Attention-Deficit Hyperactivity Disorder and Play-Based Full-Day Kindergarten: Educator Perceptions

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Attention-Deficit Hyperactivity Disorder and Play-Based Full-Day Kindergarten:

Educator Perceptions

by

Erica Miklas

A Thesis
Submitted to the Faculty of Graduate Studies
through the Faculty of Education
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the Degree of Master of Education
at the University of Windsor

Windsor, Ontario, Canada

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Attention-Deficit Hyperactivity Disorder and Play-Based Full-Day Kindergarten:

Educator Perceptions

by

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June 8, 2020
DECLARATION OF ORIGINALITY

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ABSTRACT

ADHD is one of the most prevalent neurodevelopmental disorders, and the numbers only continue to rise. Early identification is an effective way to reduce the number and severity of behaviours that children may show in elementary school; therefore, Ontario’s play-based Full-Day Kindergarten (FDK) program offers the ideal opportunity to intervene with strategies that will set the child up for social, emotional, and academic success. In conducting this study, the researcher presents and interprets educators’ perceptions of the FDK program and the role the FDK program plays in fostering the parent-educator relationship. Using an Ecological Systems Theory lens, semi-structured interviews were conducted with kindergarten teachers and early childhood educators from multiple cities throughout Southwestern Ontario to obtain their perceptions of Play-Based FDK and ADHD. The data were analyzed using Thematic Analysis (TA) and four themes emerged: 1) Knowledge and Understanding, 2) Benefits and Challenges of Play-Based FDK for Children with ADHD, 3) Strategies Used to Promote Success, 4) Fostering Relationships, and 5) Meeting Child and Educator Needs. These themes encompassed the general lived experiences and knowledge that educators have on the effectiveness of the FDK program for children with ADHD and the role FDK plays in facilitating the parent-educator relationship. Limitations of the study and future areas of research are discussed.

Key Words: attention-deficit hyperactivity disorder; play-based full-day kindergarten; teachers; early childhood educators; ecological systems theory (EST)
DEDICATION

To all the children with ADHD who are unique and amazing individuals.
ACKNOWLEDGEMENTS

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I owe many thanks to the nine educators who participated in this study who did not hesitate to participate despite being in the middle of a pandemic.

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<td>ECE</td>
<td>Early Childhood Educator</td>
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CHAPTER 1: INTRODUCTION

ADHD has become one of the most prevalent neurodevelopmental disorders, with symptoms appearing in children as young as 2 years of age, and lasting into adulthood. According to the most recent available statistics, ADHD has a prevalence rate of 6.1% in Ontario (Statistics Canada, 2010). In the United States, ADHD is present among 9.4% of children (Danielson et al., 2017) This diagnostic rate translates into 388,000 children aged 2-5, 2.4 million children aged 6-11 and 3.3 million children aged 12-17 with ADHD in the United States (Danielson et al., 2017).

Symptoms of ADHD typically appear between the ages of 2 and 6 years old, although a reliable diagnosis is not possible until age 4 (Brown, 2019; Danielson et al., 2017). The severity of ADHD can vary from mild to severe, and a diagnosis is generally made earlier when a child displays a greater number and/or severity of symptoms is evident. Thus, whereas the average age of diagnosis for mild ADHD is eight, the average age of diagnosis for severe ADHD is five (CDC, 2016).

There are three possible ADHD diagnoses that can be made: ADHD-hyperactive/impulsive, ADHD-inattentive, and ADHD-combined (American Psychiatric Association [APA], 2013). Each of these subtypes of ADHD come with varying symptoms which can affect working memory, cognitive flexibility and self-regulation (Brocki, Forslund, Frick, & Bohlin, 2017; Gottfried & Little, 2017; Harpin, 2005). As a result, children can often find classroom settings challenging since they are required to sit for long periods of time, be still, and concentrate (Gwernan-Jones et al., 2016). ADHD can also present itself differently at different ages, and symptoms can get progressively worse into adulthood if left untreated (Harpin, 2005). Therefore, it is essential for both
parents and educators to be observant of their young children who may be displaying ADHD symptoms and are eligible for a diagnosis (American Psychiatric Association [APA], 2013; Brown, 2019).

With an early diagnosis, intervention (behavioural and/or pharmaceutical) for the symptoms of their ADHD is able to begin, allowing children to be able to function in their current classrooms as they advance in school. Since early identification is important (Brown, 2019; Danielson et al., 2017) and given that a child can be diagnosed at 4 years of age (Brown, 2019; Danielson et al., 2017), it is logical that kindergarten is a crucial environment for children to be observed and symptoms of ADHD reported to parents. In typical full-day Kindergarten programs (FDK) (see Appendix A for the definition of terms), children with ADHD tend to show greater lack of self-control and social withdrawal compared to peers, and little development of age appropriate executive functioning skills (Gottfried & Le, 2016; Gottfried & Little, 2017). As of 2010, Ontario slowly began transitioning schools to an FDK program, but rather than being the typical FDK program, Ontario adopted a play-based model. This shifted the focus from meeting academic standards more towards development of the whole child (Youmans, Kirby, & Freeman, 2017). With play-based FDK, there is more opportunity for children to make their own choices, and have less structured days. While this allows typically developing children to flourish and grow, a child with ADHD who tends to need a highly structured environment (McGoey, Eckert, & DuPaul, 2002) may not reap the benefits of the program. No studies to the researcher’s knowledge have been conducted that look specifically at play-based FDK and how children with ADHD fare in those environments.
Because the play-based FDK environment has the ability to impact a child with ADHD in many ways, the Ecological Systems Theory (Bronfenbrenner, 1994) is used as a theoretical framework in this research to describe how various relationships and environments can impact the development of a child. In EST, there are five systems that play a role in a child’s development (microsystem, mesosystem, exosystem, macrosystem, and chronosystem) each of which are bi-directional and are affected by a person’s inherent traits (Bronfenbrenner, 1994; Rogers, Boggia, Ogg, & Volpe, 2015).

Ontario’s FDK program acknowledges that both the environment and personal traits are factors in children’s learning and therefore encourages learning based on individual differences, and attempts to provide an environment in which children can build the necessary skills to succeed (Ministry of Education, 2016).

Children with ADHD are affected by their direct environment, their relationships with their parents, teachers and peers, and the relationship that their parents and educators have with one another (Bernier & Siegel, 1994; Corcoran, Schildt, Hochbrueckner, & Abell, 2016; de Boo & Prins, 2007; Gwernan-Jones et al., 2016; Gwernan-Jones et al., 2015; Harkonen, 2007; Rogers et al., 2015). While providing a positive environment for children, Ontario’s FDK program also encourages parent involvement and positive parent-educator relationships (Ministry of Education, 2016). Since parents and educators are directly involved with the child’s learning in kindergarten, it would be beneficial to obtain their perspectives regarding play-based FDK and how children with ADHD fare in the program.

Parent-educator relationships are vital for children’s success in school (Cook, Dearing, & Zachrisson, 2018; Mautone, Lefler, & Power, 2011; Mautone, Marcelle,
Tresco, & Power, 2015; McCormick, Capella, O’Connor, & McClowry, 2013; Puccioni, 2018; Thompson, Mazer, & Flood Grady, 2015). However, only a few studies exist that examine the relationship between parents and educators in kindergarten (Cook et al., 2018; Gwernan-Jones et al., 2015; Mautone et al., 2015; McCormick et al., 2013; Miller & Brooker, 2017; Mueller & Buckley, 2014; Murray, McFarland-Piazza, & Harrison, 2014; Puccioni, 2018), and none of these studies look at whether play-based FDK, and the importance it places on parent-educator relationships, actually affects those relationships. For children with ADHD or at risk for ADHD, the parent-educator relationship becomes that much more important. A strong parent-educator relationship allows for a bi-directional flow of information (Cook et al., 2018), which could prove vital in getting a child an ADHD diagnosis or work simply to maintain structure and routine across home and school for a child already diagnosed with ADHD. Therefore, it is essential to research parent-teacher relationships in Ontario’s FDK program to explore if the program affects the parent-educator relationship.

Often hindering the parent-educator relationship and the student-educator relationship (specifically for those with ADHD), is educators’ perception of, and knowledge about ADHD. Both of these factors can influence the way parents are viewed and treated, as they are often blamed for their children’s behaviour, (Gwernan-Jones et al., 2016; Lawrence, Estrada, & McCormick, 2017; Miller & Brooker, 2017; Mohr-Jensen, Steen-Jensen, Bang-Schnack, & Thingvad, 2019; Russell, Moore, & Ford, 2016), and the way children with ADHD are treated in the classroom (Mohr-Jensen et al., 2019). However, there is only one study to date that has examined teachers’ experiences of ADHD in a play-based FDK classroom (Miller & Brooker, 2017). All other studies
originate in the US and/or do not disclose whether or not the FDK classroom was play-based. Therefore, it would be beneficial to conduct research that not only examines teacher perspectives of ADHD in a play-based FDK classroom, but also the perspectives and knowledge of Early Childhood Educators (ECE) who are also based in FDK classrooms. Including both of these educators’ perceptions allow for a more complete perspective of ADHD in play-based FDK since they are both in the classroom simultaneously working with the children. In addition, given the importance of the parent-teacher relationship, it is crucial to include the perspective of parents of children with ADHD as well.

Overall, current research shows that ADHD is a complex disorder that can greatly influence children in both the short and long-term, especially in kindergarten where the child may either receive early intervention and management strategies, or be left undiagnosed until a later grade, possibly worsening symptoms. For children with ADHD, their immediate environment and daily interactions can affect them greatly, and it is essential that their parents and educators work together to implement similar strategies at home and at school. The parent-educator relationship is very important for children in kindergarten, and is that much more important for a child exhibiting ADHD symptoms in kindergarten. While certain educator perspectives and lack of knowledge about ADHD can be a deterrent to the development of a positive parent-educator relationship, many educators do try to accommodate children with ADHD in their classrooms by creating positive learning experiences suited to their needs.

This research was important for me to conduct because having a background in education, specifically, both a teaching degree and an ECE diploma, I was able to
experience both educator perspectives in a play-based FDK classroom. While in placements during school, I saw children exhibiting ADHD behaviours in kindergarten and saw how they were often treated differently by the teacher and the ECE. For example, in one specific case, a child who was exhibiting ADHD-combined behaviours was considered “bad” by the classroom teacher, while the ECE understood that he needed strategies to cope with these behaviours. The child, during the two-hour blocks of free time play, could often be found moving from activity to activity (not fully engaged in play), fighting over toys, and starting fights with other children. During circle time, the child could be observed being disruptive to peers beside him and would often be told by the teacher to sit on a chair on the outside of the circle. The child subsequently began crawling around on the chair as he was no longer engaged in circle time. Having personally witnessed the struggles children with ADHD face in play-based classrooms, I believe it is vital to look deeper into the play-based FDK program.

In addition, since the play-based program has now been in place for a number of years in Ontario, it is necessary to examine whether parents and educators believe it is effective in teaching children with ADHD, and whether the program’s philosophy is successful in creating positive parent-educator relationships. The current study seeks to add to the limited literature on play-based FDK and ADHD in the Ontario context. Thus, the purpose of this exploratory study is to explore the perceptions held by both parents and educators of children having ADHD in a play-based FDK classroom, and the effect the program has on the parent-educator relationship. In the chapter to follow, an in-depth review of the literature is presented.
CHAPTER 2: REVIEW OF THE LITERATURE

To my knowledge, there are no studies that examine teacher and ECE perspectives of ADHD in a play-based FDK classroom. This chapter begins with a discussion about the nature of ADHD and the impact it has on children, families, and educators, followed by a description of the current play-based FDK program in Ontario and a review of the effectiveness of FDK programs. Subsequent to this, Bronfenbrenner’s Ecological Systems Theory (Bronfenbrenner, 1994) will be discussed and will be applied to both FDK and ADHD. Following this will be a review of studies which examine the parent-teacher relationship in kindergarten and its importance for children is presented. Next, the importance of educator perceptions of the FDK program for children with ADHD is considered, along with a review of studies that examine educator perceptions of children with ADHD and the FDK program. This will be followed by a discussion of the limitations of the extant research. The chapter concludes with a rationale for the current study.

Attention Deficit Hyperactivity Disorder (ADHD)

As mentioned above, ADHD is one of the most common neurodevelopmental disorders affecting children today (CDC, 2016). ADHD typically occurs in childhood but often lasts into adulthood (CDC, 2016). ADHD is characterized by specific behaviours that interfere with development and functioning and are consistent over some time (APA, 2013).

According to the Diagnostic and Statistical Manual, 5th edition [DSM-5] (APA, 2013) there are three distinct subtypes of ADHD. The first subtype is “ADHD-primarily inattentive.” Inattentive ADHD is characterized by difficulty paying attention, keeping
organized, finishing a task, following instructions, forgetting the daily routine, and getting distracted easily (APA, 2013). For example, a kindergarten child exhibiting inattentive symptoms might switch activities more often than their peers, might daydream during circle time rather than paying attention, and may get upset during a transition to another activity.

The second subtype is “ADHD-primarily hyperactive/impulsive.” Hyperactive/impulsive ADHD is characterized by an individual having trouble sitting still, jumping around or climbing on things, interrupting others, grabbing things from others, speaking outside of their turn, having difficulty listening to directions, or waiting their turn (APA, 2013). Examples of the presentation of hyperactive/impulsive symptoms in the classroom may include frequent speaking out during instructional time, interrupting other children when they are playing by grabbing their toy, or joining play without an invitation.

The last ADHD subtype is “ADHD-combined.” This diagnosis is made when symptoms from both the inattentive and hyperactive/impulsive subtypes are present in an individual (APA, 2013). When a child receives a diagnosis of “combined ADHD,” he or she experiences both hyperactive/impulsive and inattentive symptoms, which often makes it challenging for the child to function in school (Miller, 2019).

For a diagnosis of ADHD to be made, six or more symptoms of either the hyperactive/impulsive or inattentive type, or both, need to be present for six months in children by the age of 12 years (although only five symptoms are required for a diagnosis in adolescents and adults age 17 and above) (APA, 2013). Symptoms must be present in two or more settings (i.e., home, school, after-school activities). There must also be clear
evidence that the symptoms are negatively impacting school (or occupation in the case of adults) and social functioning. Lastly, in order to receive an ADHD diagnosis, the symptoms cannot be better explained by another mental disorder (e.g., anxiety disorder, mood disorder, personality disorder) (APA, 2013).

The causes of, and risk factors for ADHD are inconclusive; however, recent twin research reveals that genetics play a significant role (Faraone & Larsson, 2019). There are also possible links between ADHD and brain injury, low birth weight, alcohol or drug use while the mother is pregnant, premature delivery, or exposure to lead during pregnancy or at a young age (Faraone & Larsson, 2019).

There is some disagreement as to the age at which ADHD can be diagnosed. Whereas the National Institute of Mental Health [NIMH] (2019) states that it can be reliably diagnosed at age three, Brown (2019), Arnett, Macdonald, and Pennington (2013), and Danielson et al. (2017) report that four years is the youngest that children can be reliably diagnosed. However, researchers (Arnett et al., 2013; NIMH, 2019) suggest that doctors should also test for any other possible developmental issues such as issues with language development, and diagnose those before making a diagnosis of ADHD in a young child.

Although in the past ADHD could not be reliably diagnosed until a child was in elementary school (Alessandri, 1992), more current research (Brown, 2019; Danielson et al., 2017; Oerbeck et al., 2017; Smidts & Oosterlaan, 2007) shows that children as young as two years of age show differences in behaviour compared to peers without ADHD. In kindergarten, observed differences in behaviour between children with and without ADHD are primarily due to children with ADHD having challenges with executive
functioning, which affects their self-regulation, working memory and cognitive flexibility (Brocki et al., 2017; Gottfried & Little, 2017; Harpin, 2005; Shuai et al., 2017).

Executive functions are the processes that help a person manage themselves and their resources to achieve a goal. For example, a person who lacks executive functioning skills may have trouble remembering important dates and events. Working memory refers to the ability to hold and manipulate information in one’s mind, for example, forgetting step two of what the teacher asked of them. Cognitive flexibility refers to the ability to shift between ideas or mental rules, for example, children learning to tie their shoes in the “bunny ears” method and then switching to the “grown up” method of tying the one lace around the other as they mature.

Self-regulation is a child’s ability to control his or her attention, behaviour and emotions (Gottfried & Little, 2017). It is also the ability to remain focused on a task even when distractions are present, for example, paying attention to the teacher when there is another child making noises (Gottfried & Little, 2017). Since self-regulation plays a role in the development of social, emotional and cognitive skills, an inability to self-regulate may produce a domino-like effect for the child. For example, if children have difficulty regulating themselves, they will likely have difficulty controlling their emotions, potentially resulting in getting upset and grabbing or hitting another child (APA, 2013) resulting in the child being disliked by his or her peers and thus causing significant social challenges (e.g., not having anyone to play with, not being able to communicate effectively). Having the skills to self-regulate is at the root of being able to have positive social interactions, control one’s emotional reactions, and possess important cognitive skills such as memory and attention (Ministry of Education, 2016). Children in
kindergarten are typically learning to improve their self-regulation skills through practice and encouragement from their teachers. As a result, most children without ADHD are often able to sit for at least 5 minutes to listen to instructions (Morin, 2019), whereas children with ADHD are usually unable to focus for that length of time and are more likely to daydream, look around the room and fidget (Alessandri, 1992; Miller, 2019).

In an observational study of 40 preschoolers, Alessandri (1992) found that children with ADHD were more likely to play alone with little peer conversation, engage in play that was not productive (e.g., touching objects rather than manipulating them purposefully) and change activities frequently. In contrast, children in the study without ADHD engaged in constructive and group play, and stayed at an activity for the majority of the play period (Alessandri, 1992). This study demonstrates the vast differences between a child with and without ADHD that are already present as young as four years old.

Children with ADHD typically have trouble with social skills as well. A child with ADHD who has impaired social skills may have trouble making friends or keeping friends, are often confronted with peer rejection, and face social isolation (de Boo & Prins, 2007; Murphy & Barkley, 1996). In a literature review of social competence demonstrated by children with ADHD, de Boo and Prins (2007) found that it only takes children without ADHD 30 minutes and a few interactions to identify a child with ADHD as disruptive, unpredictable, and aggressive. As a result, the children without ADHD respond to these behaviours with criticism, rejection and withdrawal. Due to these social difficulties, children with ADHD are likely to have trouble with peer relationships (de Boo & Prins, 2007).
Many children with ADHD also have comorbid disorders including oppositional defiant disorder (ODD), depression, anxiety, conduct disorders, anti-social personality disorders, autism spectrum disorder, Tourette’s syndrome, and dyslexia (APA, 2013; Harpin, 2005; Murphy & Barkley, 1996). An estimated 65% of children with ADHD have at least one comorbid disorder (Harpin, 2005). Moreover, approximately half of children who have ADHD-combined type also have ODD, and although anxiety and depressive disorders only occur in a minority of those with ADHD, they occur more often than in the general population (APA, 2013). Children with comorbid ADHD are at a higher risk of self-destructive behaviours as they age, and are more likely than those without ADHD to engage in criminal behaviour, drop out of school and abuse substances (Harpin, 2005; Murphy & Barkley, 1996).

ADHD often presents differently at different ages (Harpin, 2005). Symptoms that children might have when they are three and four may change when they are seven. In preschool children, ADHD typically presents as motor restlessness, not fully engaging in play, social difficulties, and delayed development (Harpin, 2005). For example, preschool children with ADHD might change play activities every 5 minutes, rather than the typical 15 minutes, they may hit or interrupt others throughout the day, and may have difficulty keeping up with what everyone else is learning (e.g., remembering the alphabet) (Alessandri, 1992; Miller, 2019). In contrast, elementary aged children with ADHD may experience academic difficulties, lack social skills and have low self-esteem (Harpin, 2005). For example, elementary aged children with ADHD may sit in class with work in front of them and not get anything done, may interrupt the teacher during instructional
time, and may have trouble keeping or making friends due to lack of social skills (Miller, 2019).

Children with ADHD are likely to find the classroom setting challenging. In a systematic review of 34 studies that examined the thoughts and feelings of children with ADHD, their teachers and their parents using a variety of qualitative measures, Gwernan-Jones et al. (2016) found that schools often contribute to the aggravation of ADHD symptoms because of the classroom expectations (e.g., requiring children to sit still, be quiet, and concentrate) and conflict in relationships (e.g., between the child and teacher and the child and his/her peers). Children with ADHD from these studies described the classroom context as leaving them feeling frustrated, angry, drained and imprisoned. These children also found it challenging to concentrate and sit still for long periods of time and many found peer interactions, noise, and movement in the classroom distracting. Therefore, the challenges children with ADHD face in the classroom can deter them from completing their work and following classroom rules because they are constantly being stimulated. Rather, children with ADHD tend to perform better in a quiet and ordered classroom. (Gwernan-Jones et al., 2016).

Although many children do “grow out of” ADHD, many do not, and ADHD can continue to affect both occupational achievement and social interactions. In adults, ADHD can lead to harmful behaviours. Adults with ADHD are more likely to have dropped out of school, get involved in criminal behaviour, be fired from their jobs, and have trouble sustaining a romantic relationship (Harpin, 2005; Murphy & Barkley, 1996). Due to the social impairments of people with ADHD, adults with ADHD tend to have trouble in their careers as they encounter interpersonal problems with employers and co-
workers and trouble with romantic relationships, often resulting in break-ups or divorce (Harpin, 2005). In addition, adults with ADHD are more likely to have children with ADHD (Harpin, 2005). This can lead to more problems as the success of parent programs for children with ADHD is highly dependent on whether the parents have ADHD as well since it is likely that a parent with ADHD may have their own symptoms to work through in addition to dealing with their child’s symptoms (Harpin, 2005).

Although considerable research has discussed the negative aspects of ADHD, little research has been conducted on the possible benefits of having ADHD. However, in a qualitative study on the positive aspects of ADHD where six successful adult males with ADHD were interviewed, Sedgewick, Merwood and Asherson (2018) found that the participants with ADHD tended to have increased energy, “hyper-focus,” adventurousness, and self-acceptance. Participants in the study described how they may be swamped by new and innovative ideas, but were able to hyper-focus if they were involved in a task which they found interesting. Participants in the study also described their impulsivity as “fun” and that they would rather think of it as “being spontaneous” because that carries with it a different connotation than “impulsive.” Furthermore, the participants also discussed having an abundance of energy, both physical and psychological, and were aware that they belonged to something much bigger than themselves. Lastly, the participants discussed how they had an excellent sense of humor and felt they had an increased sense of empathy towards people compared to those without ADHD. In summary, while ADHD can have many associated challenges, there can be numerous benefits that can positively impact one’s life.
Gender Differences in Presentation of ADHD and Diagnosis. Significant gender differences are evident between males and females with ADHD in terms of behaviour as children develop. Although behaviours tend to be similar amongst boys and girls between 4 and 6 years of age in that hyperactivity is common in both boys and girls, by age 6 hyperactivity is rarely displayed by girls (Grskovic & Zentall, 2010). Thus, as children get older, boys are more likely to be diagnosed with the Hyperactive/Impulsive subtype of ADHD, whereas girls are more frequently diagnosed with the Inattentive subtype (APA, 2013; Hasson & Fine, 2012; Miller, 2019). For example, Grskovic and Zentall (2010) conducted a study in which 262 girls with and without ADHD aged 10-13 and their teachers and parents completed questionnaires using the ADD-H Comprehensive Teacher’s Rating Scale which assesses attention, hyperactivity, social skills and oppositionality. The researchers reported that girls with ADHD tended to display verbal impulsivity (e.g., interrupting others, talking too loudly, losing track of their thoughts) and twirled their hair or bit their nails, rather than display gross motor movements. Since behaviours such as these are not directly challenging to the teacher in the classroom, the teacher may be less likely to notice them or intervene compared to boys who display more hyperactive/impulsive behaviours. In addition, Grskovic and Zentall also report that since girls with ADHD exhibit verbal impulsivity and inattentive behaviours, they often do not perform well in school. Rather than asking for help, the girls tend to become introverted and returned to the inattentive behaviour which inhibits academic success. Therefore, because of the inattentive nature of girls with ADHD and the non-disruptive behaviours that are displayed, girls with ADHD are twice as likely as boys with ADHD to have low achievement in school (Grskovic & Zentall, 2010).
In conclusion, current research shows that there are gender differences in how symptoms of ADHD present, including differences in school performance and behaviour in social settings, and that girls are typically underdiagnosed compared to boys (Grskovic & Zentall, 2010; Hasson & Fine, 2012; Miller, 2019; Soffer, Mautone, & Power, 2008). The differences in how ADHD presents itself in boys and girls can make a significant difference in how they each experience life. Because it is suspected that girls are underdiagnosed and may not receive the treatment they need to cope with their behaviours positively, the impact that ADHD can have on girls’ lives can be quite different than that on boys’ lives. Therefore, early identification is essential in ensuring that positive behaviours and social skills are taught as soon as symptoms appear so that the child with ADHD has the best chances of being successful in all aspects of life. In the next section, early predictors of ADHD and the need for early identification will be discussed.

**Early Identification of ADHD and its Advantages and Disadvantages.** ADHD can have lasting effects on an individual's life; therefore, early identification and intervention are essential in helping to prevent long-term adverse effects. Typically, when a child is diagnosed younger than 7 years of age, the symptoms of ADHD tend to be more severe (Brown, 2019). Severe behaviours can range from climbing in unsafe places to running into traffic, to turning on and playing with the stove (Brown, 2019). Severe ADHD symptoms can be extremely challenging for children, parents and teachers to manage, and without a diagnosis of ADHD, stakeholders can feel helpless (Brown, 2019). Therefore, early identification is important. Once a child has a diagnosis of
ADHD, parents and teachers are then able to reach out for support and begin intervention so that the child can be on track to succeed socially and academically.

Early diagnosis can be of benefit both to the children with ADHD as well as those in their immediate environment, specifically their families and educators. There are a number of early indicators of ADHD that parents and teachers can look for if ADHD is suspected. A number of longitudinal studies have established that in the early years of a child's life, lack of self-regulation, delayed language development, and sleep problems can all be early predictors of ADHD (Arnett et al., 2013; Brocki et al., 2017; Oerbeck et al., 2017).

For example, in their longitudinal study measuring children’s ADHD symptoms at age 5 and 13, Brocki et al. (2017) found that poor self-regulation in preschool predicted ADHD in elementary school, and that children with poor emotion regulation showed an increase in inattention symptoms over time. Moreover, in a two year longitudinal study investigating early predictors of ADHD, Oerbeck et al. (2017) found that delayed language development is also an early predictor of ADHD in young children, and that children who showed symptoms of ADHD at 3 years of age continued to have those symptoms at 5 years old. Arnett et al. (2013), in a study examining cognitive and behavioural indicators of ADHD symptoms before school age, found that sleep problems and destructive behaviours reported from 24 to 36 months was linked to higher severity of ADHD in grade three.

Understood (2019) emphasized the importance of prompt diagnosis if there is suspicion of ADHD in children as it can become a more serious problem if left untreated. If a child is at risk for ADHD and is not diagnosed early, there can be ramifications for
their future. Often, children with ADHD have trouble in more areas than are visually present. In a review of the literature on the effects of ADHD on the life of an individual, Harpin (2005) discusses the issues that often accompany a diagnosis of ADHD. There can be issues related to sleep, comorbid disorders (oppositional defiance disorder, anxiety, depression) and lower maturity level than their peers without ADHD (Harpin, 2005). These issues, along with the symptoms that are visually present in ADHD (fidgeting, lack of focus, excessive motor activity), can create more significant problems down the road. Harpin (2005) also discussed how, if ADHD is left untreated in kindergarten, the child is more likely to be affected by comorbid problems and have more learning difficulties in elementary school. Once these problems develop, they can cause more social issues (i.e., not making friends), and increase tension between family members (Harpin, 2005).

As the child matures, issues in adolescence can become more serious. While overactivity may decrease, inattention and impulsiveness can increase which leaves the child at risk of displaying excessive aggression and antisocial behaviours (Harpin, 2005). Therefore, early identification is essential in controlling the present symptoms of ADHD a child exhibits and for implementing lifelong strategies that help to prevent the child from developing more severe symptoms later in life.

Despite the advantages of early identification, however, there can also be a number of disadvantages. Firstly, children’s behaviour in preschool or kindergarten may be a matter of maturity and something they will grow out of rather than truly ADHD.

Secondly, there is often a stigma surrounding ADHD, and being diagnosed early could subject the child to stigmatization early in life (Eisenberg & Schneider, 2007;
Gwernan-Jones et al., 2016). In a previously mentioned review of the literature examining the influence of the school context on ADHD symptoms Gwernan-Jones et al. (2016) found that stigmatization of children with ADHD often happened in school and was a result of educators creating their own arbitrary definitions of “good” and “bad” behaviour which often put the children with ADHD in the “bad” category. Some teachers may label children at risk for ADHD or with a diagnosis of ADHD as "bad" or "disruptive" and therefore develop preconceived notions before getting to know the children or their capabilities.

In a qualitative study examining the perceptions of academic skills of children with ADHD, Eisenberg and Schneider (2007) analyzed third graders’ data from the Early Childhood Longitudinal Survey- Kindergarten Cohort and found that a teacher’s stigmatization of children can often create a self-fulfilling prophecy for those children, and is likely to produce a child who has lower self-esteem than their peers. Eisenberg and Schneider (2007) also found that parents’ and teachers’ perceptions of girls with ADHD were far more negative than their perceptions of boys with ADHD. For example, teachers perceived the academic abilities of girls with ADHD to be lower than they perceived the academic abilities of boys with ADHD. These negative perceptions may lead to children becoming at risk for being incorrectly labelled as “bad” or as a “poor academic” by teachers, leading to the aforementioned self-fulfilling prophecy. In addition, in a previously mentioned study on understanding girls with ADHD, Grskovic and Zentall (2010) also found that having an ADHD label may also affect the child's sense of self-efficacy, which could, in turn, affect his or her performance in school, social situations and everyday life.
In conclusion, despite potential drawbacks of early identification, it is generally believed that early identification and intervention for children at risk of ADHD is important, not only for the child, but for the parents and teachers as well. Without intervention, a child's behaviour might worsen throughout the school years and cause more significant problems later on (Harpin, 2005; McGoey et al., 2002). In the next section, school interventions for ADHD will be addressed.

**ADHD interventions.** Research has demonstrated that effective intervention for children with ADHD includes strategies derived from Applied Behaviour Analysis (ABA) that teachers can use in the classroom to help promote positive behaviours and decrease undesired behaviours (DuPaul & Weyandt, 2006; DuPaul, Weyandt, & Janusis, 2011; Miranda, Jarque, & Tarraga, 2006). In addition to ABA, children with ADHD in preschool usually function best in a highly structured environment with specific directions and demands (McGoey et al., 2002). It is important that these routines and demands do not vary, as the slightest variance can cause the child with ADHD to have difficulty adjusting and adapting to the new demands (McGoey et al., 2002). The most common intervention at school for children with ADHD is positive reinforcement where teachers use praise or a “token system” to reward positive behaviours (DuPaul et al., 2011). In a review of the literature on interventions in school settings for children with ADHD, Miranda et al. (2006) found that rewards for positive behaviour led to an increase in the appropriate behaviours and behaviours focused on the task, and a decrease in disturbing behaviours such as bothering peers, getting up, or acting aggressively. In addition, antecedent-based interventions have also been found to be effective with children having ADHD in preventing inattentive and disruptive behaviours from
occurring (DuPaul & Weyandt, 2006). For example, teachers can use choice-making, allowing children to choose between two options. This allows children to have some control over what they do, while the teacher maintains the overall control of the children’s activity. In another literature review of interventions for children with ADHD, DuPaul and Weyandt (2006) found that choice-making led to reliable and consistent increases in task engagement with reductions in disruptive behaviour.

Teachers can also post and strategically review classroom rules. When the rules are followed, children with ADHD should receive praise for their positive behaviour. It is also important that the teacher remind children of the rules throughout the school year. For example, kindergarten teachers could review the rules once a week during circle time at the beginning of the year, and less frequently as the children begin to learn them. These strategies help children to understand the rules by giving them clear examples and rewarding rule following. Thus, children may be more likely to follow the rules once they understand what is required of them (DuPaul & Weyandt, 2006; DuPaul et al., 2011).

Another type of antecedent-based strategy suitable for kindergarten is the provision of accommodations. This is when teachers use various strategies (i.e., having the child sit next to the teacher during instructional time, using headphones when individual work is required, and providing high structure) to modify children’s environment so that they are able to succeed despite their ADHD symptoms (DuPaul et al., 2011; Morin, 2014). Since a busy classroom environment can disrupt children with ADHD, accommodations allow the teacher to help the children work around those disruptions. This allows the children with ADHD to work at their own pace and to feel
comfortable in their environment, while likely reducing the aggravation of their symptoms (DuPaul et al., 2011).

Although medication for children with ADHD is frequently in the media spotlight and often criticized, research has confirmed its place as an evidence-based intervention (APA 2013; Charach, Skyba, Cook, & Antle, 2006), particularly as an adjunct to behavioural interventions. Both stimulant and nonstimulant medication are approved for the treatment of ADHD (United States Food and Drug Administration [FDA], 2016). Stimulant medication such as methylphenidate (with Ritalin being the most well-known of these) is the most popular and widely used among those with ADHD. Stimulant medication works to “enhance the release of neurotransmitters (dopamine); it stimulates the receptors so that they are able to pick up more signals, and it slows down the reuptake so neurotransmitters have more time to active the next neuron” (Understood, 2019). Between 70-80% of children with ADHD have fewer ADHD symptoms when taking stimulant medication (APA, 2013). Nonstimulants also target neurotransmitters, but rather than targeting dopamine, they target Norepinephrine, which plays a large role in executive functioning (Understood, 2019). However, nonstimulants do not work as quickly as stimulants, but can last up to 24 hours with one dose (APA, 2013).

In 2016, 62% of children with ADHD ages 2-17 were using medications to treat their ADHD symptoms (APA, 2013). Not unsurprisingly, however, most parents are unwilling to put young children on medication and many seek other alternatives (Charach et al., 2006). In addition, medical professionals also suggest using behavioural therapy before trying out medication, as medication can have adverse effects both physically and psychologically (Understood, 2019). Due to the range of possible effects, medical
professionals also do not suggest medication for children under 6 years of age (Understood, 2019).

In summary, although medication is not recommended for children under 6 years of age, it is a viable option for children 6 and up and is most effective when used in combination with behavioural therapy (Barbaresi et al., 2013). There are many forms of behavioural therapy, which include token systems, giving choices, and accommodations, all of which are best when applied as soon as a diagnosis is made (CDC, 2016). Overall, there are many options available to parents and teachers for the treatment and management of ADHD symptoms.

**Challenges of ADHD for Parents and Educators.** The presence of ADHD can be challenging not only for the child with ADHD, but also for family members and educators in the child’s environment. The behaviours associated with ADHD can be challenging for the child to cope with and for parents and educators to manage. Having a child with ADHD can be extremely challenging for parents. In a literature review of qualitative studies on parents’ lived experiences of having children with ADHD, Corcoran et al. (2016) found that parents felt that managing their child’s behaviour was frustrating and heartbreaking, and that parents often blamed themselves for their child’s behaviour which, in turn, made them feel guilty about their child’s behaviour. Moreover, parents in Corcoran et al.’s study were also concerned about medication use for their child as they feared the possible side effects and tried holistic methods before turning to medication. While both mothers and fathers experienced stress in managing their child with ADHD, mothers mostly had depression, which is important to note as maternal depression predicts a worse treatment outcome (Corcoran et al., 2016). Parents also
reported that the stress of caring for a child with ADHD also affected the relationships between the parents, parents’ mental and physical health and parents’ occupation (Corcoran et al., 2016).

Similar to parents, educators also face challenges in managing a child with ADHD. In a survey examining ADHD in kindergarten students and what teachers know about ADHD and their experience in teaching students with ADHD that was conducted with 53 in-service kindergarten teachers, Miller and Brooker (2017) found that educators felt they needed more education on ADHD. In addition, researchers found that there were classroom challenges, a lack of parental and administrative support, and that systemic challenges existed creating a barrier to proper intervention. Although educators used behaviour management strategies in the classroom, they still felt that their knowledge about ADHD was limited and that they needed to know more in order to better manage children with ADHD within the classroom. Moreover, in the study, the educators felt that parents were not disciplining their children with ADHD enough, although such assumptions can deter parents and teachers from a collaborative working relationship thus resulting in additional stress for parents as well as educators. Lastly, the educators in the study reported experiencing physical and psychological health problems as a result of the stress that came with managing children with ADHD in the classroom (Miller & Brooker, 2017). In the next section, the play-based FDK program in Ontario will be introduced with a review of current research on FDK classrooms.

**Play-Based Full Day Kindergarten**

**Ontario Ministry of Education’s Philosophy.** The Ontario Ministry of Education first introduced the play-based full-day kindergarten (FDK) program in
Ontario for four- and five-year olds in 2010 (Lynch, 2014). The program was designed to give children a head start in school and life by providing engaging learning throughout the day that is based on children's natural desire for play (Ministry of Education, 2016). Part of the Ministry's philosophy behind creating the FDK program is the belief that all children enter school capable, competent, and ready to learn. The play-based program was created to help children grow physically, socially, emotionally, and intellectually (Ministry of Education, 2016). Whereas other FDK programs have teacher-directed learning, and focus more on meeting academic standards than developing the whole child (Youmans et al., 2017), the play-based model emphasizes learning through play, co-teaching, and a child-directed teaching approach. The play-based FDK program is also based on a set of values emphasizing the importance of a shared understanding of how family, environment, and educators influence and shape a child (Ministry of Education, 2016).

There is also an emphasis on valuing the uniqueness of each child when they enter the program, meaning that educators view each child as uniquely shaped by their culture, their socioeconomic status, personal capabilities, and day-to-day experiences (Ministry of Education, 2016). Viewing children in this way allows educators to see each child as a product of their unique environment, and can help educators provide a more tailored learning experience. With knowledge about each student’s background, the program aims to provide a variety of learning opportunities and experiences based on what the children know, what they think and wonder about, where they are in their learning, and where they need to go next (Ministry of Education, 2016).
**Full Day Kindergarten in Ontario.** The Full Day Kindergarten (FDK) program in Ontario is part of a broader idea of "cohesive, coordinated systems" beginning with the Early Years program that includes childcare for young children (newborn to preschool), child and family programs (where parents can join their infant or preschooler in the classroom), FDK, and before and after school care (Ministry of Education, 2016). These connected programs enable children to have a seamless day since, in many half-day kindergarten programs, parents are responsible for finding care for their children once the school day is over. For example, a child who has working parents can go to “before and after school” located in or close to the same school as the FDK program. The children are also brought to and from school by the before and after school educators (Ministry of Education, 2016).

Once children are in their FDK classroom, there is one registered Ontario teacher and one registered Ontario early childhood educator (ECE). These two educators are equally responsible for sharing the planning of activities, carrying out each activity, and working together for the benefit of the children (Ministry of Education, 2016). Each educator brings his or her specialty into the classroom. The teacher brings knowledge of pedagogical practice, while the ECE brings knowledge of the development of children and developmentally appropriate activities (Ministry of Education, 2013, 2016). Both educators are encouraged to play with the children to learn about them, learn with them and learn from them, and facilitate their play (Ministry of Education, 2016). Educators in the FDK program are also expected to reflect critically on their practices throughout the day and expand on what they know by talking with other educators, children, and the children’s families so that they can learn more about the child’s growth and learning.
(Ministry of Education, 2016). Lastly, the program encourages educators to be responsive to the children and to see each child as competent and capable so that the children build a sense of self and belonging which contributes to their well-being, and enables them to be more engaged in learning and become comfortable with expressing their thoughts and ideas (Ministry of Education, 2016). Overall, the program aims to be child-driven and to base activities and daily plans on the interests of children so they are fully engaged in learning while having the freedom to explore and experiment on their own.

**Program Document Expectations.** The play-based FDK program in Ontario outlines four "frames" that allow the educators and parents to see the skills the children should be developing or improving while they are engaging in their play-based activities. The first frame is “Belonging and Contributing,” which concerns a child's “sense of connectedness to others, their relationships with others, and their contributions as part of a group” (Ministry of Education, 2016, p. 14). An example of this would be a child looking forward to seeing his or her friends upon arrival and helping them build a block tower during free play. The second frame is “Self-Regulation and Well-Being,” which refers to “children's thinking and feelings, their recognition of, and respect for differences in others, regulating their emotions, adapting to distractions, and their physical and mental health” (Ministry of Education, 2016, p. 15). For example, children able to sit in one spot during instructional time, and to refrain from violence when they did not get his or her way, and realizing that if they do not follow the rules, they will get in trouble would be evidence of demonstrating self-regulation.

The third frame “Demonstrating Literacy and Mathematics Behaviour” concerns children “communicating thoughts and feelings through gestures, physical movements
and words, literacy behaviours in the way they use language, images and materials to express and think critically, and mathematic behaviours, evident in the various ways they used concepts of number and pattern during play” (Ministry of Education, 2016, p. 15). For example, a child able to express his or her feelings in an understandable way to the teacher (e.g., “Alex made me sad” followed by pointing to a fallen block tower) is demonstrating an ability to communicate their feelings, while being able to sort blocks by colour is a demonstration of mathematics.

The fourth and final frame is “Problem-Solving and Innovating.” In this frame, children are “exploring the world through natural curiosity, engaging their minds, senses, and bodies, and making meaning of their world by asking questions, testing theories and having innovative ways of thinking” (Ministry of Education, 2016, p. 15). For example, a child might look at the paint on a table and dip his or her finger to feel the texture, demonstrating curiosity. To demonstrate innovation, the child might then swipe his or her finger on a nearby paper and proceed to mix paint colours to create a new colour.

These four frames provide the framework for what children should be able to do or learn by the end of the FDK program as they engage in play-based learning. This framework, along with the Early Learning for Every Child Today (ELECT) framework (to indicate and record what “learning” is observed in an activity), are the main sources for determining how a child is progressing in the program. The Ontario Ministry of Education believes that “play is a vehicle for learning” (Ministry of Education, 2016, p. 20) and that children are naturally curious about the world. Allowing children to explore through manipulating objects, acting out roles, or experimenting with various materials gives them the opportunity to learn through play (Ministry of Education, 2016). By
allowing children to play, educators are capitalizing on their natural curiosity and allowing them to learn things that are relevant in their everyday lives and hold their interest.

**Advantages and Disadvantages of Play-Based FDK.** The play-based FDK program has been in place in Ontario for almost a decade, making its effectiveness an important topic of study. While the Ministry of Ontario has expended considerable effort to ensure FDK is child-centered and beneficial, the program has a number of benefits and shortcomings.

The FDK program has many positive aspects that impact not only the child but their families and the community as well. Research conducted by the Ontario Ministry of Education has shown that the physical health and well-being of children in FDK programs in Ontario improves considerably over the two years of the program, more so than in traditional kindergarten programs (Ministry of Education, 2013). In addition, the play-based model has been found to be more responsive to the needs of younger children than kindergarten in the past, and supports self-regulation and the development of the whole child by considering the context in which children live (Ministry of Education, 2013).

Other researchers have also found multiple benefits to FDK programs more generally. In a study examining the social media discussion boards of 10 Ontario kindergarten educators, Lynch (2014) found that educators believed the play-based model was developmentally appropriate for the children and that it took away the academic demands that were part of the kindergarten curriculum prior to the implementation of FDK. Moreover, in an American study examining the long term benefits of FDK,
Brownell et al. (2015) found that children who had been enrolled in FDK programs were more likely to complete high school, less likely to be involved in criminal activity, and had fewer teen pregnancies. Brownell et al. (2015) also found that FDK was beneficial for children of low socioeconomic status, particularly girls, in terms of increasing their literacy and mathematics performance.

In addition to the direct benefits for children enrolled in the FDK program, there are also benefits to parents and the community. Researchers have found that participation in the FDK program provided families with more flexibility to work or to return to school and reduced the everyday stressors of working parents, such as interruptions in their workday to bring their child to alternative childcare (Ministry of Education, 2013; Stover & Pelletier, 2018). These stressors were reduced as a result of the smooth transition between before and after school to FDK so that parents were not having to leave work mid-day to take their child to alternative childcare (Stover & Pelletier, 2018). The implementation of FDK has also allowed the school to become a hub for the community to learn about local services (Ministry of Education, 2013).

Although many benefits are associated with the implementation of the FDK program, there are also a number of drawbacks. Perhaps the most significant drawback is that most of the academic and social benefits for the majority of the children enrolled in the FDK program disappear by the end of third grade (Brownell et al., 2015) meaning that most children (other than girls of low SES status) in the FDK program are no more advantaged academically than their half-day counterparts.

There are also a number of concerns in the way the Ontario FDK program is currently being conducted. Because there are two educators present in the FDK
classroom, both with their respective specialties, there can be confusion about the roles that each of them are supposed to take on, which can cause tension and disrupt the flow that is essential for children to benefit from the program (Lynch, 2014; Ministry of Education, 2013). In addition, since the FDK program is a viable solution for all families, regardless of whether parents work or not, many new students are enrolling in the program. As a result, there is concern over the class sizes and the fact that the Ministry of Education has not implemented an official cap on class size for current FDK classrooms (Lynch, 2014; Ministry of Education, 2013). Large class sizes can pose problems to the quality of education all children are receiving, never mind the problems that may arise for children with special educational needs since more children mean less one-on-one time between educator and child.

Overall, while the FDK program does have some drawbacks, there are substantial benefits to children and their families. However, Ontario’s FDK program is relatively new, and no doubt there will be modifications as it continues.

**Play-Based Full Day Kindergarten and ADHD.** In Ontario's FDK play-based program many children benefit from being able to explore actively in their environment. Children are allowed to learn through experimentation and develop the necessary social and emotional skills. However, for children with ADHD, hours of unstructured time, and freedom that is given in the classroom can be a deterrent to their learning. As mentioned above, children with ADHD tend to need a highly structured environment and more selective choices in order to thrive in academic settings (McGoey et al., 2002). Although there are no studies to date that describe the challenges faced by a child with ADHD in a
play-based FDK classroom, two studies have been conducted that examine how children with disabilities fare in an FDK classroom.

In their study on academic and social-emotional outcomes of full versus part-day kindergarten for children with disabilities, Gottfried and Le (2016) included a sample of 2100 children with disabilities (emotional or behavioural disorders, communication disorders, mental/developmental delays, physical impairments, severe impairments) in FDK programs in the United States. Through an analysis of school records, Gottfried and Le (2016) found that social-emotional skills of children with disabilities decreased when they were enrolled in FDK classrooms. Specifically, children with disabilities in FDK programs showed lower levels of self-control (giving in to distractions and having lack of emotional control) and more internalizing behaviours (social withdrawal) than children with disabilities in partial day kindergarten (PDK) (Gottfried & Le, 2016). As described above, young children with ADHD tend to have significant difficulties with self-control. Given the findings of Gottfried and Le (2016), it is possible that self-control issues of children with ADHD may become significantly worse when in an FDK program.

In a second study, Gottfried and Little (Gottfried & Little, 2017) examined the effect of full versus part-day kindergarten on the executive functioning skills of children with learning, communication, emotional/behavioural, and physical disabilities. The study was conducted on a nationally representative sample of 10 data sets of children with and without disabilities who participated in FDK or PDK programs. The samples were gathered from the National Center for Educational Statistics (NCES) in the Department of Education. Records from the children’s kindergarten program as well as their grades one and two programs were retrieved and analyzed to determine the long-
term effects of FDK. Gottfried and Little (2017), found that FDK was beneficial in improving executive functioning skills for children with learning and communication difficulties. However, FDK did not improve executive functioning skills for children with emotional or behavioural difficulties (Gottfried & Little, 2017). Since ADHD is classified as a behavioural disorder, one could assume that a child with ADHD would not see improvements in executive functioning when enrolled in an FDK program.

However, both of the studies described above were conducted in FDK programs in the United States, and there was no discussion about the type of kindergarten programs in which the children were enrolled (i.e., whether or not the programs were play-based). Since the children in these studies had a wide variety of disabilities (physical, communication, learning and emotional/behaviour) the results cannot be specifically applied to children with ADHD. Therefore, it remains unknown whether similar results would be found in a play-based program like Ontario's. The Ecological Systems Theory (EST) (Bronfenbrenner, 1994) and how it applies to both FDK and ADHD will be discussed in the next section.

Ecological Systems Theory

The Ecological Systems Theory (EST), developed by Urie Bronfenbrenner, is based on the concept that “human development takes place through a process of progressively more complex reciprocal interactions between the people, objects and symbols in one’s immediate environment” (Bronfenbrenner, 1994, p. 38). Those who have direct daily interactions with individuals are the most influential in their development; however, other factors, such as societal rules and governing bodies also play a distant role. Bronfenbrenner (1994) himself said, "in order to understand human
development, one must consider the entire ecological system in which growth occurs" (p. 37). Thus, development is a result of not only individuals’ personal characteristics (i.e., extroversion, conscientious nous), but also the continually changing interactions individuals have with those in their everyday environment (e.g., family, classroom, community) throughout their lives (Rogers et al., 2015). Bronfenbrenner’s theory is useful for this study in understanding the role that kindergarten plays in the development of a child with ADHD.

The EST consists of five interrelated systems (See Figure 1) all of which interact with one another and influence the development of an active, evolving person at the centre. There is a bi-directional relationship between the person and each system (Rogers et al., 2015). The innermost of the five systems in EST is called the “microsystem.” The microsystem consists of a child’s direct relationship with significant others; these are the closest people to the individual and have face-to-face contact often (Harkonen, 2007). The first microsystems are with parents and siblings, and then increase over time to include caregivers, and then teachers, and peers. These people are the ones who come into contact the most with the child and also includes an individual’s environment as well (i.e., their home, their school, their daycare, and their peers) (Harkonen, 2007).

The second level in Bronfenbrenner’s theory is the “mesosystem.” The mesosystem consists of multiple microsystems and “comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school and neighborhood peer group. . .)” (Bronfenbrenner, 1979, p. 25). For example, this system connects a child's parents to the
Figure 1.

Ecological Systems Theory

child's teachers. In the case of FDK, the mesosystem would include parent/educator communication (Harkonen, 2007). The relationships that occur in the mesosystem impact the child because the parent/educator relationship can affect the school experience for the child (i.e., affects the student/educator relationship, how the child adapts and the child's behaviour in school), and thus are very important (Gwernan-Jones et al., 2015).

Surrounding the mesosystem is the “exosystem.” The exosystem includes a person's indirect environment where interactions between two or more environments occur, at least one of which does not contain the child, but influence the process within the immediate settings that do involve the child (Harkonen, 2007). For example, one exosystem for a child in FDK would be the relationship between the home and parent’s workplace, since the child would be indirectly affected by parents losing their job or getting a raise.

The fourth system is the “macrosystem.” The macrosystem consists of the cultural values, traditions, and laws that are held in the community in which one belongs (Harkonen, 2007), for example, the values that a person’s community holds about education. The influence of the macrosystem can also affect all of the other systems (Harkonen, 2007). Thus, because Ontario values educating children, the province has introduced programs such as Early Years, Before and After school, and FDK. These programs are all connected with each other and help to provide a seamless day for children and developmentally appropriate learning (Ministry of Education, 2016).

The final system in Bronfenbrenner’s framework is the “chronosystem” that cuts across, and influences all of the other systems as seen in Figure 1. This system consists of the changes in both the personal characteristics, as well as the environment, that people
experience over time (Bronfenbrenner, 1994). The chronosystem is a system that can consist of a short or long period and can either be based on change or consistency over time (e.g., changes in family structure, socioeconomic status, employment) (Bronfenbrenner, 1994). An example of this in children's lives could be parents getting a divorce, causing the child to have to move houses and perhaps move down in socioeconomic status with a single-parent income. Time periods, more generally, can also affect a child’s development (e.g., growing up during a war, the Recession of 2008) and play a role in determining who they become.

**Ecological Systems Theory Applied to Full Day Kindergarten and ADHD.** For the purpose of the current research, this paper will focus on how the microsystem, mesosystem, macrosystem, and chronosystem particularly influence children with ADHD in the FDK program. In EST, the premise is that children develop because of the interactions between their characteristics and their environment. The Ministry of Ontario acknowledges this in the FDK program and encourages learning based on individual difference and providing an environment in which children can flourish (Ministry of Education, 2016).

Within the FDK classroom, children’s microsystems include relationships with the teacher, the ECE, and their peers. The FDK program encourages both the educators and the children to interact as often as possible in an environment that is developmentally appropriate and stimulates learning (Ministry of Education, 2016). Since it is at the microsystem level where children are most influenced, the FDK program lays a good foundation for the children in the program to develop holistically and successfully.
In a study examining the ecology of ADHD in schools, Rogers et al. (2015) discuss how the low academic achievement of children with ADHD can be a result of the cognitive and behavioural deficits they display, and how these two factors influence the way children with ADHD learn. Although what Rogers et al. attribute to the low achievement in children with ADHD is not new in the research on ADHD, Rogers et al. make the connection between ADHD in children and how it affects their direct environment (academic achievement). Moreover, the disruptive behaviour that children with ADHD tend to display often results in their social exclusion and lack of peer relationships (de Boo & Prins, 2007), which can affect the development of positive social skills.

Moreover, Rogers et al. (2015) examined how children with ADHD are also affected by their relationship with educators, just as educators are affected by the children. ADHD can put a strain on the child-educator relationship if the behaviour becomes too disruptive for the educator to manage (Rogers et al., 2015). In addition, an educator’s understanding of ADHD can affect the child (Bernier & Siegel, 1994) since not knowing how to properly manage the behaviours exhibited by a child with ADHD can negatively impact that child’s development. ADHD also impacts school performance because of the direct challenges children with ADHD face in the classroom (i.e., noise level, distractions, peer conversations, switching routines) (Gwernan-Jones et al., 2016). Therefore, since children with ADHD are highly sensitive to their immediate environment, their development often suffers as a result.

In addition, teachers’ knowledge about ADHD can affect their interactions with children with ADHD, which in turn, affects the children’s microsystem. In a study by
Moore, Russell, Arnell, and Ford (2017), teachers reported using student-centered strategies by making adaptations based on individual needs and keeping the student with ADHD in the classroom and part of the lesson as much as possible rather than singling them out. Teachers also reported that their relationships with students with ADHD were the “key to success.” The teachers described how a good relationship with a student with ADHD can unlock their potential and get them to be engaged with school. It was evident that the teachers in this study were doing their best to incorporate meaningful strategies into the classroom so that their students with ADHD were successful, regardless of whether they received enough education on ADHD. This effort contributes to a positive relationship between child and teacher, which can help the child develop a microsystem.

Rogers et al. (2015) also discuss how the relationship between children with ADHD and their parents is also essential for the children’s optimal development, and can suffer if the behaviours the child is exhibiting are severe, since having children with ADHD can lead to increased parental stress. Issues surrounding parental stress are also supported by a study mentioned earlier by Corcoran et al. (2016) who determined that having a child with ADHD increases parental and family stress due to the frustrations and challenges experienced by the family. The family and parental stress can alter parent-child interactions and can negatively impact the child's development.

The FDK classroom promotes parent-educator relationships by encouraging educators to have regular communication with the parents (Ministry of Education, 2016). These relationships are therefore part of the mesosystem in the Ecological Model. Since the mesosystem directly impacts the child, parents and educators must work together to ensure the child's success in school. In their literature review on parent-teacher
relationships, Gwernan-Jones et al. (2015) discuss the importance of parental involvement in their child's education. The researchers note that teacher reports of high-quality parent-teacher relationships are associated with higher levels of child adaptive functioning, lower levels of externalizing behaviour, and less student-teacher conflict (Gwernan-Jones et al., 2015). Therefore, through the FDK program promoting parent-educator relationships, healthy development for the children is also promoted.

Demonstrating how the mesosystem actually affects the microsystem, two additional studies (Cook et al., 2018; Mautone et al., 2015) found that teacher perceptions of parents influenced student achievement in the classroom. In a previously discussed study, Cook et al. (2018) found that when parents and educators both reported “very good” cooperation, teachers rated children as having higher academic and social skills and fewer externalizing behaviour problems. This study indicates that educators’ views may play a role in student achievement. Similarly, in a study of parents and teachers of 260 children enrolled in two other related studies on assessing the parent-teacher relationship, Mautone et al. (2015) found that the teacher rating of the quality of the parent-teacher relationships affected the teacher perceptions of the quality of the student-teacher relationship. Thus, it is evident that the educator's views of the parent-educator relationship can affect children's academic performance and rate of behavioural problems.

Rogers et al. (2015) explored how ADHD also affects the child within the mesosystem by looking at the parent-educator relationship. The researchers noted that the parent-educator relationship often encountered conflict as the parents felt that the school was less inviting and felt that there were more demands from teachers than did parents.
with children who did not have ADHD. These findings are supported by other researchers (Corcoran et al., 2016; Frigerio, Montali, & Fine, 2013; Gwernan-Jones et al., 2015; Mueller & Buckley, 2014) who have also determined that parents of children with ADHD have challenges in maintaining positive relationships with their child’s educator and feel the educators are not treating them the same as parents having children without ADHD. Therefore, negative relationships between parents and educators can negatively impact a child with ADHD’s school success (Rogers et al., 2015).

The macrosystem is also relevant to the FDK program. In Ontario, and Canada as a whole, children’s education is valued, which can be observed through the development of the FDK program that puts children at the centre of their learning without cost to the parents (Ministry of Education, 2016). The macrosystem is based on the values and laws of society (Harkonen, 2007); therefore, it is evident that Ontario places value on educating young minds in preparation for their time in the school system. It can also be said that because the FDK program places such an emphasis on creating a child-centered environment, children, in general, are valued within Ontario culture.

Since children enroll in the FDK program for two consecutive years, the chronosystem also factors into their development. The FDK program is consistent in that it provides children with the same educators (assuming that neither are moved or retire) throughout the two years they are enrolled in the program (Ministry of Education, 2016). This consistency allows educators to build a strong bond with the children, which sets the stage for healthy development and can allow children to flourish throughout the program. The consistency in the program can also benefit the parent-educator relationship as there may be increased trust and communication over the years. The FDK program also
promotes change in that the children, in their second year of the program, will be introduced to new and younger children (Ministry of Education, 2016), which could aid in their development through the children taking on more of a leadership role in their second year.

In conclusion, there are many factors that influence a child’s life and many of them are present in kindergarten (the teacher, the ECE, peers, school board policies, community). There are also many factors that influence a child with ADHD, more than they would for a child without ADHD (e.g. noise levels, changes in routine, peer conversations, strain on parent relationships and educator relationships). Overall, the EST provides a framework that allows for a clearer idea of how children are influenced by kindergarten and ADHD. In the next section, parent and educator relationships are discussed in relation to children with ADHD.

**Parent-Educator Relationships**

Research has continuously demonstrated the positive effects of parents’ involvement with their children’s schools (Cook et al., 2018; Mautone et al., 2011; Mautone et al., 2015; McCormick et al., 2013; Puccioni, 2018; Thompson et al., 2015). Parental involvement in education is positively correlated with children's academic motivation and achievement, attitudes towards school work, self-efficacy, behavioural functioning, and social competence (Mautone et al., 2015). Having a collaborative family-school relationship provides the foundation for parents and educators to work together to increase children's competencies and improve negative ADHD behaviours both at home and school (Mautone et al., 2015).
Researchers in Norway conducted a study to analyze an already published longitudinal study of 1157 children to examine whether parent-teacher cooperation is associated with children’s academic skills and behavioural functioning (Cook et al., 2018). From their research, Cook et al. (2018) established that communication and cooperation between parents and educators allowed for bi-directional information sharing across home and school, affording both parents and educators opportunities to learn from one another about children’s strengths and weaknesses, while also building their knowledge for supporting child growth. Moreover, this study discusses the importance of parents and educators working together to align developmental supports that are consistent between home and school, while also providing a positive model for child attitudes towards education and engagement with school (Cook et al., 2018).

When children are in kindergarten, the practices of ethical behaviour and parent-educator communication get modeled for them and set the foundations for the rest of their academic career, which allows them to observe their parents modeling respect for school officials and investing time in the school (McCormick et al., 2013). Because of this, children may internalize the message that school is an extension of the family and therefore is a place where they are expected to behave appropriately. School-based involvement of parents (i.e., volunteering, fundraising) is also associated with lower levels of student behaviour problems in kindergarten. In addition, it is likely that parents who are involved in school activities have a positive relationship with the educators, which may make the teachers less likely to perceive problematic behaviours in those children (McCormick et al., 2013).
The parent-educator relationship can prove challenging and takes cooperation and commitment on both sides to function well (Mueller & Buckley, 2014). In an article reporting on the findings from a qualitative case study with three kindergarten teachers which examined how teachers’ beliefs shaped their transition practices, Puccioni (2018) found that educators’ beliefs about parental involvement, parents' efficacy, and their own [educators’] self-efficacy shape the effort they put forth in the parent-educator relationship. The researchers also found that since teachers in the study believed that parent involvement leads to children's successful transition to kindergarten, the teachers provided materials to help the transition period and were very open to parent-educator communication (Puccioni, 2018). For example, the teachers in this study put forth extra effort by reaching out to parents—giving parents their cell phone number in case of questions, and using an application called "remind.com" which allowed the educators to reach out to parents and share links to relevant information (Puccioni, 2018).

Communication is another factor that affects the parent-educator relationship. In an analysis of parent interview and teacher questionnaire data from a longitudinal study on children in Australia, Murray et al. (2014) examined the changing patterns of parent-teacher communication and found that as children progressed from preschool to school, daily communication between parents and educators decreased. For example, in preschool, children are brought by the parents directly to the preschool teacher in the classroom for drop-off, where updates about the child or the child's day can be shared between the two. However, in kindergarten and into elementary school, children may take the bus to school or get dropped off in the schoolyard, leaving little to no time for communication between parents and educators (Murray et al., 2014). Additionally,
Communication can also suffer between parents and educators if the parents hold full-time jobs and are not able to make it to scheduled meetings (i.e., parent-educator conferences). In a study discussed previously, McCormick et al. (2013) found that parent involvement among low-income urban families was typically "reactive" meaning that the parents tended to only communicate with the teachers if the child was displaying problematic behaviours in school. The researchers, therefore, suggested that it is essential to look at teachers' practices (i.e., emotional support) for reasons why parents and teachers may or may not be communicating (McCormick et al., 2013).

Having a child who is at risk or diagnosed with ADHD can also affect the parent-educator relationship. The relationship between parents of a child with ADHD and the child’s educators can often become strained as a result of the child’s behaviour in the classroom (Mautone et al., 2015). Therefore, both parents and educators must work together to build a strong relationship so that they can provide consistency for the child. For example, in an article discussing family and school success for children with ADHD using the Family School Success (FSS) program (a program that promotes family-school collaboration through the use of Conjoint Behavioural Consultation (CBC)), Mautone et al. (2011) notes that ADHD management strategies that are only used in one setting (i.e., home or school) are not as effective as strategies that target both settings. The researchers also note that having consistency between home and school and productive parent-educator collaboration have been shown to enhance academic, social and emotional outcomes for children. This means that it is essential for parents and educators to work together to better address the educational and behavioural needs of the child (Mautone et al., 2011).
However, there are often barriers to the parent-educator relationship when a child with ADHD is involved. These barriers are created when children with ADHD exhibit academic difficulties and disruptive behaviour in the classroom. In their research on ADHD and parent-teacher relationships where a review of qualitative research was conducted, Gwernan-Jones et al. (2015) found that there are often conflicts between parents and educators when dealing with a child with ADHD. These conflicts often present themselves by way of the educators blaming the parents for the child’s behaviour, the parents feeling misunderstood by the educators, and the parents blaming the educators. Furthermore, Gwernan-Jones et al. (2015) found that when the teachers tended to view ADHD from a deficit standpoint focusing on the harmful behaviours children were exhibiting their relationship with parents was also affected. This affected the parent-educator relationship because parents were constantly hearing of the negative things their children were doing rather than hearing something positive.

Problems can also arise when parents and educators hold contrary beliefs about treatment methods for ADHD. For example, in the Gwernan-Jones et al. (2015) literature review, a Canadian study was examined that discussed how schools and educators tended to want medical treatment (i.e., medication) for the child with ADHD while the parents did not. Moreover, the researchers also found that parents felt that their child's behaviour problems did not begin until the child was in school and thus they tended to blame the educators for their child’s behaviour (Gwernan-Jones et al., 2015).

However, not all parent-educator relationships result in conflict. In the same study mentioned above, Gwernan-Jones et al. (2015) also found that there were exceptional educators who went out of their way to learn about ADHD and shared that information
with their colleagues in order to spread their knowledge. Teachers also initiated contact with the parents to share positive information about the child and worked with the child to implement effective strategies when the child began to lose control (Gwernan-Jones et al., 2015).

Perhaps the most critical factor in parent-educator relationships are the teachers’ perceptions of their experience with both children having ADHD and the children’s parents. Looking at this from an ecological perspective, the way that the parents and educators perceive their interactions with one another will directly affect them and will either encourage or discourage a relationship. In a survey of 53 Southern Ontario Kindergarten teachers who had taught children with ADHD, Miller and Brooker (2017) found that the teachers felt there were a number of barriers to intervention, with the most frequent barrier being the parents. For example, teachers felt that parents were not disciplining their children enough. While the researchers noted that there was some truth to the teachers’ feelings, they also acknowledged that by teachers holding these negative assumptions about parents, they were potentially sabotaging their relationship with the parents without knowing all of the facts. Moreover, teachers responding to the survey felt that parents were not supportive of their efforts in managing the child's behaviour and that there was a lack of communication between themselves and the parents that deterred the progress they were trying to make in managing the children’s behaviours (Miller & Brooker, 2017).

Just as educators can hold strong perceptions of parents, parents too may hold strong perceptions of educators. In their literature review of parent perspectives and parent-teacher relationships, Gwernan-Jones et al. (2015) found that there was an
overarching theme of mothers of children with ADHD feeling criticized by their child's educators. The mothers felt that there was one-way communication between themselves and the educators rather than a dialogue, with educators giving the parents advice and making requests. For example, mothers reported that educators would tell parents how to dress their children, how to do homework, and to have the child clinically evaluated. Some mothers even felt that some educators punished their children with ADHD unfairly in class as a result of the parents not seeking medical intervention. Mothers felt that this treatment was, "insulting, infuriating and/or harmful" (Gwernan-Jones et al., 2015, p. 12).

In a study conducted on fathers’ of children with ADHD experiences with the Special Education system in which 20 fathers were interviewed, Mueller and Buckley (2014) discovered that fathers tended to feel overwhelmed, left out, and in conflict with their children’s educators. For example, in describing the IEP meetings that take place to discuss a child’s abilities and necessary modifications and/or accommodations, fathers felt that there was no concrete agenda which took away from the structure of the meeting, that the words used by educators and other professionals in the meetings were confusing, and that the educators were not trying to listen to the parents’ voices. Moreover, fathers also discussed that they felt excluded from meetings compared to mothers, who were better able to build relationships with their child’s teacher. Lastly, the fathers discussed how disagreements with educators felt like a "battle," which left them feeling frustrated. The researchers concluded by noting that the fathers expressed a need for parents and educators to work together to find common ground and help the children rather than argue with one another (Mueller & Buckley, 2014).
In conclusion, the parent-educator relationship can prove complicated with both sides holding their perceptions; however, there are successful parent-educator relationships, and the benefit to the children is worth the effort in making the relationship positive. In the next section, educator perceptions of ADHD will be discussed.

**Educator Perspectives about ADHD**

Educators play an important role in the lives of young children, as they are with them for the majority of their day and for most of the week. Therefore, it is important to consider educators’ knowledge and perspectives of ADHD. The perspectives and beliefs of educators hold concerning ADHD can determine the way a child with ADHD is treated in the classroom, the relationship with the child’s parents, and potentially determine whether a child is referred for diagnosis. Since ADHD can be diagnosed as young as 4 years of age (Danielson et al., 2017) it is important that educators are knowledgeable about the signs and symptoms of the disorder. There has also been a noticeable rise in ADHD diagnoses over the past few years (CDC, 2016), which makes it even more important for educators to be aware of the symptoms and how to manage them within the classroom. However, the majority of research is on elementary school teachers, and there are very few studies to date that look at kindergarten teachers’ perspectives and knowledge of ADHD.

In a Canadian literature review of teachers’ knowledge of ADHD, Flanigan and Climie (2018) found that educators were knowledgeable about the causes and symptoms of ADHD, but demonstrated limited knowledge about ADHD interventions and their effectiveness. This could be challenging for educators because while knowing the causes and symptoms is a good start and will hopefully aid in getting a child diagnosed, the
educators in this study tended to not know how to effectively manage those symptoms in the classroom which could lead to disruptive behaviour, decreased learning for all children in the class, and increased stress for the educator. Moreover, although teachers knew about ADHD generally, they admitted that they would like more specific training. In addition, in-service teachers also felt more comfortable teaching children with ADHD than did new or pre-service teachers (Flanigan & Climie, 2018).

Similar to Flanigan and Clime (2018), in a Canadian study in which 113 elementary school teachers participated in a survey examining teachers’ ADHD knowledge, beliefs and classroom management practices, Blotnicky-Gallant, Martin, McGonnell, and Corkum (2014) found that teachers had more knowledge about the diagnosis and symptoms of ADHD and believed in the diagnostic legitimacy of ADHD, than information about the treatments for ADHD and general ADHD knowledge. It is possible that teachers have more knowledge about the symptoms and diagnosis of ADHD because that is where their firsthand experience comes in. Since they are with the students so often, they might be the first to notice the symptoms in a student and report it to the parents. In addition, teachers considered the problem behaviours that students with ADHD often exhibit to be out of the student’s control. Teachers who hold this belief may be more likely to treat students with ADHD with more compassion and patience, and be more likely to implement strategies to help the students. On the other hand, teachers who may view the child to be purposefully behaving poorly may opt to use more punitive measures (Blotnicky-Gallant et al., 2014).

The majority of teachers in Blotnicky-Gallant et al.’s study were aware that ADHD is not a result of bad parenting. In addition, they did not indicate having any
decreased expectations for students with ADHD, which may help motivate students versus being with a teacher who has lower expectations. However, these teachers did agree with a number of negative statements about ADHD, such as that they believed students with ADHD were “hard to teach”, and many believed having a child with ADHD in their class would disrupt their teaching and take away from spending time with other students. Ultimately, the researchers found that teachers who believed in the diagnostic validity of ADHD had more knowledge about the disorder and that beliefs about ADHD were associated with the use of effective behavioural strategies (i.e., teachers with negative beliefs about ADHD were less likely to use behavioural strategies) (Blotnicky-Gallant et al., 2014).

In a UK study of educational practitioners’ beliefs about the causes of ADHD by Russell et al. (2016), 41 primary and secondary teachers participated in either focus groups or individual interviews. Russell et al. (2016) found that many teachers believed ADHD was biologically caused either by genetics or a chemical imbalance, and that children with ADHD lacked control over their behaviour. This is a positive finding as it is likely that teachers who believe ADHD is biological may be less likely to punish children with ADHD when they display disruptive behaviours and rather work with them to improve behaviour. However, other teachers believed ADHD was environmental, and assumed that children were from adverse homes. The teachers in this study also acknowledged that certain school aspects (context, classrooms, peers and particular lessons) increased negative ADHD behaviours. Classrooms can often be bright and noisy, and require one to stay seated, which can all be challenging for a child with ADHD (Alessandri, 1992). In addition, lessons that allow children to call things out without
structure, while a fun lesson for those without ADHD, might provide the opportunity for a child with ADHD to be disruptive to the class. (Russell et al., 2016).

Although educators seem generally knowledgeable about symptoms of ADHD, they sometimes have misconceptions about the nature of ADHD. This can result in challenges in the relationship between the educator and the child, and the educator and the child’s parents. In a survey of 528 Danish primary and secondary teachers’ knowledge about ADHD in children, Mohr-Jensen et al. (2019) found that 17% of teachers believed that child rearing practices had an influence on whether or not a child developed ADHD, and only 19% knew that managing diet was not an effective treatment for ADHD. These two perceptions are ones that can directly impact the relationship between the teacher and the parent given that diet and child rearing practices tend to be controlled by parents. In addition, 33% of the teachers in the study also believed that parental attitude towards ADHD and towards teachers was important with respect to removing the children’s disruptive behaviour at school. While the study notes that the majority of teachers (83%) knew poor child-rearing was not the cause of ADHD, it is clear that some teachers still held misconceptions about ADHD that could be attributed to poor child-rearing. These misconceptions can hurt the parent-teacher relationship by putting blame on the parents when it is not their fault and while they are already presumably stressed over managing their child’s ADHD symptoms.

Unfortunately, there are a number of researchers (Gwernan-Jones et al., 2016; Lawrence et al., 2017; Miller & Brooker, 2017; Russell et al., 2016) in addition to Mohr-Jensen et al. who have reported that educators tend to blame the parents for the negative behaviours that children with ADHD often exhibit. For example, Lawrence et al. (2017)
note that teachers expressed negative perceptions of the home environment stating that they believed there was a lack of discipline, inadequate parental involvement or lack of encouragement for children to be independent. Holding these negative perceptions can target parents and blame them for a disorder that they cannot control.

There can be a number of factors that contribute to the misconceptions that are held about ADHD. In a US study where 14 practicing and retired elementary and middle school teachers participated in an interview examining teachers’ experiences with, and perceptions of students with ADHD, Lawrence et al. (2017) found that educational background, years of classroom experiences, and personal/family experiences all informed teachers’ perceptions of students with ADHD. For example, the teachers that received formal training on ADHD rather than hearing information about ADHD from peers were more likely to be supportive of classroom interventions. The teachers in this study also described how there was a lack of information in formal education settings and reported learning about ADHD through in-service education, through attending workshops, or informally from peers. However, it is easy to see how learning from peers might contribute to the misconceptions that are present. Lastly, culture, gender and age of the teachers also affected their understanding of ADHD and their perception of behaviours usually attributed to ADHD. For example, a Black female teacher noted race and ethnicity as a difference in the rate of diagnosis for ADHD.

Although there can be many misconceptions held by educators of ADHD and many educators who are not current in their knowledge of ADHD, most educators take it upon themselves to implement strategies to help children with ADHD succeed in the classroom. In a study by Moore et al. (2017), researchers found that even though the
teachers reported limited knowledge on specific ADHD strategies, they implemented strategies aimed at further developing the children’s social, academic, emotional and self-regulation skills. For example, the teachers used movement breaks and activities where students could get up, which not only benefited those with ADHD, but all of the other students in the class as well. The limitations of the current research will be discussed in the next section.

**Limitations of the Extant Research**

Although a significant amount of research has been conducted examining ADHD and FDK separately, there are no studies to date, to my knowledge, that research these topics together. Current research (Gottfried & Le, 2016; Gottfried & Little, 2017) on ADHD and non-play-based FDK programs discusses how children with ADHD fare in an FDK classroom; however, these studies were conducted in the US, and there was no mention of whether or not these were play-based FDK programs. In addition, the two longitudinal studies mentioned above took a national sample of children’s records and looked at academic scores in combination with a teacher rating of children’s problem behaviours and social skills. The current study, on the other hand, took a qualitative approach and examine the perspectives of educators regarding the Ontario play-based FDK experience for children with ADHD through semi-structured interviews with teachers and ECEs.

While much of the research on ADHD and FDK informs the current study, only a limited number of studies have been conducted in, or included data from Canada (Blotnicky-Gallant et al., 2014; Charach et al., 2006; Flanigan & Climie, 2018; Lynch, 2014; Miller & Brooker, 2017; Stover & Pelletier, 2018). The results of studies
examining ADHD and FDK (and specifically play-based FDK) may vary when conducted in Canada; therefore, how children with ADHD cope in play-based FDK needs to be examined.

Miller and Brooker (2017), in the only study examining Ontario's unique play-based FDK program and ADHD, examined only teachers’ knowledge and experiences in the program with children who have ADHD. However, they did not delve into the play-based nature of FDK. In addition, since both teachers and ECEs teach in play-based FDK rooms it would be beneficial to include both of these perspectives as each type of educator has been differently trained as noted above. Therefore, by including all educators present in the room, I was able to get a broader understanding of how children with ADHD fare in the play-based FDK classroom. Thus, it would be beneficial to consider teacher and ECE perceptions of the play-based FDK program in regards to how the children are performing in the classroom, whether they are meeting educational goals for their age group, and what their behaviour is like rather than solely the effect their behaviour has on the classroom teacher.

There are currently no studies to date that include the perspectives of both educators on the effects of play-based FDK on children with ADHD. The new play-based FDK program in Ontario describes part of its philosophy as encouraging parent-teacher relationships and parent involvement in the classroom (Ministry of Education, 2016). To the researcher’s knowledge, no study to date has examined whether the play-based model has enhanced parent-teacher relationships or parent involvement within the classroom.

Some of the limitations mentioned above were addressed in the current study by specifically examining play-based FDK and how children with ADHD cope in the
program through the perspectives of the kindergarten teachers and ECEs. In addition, the FDK program (part of a child’s microsystem) was also be considered in whether educators perceive it as effective for teaching children with ADHD.

**Rationale for the Current Study**

Most of the extant research focuses on the elementary school setting for children with ADHD and how parent-educator relationships are an important factor in a child’s success at school. However, as mentioned above, there is a lack of research on children with ADHD in Full-Day Kindergarten, specifically play-based programs. With play-based FDK being relatively new in Ontario, it is important to research how children negotiate the program, and the perspectives of other stakeholders.

Although the current study originally intended to include both parent and educator perceptions of the FDK program, since parents and educators are the most central figures in a child’s life, because of the COVID-19 pandemic and resulting global lockdown including closing the schools and the associations where recruitment flyers for the study were going to be posted, this became impossible. The researcher did try to recruit parents through the social media accounts created for the study, however, over four weeks there were no responses. In addition, the researcher was sympathetic to the fact that parents may be overly stressed and busy during this time as they navigate keeping their children occupied. However, since educators are central figures in children’s lives they are able to provide much detail into the FDK program and the children with ADHD. It was anticipated that there would be differences in how teachers and ECEs perceive children with ADHD, based on experience and training and thus both teachers and ECEs were included in the current study. In addition, it was also anticipated that teachers and ECEs...
may have unique insights with regards to the parent-educator relationship and what types of actions provide either a positive or negative relationship. As stated in the introduction, the purpose of the study was to determine whether the play-based FDK program is effective in teaching children with ADHD and enabling a positive parent-educator relationship. Therefore, the current study aimed to answer the following research questions:

1) What are teacher and ECE perceptions of the play-based FDK program?

2) What do these stakeholders perceive as advantages and disadvantages of the play-based FDK program for children with ADHD?

3) Does the play-based FDK enable parents and educators to have a positive relationship?

4) Does educator training about ADHD shape their perceptions of children with ADHD?

In the next chapter, the design of the study and the methodology used will be discussed in detail.
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

Because, to my knowledge, there is no prior research concerning children with ADHD in the play-based FDK program, this study is exploratory in nature and used semi-structured interviews to understand the unique perspectives of educators about children with ADHD in the FDK program. Semi-structured interviews "...unfold conversationally, offering participants the chance to explore issues they feel are important," (Clifford, Cope, Gillespie, & French, 2016, p. 103). Such interviews are useful for asking sensitive questions and enable the interviewer to probe for additional information to extract more pertinent information when topics of interest are raised by the participants (Creswell, 2012).

Recruitment. Purposive sampling was used to recruit participants that have personal experience with children with ADHD in FDK. Because of time constraints and due to the exploratory nature of this study, recruitment was approached sequentially. The study was first advertised with a recruitment flyer (see Appendix D) on Facebook, Instagram and LinkedIn accounts that I created specifically for recruitment purposes. I then shared the post from the accounts created for the study on my personal accounts, which was then shared by multiple people from my friend list. This was done to reach educators through “snowballing” efforts. Half of the participants were successfully recruited through the Facebook account. I then reached out to a number of people who knew educators. I was able to recruit the remaining participants needed. After contact was initiated I discussed the study with the educator and determined that they met the criteria (have taught at least one child with ADHD (or suspected ADHD) in the FDK program in the last two years).
Participants

A total of nine participants, 5 teachers and 4 ECEs, were recruited from multiple areas in Southern Ontario. The participants were from a total of four school boards, both Catholic and Public. Each participant signed a consent form (see Appendix C) and received a letter of information to keep (see Appendix D). A brief description of each participant follows.

**ECE 1.** ECE 1 has been teaching for 19 years, seven of which have been in the play-based FDK program. By her estimate she has taught about 10 children both diagnosed with and/or suspected of having ADHD over the past seven years. She has an Early Childhood Education diploma, has completed some university courses, and has completed a course through her school board on play-based FDK for children with autism. In addition, ECE 1 has a son with ADHD, and has learned about ADHD through her experience with him and various books she has read.

**ECE 2.** ECE 2 has taught for 18 years, seven of those years in the play-based FDK program. She has taught one child who was officially diagnosed with ADHD and at least five children suspected of having ADHD. ECE 2 has her ECE diploma and has completed some university courses. Although ECE 2 does not have any specialized training related to ADHD, she and her two sons have all been diagnosed as having ADHD.

**ECE 3.** ECE 3 has taught for 15 years, six and a half of which have been in the play-based FDK program. She is currently working with T3 in the same classroom. Although she has never taught a child who was formally diagnosed with ADHD, she has taught at least 4 children with suspected ADHD. ECE 3 has both an ECE diploma and an
Educational Assistant (EA) diploma. She does not have any special education qualifications, but notes that the EA program is focused on teaching children with various special needs. ECE 3 has been to approximately two workshops that were related to ADHD.

**ECE 4.** ECE 4 has taught for 19 years and eight of those years have been in the play-based FDK program. She has taught numerous children in the kindergarten program who were diagnosed with ADHD, and she estimates that over the years the number of children she has taught with suspected ADHD is around 100. ECE 4 does not have any special education qualifications, but has attended workshops related to ADHD, however she could not recall how many.

**Teacher 1.** Teacher 1 (T1) has been a kindergarten teacher for 25 years, six of which have been in a play-based FDK classroom. By her estimate she has taught about 100 children either diagnosed with, or suspected to have ADHD over the length of her teaching career. She holds a Bachelor of Education degree and has also taken the Ontario Ministry of Education Additional Qualification (AQ) Special Education Part 1 course and has also attended numerous conferences and workshops related to ADHD. In addition, she and her son are both diagnosed with ADHD.

**Teacher 2.** T2 has been teaching for 12 years, nine of which have been in the play-based FDK program. T2 has taught children with ADHD in her kindergarten class, one child having been officially diagnosed. Her highest level of education is a Bachelor of Education degree. T2 has her specialist in Special Education AQ certificate. Although she has not attended any specific ADHD workshops, she has attended a workshop on the topic of self-regulation.
**Teacher 3.** T3 has been a teacher for 18 years, four of which have been in the play-based FDK program. She is currently working with ECE 3 in the same classroom. She has taught children diagnosed with ADHD, and she estimates she has taught about 200 children with suspected ADHD, both in kindergarten and in the other grades that she has taught over the years. Her highest level of education is her Bachelor of Education degree. T3 does not have any special education training and has not had any training specific to ADHD.

**Teacher 4.** T4 has taught for 30 years with five of those years being in the play-based FDK program. She estimates that she has taught about five children actually diagnosed with ADHD before in her teaching career, and two that she suspected had ADHD in kindergarten and who were later diagnosed. Her highest level of education is her Bachelor of Education. T4 has no special education qualifications, but she has her Ontario Ministry of Education kindergarten specialist for play-based FDK. She does not have any training related to ADHD.

**Teacher 5.** T5 has taught for 23 years with two of those years in the play-based FDK program. She estimates that she has taught at least 10 students that she suspected of having ADHD throughout her career. T5’s highest level of education is her Bachelor of Education degree. T5 does not have any special education qualifications, nor has she had any training specific to ADHD.

**Method**

**Materials.** Participants were interviewed over Skype due to the COVID-19 restrictions the University of Windsor put in place for researchers. Each participant was emailed the consent forms and each participant emailed them back to the researcher prior
to beginning the interview. All interviews were recorded using the built-in Skype feature as well as on two digital audio recorders. All recorded interviews were downloaded from Skype to the researcher’s laptop and kept in a secure file. Audio files recorded on the digital recorder were left on the recorder. At the end of each interview each participant was e-transferred $10 to thank them for their participation in the study.

The Demographic Questionnaire. The questions on the educators’ demographic questionnaire addressed how long they have been teaching, and how many of those years have been in an FDK classroom, how many children they have taught that have had ADHD over the years, their level of education, and whether they have completed any Ontario Additional Qualification courses in special education, or if they have attended any courses or workshops or webinars related to ADHD (see Appendix E).

Interview Protocols. The development of the interview questions was based on the ADHD and FDK literature, which guided the research questions. Since there is no study to date to my knowledge that specifically looks at children with ADHD in a play-based FDK classroom setting, the questions address various gaps in the literature, which are discussed in Chapter 2.

A table was created to show interview question development. As seen in Table 1, the left column includes the areas identified as gaps in the literature, with the other two columns containing the questions for the participants (the interview protocol for the participants is also available in Appendix F). The interview began by asking the participants about the nature of ADHD as they have seen it expressed in the children they have taught. Questions then went into a bit more detail concerning the play-based FDK
Table 1.

**QUESTION DEVELOPMENT TABLE**

<table>
<thead>
<tr>
<th>ADHD:</th>
<th>Teachers</th>
<th>ECEs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understanding of ADHD</td>
<td>1. Thinking of your experience of teaching children with ADHD in your classroom, how would you describe a child with ADHD? What has your experience been overall? Could you give me an example of what a child with ADHD is like when they are at their best? Could you give me an example of what a child with ADHD is like when they are at their most difficult?</td>
<td>1. Thinking of your experience of teaching children with ADHD in your classroom, how would you describe a child with ADHD? What has your experience been overall? Could you give me an example of what a child with ADHD is like when they are at their best? Could you give me an example of what a child with ADHD is like when they are at their most difficult?</td>
</tr>
<tr>
<td>2. Experience with a child who has ADHD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| FDK                           | 1. Could you describe the play-based FDK program generally?              | 1. Could you describe the play-based FDK program generally?          |
|                               | 2. Could you describe what you see as the benefits and drawbacks of the FDK program for a child with ADHD? In general, how do children with ADHD in your classroom cope during free play time (do they tend to move between activities or remain at one)? Examples? Could you | 2. Could you describe what you see as the benefits and drawbacks of the FDK program for a child with ADHD? In general, how do children with ADHD in your classroom cope during free play time (do they tend to move between activities or remain at one)? Examples? Could you |
| 1. Understanding of the play-based FDK program |                                                                          |                                                                      |
| 2. How children with ADHD are doing in the program |                                                                          |                                                                      |
| 3. Routine in the classroom/at home |                                                                          |                                                                      |
4. Does FDK make a difference?

5. Strategies implemented

6. Teacher training in FDK

7. Parent/educator relationship

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describe how children with ADHD in your classroom get along with their peers? Examples? How do/have children with ADHD in your classroom cope during organized activities (large group circle)? Examples?

3. Could you describe your classroom routine to me? How do children with ADHD manage that routine? How do they react when the routine is changed? Examples?

4. When you have a child with ADHD in your classroom, are there specific things you do or strategies you teach the children to help them succeed? What kinds of things do you do? (get specific examples)

5. (For educators who taught kindergarten before FDK)
Since you have taught kindergarten before the implementation of FDK, what would you say are the advantages and disadvantages of each program for children with ADHD?

6. Do you feel you have adequate training for teaching children with ADHD? Why or why not? Has the school board provided opportunities for additional training in teaching students with ADHD? Are there particular websites, webinars, workshops, etc. that have helped you one)? Examples? Could you describe how children with ADHD in your classroom get along with their peers? Examples? How do/have children with ADHD in your classroom cope during organized activities (large group circle)? Examples?

3. Could you describe your classroom routine to me? How do children with ADHD manage that routine? How do they react when the routine is changed? Examples?

4. When you have a child with ADHD in your classroom, are there specific things you do or strategies you teach the children to help them succeed? What kinds of things do you do? (get specific examples)

5. N/A

6. Do you feel you have adequate training for teaching children with ADHD? Why or why not? Has the school board provided opportunities for additional training in teaching students with ADHD? Are there particular websites, webinars, workshops, etc. that have helped you
particular websites, webinars, workshops, etc. that have helped you in understanding and teaching students with ADHD?

7. What kinds of things do you do to develop a relationship with parents of children with ADHD in your class? How would you describe these relationships? What kinds of things do you do to support parents? (get specific examples)

8. Is there anything else you can think of that would give me a clear idea of the play-based FDK program and how children with ADHD cope in this environment?

9. In an ideal world, if you could provide the perfect kindergarten classroom for children with ADHD (regardless of cost) what would it be like?
program and participants’ understanding of the program and the experience of children with ADHD in the program. Subsequently, the interview asked about the parent/educator relationship and what each participant does to facilitate a relationship with the parents.

Procedure. The interviews took place between March 16th and April 6th. I conducted the interviews over Skype in a private room of my house with the doors closed. I began the interview by asking the demographic questions and then continued to the interview protocol. Once the interview was over the participant was thanked again. The participants were asked if they would like a summary of the results of the study emailed to them once they are available. If the participants said yes, their interview protocol was marked with a star beside their email.

Data Analysis

After the conclusion of each interview, I immediately transcribed it using the 2017 version of Microsoft Word, which allows for speech dictation. The audio recording on Skype was played on the laptop as Word dictated the speech. I then went through the text that Word created while listening to the audio from the interview and corrected any transcription errors. I added dialectical markings and included verbal emphasis through bolding to ensure the “spirit” of what the participant said was maintained in the transcript. I then downloaded the transcribed interviews to my laptop and coded them using Word’s highlighting and commenting features. I analyzed the data using Thematic Analysis to identify patterns within and across data concerning participants’ lived experiences, views, perspectives, practices, and behaviours (Braun & Clark, 2006). For this study, the data was analyzed using an inductive (“bottom up”) approach and coded through a process of open coding. Once codes were made for each set of data, I looked
for themes within the data and created a “thematic map” (a graphical way to represent data and a visual thinking tool) (Braun & Clarke, 2006). In the third step I began with an initial map detailing all of the themes initially found in the data, then refined the map to fewer themes that encompassed more data, continually revising until a final map was completed.

Step four involved reviewing these themes and further refining them. In step five the resulting themes were analysed and named. Once these steps were completed, I examined how the identified themes related to the various systems in EST.

**Ethical Considerations**

Approval from the University of Windsor's Review Ethics Board was obtained prior to conducting this study. The questions asked did not present any risks and participants did not seem to be under stress. Confidentiality and anonymity were maximized through the use of pseudonyms in the transcription and analysis of the data. Since the interviews were conducted privately on the Skype call, the information given was strictly confidential. Audio files were deleted from the digital audio recorder after all interviews had been transcribed. Recorded interviews from Skype and transcriptions were saved in a secure computer file, and seen only by me and my thesis supervisor. Transcriptions of the interviews will be kept for up to five years after the last use of the data in publications or presentations. Participants were free to withdraw from the study within two weeks of their interview without any consequences.
CHAPTER 4: RESULTS

Introduction

Through a thorough thematic analysis of the interviews following the procedure outlined by Braun and Clarke (Braun & Clarke, 2006), and described in Chapter Three, five overarching themes emerged (see Figure 2): 1) Knowledge and Understanding, 2) Benefits and Challenges of Play-Based FDK for Children with ADHD, 3) Strategies Used to Promote Success, 4) Fostering Relationships, and 5) Meeting Child and Educator Needs. Each theme consists of a number of subthemes and these are discussed in further detail below.

Knowledge and Understanding

This theme was developed based on the educators’ demonstration of their knowledge and understanding of the FDK program, children with ADHD, and the explanations for challenging behaviours that they gave. These are divided into two subthemes as follows: Understanding of an Effective FDK Program, and Understanding the Nature of ADHD. The educators were asked to describe the play-based FDK program generally and to describe a child with ADHD being both at their best and at their most difficult in the FDK program. Without an adequate knowledge of both ADHD and play-based FDK in and of themselves, it would be challenging for educators to be able to address how they interact and influence one another.

Understanding of an effective FDK program. This subtheme emerged as it was evident that the educators knew a great deal about how the FDK program should be organized. This knowledge allows educators to be able to identify the benefits and drawbacks of the play-based FDK program for children with ADHD. Educators in the current study
Figure 2.

Effectiveness of the FDK Program for Children with ADHD

Knowledge and Understanding
- Understanding of an effective FDK program
- Nature of ADHD

Benefits and Challenges of play-based FDK for Children with ADHD
- Benefits for children with ADHD
- Challenges for children with ADHD

Strategies Educators Used to Promote Success
- Accommodations
- Movement breaks
- Establishing rules and routine
- Educators being reflective

Maintaining Positive Relationships
- Between parents and educators
- Between child and educator
- Between educators
- Between parents of children with ADHD and other parents
- Challenges in maintaining relationships

Child and Educator Needs
- Transition Preparation
- Increased support
- Additional Training about ADHD
demonstrated their understanding of two key areas: the importance of providing an open-ended, inquiry-based environment based on children’s interests, and educators as facilitators.

All of the teachers and almost all of the ECEs demonstrated the importance of providing an environment that was open-ended, and that encouraged inquiry based on children’s interests. While this can benefit children with ADHD by giving them choices and focusing on their interests, it can also be challenging for children with ADHD as they tend to need structure as well (McGoey et al., 2002). Describing the importance of focusing on children’s interests, T2 noted:

> When it’s that time for play and exploration I never pull children from their play . . . so, if they go to the block centre every single day great . . . my job is to figure out what can I do in that area to enhance their learning opportunities and experiences rather than saying, you know, you go to blocks every day . . . now it's your turn to come and do more important stuff with me like . . . I really am conscious and careful about the messages that I send to children and how we interact.

T2 acknowledged that she encourages children to play in the same areas every day and that she is careful not to pull children away from their play as she fears it may send the message that what they choose to do is not as important as what the educators have planned.

In order to have the program be open-ended and inquiry-based, educators need to be actively working towards creating that environment every day. All of the teachers and two ECEs demonstrated that they, as educators, needed to be the facilitators of the FDK program. The educators planned play opportunities, asked questions to extend children's learning, and guided the children’s play. T2 and ECE 3 specifically mentioned the importance of “provocations” (which are deliberate and thoughtful decisions made by the
educator to extend the ideas of the children). When describing the FDK program, T3 gave an example that showed how educators act as facilitators:

We listen as they play, we guide conversations, but we develop, um, our centres and play areas based upon their interests, so, you know, they're in the house centre and you can hear them, um . . . you know, looking after the stuffed animals or things like that. Then we know that we can talk a little bit more about veterinarians. We can provide maybe the materials for them to use that might guide that play . . . um, and then, in that, create those learning opportunities, right? So, you can make sure that inquiry again . . . that they have voice in how and what they want to learn about but you're there to try to guide it and bringing in those science and literacy aspects when they don't even realize that that's part of the play . . . I think [it] is really great, suddenly they're writing a prescription for an animal and um, or making a grocery list, right? And they don't even realize that they are suddenly doing a literacy task.

While she noted how educators are facilitators, T3 also addressed how it is the educators' responsibility to observe the children and to plan their play accordingly to broaden their thinking and learning. She also noted that while children just think they are playing, they are really learning science and math skills. This may be especially beneficial for children with ADHD as the educator can provide materials that these children are interested in so that they are focused on one activity, which will likely make them less disruptive to others during class time.

Understanding the nature of ADHD. Both the teachers and the ECEs in this study understood the symptoms and typical behaviours a child with ADHD might show. The educators were aware of the potential beneficial aspects of ADHD as well as potentially challenging aspects of ADHD, and were able to understand the function of challenging behavior they may exhibit, rather than blame the child for the behaviour. The educators perceived children with ADHD to be at their best when they display hyperfocus, learn in their own way, and have at least one close friend. The educators
perceived children with ADHD to be at their most difficult when they displayed a lack of focus, disruptive and aggressive behaviours, and experienced peer conflict.

All of the teachers and half of the ECEs explained how some of the children they have taught with ADHD are able to focus for long periods of time when they are interested in something and this is recognized in the literature as “hyperfocus” (Sedgwick, Merwood, & Asherson, 2018). As ECE 2 described it: “Well, I find if it's something they are truly, truly interested in they can handle staying in one place, um, for quite some time.”

Similarly, T4 described her perception of children with ADHD displaying hyperfocus:

*At their best they can be awesome . . . um, you know, if you can engage them [children with ADHD] in something they're really interested in and want to talk to you about, they can be very excited, very happy to share all their information . . . and from my experience they usually have something that is, uh, a real interest to them that they know a lot about, that they studied a lot, and that they love to share information about and they can be excited and happy to do that.*

While hyperfocus allows children with ADHD to focus on certain things for long periods of time, it can also be a double-edged sword. Some educators found that these children often do not want to leave what they are doing and this can disrupt the transition time in the classroom.

In addition, when asked to describe a child with ADHD at their best, three ECEs and two teachers described that the children learn in their own way. They understood that “paying attention” did not necessarily mean that the children with ADHD sat with the other children at large group circle (where everyone in the class meets to do a short teacher-directed lesson). The educators stated that even when a child with ADHD was
working on their own activity away from the large group circle, they were often still
listening and understanding what was being said at the circle. When describing a child
with ADHD at their best, ECE 4 discusses these children being able to pay attention,
even while away from circle:

*They will be standing over at the Lego table . . . they’re playing and so, when I’m
reading a story, asking questions . . . and they’re responding even though they’re
not sitting, right? They’re still learning . . . some will just need to be at the play-
doh table, so they just need that a sensory piece, right?*

T3 agreed, “I think sometimes they are engaging a little more, like, they might be
there [working away from the group] . . . kids maybe that can be busy doing something
and still taking in that information and I think that's important to kind of remember too.”
Both of these examples demonstrate the importance of educators being aware that
children with ADHD learn differently than other children and that giving them their own
space where they can listen but have less distraction is essential for their success.

Two teachers and two ECEs also noted that children with ADHD can have certain
friends that do enjoy playing with them. As T4 noted, “You know what? The boys that I
had . . . they had their friends for sure in the classroom, you know, who were happy to
play with them.” ECE 1 agreed, “They usually will pick one or two friends they feel most
comfortable with and then will stick to that friend.” This shows that children with ADHD
are capable of making and keeping friendships, even though it may be challenging at
times.

Children with ADHD can also display challenging behaviours. The educators
described children with ADHD as sometimes being difficult to work with in the
classroom when they are not focusing and when they have trouble in peer relationships
that may result in aggression towards other children. As discussed in Chapter 2, children with differing ADHD diagnoses (i.e., ADHD-hyperactive/impulsive, ADHD-inattentive, and ADHD-combined) tend to display different symptoms (American Psychiatric Association [APA], 2013). T1 was the only teacher to differentiate between ADHD subtype and how a child may present in a kindergarten classroom:

I mean I know it's all called ADHD now but the kids that are hyperactive, um, and [impulsive] . . . I would say are more likely to have conflicts with their friends because like I said they’re the ones that are vibrating, constantly moving, knocking kids things over, bumping into kids, uh . . . running full steam ahead, and not, you know, . . . not even noticing the ten kids in the way . . . um, the kids who are maybe the more inattentive ones sometimes tend to be a little more off on their own perhaps . . . like that, they’ll maybe play more by themselves or maybe in a smaller group . . . um . . . maybe a little bit quieter those kids . . . sometimes those are the kids that go under the radar often it . . . more often than not it’s girls...

T1 noted that children with ADHD-hyperactive/impulsive subtype may show more aggression and have more trouble with peers which is likely heightened in the play-based environment since children have the freedom to move around the room. In comparison, children with ADHD-inattentive subtype tend to be quieter children that may go unnoticed. However, this too can pose problems in the play-based FDK. Because there are many things going on at once in the classroom an educator may not notice the child who is quiet and undemanding.

All educators said similar things as T1 when describing children with ADHD at their most difficult, although they did not distinguish between the different types of ADHD with which the behaviours were associated. All educators noted that children with ADHD typically have trouble focusing. As T4 described:
Usually, they are, um, hard to focus, um, often task avoiders, um, or what I would call “samplers” where they spend a little bit of time at a lot of different places and don’t stay focused for a long time on something unless it’s something of, you know, real interest to them. . . . in which case they may stay at it for a long time and not want to leave to do something else, um, kind of like, just . . . kind of all around the classroom, kind of flitting around, yeah, here to there to here to there to here to there. . . .

This example illustrates how ADHD impacts participation in play-based FDK because children have lots of choices and the children with ADHD are more likely to “sample” activities more than children without ADHD.

The majority of educators also noted that children with ADHD can have trouble with peer relationships and that they may display “hands-on” aggressive and destructive behaviours. All teachers and two ECEs also felt that children with ADHD tend to be “blamed” for things by other children because of their past disruptive behaviour. For example, T4 described how a child that shows challenging ADHD symptoms and can get blamed by their peers:

They can be . . . have a little bit of you know hands-on, aggressive type of behaviour and, and then just the kind of like um moving around place to place and kind of upsetting the apple cart wherever they go [laughing] . . . this table and then you have the kids going "he just did this" or "he just did such and such," right?

This paints an image of how children with ADHD can be destructive in the classroom and how it has a direct effect on other children and their learning.

ECE 1 described her experience with children who show impulsive symptoms of ADHD:

They can get fixated on things . . . like, and also, I find like, uh, if they’re building something and someone else comes along, it's like, “wait a minute, I'm here, like I
didn’t invite you here,” you know, so there's a lot [we have to] work on . . . [improving] cooperative play and, like, building those friendships and the trust...

This example demonstrates how, likely because of the amount of freedom they have within the classroom, children with ADHD can disrupt other children’s learning and display challenging behaviours. These behaviours can result in the educator needing to leave what they are doing and get involved, which the educators noted tends to take time away from working with the other children.

Contrary to all other educators, ECE 3 appeared to lack knowledge about the nature of ADHD and believed that if children were able to focus at all, then they did not have ADHD:

Well if they are interested that's not really . . . if they can sit still for longer than a couple minutes on an activity that is telling me that they can, they physically can do it . . . whereas ADHD I don't think they . . . my understanding is that they can't even . . . they just can't settle, they can't keep their mind on something, they're always . . . something either they're over stimulated by stimulus or you know what I mean? Like they're overloaded, they just can't process, they can't follow instructions, they can't . . . on their own they can't resolve things, they can't what's that word . . . mentally problem solve, you know what I mean?

While educators mentioned both beneficial and challenging aspects of ADHD, almost all of the educators were able to demonstrate that they understood why children were displaying these behaviours, and that when they did, it was not necessarily the child’s fault. As T2 explains:

Some children that I have supported struggle also with any type of, like, small group instruction or whole group instruction that comes within the day . . . even when, and, . . . even when it's play-based, so even when it may be singing and, like, music and movement, I find that sometimes they still struggle to be a part of that . . . whether it be that there's just too much stimulus or whatever may be happening . . . um, sometimes there definitely is [sic] some other things going on, so I find with a lot of children [who] have ADHD there's multiple other things
coming into play, and so whether it be autism or whether it be kind of oppositional defiance . . . so sometimes those other pieces can cloud what's happening as well, so I do find that there's a lot of comorbidity, especially in the classroom of other things that are happening . . . so sometimes there can be a lot of behaviors and behaviors may come out of seeking control or lack of understanding, so there's definitely a lot of behavior that I've seen connected to . . . ADHD, at least in my experiences.

Similarly, ECE 3 explained that children with ADHD may show challenging behaviours because they lack certain skills:

_Somebody will act out with behaviors because they are not able to problem solve on their own, not able to self-regulate, don't have the social skills to talk to other children, and you know, express how they're feeling, and so there's behaviors that come out of that._

These examples show that there can be many different reasons for children with ADHD’s challenging behaviours, which highlights the importance of educators needing specific ADHD training so that they are able to better recognize when and why these challenging behaviours are happening and be better able to help the child with ADHD.

In summary, the educators in this study observed that children with ADHD often have various skills that are assets such as hyperfocus and developing better self-regulation. However, children with ADHD can also be challenging when they are not interested and may create peer conflicts. Rather than blaming the children for their challenging behaviours, the educators understood that it was beyond the children’s control.

The following section will discuss the connection between the educators’ knowledge and understanding of ADHD and play-based FDK and the benefits and challenges of the play-based FDK program for children with ADHD.
Benefits and Challenges of the Play-Based FDK Program for Children with ADHD

Since educators understood ADHD and the FDK program, they were able to understand how the play-based FDK program can be beneficial for children with ADHD, but also that it can present challenges for them as well. Because a main goal of the research was to determine educators’ perceived effectiveness of play-based FDK for children with ADHD, this is an important theme. Based on the data, overall, educators believed that the benefits of the play-based FDK program outweighed the challenges it posed.

Benefits of FDK for children with ADHD. Overall, the educators believed that the play-based FDK program is beneficial for children with ADHD for a number of reasons: the program allows for plenty of movement and exploration within the classroom, it provides opportunities for open-ended play with the opportunity to make choices, it has short instructional periods, and the nature of the program helps the children to develop social/emotional skills.

Almost all educators agreed that the FDK program provided much needed movement opportunities for the children throughout the day. As T1 noted:

*There are certain things that we do [at] the same time every day . . . we, you know, in between recess and lunch we always make sure that we do . . . it's called ‘Go Noodle’ . . . those [dance] videos, it's kind of like ‘Just Dance’ . . . to get the kids active, so when we come in from recess, we kind of blow off some steam . . . [by] do[ing] a couple of those videos.*

While these movement breaks after recess are good for all children, they are especially beneficial for children with ADHD since some educators noted that recess can be a time where children with ADHD often get into peer conflict. This dancing opportunity, however, can provide an outlet for frustration that may have built up over recess. In
addition, this movement break provides a positive transition from outdoor play back to
the classroom setting by letting the children with ADHD release energy before having to
focus.

T4 also noted:

*Well, one of the biggest benefits is that it is play-based and exploration, so that
there aren’t as many expectations to sit down in a seat, [or] work on this at the
same time everyone else is working on it, that there is a little bit more choice
especially in the student-directed play in the play outside [FDK has separate free-
play outside apart from traditional recess where they are encouraged to explore].
 . . um, so they have . . . and actually just even the amount of being able to move
around then, and always you . . . don’t have to sit in the seat so much. I mean our
guys do [sit] in our teacher-directed activities in the morning, but again it's often
for a very short time, so there isn’t an expectation to be, you know, sit in your seat
and sit still for this, you know, whatever 20 minutes or half an hour or whatever it
happens to be.*

Given their exceptionality, children with ADHD often demonstrate a lack of self-
control, so they can benefit from choice in activities because they are able to have control
over that part of their day. T2 found that allowing students to have choice and control
was particularly beneficial:

*I think one of the main benefits is, if it's [the FDK program] embraced the way
that it's put out to be done, that it . . . it is completely play-based, and it gives
them a lot of opportunity to make decisions and choices and to focus on, and
follow through with things that are in their control . . . and then lots of
opportunity to play . . . I found that they really do benefit.*

Since T5 had taught kindergarten prior to the implementation of the play-based FDK
model, she was able to provide insight into the benefit that the new program has over the
old one:

*The new kindergarten program allows for that flexibility, the kids are learning at
their level and moving . . . as teachers we move them forward from where they are and moving them forward is better . . . yeah, and offering that play-based where they can show their learning is much better.

T5 commented that the play-based nature of the new program allows the children with ADHD to learn at their own pace and to do things, like building a tower, that demonstrate their learning, rather than having to sit down for a period of time to complete a math worksheet, which can be very challenging for a child with ADHD.

The final benefit of the FDK program for children with ADHD that educators noted is that by the end of their time in the program the children’s social/emotional skills have usually developed considerably. ECE 2 described how children with ADHD can learn to advocate for themselves within the FDK program:

I’ve had a child who has recognized “I have too much energy. Can I go run?” . . . We have a treadmill set up in our hallway, a kid's treadmill, and we were sitting for story time or something on the carpet, and he said "I just I have too much energy. Can I go run for a little bit?" I said absolutely, so he did that for a little bit and then he came back and he said "I'm ready now," and he sat down and he actually listened and participated in the questions for the story, and he recognized that about himself...

Similarly, ECE 3 discussed how children learned social and emotional skills through modelling:

The benefit is that it [play-based FDK program] teaches them through modeling, through . . . interactions with other children, the necessary skills that they need to function in life and . . . it teaches them those basic skills that they [need] . . . kind of how to get along with other people and [it] teaches them how to control their emotions, um . . . how to understand their emotions, label, and know what to do to calm themselves down . . . so, [it] teaches them that, it teaches them confidence in taking risks . . . so it gives them self-esteem and better . . . a good self-concept and understanding.
Overall, it is evident through the examples above that the educators strongly believe the play-based FDK program is allowing children with ADHD to thrive in ways they might not have in a more academic based program. The teachers and ECEs noted that the program has numerous benefits for children with ADHD that help them to grow mentally, emotionally, and socially.

**Challenges in FDK for Children with ADHD.** Although the educators noted many benefits of the FDK program for children with ADHD, they overwhelmingly agreed on two challenges that exist concerning the way the play-based FDK is organized: the number of distractions present in the classroom, and the “busy-ness” and noise level of the room.

Half of the educators expressed concern over the number of stimuli in the classroom that can distract a child with ADHD from learning. T2 discussed some of the environmental “stressors” she notices that are challenging for children with ADHD in the play-based FDK classroom:

> So, during that whole group time when we do a book, that's where I find that drawback is, because if I'm reading one-on-one with them there might be a different connection and focus, but now when they're in a whole group there's [sic] so many stressors in the environment . . . the lights, then, you know, the sounds, the buzzing, their . . . their peer is playing with their shoelace, so they struggle sometimes just to block all of that out and to think about what's happening and so then they . . . they literally are just complying, and they're just sitting in that whole group, and sometimes they're spinning around and sometimes they're like making noises, and you know what I mean . . . that's where you start to see behavior coming out.

T2 noted that the “whole group” time is the most challenging for children with ADHD because are there many environmental distractions, but also because the children are
sitting very close to their peers, which can also be distracting. She found that children with ADHD in this situation tend to be either not listening or show disruptive behaviours.

ECE 4 described a similar situation:

*During circle time, so we have 31, [for]example, and every year is different, it could be 26, you know, it variates [sic], but at ‘large group’ it seems that this . . . it's too . . . there's too much commotion, there's too much going on, they’re too excited so they can't calm down, right, to actually learn anything...*

In addition to the number of environmental distractions in a play-based FDK room, almost all educators showed a deep concern for these children when it came to the number of people in a room. ECE 1 described the challenges of having multiple educators in and out of her room:

*So, like, my classroom in one day, there's like, we have two EA spots, but there's 4 EAs, and sometimes a fifth one comes in for a break. We have two in the morning, two in the afternoon, one comes in for a break, then there's me and my partner and the PALS teacher, and OT, then speech comes in . . . sometimes you have like 8 or 9 people coming in that classroom . . . so, it's a lot of personalities, it's changes.*

While it does seem that ECE 1 is being provided with a lot of support for children with varying needs in her class, for a child with ADHD the constant rotation of these staff throughout the day can result in a lot of changes and transitions to get used to in a day as opposed to having one or two constant support staff that come in throughout the day.

In contrast to the other educators, T1 and T5 (who taught kindergarten prior to the program being a play-based FDK model), discussed the lack of structure in the current program as being a significant difference between the current FDK program and the prior one, and they noted this as a challenge for children with ADHD. As T5 noted, “Sometimes kids need structure, um, and routines . . . and a lot of teachers . . . and I am a
proponent for structure and routines as well . . . and so some kids, they need that structure or else the materials are going to go everywhere”.

T1 agreed:

At least in my room . . . it is much less structured than it used to be and so for kids who can’t handle un-structure that . . . that’s a big thing, um, I think you have to be careful how you set up your room, like you need to sort of have boundaries and parameters and, you know, for example . . . like setting up a station that has, you know, . . . cars and trucks and those floor mats with the city on them...

When comparing the old and new kindergarten programs T1 and T5 both think of the new program as having less structure which can pose a challenge for children with ADHD. However, although she has only taught in the play-based FDK program, T2 explained that it is up to the educators to put forward a well-structured day while still maintaining a play-based program:

It’s very intentional... yeah, a thing we worked on for a long time to make it that intentional and it's because we've had... like I work at a school where there's lots and lots of needs, it's a very low-income area, and there's the behavior and needs and things happening... and so we've had to be, like, conscious and creative about how we can best structure that...

Overall, the educators put forward many instances where the play-based FDK program is both beneficial and challenging for children with ADHD. Their perceptions of what is beneficial and what is challenging for children with ADHD shows that the educators are aware of the children’s typical behaviours and needs.

**Strategies Educators Used to Promote Success**

The educators try to overcome the challenges of the FDK program by providing solutions for the children with ADHD. When asked about strategies the educators used to manage children with ADHD in their classroom, the educators mentioned about 30 key
strategies they have used. These were subsequently grouped into the following categories: accommodations, movement breaks, establishing rules and routines, and the educators being self-reflective in their teaching practice.

**Accommodations.** All of the educators in this study used many accommodations with the students in their classrooms every day. T1 and T2 specifically mentioned that their accommodations are appropriate for all students as they believe accommodations that work for children with ADHD usually work for all children in FDK and provide all children with opportunities to be successful in the classroom. The first is the use of environmental accommodations to help children learn better. All of the educators offer some sort of seating option for the children (i.e., wiggle cushion, carpet square, sitting on a chair), along with other accommodations such as calming spaces, noise cancelling headphones, visual schedules, and the option to hold something (e.g., fidget toys). T4 described the typical sensory accommodations she offers while children are sitting for large group circle:

We just you know . . . usually have a certain spot to sit or maybe something special to sit on or something to hold in their hands like a squeezy ball or, you know, if you need to sit on the chair or if you happen to have an EA, you can sit with an EA, you know what I mean, whatever, or close proximity. . . . having two teachers um . . . is helpful in the sense that if one's leading the group then the other one can be in close proximity to any [children] that might need some help staying focused . . . but just usually having to give them an option of maybe even a special cushion to sit on or something to hold in their hand that type of thing . . . and the ability to get up and go and get a drink if they have to.

Comparatively, ECE 4 also describes her accommodations for large group circle:

Actually, if they're [children with ADHD] not ready to sit at carpet . . . many students in the past will go to the Lego table, so it depends on what level they're at and my partner and I, especially the first year in JK, we don't . . . it depends on the student . . . depends on their needs, right?
Both T4 and ECE 4 are not only providing accommodations, but are also giving the children choices, which is important for children with ADHD. Although providing different accommodations these educators have found each is beneficial in their own way for the children with ADHD in their respective classrooms.

**Movement breaks.** The provision of movement breaks and being proactive were other strategies that educators employed. Some educators were proactive by removing distractions, and all ECEs and three of the teachers thought that providing warnings ahead of activity transitions were important for children with ADHD. Three of the ECEs and one teacher also had specific movement activities the children could choose to use throughout the day (e.g., a child-sized treadmill, spin bike, trampoline, or dance studio).

ECE 2 discussed the options that their classroom has for children:

*The treadmill really, really helps just . . . we have, um, stickers also on the floor that are like a map activity where they follow the instructions, it's in the hallway so if they need to they can go do that and then come back in it's like . . . it's like a routine, so you start at the start and then follow the directions of the stickers like jump, clap, you know, go through the ABCs, go through the numbers, and then come back in when you're at the finish . . . so different things like that.*

T4 discussed how she uses movement breaks in her classroom to be proactive:

*We would also try to work in um like a . . . sensory break . . . um or like an activity break kind of prior to a time when we know that they would have to sit down for like say 20 minutes or half an hour or something like that, so we work on say with an EA or special ed. person at a time in our break room [for the children] as we call it . . . yeah, and to do whatever they needed to do to kinda bring them down, help them focus prior to a large group lesson.*

It is evident that whether the educators have the funds to bring in child-size exercise equipment or they use what is available to them in their school, both strategies allow children the opportunity to move when they feel they have too much energy to focus.
Establishing rules and routine. Another key strategy that was used by educators was to establish rules and routines for children with ADHD. Two educators from the same classroom (T3 and ECE 3) each noted that giving the children jobs to do helped the children stay focused during large group circle. Other educators reported using rewards (with some offering toys and others offering extra playtime) and also having certain seating spots for children with ADHD (i.e., beside an educator) to decrease the chance of distraction for children with ADHD. For example, T3 discussed the jobs she gave a child showing symptoms of ADHD and the reward strategies they use in their classroom:

*If you can keep a child with those symptoms constantly a part of what's happening . . . if they're the kid being picked to do stuff they're fine, so we try to give him like tasks constantly, so he's like the kid who does this job during the circle then he's more likely to stay kind of engaged throughout . . . I know, um, before the schools were closed [due to the pandemic] we were doing um sticker ten frame, so you know, come to carpet you get a sticker, you know, “you did your job, great job,” and then they talk about the numbers . . . but when they fill the ten frame, they get to pick up a little, like a pencil or a little toy, just different things like that.*

ECE 3, who works with T3 agreed:

*...I find a job for them so I’ll say I need your help to um whatever . . . point to the letter or I need your help to hold up the sign for me, or I need your help to uhm I need you to answer a question for me and the question is always the same I always ask them how they’re feeling today and they love to answer that question . . . so I find them a job to get them staying at the circle longer.*

The strategies that T3 and ECE 3 use to manage children with ADHD may seem simple, however, they are effective at keeping children with ADHD on-task and engaged with the materials.

Educators being reflective. Lastly, educators acknowledged that they were reflective in their teaching practice and this enabled them to use appropriate accommodations and strategies. Two ECEs and one teacher noted that they had re-
arranged their classroom schedule in order for the children with ADHD to have a more successful day after realizing their current schedule was not working. As ECE 2 noted:

_We found the children with ADHD . . . that we suspect to have ADHD, they hated that [coming to large group as soon as they got to school] . . . they didn't have enough time to settle, there was too many people coming in late and interrupting . . . it was very distracting, so we switched it, and after that large group they used to be able to go to their free play . . . free choice play, um, so we swapped it, and as they come in they do all their jobs, they sign in, and now they go to their free choice play so they can start as soon as they get there . . . some of them get there right at 8:50, some of them weren't getting there till 9:05, so the distraction became totally gone because right at 9:05 they could be playing, they could be eating their morning snack if they wanted to, they could be in the quiet centre just kinda chilling out and waking themselves up . . . it is very open, so that part of the day is much more successful now._

This example demonstrates how one small change in the day can positively impact children with ADHD and set them up for success within the classroom.

Teachers also discussed the importance of reflecting on their day and keeping children's interests in mind to keep the play engaging as they planned their program. This can be seen in the examples above when describing educators as facilitators. ECEs noted that “picking their battles” was important, which involves the ECEs actively reflecting on what is worth arguing over with a child with ADHD.

**Creating and Maintaining Positive Relationships**

Another major theme that emerged from the data was that every educator believed that the creation and maintenance of positive relationships were an integral part of the kindergarten program for children with ADHD. They expressed that communicating positive messages to the parents of children with ADHD is important because the parents do not want to just hear about the challenging things their child has done throughout the day. Educators described the importance of their relationships with parents, with the
children, with each other, and parents’ relationships with one another as well, in addition
to the challenges they face as educators when trying to foster these relationships.

**Relationships between parents and educators.** There were many factors that
educators discussed as being important for fostering and maintaining the relationship
between parents of children with ADHD and educators. These factors included open
communication, keeping the conversation positive, and acknowledging that they are
educators and not doctors.

All of the educators expressed that having open communication with parents was
the most important aspect of the parent-educator relationship, whether it be through
e-mails, phone calls, notes, or the use of a communication book. T2 and ECE 1 both
emphasized the importance of trying to talk to the parents at the end of the day, and half
of the teachers and all ECEs noted that being open to parents’ ideas about what works at
home was helpful as well. ECE 4 described her efforts to foster the parent-educator
relationship:

_I want them to know . . . they are always welcome in our classroom . . .
communication is key, so for any questions. . . sometimes[it]depends on what they
do for living too . . . so, whatever works best . . . you can always call the school,
and we let them know that we can't always just leave to answer that call so any
questions anything that they're noticing at home, let them write a note. You know,
we always get back to them within the day . . . whether it be with a note written
back [or] with a phone call. Whenever we find time throughout that day, um, any
concerns, we always want open communication._

ECE 3 agreed:

_Well its ongoing communication with them [the parents], for sure, if . . . I mean
it's very typical for children [with ADHD] to have that, where they're not focused
so you wait and see, OK, and if it becomes an issue or interfering with their
learning and then it becomes more and more [of a problem] you talk to the_
parents more, maybe have a communication book, things like that, because I find that you don't want to relay bad information to them all the time it's very negative.

Another important factor that both teachers and ECEs noted was that they tried to keep the conversations positive with parents, especially at the beginning of the year, when they are getting to know one another. They stressed that it is essential that they, as educators, are not overwhelming parents with negative news and that the only times they share negative news is if the situation is serious (i.e., hitting another child). In describing the importance of maintaining positive communication, T4 stated:

Well, I think you have to keep them informed, you have to be positive, you have to let them know that you respect their child, and hopefully build some kind of respect with them, so my number one thing is I do not just call a parent to give them bad news and complain . . . I want to . . . which can be easy enough to do but, no, I guess I start the year by positive things, positive interactions with parents talking about the good things, letting them know that you appreciate the good things about the child because every parent, I mean it's their kid, they love their kid like crazy, right? . . . They are the most important person in the world, and if you go at them about “he's not doin' this, he's doing this,” and, you know, constant, they're not going to appreciate that. You have to let them know that you do appreciate the positive things about their child too you know . . . like “I love the way he talks to us about airplanes,” or, you know, “I . . . well he has so much knowledge about nature”.

ECE 3 agreed:

Well, it's ongoing communication with them, for sure, if . . . I mean it's very typical for children to have that . . . where they're not focused so you wait and see ‘OK’ . . . and if it becomes an issue or [starts] interfering with their learning . . . and then it becomes more and more, you talk to the parents more, maybe have a communication book, things like that, because I find that you don't want to relay bad information to them all the time, it's very negative.

Half of the teachers and half of ECEs at some point during their respective interviews mentioned that they are educators and not doctors, and as a result, they would
never suggest a diagnosis to the child's parents regardless of whether they believed that child to have ADHD or not. As ECE 4 noted, “I'm like you know, we're not a doctor, again but we see all these different things going on, so we want to make sure that . . . we want to set up your child for success.”

Similarly, T4 stated:

_Sometimes they're not too anxious at first, you know, to identify it as ADHD, and I never would, honestly, in kindergarten, and I often say 'cause people say, “oh he's definitely ADHD”, and I go, “you know what that's not my specialty,” right? . . . I just report the things that we see. I'm not the expert that diagnosis that, I am just a teacher so I can tell them all the things that I see . . . if we wanna, I mean if it gets to a point and this special education resource teacher wants to come in and have a meeting we might do that, and he might make a suggestion you know, you know maybe it's time to see if . . . take him to a pediatrician, and, you know, tell them about some issues you are having and see what they suggest, right? . . . or if it goes on and on, they might say, you know, would you like us to bring in somebody from our school board that could do an assessment or something like that._

Educators that acknowledge that they would never diagnose a child with ADHD to the parents are maintaining professional boundaries with the parents, which also likely helps to keep the relationship positive as well.

**Relationships between child and educator.** Another important relationship is that between the child and the educator. When the educators discussed the strategies they used in the classroom with children with ADHD, many mentioned the importance of building a relationship with those children so that they could earn the children’s trust. The educators mentioned how building rapport with the child, speaking with the child directly, explaining things and openly talking with children, and being mindful of dialogue used around them were all key factors in maintaining a positive relationship with the children.
T2, T4, and ECE 4 all specifically mentioned that building rapport with the children with ADHD was an essential part of their role as an educator. As ECE 4 noted:

*Well, first we develop that relationship with [the children with ADHD], that's the key right there, when you first develop that with them, they have that bond, so it starts off with their . . . so when they have that, when they feel safe and secure with you, when you give those simple and clear instructions with them, they respond a lot better...*

T4 describes having rapport with children with ADHD as a way to ensure rules are being followed:

*I can say in the classroom when you establish your rules and expectations then when they're in the classroom with you if you built up that kind of rapport with them in that relationship than they know what they can and can't get away with.*

Although ECE 4 and T4 have different reasons for developing rapport with children with ADHD, they both acknowledge that building rapport benefits children with ADHD.

T2, T4, T5, and ECE 2 all discussed that by speaking with a child with ADHD one-on-one after addressing the whole group to give directions (for example), the educators are ensuring that the children have heard and understood them. As T2 stated:

*When you can really connect with children who have any type of need one-on-one, then it just allows you to ensure that their processing and understanding what's happened . . . so even after we've done that, when we're in the classroom I might go up to, you know . . . whatever child and say did you hear that message that I shared this morning I just want to make sure you understand that that means, you know, this is what's going to be a little different and this is what it's going to look like and maybe redirect them to that schedule just to really ensure . . . because when you give a message in a whole group . . . maybe five kids hear it some days . . . even kids [who] don't have ADHD, right?*

Similarly, ECE 2 noted that when there is a change in routine, she likes to speak to the children with ADHD one-on-one:
We have to put a lot of warnings, pre-warnings in place . . . a lot of times I'll pull those kids aside and just say, “you know what? Today will be kind of a mixed-up day. I'm gonna warn you now things are going to be different today, honey” . . . you know, and I'll explain to them specifically “OK you know how we normally have this at this time? We have to switch it we have to do this at this time” and then they can kind of brace themselves a little bit.

Similar to speaking with the children directly, two teachers and almost all ECEs discussed the importance of explaining strategies and talking openly with children. As she discussed accommodations within the classroom, ECE 2 noted:

*We always, we'll say to the children a lot like “do you think a chair would make things easier for you” and we always explain “you're not on time out if we ask you that, you're not in trouble if we ask you that sometimes sitting on the carpet with your legs crossed is just not comfortable” . . . and it's just not. It makes it harder to listen . . . we try and make them not feel embarrassed or upset or set apart from everybody else if we can help it and we talk about it in front of everybody like it's not a punishment if you're sitting on a chair during an activity it's . . . we notice that you might feel uncomfortable, we're offering you a solution.*

ECE 4 acknowledged that she likes to discuss emotions and feelings with the children:

*I could do like a survey in the morning, “Did you have breakfast? . . . How do you feel today? Do you feel happy? Do you feel sad, Why do you feel that?,” right? Just talking about that . . . it kinda helps them too [to tell them my feelings] . . . sometimes I say. . . ‘I woke up a little bit sad this morning, not sure why but you know but now when I saw you guys, like, I [got happy]” . . . you know it’s just feeling that . . . we feel like a family...*  

Both methods that ECE 2 and ECE 4 have used are helpful for children with ADHD because they are addressing issues in front of the entire class, showing that is it okay to feel a certain way or to be accommodated for and also explaining emotions that children with ADHD may not know how to constructively express (T. Brown, 2020).

T2, T4, T5 and ECE 4 all described how children with ADHD can be shunned by their peers or viewed as the "bad kid." To prevent this, they each discussed how
important is it that they, as educators, be mindful of how they speak to children who are expressing challenging behaviours and how they treat these children. As T2 stated:

*How educators respond and interact with that child really sets the tone for how the other children will do that too . . . so if we're constantly showing that were frustrated with them or angry at them then the other children are going to say, “So and so is bad,” you know,... “They're a bad boy or a bad girl” . . . and that's . . . you know we never want that... like, we don't want the children to feel that way, so we have to be conscious with our language so often say, Well, I'm helping them... I'm going to help them” . . . and so that the children can see it as a positive that we're helping them.*

Similarly, T4 stated:

*...and the other problem too I think is, which we try really hard not to [give them a reputation], but sometimes they can have a bit of a reputation, right? If they [children with ADHD] are getting spoken to a lot then the other kids see them as the “bad kid” or whatever, and then they say, “Well he doesn't want to play,” or they get blamed for a lot of things that they aren't necessarily responsible for because the kids just see them as, well you know, he's the one who gets in trouble so let's just blame it on him, right? So, we try really hard not to have that happen.*

It is important that the educators are acknowledging that the way educators speak and treat children with ADHD plays a role in how other children see those with ADHD. It is also important that educators are actively aware of their dialogue as this is happening to try and prevent it. Being blamed can lead to a decrease in peer friendships, which can negatively affect the child throughout school (de Boo & Prins, 2007).

**Relationships between educators.** The educators also discussed the importance of creating and maintaining good relationships with each other as it helps each of them get new ideas and fresh perspectives that they otherwise would not get.
Half of teachers and almost all of ECEs discussed that they often communicated and collaborated with other educators in their school as to how to best manage a child with ADHD. ECE 4 noted how she has learned from her colleagues:

_Workshops, the workshops help a lot, just exchanging ideas with different people within our school board though . . . so, educators . . . it could be anyone, it could even be from the school psychologist, could be anyone, we're all a team, yeah, so just exchange different ideas, and then we try to bring that into our classroom to see if it helps._

Likewise, T2 stated:

_We do have, like, changes in staffing and stuff that happens so, like, I definitely . . . myself and my teaching partner we support the other teams, and they've tried different things and different things work for different people too..._

ECE 4 and T2 discussed how their schools approach collaboration in different ways, but both educators are actively trying to learn from and collaborate with other educators to learn more about managing children with ADHD. This is important for children with ADHD because it may provide the educators with more ideas to provide successful accommodations for these children (Gwernan-Jones et al., 2015).

**Relationships between parents of children with ADHD and other parents.**

Two educators discussed how they had created opportunities for parents to meet each other throughout the year. These educators expressed the importance of parents being able to make connections with one another and to foster a sense of community within their classroom. This gives parents the opportunity to perhaps find another parent who may be experiencing similar difficulties with their child, which may lead to the parents being a helpful resource for one another.
When T2 and ECE 1 were discussing what they did to foster relationships with parents, they each mentioned that they provide opportunities for the parents to come in to meet and have special events (e.g., donuts with dads). As T2 stated:

*So, the first thing that I always am conscious of . . . is we always have an open house we call it “Family Fridays” so, once a month on Friday afternoons I welcome all the families to come into the classroom to be a part of the learning . . . so they can come and play with the children they can play with the other children, and it's not a time for any evaluation or assessment it's just a time to connect and build community and for them to see play-based learning in action ... so that's a really positive way to build community with myself and my teaching partner and the parents but also for the parents to connect with one another, so it's a great way for them [to connect].*

ECE 1 also described the special events used in her classroom to connect parents:

*And we have special days, like, at school where, like, a couple of times a year, like, we do like muffins with moms, donuts with dads for Father's Day, there's like, uh . . . movie nights, like, you know . . . I find too that those kids with special needs in my class, those parents connect real [sic] quick and become friends and support for each other, right?*

The events that T2 and ECE 1 described allowed parents of children with ADHD and other parents to meet one another and develop a support system within the school. Such activities may also allow the parents to share their experiences and become resources for one another which can be very helpful for parents (Centre for ADHD Awareness Canada, 2020)

**Challenges in fostering relationships.** When the educators were discussing the things that they did to have a relationship with parents of children with ADHD, they had two major concerns: parents who are in denial that their children are experiencing difficulties, and parents not following up with strategies at home.
Two teachers and all of the ECEs noted that the most challenging aspect of the parent-educator relationship is when they can see that the child may need additional help, but the parents do not see it. ECE 4 stated:

Parents play[a]key role though too. Some are very understanding . . . and they're really . . . they work very well with us some are very [long pause] I don't know what the word is . . . they don't want to accept it . . . they don't want to accept it.

Similarly, T4 described her experience when she addressed challenging behaviour with a child’s mother. T4’s concerns for the child at the time were not met with the same concern from the child’s mother because the mother had consulted her brother (a special education teacher in a different school board) who had told her the child was “just being a boy”:

“... and she [the mom] would say to us . . . because I think she realized ‘there is something not right’, right? But she would say to us ‘well my brother is so and so said he's [her child] just being a boy, it's just being a boy’, well, it turns out he [the child] was diagnosed with ADHD . . . we [the educators] knew it when he was in kindergarten . . . we had a pretty good idea, but we can't make that call.

T4’s example highlights how the parent-educator relationship can sometimes get frustrating, especially with other family members involved, but that educators still need to maintain professionalism and refrain from giving their opinion about what disorder they believe the child may have to the parents.

When discussing how they accommodated children with ADHD at school, ECE 3 mentioned the frustration the educators felt when the strategies used at school were not followed up with at home:

The parents [have] to be on board right, like, that's not helpful to . . . understand this is what's going on and there's a problem there, and do your part at home, so strategies, so we're going to use strategies in school and you need to follow through with it at home . . . the same strategies at home.
In summary, the educators in this study understood and demonstrated that relationships with those that are directly involved with the FDK program and other educators are essential in providing an environment where children with ADHD can succeed. Their acknowledgement of this shows that they are aware of the effects that their relationships have on children with ADHD.

**Child and Educator Needs**

The final major theme to emerge from the data was “Child and Educator Needs.” In addressing this theme the educators discussed the need for transition preparation for the children, the need for more support in the classroom, and the need for more training about ADHD.

**Transition preparation.** Two teachers and one ECE expressed a need for a better transition from play-based kindergarten to grade one. The main issue they perceived was that for children with ADHD, grade one is a very steep jump in expectations (e.g., sitting for long periods of time, lack of choice in activities). T4 expressed her concerns, using an example from a co-worker to illustrate:

> *I think the biggest problem is transitioning to grade one . . . that's the hardest. And as our spec. ed. teacher always [says] . . . with the any of these kids that we have in kindergarten that might have some special needs, he always goes ‘well you know the wheels are going to fall off when they go to grade one’ because there's such a difference in expectation.*

When discussing the drawbacks of the FDK program T3 also expressed concern over the transition to grade one:

> *I don't know if this would be a drawback or not, but I think just that extreme change from coming from FDK and then going into grade one . . . I think that's a drawback because maybe there needs to be more of a transition period. Whether*
it be more play in grade one or whether it be, um, in SK really pushing toward longer times of . . . um carpet time and small group learning.

ECE 2 agreed:

When they [children with ADHD] move on they go from this flexible structure, like flexible learning environment, to a very structured regimented one and sometimes I feel like the future teachers . . . they seem to maybe have more of a challenge and possibly get more frustrated because they now have to try and get this child to sit when we didn't really have to make them sit . . . we gave them a bit of flexibility even though we practiced it in certain ways throughout the two years that they were with us, it wasn't the most important thing for them during the day to sit and to listen when the teacher needed them to listen and to do the work when they needed it done specifically . . . so, I find it's too much of a leap for the kids that struggle to go from that flexibility to the more structured learning.

T4, T3, and ECE 2 all expressed similar concerns about children with ADHD having to transition between a play-based FDK program and a more regimented grade one.

However, T5 offered an interesting perspective as she has taught a SK/Grade one split that emphasized student-directed learning. Although she did not run a transition program, her experience provides some insight into how a transition program could be run. A transition program would allow children, especially those with ADHD to get better adjusted to sitting and focusing longer than in FDK. T5 explains that her class was based on the grade one curriculum, for both SKs and grade one students, but had student-directed centres that were “guided” based on the materials that she put out for them that day:

So, I had to run a grade one curriculum . . . but the mini lessons were always for everyone and so then when I set out the centers they were play-based centres and then I did a guided [centre] – so, it was all the SKs . . . so, four kids at a group measuring and manipulating those materials, talking, discussing, with all accountable and if there was any off-task behavior then I would just redirect them or whatever, but for the most part they knew the routine . . . they were expected to stay at their table . . . so it wasn't a free-based [play] . . . I had the end of the day
[for that] so then even the grade ones could play so there was time for free choice it was at the end of the day.

T5 explained how the centres were all based on different subject areas (i.e., math, language, science) and then she had a free-play time for children at the end of the day before they went home. This example could serve as an example of a student-directed grade one classroom, which could be a way to make the transition between FDK and elementary school easier for children with ADHD especially.

**Increased support.** As mentioned above, the need for more support was a reoccurring complaint from educators when discussing their ideal classroom for children with ADHD. There are two levels at which educators perceived that support is needed: the government level and the school administration level. At the government level, when asked about what their ideal program would be like for children with ADHD, all ECEs and almost all teachers described a classroom in which more support was available (i.e., an Educational Assistant (EA) in the room). ECE 4 described the benefit of having more support, especially when children with ADHD are in the class:

*It's having more hands-on because when you're having 31 kids, and you only have, [for]example, two staff, it's huge, right? um, [for] example, you’re doing a science experiment . . . well, how can your eyes be [looking everywhere], to see different behaviors escalating, right? But when you have someone to deal with it, sometimes we don't have the CYW [child and youth worker] in the classroom, she’s dealing with someone else in the school right, but I gotta stop my circle, you know, if some kids are throwing chairs around the class, you know, sometimes you need to evacuate the classroom, right? It's huge, it's more hands on, more . . . it helps immensely, it does, and that's key, honestly, is having that support . . . when you have that support, and you know and we all work as a team the kids feel that safety.*

Three teachers and two ECEs also discussed that there is a need for fewer children in a classroom. These educators felt that the classrooms were too busy and had too many
children to be able to work one-on-one with children with ADHD effectively. T2 describes her ideal student cap for an FDK classroom:

*I feel like, I know in primary the cap is 20 . . . um, I do think that we could probably even go to 24, um, and anything beyond that it just starts to become really challenging and that's from someone . . . I have a lot of experience, I'm a very confident educator, but when I have 32 or 31 children in the class it's just sheer numbers, and so there's been days where a lot of children were away because maybe they were sick or whatever and there's like 18 to 20 children and . . . like it's just it's a completely different day like the behaviors of those children are completely different because they're not overwhelmed by massive amounts [of children].*

Even though ECE 4 and T2 are discussing different needs in terms of more support and fewer children, they are connected because if there were fewer children in a classroom, it would be more reasonable for two educators to attend to every child’s needs. However, there is always a benefit to having more support in the classroom, especially with the increase in the number of children being diagnosed with ADHD and other behavioural disorders.

At the school administration level, almost all teachers acknowledged that each board, and possibly each school runs the FDK program somewhat differently from one another. They described how some boards seem more open to embracing the true pedagogical meaning of play-based learning, while other boards continue to want kindergarten children to reach academic benchmarks. Thus, the educators participating in this study feel that there is a need for more consistency between the execution of FDK and what the curriculum document says. T1 described her experience at a conference a few years ago:

*Some boards are very much . . . um, like I went to kindergarten conference a couple years ago, and in some boards, they have gotten rid of . . . um they don't*
have to do the DRA (Developmental Reading Assessments) or PM (Progress for Meaning) benchmarks, which are the reading assessments that we do, because each board sort of used to have a benchmark, it’s like you have to be reading a level C by the end of kindergarten [in] some boards and now we have to be reading level D . . . and some said a B . . . so it's kind of all over the place, but in the actual curriculum document it doesn't say that at all . . . it says that they're supposed to be enjoying reading, that they understand sort of how a book works like front and back and left right back, that kinda thing, and that they recognize some common words whereas our board had a list of 30 sight words that you were supposed to know and reading a level C and all this other stuff, so there is a bit of a . . . I'll call it a battle between what the curriculum says and what the board is saying.

T1 described how her board continues to push academic benchmarks on the FDK program contrary to the FDK curriculum document that does not have specific academic requirements but instead focuses on developing the skills of the whole child (i.e., the child enjoys reading, the child understands how a book works from front to back). Since educators emphasized the importance of the program being run open-ended and based on the children’s interests, an academic-based program may not provide the same benefits of FDK that educators expressed above.

T4 described the layout of their day:

So we run a balanced day I don't know how it works in other school boards so in [school board name] we have 100 minutes of learning and then, um, we have a 40 minute break, 20 minutes to eat, 20 minutes outside, 100 minutes of learning, 40 minute break again, 20 minutes outside, 20 minutes to eat and then we finish with 100 minutes at the end of the day so it's called balanced day.

T4 also discussed how the first 100 minutes of learning are for daily physical activity, large group circle, and academic centres that the children can rotate through and then the next two blocks of 100-minute learning are focused on outdoor exploration and indoor free play. She did not mention any pressure from the school administration in terms of
focusing on academics or meeting benchmarks, but it was evident that she still taught the children math, science, and literacy within her centres.

**Additional training about ADHD.** While some educators did take time to learn about ADHD on their own time and some educators either have a child with ADHD or have ADHD themselves, almost all teachers and half of ECEs felt that there was not enough training provided specific to ADHD. As ECE 1 noted, “I don't think there's enough training for people out there I . . . I don't . . . like we're just getting in on autism right now, and this [autism] started like 30 years ago”.

Similarly, ECE 3 stated:

*I mean with training I feel there needs to be more training on it honestly. That is not something that that we really . . . it's not that common . . . you see children with, um . . . that are severe . . . there should be more training, honestly. There's [sic] not very many workshops on it.*

Both ECE 1 and ECE 3 acknowledged that there is a lack of training concerning ADHD which can create more of a problem since ADHD has become more prevalent and more children are coming to school with challenging behaviours.

Not only do educators feel they need more training on ADHD, but they all agree that the school board should be providing these opportunities. ECE 1 described her experience with the lack of training for educators on ADHD:

*Now they're giving us opportunities in the school board for autism, but ADHD, no one's getting training on that. You know what the teachers are saying? ‘Send them to RCC [Regional Children’s Centre],’ they're all saying that . . . ‘just send them to RCC and put them on meds.’ That’s what all the teachers are saying, and I'll tell you right now . . . and I, I'm, this is not even just coming from my school. This is, like, knowing a lot of people.*
ECE 1’s experience highlights the importance of school boards providing more training on ADHD because some educators are making suggestions to parents that show a lack of empathy and may result in damaging the parent-educator relationship.

In contrast, T2 noted that the school boards are trying to provide training, but that there does need to be more training provided, especially for new educators:

*I know that the school boards and the schools try really hard to provide training opportunities but I don't . . . um, know that like every teacher . . . new teachers for sure don't have the experience and expertise to do that [manage children with ADHD effectively].*

In summary, some of the challenges discussed included managing children with ADHD, lack of support at the government and school administration levels, and the lack of training that is provided on ADHD by the school boards.

**Summary**

In conclusion, the educators expressed that the FDK program needs to be run according to the FDK curriculum: play-based, open-ended, and based on the children’s interests with educators as facilitators in order for children with ADHD to be successful. Educators also perceived children with ADHD at their best when they display hyperfocus, learn in their own way, and have some successful peer relationships. Educators perceived children with ADHD at their most difficult when they are lacking focus, being aggressive and disruptive, and experiencing peer conflict. Moreover, educators acknowledged that these behaviours are a result of the children not being able to filter distractions and lacking certain skill sets (i.e., self-regulation, social skills). However, the educators did find multiple benefits to FDK including having plenty of movement opportunities, being open-ended so that children can learn at their own pace,
and allowing children to make choices for themselves. Educators noted that the drawbacks to FDK were that there were many environmental “stressors”, too many children in one room, and those that taught kindergarten prior to FDK found that FDK lacks structure comparatively. The educators acknowledged that they used various strategies to further support children with ADHD, including accommodations, movement breaks, establishing rules, and being reflective. They also emphasized the importance of creating positive relationships with parents, children, other educators and between parents to foster an environment for children with ADHD to succeed. Lastly, the educators acknowledged that there is a lack of transition preparation for children with ADHD, a lack of support and lack of training for educators.

The next chapter will examine how the educators’ insights specifically addressed the research questions of this study, and how their views fit into the broader literature of FDK and children with ADHD.
CHAPTER 5: DISCUSSION

Previous experience in the classroom led me to observe that children with ADHD tend to be viewed negatively by educators and seemed to be less successful in the play-based FDK environment than typically developing children. The literature states that educators often hold negative attitudes towards children with ADHD and that FDK is less beneficial for children with learning or behaviour difficulties. However, this literature is primarily American and does not consider Ontario's recently implemented (2010) play-based FDK program, which is based on the collaboration between teachers and ECEs. The primary purpose of the current study was to explore kindergarten teachers’ and ECEs’ perceptions about Ontario's play-based FDK program, and whether the program promotes parent-educator relationships. This was accomplished through the use of semi-structured interviews and the educators’ responses to the following research questions:

1) What are teacher and ECE perceptions of the play-based FDK program?

2) What do these stakeholders perceive as advantages and disadvantages of the play-based FDK program for children with ADHD?

3) Does the play-based FDK enable parents and educators to have a positive relationship?

4) Does educator training about ADHD shape their perceptions of children with ADHD?

To my knowledge, this is the first study that examines both ECE and teacher perceptions of Ontario’s play-based FDK program.

In the current study, five teachers and four ECEs, all from Southwestern Ontario and currently teaching in Ontario's play-based FDK program were interviewed via Skype.
about their perceptions of the effectiveness of the FDK program for children with ADHD. During the interviews the participants were asked about their understanding of the nature of ADHD, to describe the play-based FDK program, how children with ADHD that they have taught coped with different parts of the day (i.e., large group circle, peer interactions, free play), the types of strategies they used with children having ADHD, and what they did to foster relationships with the children and their parents. Participants were also asked to describe their ideal classroom for children with ADHD.

Braun and Clarke’s method of Thematic Analysis was used to analyze the data (Braun & Clarke, 2006) from which five themes emerged: 1) Knowledge and Understanding, 2) Benefits and Challenges of Play-Based FDK for Children with ADHD, 3) Strategies Used to Promote Success, 4) Maintaining Positive Relationships, and 5) Child and Educator Needs. Educators described numerous aspects of the FDK program they felt were beneficial for children with ADHD (i.e., opportunity for movement, opportunity for choice making, short instructional periods, and helping children develop social/emotional skills). Educators also noted aspects that make the program challenging for these children (i.e., too many environmental stimuli, and the "busy-ness" and noise level in the classroom). Educators also emphasized the importance of creating positive relationships with the children with ADHD, their parents, and other educators to increase children’s success.

As mentioned in Chapter 2, this study used an Ecological Systems Theory lens (Bronfenbrenner, 1994), which allowed me to view the various relationships between children with ADHD and their FDK environment (see Figure 1). Although it is difficult to directly compare the results of the current study to the literature since almost all of it is
not based on play-based FDK programs, the literature does provide a foundation for a discussion of the results of this study. Thus, the following discussion will use an Ecological perspective to explore the results that stood out from the interviews and provide recommendations for future research.

**Positive Attitudes Towards Children with ADHD**

There is a bi-directional influence between children with ADHD and educators that can affect each other’s microsystems. Children with ADHD can influence educators’ perceptions of ADHD and in turn, educators’ attitudes towards children with ADHD can influence their practices and can have an effect on the children’s success (Rogers et al., 2015). A particularly noticeable factor throughout the study was that the majority of educators seemed to maintain a positive attitude when discussing children with ADHD, even when describing the challenges they encountered, which most explained were due to the children lacking social skills or as a result of their environment. In the only study that has examined ADHD in Ontario’s FDK program, Miller and Brooker (2017) observed that educators in their study experienced a certain amount of strain in their relationships with children who had ADHD. In contrast, educators in the current study saw a strong child-educator relationship as a way to help children with ADHD become more successful and it was evident they continually worked to build these relationships through things such as speaking to the child one-on-one, explaining concepts and rules openly, and discussing emotions with them. These differences found between the current study and Miller and Brooker’s study may be a result of methodology as they used surveys rather than interviews, which can make it difficult to collect detailed data. Educators' positive attitudes towards children with ADHD are essential to consider as they may
provide the foundation for their perceptions of the effectiveness of the FDK program for children with ADHD and parent-educator relationships.

**The Importance of the Play-Based Component on Educators’ Perceptions of FDK**

Since Ontario’s play-based FDK program has only been implemented in the past 10 years, there is no research, to my knowledge, that explores the effectiveness of the play-based component for children with ADHD. However, the educators’ perceived benefits of the program for children with ADHD shows that perhaps the program is achieving what it set out to do. Whereas typical FDK programs focus on academic achievement (Youmans et al., 2017), the play-based FDK focuses on the development of the whole child (Ministry of Education, 2016). The educators’ perceived benefits of the play-based nature of FDK for children with ADHD demonstrates the bi-directional influence that can occur between a child’s biology and their environment (Rogers et al., 2015). Therefore, children with ADHD interacting within a play-based environment may explain why the educators in this study perceived more direct benefits of FDK for children with ADHD than in other research.

All of the educators seemed to feel that the play-based nature of the FDK program was particularly beneficial for children with ADHD. This perception was evident as the educators listed numerous benefits of the program for these children (i.e., movement opportunity, ability to make choices, short instructional time, and activities that are based on their interests) with very few drawbacks (i.e., the number of distractions, and the “busy-ness” of the classroom). These findings contrast the results of Lynch’s (2014) study, which found that only a few play-based FDK program teachers found play-based learning to be beneficial for children (i.e., developmentally appropriate and
social/emotional growth), and that the majority of the educators did not understand the play-based model and preferred to teach as they did in the old model (i.e., with an academic focus). Previously, it was noted that from an ecological perspective that children are affected by both their environment and biology, therefore, teachers’ perceptions of play-based learning may also play a role in children’s success because the program would presumably be run according to their beliefs about play-based education (Goodnough, 2010; Sabol & Pianta, 2012). This would mean that educators who run a true play-based program may see differences in success for children with ADHD from those who run an academic-based program. The differences between the findings of the current study and those of Lynch’s (2014) study may also be a result of the types of training the educators received since Lynch’s study did not discuss whether the teachers had any training related to ADHD, whereas the current study had a number of educators with personal experiences from home with ADHD and training. Furthermore, the educators in the current study also had more experience with play-based learning since Lynch’s study was done shortly after the play-based program was put in place, which may have been why they did not think highly of the program.

The majority of the educators in the current study also expressed how children with ADHD tend to develop social/emotional skills and improve in terms of self-regulation throughout their time in FDK. For example, ECE 2 described how a child with ADHD in her classroom learned to understand when he needed a break, would ask to run on the treadmill, and then understood when he was ready to join the group again. In contrast, Gottfried and Le (2016) and Gottfried and Little (2017) found that for children with varying disabilities’ (i.e., behavioural, emotional, learning) social-emotional skills
actually decreased in FDK while the lack of self-control increased, and there were no improvements in executive functioning for children with behavioural difficulties. The nature of the play-based FDK environment along with the educators in the current study actively working to accommodate for children with ADHD may indicate that both of these microsystems (play-based environment and educators) are working together to influence the child, an example of a child’s mesosystem (Rogers et al., 2015).

**The Parent-Educator Relationship**

All of the educators in this study demonstrated the importance they placed on the parent-educator relationship and that they used various strategies to create and maintain these relationships (i.e., having open communication, keeping communication positive, communicating frequently, and never diagnosing a child) as together they serve as an important mesosystem for children with ADHD and impact the children’s success. These findings parallel those of Puccioni’s (2018), where teachers believed it was important to develop strong parent-teacher relationship for children’s success in school. For example, similar to the current study, teachers in Puccioni’s study provided parents with resources and invited parents to participate in school-based activities. Nevertheless, most educators in the current study also expressed at least one frustration (i.e., with parent denial or lack of parent cooperation) with the parent-educator relationship. These perceptions mirror the results of Miller and Brooker (2017) in that educators found the lack of parent cooperation for managing children with ADHD frustrating.

In contrast, Gwernan-Jones et al. (2015) found that teachers often blame parents for their children’s challenging behaviour (i.e., attributing behaviour to lack of parenting), which negatively impacts their relationship. Similarly, Lawrence et al. (2017)
found that teachers tended to perceive the home environment negatively (i.e., lacking discipline, parent involvement, and motivation for children to be independent).

Additionally, Mohr-Jensen et al. (2019) found that teachers blamed parents for their child’s behaviour by criticizing their parenting and children’s diet.

It is interesting to note the differences between most of the extant literature and the current study. Whereas the literature conveys multiple issues with the parent-educator relationship, the educators in the current study were actively working to create and maintain positive parent-educator relationships. These differences in the literature and current study may be a result of methodology. Whereas Miller and Brooker (2017) used surveys to gather teachers’ experiences, the current study used semi-structured interviews. The differences in methodology may have made it harder to obtain detailed insight into the parent-educator relationship for Miller and Brooker (2017). In addition, Rogers et al. (2015) found that the quality of parent-educator relationships was subject to their perceptions of each other and of the children with ADHD. From an ecological perspective, since the educators in this study held very positive attitudes toward children with ADHD, Rogers et al.’s (2015) findings may explain why the educators in this study value the parent-educator relationship and consider it a way to help children with ADHD succeed.

**Perception Differences between Teachers and Early Childhood Educators**

As Rimm-Kaufman & Pianta (2000) have observed, the prior beliefs one has about their microsystem are likely to influence their current practice. This was evident throughout this research as teachers and ECEs in this study perceived children with ADHD and the effectiveness of the FDK program for these children through different
lenses. Most teachers tended to focus on the ability of children with ADHD to meet academic goals and viewing that more as a measure of success, compared to ECEs who saw social/emotional development as the most important standard for success. For example, teachers tended to perceive children with ADHD as benefiting from the program by having more ways to meet academic goals (i.e., using movement, having accommodations, not having to sit down to learn), whereas ECEs perceived children largely benefiting from the program because of the opportunity for children to improve their self-regulation skills and social/emotional well-being (through teacher and child modelling). Some ECEs also viewed that children with ADHD being able to get along with their peers was a strength in which these children improved throughout the program. Although both teachers and ECEs primarily noted different aspects of children with ADHD being successful, both of their perceptions are valuable. The differences between the two sets of professionals also make a good case for the program having both professionals in the room as they both bring different perceptions, which may be beneficial to the children.

It is possible that the difference in these perspectives may be a result of the professional education each of these professionals received. Teachers generally have more training in pedagogy (i.e., the broader elementary curriculum, assessment and evaluation) than ECEs whose training focuses more on whole child development (i.e., cognitive, language, social, emotional, and creative) and observation skills (Ministry of Education, 2020). There is currently no literature, to my knowledge, that explores the differences in perceptions that teachers and ECEs have regarding the effectiveness of FDK for children with ADHD and the role of their education on their perceptions.
In addition, anecdotally, those educators (regardless of their role) that specifically mentioned training they had had about self-regulation, special education, and the kindergarten program seemed to have more empathy towards children with ADHD in FDK than the other educators. For example, a number of educators understood that ADHD was not the child’s fault and that they were “good kids.” On the other hand, educators who reported not having additional training, seemed to describe children with ADHD as lacking certain abilities and tended to list more negative traits. Moreover, the educators who had personal experience with ADHD (i.e., either having ADHD themselves or having children with ADHD) seemed to have greater understanding than the educators who had received no training or did not have personal experience with ADHD. These findings reflect those of the existing literature in that training and personal experience are related to educators' perceptions and attitudes towards ADHD (Lawrence et al., 2017). The effects of educators' personal experience have also not been explored in existing research.

**Differences Between the Play-Based Full Day Kindergarten Curriculum and its Implementation**

Some educators mentioned their concern with the fact that the play-based FDK programs can be run differently from school to school. Specifically, that the implementation of the FDK program often varies from the actual curriculum document. This difference was very clear when interviewing the participants as each educator described their classroom and routine differently.

The FDK document has four frames that outline what children are supposed to be learning in the program (see Chapter 2). For example, the document details that
children’s success should be measured by whether they can hold a book up the right way and begin to recognize the difference between letters and words (Ministry of Education, 2016). Contrary to this, in T1’s school, for example, her school administrators require the children to be meeting academic reading benchmarks such as the Developmental Reading Assessment (DRA) and the Progress for Meaning (PM) benchmark. These differences are an important finding to consider because the educators who are required to teach academics may see fewer benefits of play-based FDK for children with ADHD if there is a lack of true play-based learning. From an ecological perspective, the difference between the actual curriculum document and its implementation shows how children’s macrosystems can affect them indirectly. These differences seemed to be a result of school administrations’ different priorities (the macrosystem), which may then negatively affect the children who would be more successful in a play-based environment (Harkonen, 2007).

In conclusion, while many findings in this study mirrored those in the extant literature, there were interesting differences as well. The results of the current research are similar to existing research in that there were numerous perceived benefits of the FDK program (Lynch, 2014), various perceived drawbacks of FDK (Lynch, 2014; Miller & Brooker, 2017), frustrations experienced in working with parents (Miller & Brooker, 2017), and that educator training and experiences affected their perceptions (Lawrence et al., 2017).

However, the current study showed numerous differences compared to the literature. In the current study, educators expressed a positive attitude towards children with ADHD, whereas in other research the attitudes expressed often tended to be rather
negative (Miller & Brooker, 2017). The current study looked at the play-based component of the kindergarten program and whether that made the program more effective for children with ADHD in the educators’ opinion, and how educators valued parent-educator relationships, compared to other research that showed educators tended to blame parents (Gwernan-Jones et al., 2015; Lawrence et al., 2017; Moore et al., 2017). The current study also highlighted differences in perceptions between teachers and ECEs, which has not yet been researched, along with differences between the FDK curriculum document and its implementation.

**Limitations of the Current Study and Recommendations for Future Research**

Although the results of the current study demonstrate that educators do perceive the play-based FDK program as beneficial for children with ADHD and in building parent-educator relationships, there are a number of limitations that limit the generalizability of this research. The first limitation is that this study had a small sample size, consisting of only five teachers and four ECEs from Southwestern Ontario. Since there were only nine participants, it is unlikely that these findings represent the perceptions of all Ontario educators. Therefore, the findings should not be generalized beyond the perceptions of these nine educators, but instead, be interpreted with caution. However, it is important to note that the research was a pilot study and sought to explore the perceptions educators held of children with ADHD and the effectiveness of play-based FDK for these children. Future research in this area should include a more diverse sample of Ontario Educators.

Another limitation of this study was the inability to recruit parents as originally planned, due to the province’s COVID-19 precautions. This has hindered the ability to
compare the parent-educator relationship from both perspectives. Research that compares parent perceptions with educator perceptions would help to explain the nature of their complex relationship. It would be further beneficial for future researchers to recruit parents and educators from the same classroom to obtain their respective perceptions of the same events.

Additionally, participants’ responses to questions may have included response bias in which participants may have changed their opinions based on what they perceived their answers “should be,” rather than giving their true perception of the program. Participants may have also wanted to comply with their school board’s outlook and may have withheld their true perceptions and attitudes on certain topics. Some of the participants also may have been more invested in the research topic since three educators either had ADHD themselves, had children with ADHD, or both, which may have informed their perceptions. While the lived experience with ADHD is beneficial to this research, it also may not represent the perceptions and experiences of the majority of educators in Ontario. Again, future research should look to obtain a more diverse sample of participants.

Selection bias may have also occurred during this study. Since the recruitment flyers were posted to Facebook, those that replied to the flyer reported that they were very passionate about the topic. On the other hand, participants who were recruited through personal contacts may have had less interest in the topic. Those that showed passion towards the topic may have had their passion inform their responses, which may not represent the general population of educators. Future research should look to recruit a
diverse sample of participants so that the research is reflective of the general population of educators within Ontario.

The current research was only examining educator perceptions and these were not linked in any way to actual student achievement. It would be helpful for future research to explore how children with ADHD fare in the play-based environment compared to a more structured environment, such as that used in a Montessori approach (Bennetts, 2018). To do this, researchers may wish to interview stakeholders and observe children with ADHD in both settings to truly understand the effectiveness of each program.

The current research only examined the perceived effectiveness of the play-based FDK program for children with ADHD according to the teachers and ECEs in the program and did not seek to evaluate the way each educator ran their program. However, a concern from educators were the differences in how the program is being run in each school. When conducting future research, it is advised to examine why FDK programs in the province are run differently. With the FDK program being implemented in Ontario for ten years, it would be beneficial for future researchers to look at whether school boards taking these different approaches perceive the play-based FDK program differently from programs implementing the program as intended, to explore their priorities, and how they interpret the curriculum document.

Conclusion

The FDK program is relatively new to Ontario and plays a vital role in providing education to children ages 3 to 6. The educators in this study showed that they are actively working to ensure each component of the program is being met and that children are set up for success through interpersonal, environmental, and behavioural means. This
study addressed the perceived effectiveness of the FDK program for teaching children with ADHD through the perspectives of kindergarten teachers and early childhood educators as well as the parent-educator relationships.

This study demonstrated that the Ministry of Education’s switch to a play-based program is perceived as beneficial for children with ADHD by a variety of teachers and ECEs who feel that it strengthens the children’s social, emotional, and academic skills through the provision of opportunities for movement, making choices for themselves, and focusing on their interests. The results of this study also emphasized the importance of the parent-educator relationship for children’s success in school, while also acknowledging the importance of a strong child-educator relationship. Furthermore, the educators in this study demonstrated that they had good knowledge of symptoms of ADHD and also held children with ADHD in high regard, which likely led to the educators making a large number of accommodations to help children with ADHD be successful in the kindergarten classroom.

As mentioned earlier, to the researcher’s knowledge, this study is the first to include both teacher and ECE perceptions and to focus on the play-based nature of the FDK program and its effectiveness for children with ADHD. Thus, this study addresses a gap in the literature for teacher and ECE perceptions and children with ADHD in the FDK program. It is essential to look at the FDK program since kindergarten is the foundation for the children's learning for years to come. Providing accommodations and working with children on improving their skills at this age is crucial and will likely reduce the number of challenging behaviours often exhibited by children with ADHD as they mature.
ADHD is currently one of the most common neurodevelopmental disorders, and has a prevalence rate of 6.1% in Ontario (Statistics Canada, 2010). Research has shown that early intervention is critical in reducing the number of challenging behaviours seen later in children with ADHD. Therefore, FDK becomes a prime time to intervene. The more awareness and knowledge that can be brought to this topic, the more children with ADHD will succeed academically, socially, and emotionally.
REFERENCES


Bronfenbrenner, U. (1979). The ecology of human development: Experiments by nature and design *Harvard University Press*


doi:10.1080/03004430.2014.913586


doi:10.1080/03004430.2017.1287177
APPENDIX A: DEFINITION OF KEY TERMS

*Full Day Kindergarten (FDK):* The Kindergarten program is a child-centred, developmentally appropriate, integrated program of learning for four- and five-year-old children. The purpose of the program is to establish a strong foundation for learning in the early years and to do so in a safe and caring, play-based environment that promotes the physical, social, emotional, and cognitive development of all children (Ministry of Education, 2016).

*Attention-Deficit Hyperactivity Disorder (ADHD):* The essential feature of ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. Inattention manifests behaviourally in ADHD as wandering off tasks, lacking persistence, having difficulty sustaining focus, and being disorganized and is not due to lack of comprehension. Hyperactivity refers to excessive motor activity (such as a child running about) when it is not appropriate, or excessive fidgeting, tapping, or talkativeness (American Psychiatric Association [APA], 2013).

*Early Childhood Educator (ECE):* ECEs have a degree in Early Childhood Education from a recognized college. The training, knowledge, and competencies of early childhood educators are distinct and unique from other professions. The specialized skills of ECEs provide for collaborative opportunities with other regulated professionals (College of Early Childhood Educators, 2020).

*Children with ADHD:* Children who have been formally diagnosed with ADHD by a doctor.

*Children showing symptoms of ADHD:* Children whose teachers have noticed symptoms that would indicate the child has ADHD.
**Individualized Education Plan (IEP):** An IEP is a written plan describing the special education program and/or services required by a particular student, based on a thorough assessment of the student’s strengths and needs – that is, the strength and needs that affect the student’s ability to learn and to demonstrate learning (Ministry of Education, 2004).

**Accommodation:** Accommodations can include special teaching and assessment strategies, human supports, and/or individualized equipment that helps the student learn and demonstrate learning. There can be “instructional accommodations” which are adjustments in teaching strategies required to enable the student to learn and to progress through the curriculum. “Environmental accommodations” are changes or supports in the physical environment of the classroom and/or school. “Assessment accommodations” are adjustments in assessment activities and methods required to enable the student to demonstrate learning (Ministry of Education, 2004).
ARE YOU A TEACHER OR ECE OF A CHILD WITH ADHD?
I'd like to hear about your perceptions of children with Attention Deficit Hyperactivity Disorder in the play-based Full Day Kindergarten program in Ontario

I am looking to expand on the very limited knowledge of children with ADHD in the play-based FDK program in Ontario.

To participate, you must have taught in an FDK classroom within the last two years and had at least one child with ADHD.

As a study participant, you would complete a short demographic survey and a 60 minute interview.

Interviews will be through Skype and will be audio recorded.

In appreciation of your time and sharing your experiences, you will be given $10.

University of Windsor

This study has been cleared by the University of Windsor Research Ethics Board.

For more information or to sign up to participate please contact:
APPENDIX C: CONSENT TO PARTICIPATE IN RESEARCH

Attention-Deficit Hyperactivity Disorder in Full-Day Kindergarten: Educator Perceptions

You are being asked to participate in this study that is being conducted by Erica Miklas as a part of the requirements for a thesis in the Master’s program for the Faculty of Education. This thesis is being supervised by Dr. Elizabeth Starr who is overseeing this thesis project. If you have any questions or concerns about the study, you may contact Dr. Elizabeth Starr by calling (519) 253-3000 ext. 3836, by emailing estarr@uwindsor.ca, or through the Education office at (519) 253-3000 ext. 3803.

PURPOSE OF THE STUDY
The purpose of this study is to explore the perceptions of both parents and educators regarding children with or showing symptoms of ADHD in play-based FDK. I wish to explore the things that have worked well, and the challenges for the children with ADHD, their parents and educators while the children were enrolled in the play-based Full-Day Kindergarten program.

PROCEDURES
If you volunteer to participate in this study, you will be asked to participate in a one-on-one interview with the researcher that will be held during a convenient time for you over a Skype call. A number of open-ended questions regarding educators’ perceptions of the children with or having symptoms of ADHD in a play-based FDK classroom will be asked. Interviews will last approximately one hour and will be audiotaped.

POTENTIAL RISKS AND DISCOMFORTS
It is possible that you may find it difficult to discuss experiences that you have had with children with or showing symptoms of ADHD, particularly if you feel those experiences did not go as smoothly as you would have liked. However, the stress associated with discussing these events is not expected to exceed that which would be experienced in the everyday life of educators.

POTENTIAL BENEFITS TO PARTICIPANTS AND THE FIELD OF EDUCATION
It is anticipated that participating in the interview may have you feel a sense of satisfaction from participating in a study that explores a topic that is yet to be researched.

Because there is limited Canadian research that looks at children with ADHD, or suspected ADHD in a play-based FDK classroom, it is anticipated that this research will contribute valuable information to the field.

PAYMENT FOR PARTICIPATION
The cost of parking and/or public transportation will be covered by the researcher and you will be given a $10 e-transfer in appreciation of your participation in the research.
CONFIDENTIALITY
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Confidentiality will be maximized through the use of a pseudonym in the transcription, analysis and publication of the data. Since the information will be obtained through a one-on-one interview, with only the participant and researcher in the room, the information given will remain strictly confidential.

Audio recordings and transcriptions will be kept as audio files on the researcher’s computer in a secure file and seen only by the researcher and faculty supervisor involved with the study. Transcriptions of the interviews will be kept for up to five years after the last use of the data in publications or presentations.

PARTICIPATION AND WITHDRAWAL
You can choose whether to be in the study or not. If you volunteer to be in the study, you may withdrawal up to two weeks after the interview is conducted without any consequences. You may also refuse to answer any questions you do not want to answer and still remain in the study or you may excuse yourself from the interview. Because it is a one-on-one interview you may request that the recording to be stopped. The researcher may withdraw you from this research if any circumstances arise which warrant doing so. If you have questions about your rights as a participant, contact: Research Ethics Coordinator, University of Windsor, Windsor Ontario, tel. (519) 253-3000 ext. 3948; email: ethics@uwindsor.ca

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS
You may request a copy of the summary of the paper by emailing the researcher at miklas@uwindsor.ca. The summary will also be available at https://scholar.uwindsor.ca/research-result-summaries/

Name of Participant

____________________________                        ______________________
Signature of Participant                          Date

SIGNATURE OF RESEARCHER

There are the terms under which I will conduct the research.

____________________________                        ______________________
Signature of Researcher                          Date
APPENDIX D: LETTER OF INFORMATION

Attention-Deficit Hyperactivity Disorder in Full-Day Kindergarten: Educator Perceptions

You are being asked to participate in this study that is being conducted by Erica Miklas as a part of the requirements for a thesis in the Master’s program for the Faculty of Education. This thesis is being supervised by Dr. Elizabeth Starr who is overseeing this thesis project. If you have any questions or concerns about the study, you may contact Dr. Elizabeth Starr by calling (519) 253-3000 ext. 3836, or through the Education office at (519) 253-3000 ext. 3803.

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The purpose of this study is to explore the perceptions of both parents and educators regarding children with or showing symptoms of ADHD in play-based FDK. I wish to explore the things that have worked well, and the challenges for the children with ADHD, their parents and educators while the children were enrolled in the play-based Full-Day Kindergarten program.

PROCEDURES
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It is possible that you may find it difficult to discuss experiences that you have had with children with or showing symptoms of ADHD, particularly if you feel those experiences did not go as smoothly as you would have liked. However, the stress associated with discussing these events is not expected to exceed that which would be experienced in the everyday life of educators.

POTENTIAL BENEFITS TO PARTICIPANTS AND THE FIELD OF EDUCATION
It is anticipated that participating in the interview may have you feel a sense of satisfaction from participating in a study that explores a topic that is yet to be researched. Because there is limited Canadian research that looks at children with ADHD, or suspected ADHD in a play-based FDK classroom, it is anticipated that this research will contribute valuable information to the field.

PAYMENT FOR PARTICIPATION
The cost of parking and/or public transportation will be covered by the researcher and you will be given a $10 e-transfer in appreciation of your participation in the research.
CONFIDENTIALITY
Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Confidentiality will be maximized through the use of a pseudonym in the transcription, analysis and publication of the data. Since the information will be obtained through a one-on-one interview, with only the participant and researcher in the room, the information given will remain strictly confidential.

Audio recordings and transcriptions will be kept as audio files on the researcher’s computer in a secure file and seen only by the researcher and faculty supervisor involved with the study. Transcriptions of the interviews will be kept for up to five years after the last use of the data in publications or presentations.

PARTICIPATION AND WITHDRAWL
You can choose whether to be in the study or not. If you volunteer to be in the study, you may withdrawal up to two weeks after the interview is conducted without any consequences. You may also refuse to answer any questions you do not want to answer and still remain in the study or you may excuse yourself from the interview. Because it is a one-on-one interview you may request that the recording to be stopped. The researcher may withdraw you from this research if any circumstances arise which warrant doing so. If you have questions about your rights as a participant, contact: Research Ethics Coordinator, University of Windsor, Windsor Ontario, [email protected]; tel. (519) 253-3000 ext. [email protected]; e-mail: [email protected]

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE PARTICIPANTS
You may request a copy of the summary of the paper by emailing the researcher at [email protected]. The summary will also be available at https://scholar.uwindsor.ca/research-result-summaries/
APPENDIX E: DEMOGRAPHIC QUESTIONS

Attention-Deficit Hyperactivity Disorder in Full-Day Kindergarten: Educator Perceptions

Participant Pseudonym: _____________ Interview Number: ___ Date: ____________

[Erica] To begin, I just want to say thank you again for doing this today. This study is looking at the play-based full-day kindergarten program and exploring the perceptions of parents and educators of children with ADHD regarding their experiences with play-based FDK for these children. Currently, there is not really any research on children with ADHD (or any exceptionality) in the play-based FDK program. To start off, I am going to ask you a few demographic questions before getting into the actual interview.

DEMOGRAPHIC QUESTIONS

1. Please tell me your month and year of birth. ___________________

2. How many years have you been teaching? _______________

3. How many years have you taught play-based FDK? _______________

4. As a kindergarten teacher/ECE in FDK, have you taught children with ADHD? ______________

   a. If so, how many children with ADHD have been in your kindergarten class over the years? ______________

5. What is the highest degree/diploma you have earned? And in what area? ______________

6. Do you have Special Education Qualifications? ______________

7. Have you had any specialized training related to teaching students with ADHD (i.e., workshops, conferences, courses, webinars)? ______________

Any other comments?
APPENDIX F: INTERVIEW QUESTIONS

[Erica] Okay, now we are going to get into the actual interview questions. If at any time you need me to stop or repeat a question, just let me know.

1. Thinking of your experience of teaching children with ADHD in your classroom, how would you describe a child with ADHD? What has your experience been overall? Could you give me an example of what a child with ADHD is like when they are at their best? Could you give me an example of what a child with ADHD is like when they are at their most difficult? Please do not use names or identifying information.

2. Could you describe the play-based FDK program generally?

3. Could you describe what you see as the benefits and drawbacks of the FDK program for a child with ADHD?

   a. In general, how do children with ADHD in your classroom cope during free play time (do they tend to move between activities or remain at one)? Examples (no names or identifying information)?

   b. Could you describe how children with ADHD in your classroom get along with their peers? Examples?

   c. How do/have children with ADHD in your classroom cope during organized activities (large group circle)? Examples (no names or identifying information)?

4. Could you describe your classroom routine to me? How do children with ADHD manage that routine? How do they react when the routine is changed? Examples (no names or identifying information)?
5. When you have a child with ADHD in your classroom, are there specific things you do or strategies you use or teach the children to use to help them succeed? What kinds of things do you do? (get specific examples – no names or identifying information)

6. (For educators who taught kindergarten before FDK)
Since you have taught kindergarten before the implementation of FDK, what would you say are the advantages and disadvantages of each program for children with ADHD?

7. Do you feel you have adequate training for teaching children with ADHD? Why or why not?
   a. Has your school board provided opportunities for additional training in teaching students with ADHD? Are there particular websites, webinars, workshops, etc. that have helped you in understanding and teaching students with ADHD?

8. What kinds of things do you do to develop a relationship with parents of children with ADHD in your class?
   a. How would you describe these relationships? What kinds of things do you do to support parents? Examples (no names or identifying information)?

9. Is there anything else you can think of that would give me a clear idea of the play-based FDK program and how children with ADHD cope in this environment?

10. In an ideal world, if you could provide the perfect kindergarten classroom for children with ADHD (regardless of cost) what would it be like?

Other comments:
NAME: Erica Miklas

PLACE OF BIRTH: Windsor, ON

YEAR OF BIRTH: 1995

EDUCATION: Holy Names High School, Windsor, ON, 2013

University of Windsor, Concurrent B.A./B.Ed./E.C.E. Windsor, ON, 2018

University of Windsor, M.Ed., Windsor, ON, 2020