like to do the questionnaire over the phone, tell them you will have to schedule another time to talk and set it up.]

Okay. Before you go I'd just like to check that I have your correct address. [Check consent form, record address on Completion Page]

Also, would you be interested in receiving out newsletter? [Record answer on Completion Page].

COMPLETED INTERVIEW – GOES ALL THE WAY TO THE END

Thank you very much for taking the time to talk with me. Do you have any questions for me; or, something else you want to tell me?

[Answer any questions you can] _____

If you have any questions or think of anything afterward, our contact information is on the consent form, and any other information you have received from us. Thanks again for helping us. We look forward to talking with you again in a few months.

INCOMPLETE INTERVIEW – STOPPED BEFORE REACHING THE END

OK, we can stop now. Thank you for answering our questions. Do you want to continue at another time?

[If, “yes,” make arrangements and note on tracking sheet. Ask if they have any questions before hanging up and answer as best you can.]

[If, “no,” thank them for their time and read the following statement.]

If you have any questions or think of anything afterward, please contact us at 613-533-3059. Our contact information is on the consent form and any information we have sent to you. Thanks again for helping us.

END OF INTERVIEW

Interviewer's Name: _____

Date of Interview: (day) _____ (month) _____ (year) _____

Time of Interview: (start time) _____ a.m./p.m. (time finished) _____ a.m./p.m.

Comments:

Scorer's Name: _____

Date Scored Complete: (day) _____ (month) _____ (year) _____

Comments:

Data Entered by: _____

Date Data Entered: (day) _____ (month) _____ (year) _____

Comments:

Appendix F

Parental Involvement and School Transition Practice Questionnaire

For the following section, I am going to ask you some questions about things you may or may not have done during your child's transition into school. Then, I am going to ask you some questions about things your child's school may have done to help with your child's transition.

1. When did you register your child for school? _____

2. Did you ask for information about the kindergarten program? Yes ____ No ____

3. Have you ever requested a meeting with your child's teacher? Yes ____ No ____

4. Have you attended a regularly scheduled parent-teacher meeting, arranged by your child's teacher?

Yes ____ No ____

If Yes, how many? _____

5. Have you attended a parent-teacher association meeting or a parent advisory committee meeting?

Yes ____ No ____

If Yes, how many? _____

6. Do you/have you volunteer(ed) at your child's school (i.e., field trips or other volunteer opportunities)?

Yes ____ No ____

If Yes, what did you do? _____

7. Have you helped with any fundraising activities at your child's school? Yes ____ No ____

8. Was your child given the chance to spend time in the kindergarten classroom, while still in preschool?

Yes ____ No ____

If Yes, did your child go? _____

9. Were you invited to visit the kindergarten classroom before the start of the school year?

Yes _____ No _____

If Yes, did you visit the classroom?

10. Were school days shorter at the beginning of the school year? Yes _____ NO _____

11. Did a teacher or school board personnel (i.e., school to community coordinator) visit your home either before school began, or during the school year?

Yes _____ No _____

12. Were you invited to attend an orientation session (with other parents and children) prior to the school year?

Yes _____ No _____

If Yes, did you attend? _____

13. Were any other activities planned to ease your child's transition into school? Did you attend any of these activities?

Yes _____ No _____

If Yes, did you attend these activities? _____