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Complex students: Understanding how to best supports students with a comorbid developmental or physical health need

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Complex students: Understanding how to best supports students with a comorbid
developmental or physical health need

by

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A THESIS

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Abstract

Minimal literature has investigated the supports teachers access for students with complex needs for their academic and developmental needs in a school environment. Students with complex needs, in this particular study, are those with a neurodevelopmental or medical disorder along with a comorbid disorder (e.g., epilepsy and cerebral palsy), with a focus on preschool children and those in early education. Since teachers are primarily responsible for helping students succeed in the classroom, securing resources and supports for students mostly falls on teachers. As such, the present study explored the following aims: 1) identify the supports this population is receiving within the classroom; 2) understand the challenges and potential barriers teachers experience in supporting students with complex needs; and 3) describe the profiles of children in early and elementary education. This study used a qualitative design approach. An anonymized dataset was used to generate demographic information of students with complex needs enrolled in a specialized academic setting. Five focus groups were conducted at specialized school settings in Calgary, and the focus group data was analyzed using thematic analysis in order to generate themes relevant to the research questions. Those themes were: 1) supports for students; 2) resources for teachers; 3) barriers to supporting students; 4) well-being of teachers; 5) recommendations for better assisting students. Overall, the results from the present study have future research implications and practical utility for educators and administrators.

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Chapter One: Introduction

Approximately 12.6% of youth and children in Canada suffer from at least one mental health diagnosis (Waddell et al., 2014). This number represents only those children and youth with clinically significant disorders who require intervention to address their symptoms and reduce their impairment. It is further estimated that of children and youth who suffer from a neurodevelopmental or medical diagnosis, 29% also meet criteria for two or more disorders at any given time (Waddell et al., 2014). This is relevant as individuals with comorbid neurodevelopmental or medical disorders are at even higher risk for experiencing poor mental health than the general population (Quinn, 2008). Some common neurodevelopmental disorders include autism spectrum disorder (ASD), attention deficit hyperactivity disorder (ADHD), down syndrome, cerebral palsy, and epilepsy among others. Common comorbid diagnoses consist of anxiety, depression, obsessive compulsive disorder (OCD), and externalizing disorders, such as oppositional defiant disorder (ODD) and conduct disorder (CD). Children with comorbid disorders, specifically younger children, are at increased risk for severe learning challenges in school, being placed in segregated classrooms, bullying, social isolation, disruptive behaviours, and poorer outcomes related to self-care and daily living skills than those experiencing a neurodevelopmental or medical disorder alone (Quinn, 2008; Yoshimasu et al., 2012). As a result, these conditions are costly in relation to treatment and services as well as educational and occupational achievement and productivity (Yoshimasu et al., 2012) because children with complex needs require more accommodations, academic support services, educational assistants, and teacher support.

Academic, individual, and administrative support can range from increased administrative duties, such as paperwork for funding, increased communication and meetings with parents, and multi-disciplinary meetings, along with meeting the diverse special needs of their students, which includes preparing visuals, schedules, and modifying classroom instruction and materials to be at the same level of needs of their students, leading to teacher frustration and burnout (Castro et al., 2010; Gibbs & Miller, 2013; Klassen, 2010). Current literature suggests that teachers utilize a variety of strategies to support students with complex needs in the areas of academics, behavioural needs, physical and emotional needs. These strategies include consultation, professional development, help-seeking, and problem solving to build additional resources and support for children with more complex needs; however, the burden for helping students succeed within schools and securing those resources falls primarily on teachers (Castro et al., 2010; Gibbs & Miller, 2013). This impacts teacher well-being as they begin to feel their workload is unreasonable and outside of their competencies when the context of the classroom is highly demanding and compromise classroom instruction (Castro et al., 2010; Dicke et al., 2014).

Purpose of the Current Research

Despite the needs of children with comorbid disorders and the possible impact on teachers, no known research in Canada has examined the profiles of children with complex needs. This is relevant to better examine the demographic, cognitive, and academic profiles of students with complex needs and how to best support them. Furthermore, minimal literature has investigated the supports teachers access for complex kids in their academics, medical, and developmental needs related to their neurodevelopmental disorder in a school environment. In light of the above-described research, the primary aims of this qualitative study were to: 1)

identify the supports this population is receiving in an academic setting; 2) understand the challenges and barriers teachers experience in supporting students with complex needs; and 3) describe the profiles of children in early and elementary education. There is a great need to hear teachers' voices given their training and background in supporting students with complex needs in order to understand the additional supports they need to fully support children with complex needs. The results of this study have the potential to benefit administrators at the school-site level in supporting novice and experienced teachers through recognizing their challenges and providing opportunities for training and professional development activities for in-service teachers and educational assistants. Further, it will also benefit teachers to hear the experiences and challenges of others within the special education field and gain information of resources and supports they utilize within their classrooms. Finally, by giving us insight into the current supports being used by teachers and any barriers they face in providing these supports, in turn we can better understand how to tackle and overcome the challenges to providing resources to students with complex needs in the classroom.

Overview of the Thesis

Chapter two provides a review of the relevant background literature including a presentation of common neurodevelopmental and medical disorders along with comorbid health issues, as well as teacher burnout and well-being. It concludes with a statement of the research problem and purpose of the study and presents the research questions. The chosen qualitative approach to inquiry and the study's methodological details, from design through to analysis are presented in Chapter three. Chapter four presents the results of the study. Finally, the findings are discussed in the context of relevant literature and offer implications for both practice and research.

Chapter Two: Literature Review

This chapter provides an overview of the literature on neurodevelopmental disorders and medical disorders along with their common comorbid disorders, particularly in early and elementary education. The subsequent section will focus on teacher well-being and burnout as well as their background and competencies when supporting children with complex needs. The review of this diverse literature connects emerging concepts that are not widely discussed with the educational context.

Defining Comorbidity

Since comorbidity is common in neurodevelopmental disorders, it is a particularly important issue in the overall care of children. A common definition of comorbidity used across literature is when multiple diagnoses are present, the term comorbidity is utilized when children meet diagnostic criteria for more than one disorder (Angold et al., 1999; Bax & Gillberg, 2010; Kaplan et al., 2006; Lilienfeld et al., 1994; & Van Loo & Romeijn, 2015). This definition of comorbidity draws attention to the frequent co-occurrence of conditions, suggesting that there could be a genetic relation between them (Bax & Gillberg, 2010). One problem with the term comorbidity is that it has been used to include a variety of different temporal relationships amongst disorders. Some child and adolescent studies have considered disorders co-occurring over a short span of time, while others have reported rates of comorbidities over one year or even the individual's lifetime to date (Angold et al., 1999). Comorbidity between current disorders at the time of assessment means that both must be present at the same time (Bax & Gillberg, 2010). Although their times of onset and offset may vary, during some period both disorders must have been present concurrently to be labelled as concurrent comorbidity (Angold et al., 1999). Additionally, comorbidity can also arise from one disorder increasing the

risk of another disorder, such as the relationship between ADHD and ODD, possibly due to a causal association (Angold et al., 1999; Barkley, 2006). This shared etiology can include common genetic influences or neurological processes (Tuvblad et al., 2009). Poorly distinct boundaries between disorders with a shared etiology can produce co-occurring disorders that are different presentations of the same underlying neural circuit disruptions (Morris & Cuthbert, 2012). However, further research is still developing and evolving in understanding neural circuits and common neurological processes amongst co-occurring disorders. When using comorbidity in developmental disabilities research, an accurate application of this term is essential across studies. It has been emphasized that when two or more developmental disorders are said to be comorbid, we presume they are simultaneous, independent disorders with possibly different etiologies (Angold et al., 1999; Kaplan et al., 2006). Whereas co-occurring disorders in developmental disabilities are better utilized to explain cases when two disorders co-occur together and have similar symptoms and etiologies, likely part of a spectrum (Kaplan et al., 2006). Kaplan and colleagues (2006) assert that the term comorbidity may be less helpful than the idea of a continuum in developmental disorders. In other words, when the child may be suffering from a single underlying condition that displays similar symptoms and features of two arbitrarily defined disorders, that can have similar etiologies (Kaplan et al., 2006). For instance, in developmental disorders, where there may be a continuum of severity with children identified with ADHD and DCD be at the lower extreme end of the continuum and children with ASD showing greater severity in overall functioning (Angold et al., 1999; Kaplan et al., 2006). However, the usage of a consistent definition of comorbidity and co-occurring disorders is not prevalent yet in developmental studies, with these terms being used interchangeably in research.

Overall, epidemiological studies show that at least one in three children with one disorder meet criteria for one or more additional disorders (Angold et al., 1999; Costello et al., 2003). Children with a comorbid condition are more likely to be referred to pediatric psychiatric services than children with a single disorder (Wolff & Ollendick, 2006). For example, preschool and school-age children with ADHD and a co-occurring disorder showed more substantial impairment in academics, greater social dysfunction, and were more frequently evaluated at a pediatric psychiatric clinic for an evaluation than children with only ADHD (Wilens et al., 2002; Wolff & Ollendick, 2006). Children with multiple comorbidities also tend to experience more impairment including school failure and criminality and are less responsive to interventions compared to children with a single disorder (Connor et al., 2010; Sexton, et al., 2012). For another example, children with ASD frequently have comorbid medical and psychiatric conditions, such as sleep disorders, epilepsy, food intolerance, gastrointestinal dysfunction, mood disorder, and aggressive and self-injurious behaviours that require more frequent referrals to a mental health specialist once they approach adolescence (Mannion et al., 2014).

The literature has focused on co-occurring disorders that belong to the same diagnostic class, referred to as homotypic comorbidities (i.e., anxiety with other internalizing disorders; Angold et al., 1999). *Homotypic comorbidities*, tend to result from similar mechanisms, and consequently, often both disorders fall into the same expertise of the researcher. Whereas *heterotypic comorbidities*, known as co-occurring disorders, that go beyond their diagnostic categories, such as learning disabilities with internalizing or externalizing disorders, are less studied, but they are still common and will likely be more beneficial in helping to understand the underlying mechanisms of disorders (Pennington et al., 2019). Also, current developmental

research focus more on what differentiates one disorder from another, using research designs involving pure groups without comorbidities and forming groups based on their comorbidity label (ADHD alone, ASD alone, ASD and ADHD; Newcorn et al., 2009). Fewer studies focus on comparing comorbid disorders and the varying needs and supports children with different comorbid disorders require.

However, there is currently not a consistent differentiation between comorbidity and co-occurring disorders in developmental studies, and these terms are frequently used interchangeably in research. For present purposes of the study, comorbidity is used to refer to students with two co-occurring disorders. This aligns with the common definition of comorbidity mentioned above is used in research to describe the co-occurrence of disorders, and children meeting the diagnostic criteria for more than one disorder (Angold et al., 1999; Bax & Gillberg, 2010; Lilienfeld et al., 1994; & Van Loo & Romeijn, 2015).

Common Comorbid Neurodevelopmental/Medical and Associated Disorders

The disorders presented here have certain features in common and were relevant for the students involved in this study as they were common diagnoses of the students at the school. Most of these diagnoses have an early onset with continued impairment throughout life. Additionally, there is considerable heterogeneity in the symptoms and severity the of the neurodevelopmental disorders discussed. These neurodevelopmental disorders show overlapping genetic influences; however, it is not yet clear whether those genetic differences are specific to the individual disorders (Tuvbald et al., 2009).

Autism Spectrum Disorder (ASD) and Intellectual Disabilities (ID).

ASD is a pervasive neurodevelopmental disorder characterized by deficits in socio-communicative functioning in conjunction with restricted and/or repetitive patterns of

behaviours, activities, and/or interests as described in the current edition of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association [APA], 2013). Specifically, individuals exhibit a wide range of cognitive, communicative, and behavioural symptoms (APA, 2013). These symptoms are present in early childhood and impair everyday functioning (APA, 2013). When discussing comorbidity in the assessment of ASD, it has often been in the context of ASD with intellectual disability (ID), as these two conditions frequently co-occur, and other symptoms including language delays, stereotypes, and self-injury increase as the severity of ID increases (Matson & Nebel-Schwalm, 2007). Approximately one-third of those with ASD have comorbid ID (Centers for Disease Control and Prevention [CDC], 2016). At the same time, there is variability in intellectual functioning in ASD ranging from those with ID to those with higher-than-average intellectual functioning (Richler et al., 2010). Language impairment is another common comorbidity in children with ASD, but a higher cognitive IQ (intelligence quotient) and the presence of some speech before the age of five predict more favourable outcomes specific to language, leading to diverse language profiles (CDC, 2016). Approximately 43.9% of individuals with ASD demonstrate average or above average cognitive functioning (IQ score > 85), 24.5% include those with borderline intellectual functioning (IQ score of 71-85), and 31.6% present with an ID (IQ of ≤ 70 ; CDC, 2016). The severity of the ID can greatly impact the functioning of the students in the classroom, and the level of support they may require (Mannion et al., 2014). In addition, considering the variations in the symptoms presented in ASD, there are other associated medical and psychiatric conditions, such as sleep disorders, epilepsy, and aggressive and self-injurious behaviours that co-occur in children with ASD (Mannion et al., 2014).

ASD and Internalizing Disorders. Children with ASD commonly have comorbid mental health concerns such as generalized anxiety and depression, even though some individuals with ASD are unable to verbalize changes in mood due to insufficient language skills (Skokauskas & Gallagher, 2012). In a population-based study, 71% of children with ASD also met the criteria for at least one current comorbid health disorder; 41% met the criteria for two or more; and 24% had three or more diagnoses (Simonoff et al., 2008). The prevalence of anxiety in school-age children and adolescents with ASD varies greatly depending on the samples' characteristics (Merikangas et al., 2010). Nonetheless, studies consistently demonstrate that children with ASD have a higher rate of anxiety than the general population (Matson & Nebel-Schwalm, 2007; Merikangas et al., 2010; White et al., 2009). Between 22% and 65% of individuals with ASD have a comorbid anxiety disorder depending on the study (Maddox & White, 2015; Simonoff et al., 2008; Spain et al., 2018). Disparities in prevalence rates of anxiety in studies can be attributed to differences in sampling (clinical samples versus epidemiological samples) the method of assessment (measures rated by teachers and parents vs. clinician-rated measures, self-rated measures or the use of one or multiple measures), diagnostic overshadowing (when comorbid symptoms are attributed to ASD), and difficulty with introspection in individuals with ASD which makes it difficult to describe their internal states (Chang et al., 2012).

Social anxiety includes symptoms of anxiety that occur in specific or general social situations, a fear of negative evaluation or judgement by others, and avoidance or escape from cues that produce anxiety (APA, 2013). High levels of comorbid anxiety disorders with ASD could be influenced by symptoms, such as being socially withdrawn, which are extremely common in ASD (Skokauskas & Gallagher, 2012). Social impairment is one of the defining

deficits in ASD because one of the primary features of ASD is difficulty with social reciprocity. Social motivation can influence the frequency and types of social situations individuals engage in, responses to others, and turn-taking during conversations which influence the sustainability of social interactions (Spain et al., 2018). Similarly, stereotyped speech or limited interests can also affect the fluidity of conversations (Chang et al., 2012; Spain et al., 2018). Therefore, these social skills deficits can derail interactions with others and can increase susceptibility to social rejection, teasing, or bullying, leading to social withdrawal and isolation (Schroeder et al., 2014). These difficulties with social interactions can produce negative ways of thinking and beliefs related to inferiority, solidifying the symptoms of social anxiety (Schroeder et al., 2014; Spain et al., 2018).

Hess and colleagues (2010) found that children and adolescents with ASD displayed a higher number of psychiatric symptoms compared to same-aged typically developing peers. These significant differences were in relation to symptoms of worry or depressed behaviour, under-eating, avoidant behaviour, and repetitive behaviour. However, it is also important to consider that anxiety may act as a secondary phenomenon, which occurs from children's self-awareness of their difficulties in situations when they are expected to display age-appropriate social behavior (Gillot et al., 2001). Greater levels of anxiety are found in children with ASD who have average or higher intelligence, likely due to greater insight of their struggles with social understanding (Hallett et al., 2013; Strang et al., 2012). In research conducted by Gillot and colleagues (2001), high-functioning children with ASD were compared with two control groups: one consisting of normally developing children and one comprised of students with specific language impairments on measures of anxiety using the *Spence Children's Anxiety Scale* (Spence, 1997a). Children diagnosed with ASD were the most anxious, with high self-

rated anxiety on both separation anxiety and obsessive-compulsive disorder subscales. Gillot and colleagues (2001) suggested that anxious behaviours might be expected when children show resistance to changes in their environment or the fear of difficulty in understanding what is happening; feelings of constant uncertainty can also be a source of anxiety, suggesting this as a plausible explanation for the higher rates of comorbid anxiety.

Similarly, comorbid depression also occurs in individuals with ASD with estimates ranging from 17% to 27% (Leyfer et al., 2006). Based on parent reports of children and adolescence with ASD who had average or higher intelligence, about 44% exhibited symptoms of depression, and 30% exhibited symptoms in the clinical range (Strang et al., 2012). Interestingly, higher levels of depression, behavior problems, and getting teased was found to be a good predictor of attempts and suicide ideation in children with ASD (Mayes et al., 2013). Therefore, it is suggested that individuals with ASD be assessed for depressive symptoms, particularly suicide ideation (Kato et al., 2013; Mayes et al., 2013).

ASD and externalizing disorders. Beyond anxiety and depression, children with ASD also have higher rates of comorbid ADHD and OCD, which become more apparent beyond the preschool age (Elia et al., 2008). Through the DSM-IV edition, clinicians were prohibited from making an ADHD diagnosis in an individual with ASD. With the DSM-5, clinicians are permitted to make a ASD and ADHD diagnosis (APA, 2013). Both ASD and ADHD are reported to have had substantial increases in prevalence rates within the past decade. As a result of the increased prevalence of both disorders, as well as the ability to make an ASD diagnosis in ADHD, there has been a significant amount of research focusing on the comorbidity between ADHD and ASD in the past few years (Elia et al., 2008). These research findings point to a genetic connection between ADHD and ASD and that they commonly co-occur together.

ADHD is characterized by developmentally inappropriate inattention, impulsiveness, and/or hyperactivity that remains persistent over time and results in impairments across multiple domains of life activities (APA, 2013). Rates of comorbid ADHD and ASD, range from 14-78% (Gargaro et al., 2011). Furthermore, Simonoff and colleagues (2008) found ADHD to be the second most common comorbid condition with ASD after ID. Additionally, almost half of the ASD group, 44.78%, met criteria for ADHD (not specified; Skokaukas & Gallagher, 2012). These studies have also found that children with ASD and comorbid ADHD are at increased risk of bullying when compared to children with either ASD or ADHD alone, due to increased deficits in social understanding and communication (Garagaro et al., 2011; Montes & Halterman, 2007; Skokaukas & Gallagher, 2012). Finally, children with ASD and comorbid ADHD, displayed more problems with executive functioning skills when compared to children with only ASD, children with only ADHD, or typically developing children on a performance-based measure. (Sinzig et al., 2008).

Beyond anxiety and depression, Leyfer and colleagues (2006) found frequent comorbid obsessive compulsive disorder (OCD) diagnoses among children with ASD. Leyfer and colleagues utilized the *Autism Comorbidity Interview-Present and Lifetime Version (ACI-PL)* and found that 37% of children with ASD also met criteria for diagnosis of OCD compared to the *Child and Adolescent Psychiatric Assessment*, that resulted in only 8% of children with a comorbid diagnosis of OCD (Simonoff et al., 2008). Due to this variability, one of the main difficulties in diagnosing comorbid disorders in individuals with ASD is the lack of consistent diagnostic measures designed to screen for these disorders in individuals with ASD (Mannion et al., 2014). Comorbidity in the assessment of ASD continues to be explored, particularly the relationship between ASD and ID, as ID is a predictor of poorer prognosis among children with

ASD. However, there is considerable heterogeneity in symptoms of ASD and more focus has been placed on associated disorders such as anxiety, depression, ADHD and OCD.

ADHD and Comorbid Disorders

ADHD is a neurodevelopmental disorder affecting between 3% and 10% of the childhood population and is often associated with a significantly increased risk for a broad range of mental health comorbidities (Newcorn et al., 2009). ADHD is a neurodevelopmental disorder characterized by inattention and/or excessive activity and impulsiveness (APA, 2013; Barkley, 2014). The DSM-5 (APA, 2013) describes ADHD as a disorder characterized by two primary symptom clusters: inattention and hyperactivity/impulsivity. Symptoms of inattention include off-task behaviours, having difficulty remaining focused, and being disorganized (APA, 2013). Children exhibiting these symptoms may be described as often daydreaming or as easily distracted (APA, 2013; Nigg & Barkley, 2014; Roberts et al., 2014). Symptoms of hyperactivity/impulsivity in children with ADHD include excessive motor activity (e.g., running, fidgeting, tapping), inability to wait (e.g., acting before waiting for instructions, interrupting others), and inability to consider the impacts or consequences of their actions (Roberts et al., 2014). These children may be described as having difficulty staying still and acting as though they are driven by a motor or always on the go (APA, 2013). Individuals can also meet the criteria for ADHD combined, by meeting the criteria for both inattention and hyperactivity/impulsivity. To meet diagnostic criteria for ADHD, according to the DSM-5, symptoms of inattention and/or hyperactivity impulsivity must be present in two or more settings, have been present before the age of 12, and persisted for at least six months prior to the diagnosis. Additionally, the presentation of symptoms may vary depending on the

individual but will be diagnosed based on the criteria for predominantly inattentive, hyperactivity/impulsivity, or combined ADHD based on the DSM-5.

ADHD is highly comorbid with many disorders, including anxiety, other disruptive disorders, and reading disorders (Levy et al., 2013). In one such longitudinal study using a population-based sample, approximately 60% of both boys and girls with ADHD had at least one comorbid concern, and 35% had two or more, which is consistent with the idea that pure ADHD is rare in clinical samples (Yoshimasu et al., 2012). Although the exact etiology of ADHD is still relatively unknown, it is considered to be largely influenced by genetics and heritability; however, identifying the actual genes involved in the etiology of ADHD has been more difficult (Thapar et al., 2013).

ADHD and externalizing disorders. As mentioned previously, disruptive or externalizing behavior problems are the most common co-occurring domain for ADHD. Barkley (2010) proposed that this increased comorbidity is due to the significant deficit in the self-regulation of emotion, common in ADHD which heightens the risk for emotional dysregulation leading to comorbid ODD in children with ADHD. Other longitudinal research suggests that the severity of early ADHD acts as a contributing factor to the risk of later ODD (Loeber et al., 2009). Based on evidence from twin studies and research on shared environmental risk factors, both genetic and environmental factors have an impact on rates of co-occurring ODD/CD with ADHD (Levy et al., 2013; Tuvblad et al., 2009). In terms of disruptive disorders, ADHD comorbidity rates with ODD/CD range from 35% to 50% (Levy et al., 2013). There is evidence that ADHD and ODD can start to emerge during the preschool and early elementary years, and our understanding of the development of comorbid ADHD/ODD can be advanced by studying these early symptom trajectories (Harvey et al.,

2016). Although high activity levels, impulsive behaviours, defiance, and aggression are sometimes normative during the preschool years and early elementary years, about 75% to 85% of children who exhibited clinically significant ADHD symptoms in preschool met criteria for ADHD when they reached school age (Larson et al., 2011). When examining children from age 3 to age 7 in a sample of children at risk for ADHD and ODD based on their family histories, about half of the children later met criteria for both ADHD and ODD (Harvey et al., 2016). Other studies also show that children who later met criteria for ADHD and ODD had more severe symptoms of inattention, hyperactivity, argumentativeness, defiance, and anger in their preschool years (Riddle et al., 2013).

Two prominent models have been proposed to explain high comorbidity between ADHD and disruptive behavior disorders, which include the correlated risk factor model and the developmental precursor model. The *correlated risk factors model* suggests that comorbidity is due to shared risk factors, such as genetics, while the *developmental precursor model* proposes that symptoms of ADHD leads to the development of ODD (Harvey et al., 2016; Hazell, 2010; Riddle et al., 2013). The developmental precursor model suggest that symptoms of ADHD place stress on the family disrupting family functioning, which can place children at risk for ODD. Families of children with comorbid ADHD and disruptive behaviour disorders have been documented to experience more parenting stress and to engage in more negative parenting practices (Riddle et al., 2013). Also, children with ADHD are more likely to be rejected by peers, which can contribute to the development of conduct problems (Harvey et al., 2016; Riddle et al., 2013). Overall, findings have shown that both the correlated risk factor model and developmental precursor models are supported and suggest that multiple

mechanisms are involved in the development of comorbidity between ADHD and ODD/CD (Harvey et al., 2016).

Children with ADHD and comorbid disorders are linked with poorer outcomes in academic achievement, delinquency, social competence, parent-child communication, and negative parenting experiences (Cuffe et al., 2013). ADHD and comorbid ODD/CD appear more strongly related to poor academic performance and problems with executive functioning and associated with disciplinary action or being held back in school (Connor & Doerfler, 2008; Cuffe et al., 2013). Disruptive behaviour disorders in children with ADHD are linked with below average grades, repeating a grade, peer rejection, and school suspension compared to those with ADHD and comorbid anxiety or depression (Cuffe et al., 2013; Hazell, 2010). Since ADHD and symptoms related to disruptive behaviour disorders can begin to be observed in early childhood, clinicians working with young children are encouraged to screen for these conditions so that if they emerge, can be managed at an earlier stage (Harvey et al., 2016). Furthermore, for those children at higher risk or showing more severe symptoms of ADHD and disruptive behaviours, parent behavior training is recommended to reduce negative parenting practices and parenting stress (Cuffe et al., 2013). Since children with ADHD and comorbid CD or ODD have problems with peer and parent relations, early intervention with evidence-based parent training and skills training for children in the high-risk population can be especially important (Connor & Doerfler, 2008; Cuffe et al., 2013).

ADHD and internalizing disorders. The overlap of anxiety disorders with ADHD ranges from 10% to 35% in children referred to a clinic (Jarrett & Ollendick, 2008). Some studies propose that anxiety might be a feature of the development of ADHD (Levy, 2004) while others propose that comorbid anxiety with ADHD is characteristic for specific subtypes

of ADHD, and those with comorbid anxiety are different from those with the pure disorder (Jarrett & Ollendick, 2008). For instance, higher rates of anxiety disorders and depression have been noted in children specifically with inattentive ADHD and especially for Sluggish Cognitive Tempo (SCT), than either the combined or hyperactive subtype (Schatz & Rostain, 2006). SCT is an attention disorder and resemble signs of inattentive ADHD, with trouble focusing, paying attention, and excessive daydreaming, but are less likely to be impulsive or hyperactive and more likely to be linked to anxiety and depressive symptoms (Fassbender et al., 2015). Specifically, there were higher rates of agoraphobia, separation anxiety disorders, social phobias, and obsessive-compulsive disorder (OCD), than other anxiety disorders in children diagnosed with ADHD and anxiety (Spencer et al., 1999). At the same time, even though the presence of anxiety can partially inhibit impulsivity, it can also make working memory and cognitive deficits worse, impacting academic performance (Schatz & Rostain, 2006). Therefore, anxiety in children with ADHD reflects concerns about competency and performance (Brown, 2000).

Research shows that children with ADHD and anxiety perform poorly on cognitive complex tasks that required sustained mental effort and working memory tasks (Tannock, 2009). For example, on laboratory tasks, children with both ADHD and anxiety have demonstrated difficulty on task measures requiring sustained or selective attention compared with children that are only diagnosed with ADHD alone (Vloet et al., 2010). There is evidence that children with both ADHD and anxiety have working memory impairments (Jarrett et al., 2016; Skierbekk et al., 2011). In one such study, there were significant group differences between groups of children diagnosed with ADHD alone and those diagnosed with ADHD and comorbid anxiety, on the processing speed tasks on the WISC-V (Jarrett et al., 2016; Wechsler,

2014). Furthermore, in another study, performance on working memory tasks showed little improvement after a stimulant medication trial for children with comorbid ADHD and anxiety (Bedard & Tannock, 2008). This finding supports past literature showing that children diagnosed with ADHD and anxiety demonstrate greater working memory impairment than children with ADHD only, leading to even greater academic difficulties (Jarrett et al., 2016; Tannock et al., 1995).

At the same time, it is important to highlight those diagnoses within the DSM-5 rely heavily on teacher and parent rating scales (Schatz & Rostain, 2006). Although parent and teacher ratings are helpful for externalizing symptoms, as they are more readily observable and easily identifiable, such as the more external hyperactive aspects of ADHD, they are less accurate at capturing the inattentive symptoms of ADHD or anxiety that include more internalizing symptoms (Schatz & Rostain, 2006). Certain internalizing aspects on parent and teacher ratings can also be misinterpreted as negative affect or depression instead of anxiety and can underestimate the prevalence of anxiety-related symptoms (Schatz & Rostain, 2006). This especially applies to younger children, who may not have the appropriate language skills to fully describe their feelings and so parent and teacher ratings are relied upon for diagnoses and research.

Finally, ADHD is also comorbid with Tourette syndrome (TS) and obsessive compulsive disorder (OCD; Debes et al., 2010; Freeman, 2007). This triad of disorders are often highly comorbid (Lebowitz et al., 2012). TS is a disorder characterized by simple and complex motor and vocal tics (Lebowitz et al., 2012). The onset occurs in childhood, and the tics are repetitive, stereotyped movements or vocalizations that are involuntary (Debes et al., 2010). Over time, these symptoms progress and become more severe and complex with

vocalizations, motor movements like squatting and twirling while walking and even echolalia or palilalia (repeating one's own phrases; Debes et al., 2010; Lin et al., 2007). TS and OCD are similar because of the difficulty to inhibit repetitive behaviours, and ADHD is related to the difficulty to inhibit socially unacceptable behaviours, verbal responses, and impulsive actions (Freeman, 2007). The effort to suppress tics can distract children and impact their ability to focus in the classroom and motor tasks like writing is also made difficult by frequent tics. This combined with silent rituals related to OCD, such as counting, results in further attention problems combined with the concentration difficulties by ADHD interferes greatly with learning (Debes et al., 2010). These symptoms also lead to social isolation, with children with TS and accompanying disorders being at a higher risk for having poor peer relationships. They are often the targets of peer teasing compared to their typical classmates, leading to poor self-esteem and lower social competence (Freeman, 2007; Lin et al., 2007). Debes and colleagues (2008) examined a group of children and adolescents with a combination of comorbid TS, OCD, and ADHD compared with those who only showed TS. They found that having a diagnosis of either OCD or ADHD with TS contributed to impaired social functioning, self-reported depressions, rates of teasing, academic difficulties, and higher enrollment in special educational programs and schools.

Language Disorders

Speech and language development are important for understanding ID, ASD, ADHD as language skills is a major component of psychometric intelligence, and every case of ID includes delayed language development (McKean et al., 2017). Speech and language delays affect about 7-9% of preschool children and can result in problems in one or more areas, such as understanding vocabulary and grammar, inferring meaning, expressive language, sound

production, voice, fluency and articulation and the use of language in social situations (Boyle et al., 2010; McLaughlin, 2011). It is important to distinguish between speech and language. *Speech* is the verbal production of language or the oral form of communicating whereas *language* is the processing of communication and refers to the words and symbols, grammar, and pragmatics used to communicate meaning (McLaughlin, 2011). A speech disorder indicates someone has trouble producing certain sounds accurately such as with articulation, and language delays refers to receptive language (difficulty understanding the meaning of what is being said) and expressive language (the ability to share information, feelings, thoughts, and ideas; Boyle et al., 2010; McLaughlin, 2011). Language and speech problems can exist together or separately. Reported prevalence rates for speech and language delay varies widely, for preschool and school-entry children ages 3-5 years of age, studies that evaluated speech problems have reported prevalence rates of 5% to 8%, and studies of language delay alone have reported prevalence rates of 4% to 15% (Lindsay et al., 2010; McKean et al., 2017; McLaughlin, 2011).

For some children, language delays are a primary delay that is not better explained by hearing impairment, neurological impairments, or developmental disabilities (McKean et al., 2017). Language disorders are defined as difficulty using language in different manners, such as speaking or writing, due to deficits in understanding or production (APA, 2013). Other times, language delays are secondary to certain neurodevelopmental conditions, such as ASD, ID, physical speech problems, and sensory impairment (Bennett et al., 2008). Speech disorders consist of disorders linked with articulation and speech sound disorders where a child can speak fluently but may substitute or omit sound from words (McLaughlin, 2011). Childhood apraxia of speech (CAS) is another speech disorder characterized by impaired motor programming for

speech production in the absence of muscle weakness, and falls under speech disorders (McLaughlin, 2011). Mixed receptive-expressive language disorder, delays in expressive language and social communication disorder (SCD) falls under impairment with language disorders (Boyle et al, 2010). Those with SCD have difficulty with the use of verbal and nonverbal language for socialization (Boyle et al, 2010). Common risk factors for speech and language delays are male sex, prematurity, low birth weight, socioeconomic status and level of parental education (McKean et al., 2017). It has been noted that children coming from low SES are read to less and exposed to a less language-rich household in their early years, which contribute to lower language abilities at 4 years of age (McKean et al., 2017). Although a proportion of children between the ages of 3 to 5 may initially present with language delays, a number of these children can go on to later be diagnosed with another disorder that explains their difficulty in mastering language (Bennett et al., 2008). This is because delay in the communicative use of language form part of the diagnostic criteria for ASD, and children who experience difficulties mastering language can also develop social problems, such as bullying and isolation, as a result of their reduce use of communication skills to interact and play with peers and reciprocal social interaction (Bennett et al., 2008). The characteristics of two groups of 7- to 8-year-old children with average intelligence were compared, one with ASD and the other with severe receptive language disorder which showed that children with ASD had more severe language delays and produced more echolalia, scripted speech, greater difficulty with peer relationships, than the children with severe receptive language disorders (Bennett et al., 2008).

Due to the instability in child language development in the early years, it is difficult to reliably identify children at risk for persisting difficulties (McLaughlin, 2011). Language and

speech delay disorders respond well to early intervention, and their prognosis is a function of the nature and severity of the underlying disorder (Lindsay et al., 2010). More than half of the children with low expressive language abilities at two years catch up with their peers by 4 to 5 years old with appropriate intervention (Boyle et al., 2010; Lindsay et al., 2010). Children between the ages of 2- to 5-years old with articulation difficulties also tend to show substantial improvement in their language scores (McLaughlin, 2011).

Studies consistently reveal that receptive-expressive language impairment is a greater risk factor for adverse long-term outcomes than expressive language impairment alone (Boyle et al., 2010). Language impairment with receptive language is more resistant to intervention than an expressive language delay or phonological delays and shows a greater risk of comorbid behavioural difficulties as well as difficulty with academic progress (Boyle et al., 2010; McLaughlin, 2011). Children with low language abilities in both the receptive and expressive domain were more likely to have lower intelligence scores, ASD diagnoses, social-emotional and behavioural difficulties, and higher rates of comorbid literacy difficulties, compared to their peers in one more of these additional areas (Bennett et al., 2008; Lindsay et al., 2010). In adolescence, a significant proportion of those diagnosed in childhood as having a developmental language delay (in both receptive and expressive language impairment) showed poor social competence and also low academic progress (Lindsay et al., 2010). Since speech and language form the basis of communication, delays in these areas can result in negative outcomes. Speech and language delays are also associated with increased difficulty with reading, writing, attention, and socialization, making it important to provide early intervention and to seek professional assessment since atypical language development can be a secondary characteristic of other developmental problems that may first manifest as language problems.

Other Neurodevelopmental Disorders and Comorbidity

Additional neurodevelopmental disorders including epilepsy, cerebral palsy, and Down Syndrome are discussed along with the disorders that are commonly comorbid with them.

Epilepsy and comorbid disorders. Epilepsy is a common neurological condition that is characterized by a propensity for recurring, unprovoked seizures; seizures reflect abnormal firing of brain neurons accompanied by behavioural changes (Seidenberg et al., 2009). Epilepsy is not seen as a single disease but rather a constellation of syndromes and disorders. The presentation, symptoms, and etiologies are heterogenous, and this can make the diagnosis and treatment of epilepsy challenging (Seidenberg et al., 2009). Furthermore, comorbid conditions with epilepsy are common in children and teenagers and include medical, psychiatric, and cognitive conditions alone or in combination. Epilepsy can be the consequence of heritable conditions or secondary to a coexistent neurological condition (Seidenberg et al., 2009). Most commonly, children with epilepsy frequently have comorbid conditions like cerebral palsy, ID, and moderate to severe learning disabilities (Prasad et al., 2014; Seidenberg et al., 2009). Based on a sample of children with epilepsy between the ages of 5-15 years, while those with epilepsy alone accounted for 56.87%, while 23.05% reported at least one comorbid condition, 11.03% had at least two comorbid conditions while 9.53% had three or more conditions (Prasad et al., 2014).

In a study comparing preschool children with epilepsy between the ages of three to six to peers without epilepsy, children with epilepsy scored lower on auditory attention, short term memory, rapid word retrieval, along with slower processing (Prasad et al., 2011). They also showed lower and highly variable Peabody Picture Vocabulary Test-Revised (PPVT-R) scores compared with peers (Prasad et al., 2011). Those with associated comorbid conditions of

cerebral palsy or developmental delays had the lowest scores. Difficulties in domains related to short term memory, retrieval, auditory attention, and processing speed can become a barrier to academic achievement in early childhood (Prasad et al., 2011). In another study, elementary children with epilepsy underperformed in reading in comparison with their peers and were functioning almost two years behind their grade level (Duncan et al., 2007). Of particular significance is the occurrence of developmental delay and moderate to severe learning disabilities in more than half of this survey population (Prasad et al., 2014). Overall, children with epilepsy, especially those with comorbid diagnoses and cognitive deficits, are more likely to access special educational services in comparison with those only diagnosed with epilepsy alone (Duncan et al., 2007).

Cerebral Palsy and comorbid disorders. Cerebral palsy (CP) is a common group of lifelong neurological disorders. CP is a group of permanent disorders of the development of movement and posture, causing limitations in activity (Craig et al., 2019). CP is commonly classified by level of functional independence in terms of gross motor function, fine motor function, and communication abilities and by the area of the body affected (Gabis et al., 2015). Although cerebral palsy is not a progressive disorder, new symptoms may appear or alter in severity as a child develops, and additional comorbidities can develop throughout a child's lifetime with a negative impact on function (Craig et al., 2019; Gabis et al., 2015). Motor disorders in CP are associated with disturbances of sensation, perception, cognition, communication, behavior, and epilepsy. In children, a wide range of neurodevelopmental disorders are associated with CP, such as ADHD, ASD, learning disabilities, ID, speech and language delay, and developmental coordination disorders (Bjorgaas et al., 2012). Furthermore, a systematic review showed increased risk rates of emotional liability, irritability,

impulsiveness, and behavioural problems in children with CP (Gabis et al., 2015). The ASD prevalence estimates in CP vary from 3% to 16% and can vary based on the population studied (Gabis et al., 2015). A higher prevalence of comorbid ASD with CP was found in populations with other associated medical conditions such as visual impairment and hydrocephalus (Gabis et al., 2015). Similarly, comorbid prevalence of CP and ADHD, ranged from 19% to 35% (Craig et al., 2019). These findings suggest that ADHD seems to be more common in children with CP than in the general population. As with other comorbidities, differences in prevalence rates between studies could be due to the different diagnostic tools used (Bjorgaas et al., 2012; Craig et al., 2019). Even though studies suggest children with CP are at increased risk of neurodevelopmental disorders, depending on the complexity of the CP condition, it can be a challenge to diagnose ASD or ADHD, particularly when sensory impairments and motor deficits limit use of gestures such as pointing that can complicate differential diagnosis (Craig et al., 2019; Gabis et al., 2015). Also, certain characteristics such as social communication, attention, and behavior problems can be thought of as being part of cerebral palsy and be overlooked as characteristics also being associated with ASD or ADHD (Craig et al., 2019; Gabis et al., 2015). Similarly, intellectual impairment is another common comorbidity found with cerebral palsy. Evaluating intellectual abilities is important for determining impact on function and independence and prognosis (Gabis et al., 2015). However, cognitive assessments require adjustments of measures used and alteration of subtests as it can be challenging due to motor impairments and sensory deficits (Gabis et al., 2015).

Down syndrome and comorbid disorders. Finally, Down syndrome (DS) is chromosome-based neurodevelopmental disorder typically accompanied by ID occurring in about 1-1.5 per 1,000 live births (Reilly, 2009). A majority of cases of DS are non-familial,

and the most well-documented risk factor is maternal age (Reilly, 2009). Primarily, children with DS have a relative weakness in speech and language skills and strengths in adaptive skills, social skills, and social engagement compared to individuals with other cognitive disabilities (Ekstein et al., 2011; Reilly, 2009). Previously, the association of ASD and DS was considered uncommon as the typical personality profile of DS was described as someone who is affectionate and outgoing (Reilly, 2009). But more recently, there is evidence that not all individuals with DS possess these personality characteristics (Dressler et al., 2011). Common behavioural problems observed in children with DS and ASD include impairment in reciprocal social interaction and inability to start and maintain communication, repetitive play, such as rolling a toy over and over again, abnormalities in speech such as echolalia and seldom use of spontaneous speech, undue attachment to objects, restricted range of interests, distress over changes in environment and insistence on following the same routines (Dressler et al., 2011; Reilly, 2009). About 10%-15% of children with DS display similar behavioural concerns, and so it is possible that a number of these children may also have comorbid ASD (Reilly, 2009). However, it is difficult to determine a precise prevalence rate of ASD comorbid with DS since children with both DS and ASD are under-reported (Ekstein et al., 2011; Reilly, 2009) The reported levels of cognitive functioning of children with DS and comorbid ASD have varied, but there appears to be more children with comorbid DS and ASD operating in the severe range than children with DS alone (Reilly, 2009). In research, a common difficulty is distinguishing between ASD-type behaviours and similar behaviours associated with the level of ID (Dressler et al., 2011). A number of children with DS display stereotyped behaviours, especially those functioning with a severe ID, and distinguishing between stereotyped behaviours due to the level of cognitive functioning and those due to the presence of ASD can be difficult (Dressler et

al., 2011). Likewise, hearing loss, vision problems, and communication impairment in young children with DS can affect the progress in social interactions and communication, making it complicated to diagnose ASD with complete certainty (Dressler et al., 2011; Ekstein et al., 2011). Oxelgren and colleagues (2016) studied a group of 108 children with DS, with a mean age of 15 years, and found that 19% met the criteria for ASD. They compared this group with children just diagnosed with ASD and concluded they had broad similarities with those diagnosed with both DS and ASD but noticed very subtle differences between the degree of social impairment. The children diagnosed with DS alone tended to be less withdrawn and seemed to enjoy more interaction with peers and social contact. However, the children with both DS and ASD showed weak independence and adaptive living skills.

Similarly, decreased attention span, difficulty in concentration, hyperactivity and impulsive behaviours (disproportionate to mental age) are often observed in children with DS, but the exact prevalence of diagnosed ADHD is not clear in this population (Oxelgren et al., 2016). However, in a research sample of 474 individuals aged 7 to 16 years old with DS, 14.8% met the criteria for combined ADHD (Ekstein et al., 2011). The diagnosis was made by pediatric neurologist and included an interview with the parents, questionnaires completed by teachers and parents, a neurological examination, and details regarding the cognitive abilities and medical conditions which might have an effect on clinical symptoms of ADHD. A failure to recognize and diagnose ASD or ADHD in children can prevent parents from accessing supports and interventions available for children needed to better manage these diagnoses (Ekstein et al., 2011; Reilly, 2011) Early identification of ASD or ADHD allows significant benefit in managing difficult behaviours, using appropriate strategies at school, and having

access to appropriate services and professionals experienced in the management of ASD (Reilly, 2011).

Teacher Well-Being and Burnout

At some point in teachers' careers, they are likely to become frustrated with their job or feel unsatisfied with their profession. Burnout is described as stress encountered that overcomes resources and abilities to cope adequately, leading to negative feelings of emotional exhaustion, depersonalization or reduced feelings of personal accomplishment in their work (Maslach et al., 2001). *Emotional exhaustion* is being depleted emotionally due to job-related demands, and teachers feel they can no longer give psychologically, while *depersonalization* is detachment and withdrawal from their job and students accompanied by feelings of self-criticism or indifference towards their students (Chang, 2009; Maslach et al., 2001). *Reduced feelings of personal accomplishment* are related to teachers' perceiving themselves as less effective in their work because they are not achieving personal goals (Chang, 2009; Maslach et al., 2001). Teachers who have difficulty creating an organized classroom or who are continually focused on controlling students' misbehaviours, show concurrent feelings of burnout because their workload seems more burdensome or unmanageable (Chang, 2009; Grayson & Alvarez, 2008; Pas et al., 2012). Furthermore, lack of material resources and funding restraints from school administrators, professional development opportunities, along with feelings of isolation and insufficient community support systems are major factors in feelings of burnout (Castro et al., 2010; Scherff, 2008; Smethem, 2007). Moreover, studies show that inexperienced teachers, especially those who have been teaching for five years or less, are more vulnerable to work burnout and report higher emotional exhaustion and attrition than their experienced counterparts (Young, 2018). This can be related to pre-service special

education teachers often overestimating the amount of support special education teachers receive from administrators and their colleagues and underestimating their expected workload and additional responsibilities when teaching special education (Wasburn-Moses, 2009).

Teacher Well-Being in Special Education.

The increased responsibilities on the workload of special education teacher compared to mainstream teachers contribute further to the phenomenon of teacher burnout (Brunsting et al., 2014). These responsibilities can range from increased paperwork, challenging student behaviours, too many unique demands on time and resources, and mismatch between what was expected and the reality in a special education environment (Adera & Bullock, 2010; Brunsting et al., 2014; Skaalvik & Skaalvik, 2007). Pre-service special education teachers often overestimate the amount of support special education teachers receive from administrators and general educators (Wasburn-Moses, 2009). Furthermore, special education teachers also spend more time performing noninstructional tasks such as completing paperwork, preparing for individualized program plans (IPPs) meetings, monitoring IPPs and behaviour intervention plans (BIPs), and more frequently communicate with parents (Brunsting et al., 2014; Vannest & Hagan-Burke, 2010). Unfortunately, special education teachers face these challenges daily, putting them at increased risk of burnout. Furthermore, lack of material resources and funding restraints from school administrators, professional development opportunities, along with feelings of isolation and insufficient community support systems are major factors in feelings of burnout (Castro et al., 2010; Scherff, 2008; Smethem, 2007). As a result, students with disabilities also face a continual change of teachers in higher proportions compared to general education as a result of increased turnover in teachers and educational assistants within special education (Castro et al., 2010).

Teachers in special education utilise a variety of strategies to lessen the feelings of burnout such as seeking help, problem-solving with colleagues, managing difficult relationships with parents of children, and seeking rejuvenation (Castro et al., 2010). Although these strategies helped teachers, especially those new to the profession, in building resources and support, the teachers had to take the initiative to securing resources (Castro et al., 2010). This burden to seek out additional resources and supports also extended to issues of meeting the diverse special needs of students (Castro et al., 2010; Scherff, 2008). Therefore, teachers who were likely to feel burnout or leave the profession were those who felt that the workload was unreasonable, their efforts were futile, and that their needs were not being met (Brunsting et al., 2014; Castro et al., 2010). Also, teachers' concerns about students' misbehaviour and discipline problems, has been linked with increased stress and burnout as well (Klassen, 2010). This can be further exacerbated if teachers are investing time in controlling students who are disruptive in the classroom but feel they will have little improvement if their efforts are not supported at home (Gibbs & Miller, 2013).

Special Education Teacher Well-Being and Stress.

Although the role of the special education teachers vary depending on the characteristics of the student population, they often hold responsibilities such as teaching to older students vocational skills, life skills, social skills, and adaptive skills in addition academic skills (Adera & Bullock, 2010). Students with complex, comorbid disorders require additional assistance and support to develop proficiency in these areas. Often, students with complex needs at the elementary level, are delayed in their independence and daily living skills and are often taught concepts at a toddler or preschool level. Consequently, toileting, eating at the table, getting dressed, changing their shoes, and using utensils appropriately are integrated into the curricula along with

academic concepts (Adera & Bullock, 2010; Probst & Leppert, 2008). Likewise, students with complex needs at the preschool and kindergarten level also require extra support in hygiene such as toileting whereas students are typically expected to be fully toilet trained when attending preschool and kindergarten (Adera & Bullock, 2010). They require additional assistance from both parents and teachers to improve their adaptive skills. These additional needs expand the role of the special education teacher beyond teaching academic skills. As students get older, these concepts change to a more life-skill focus such as budgeting, using money, opening a bank account, and purchasing groceries for instance, which are taught by special education teachers in addition as part of the academic curriculum (Adera & Bullock, 2010). Along with juggling the multiple roles and demands, special education teachers are held accountable for meeting their students' educational goals (Gibbs & Miller, 2013; Kaff, 2004)

In a special education classroom, the aggregate externalizing behaviours will possibly be higher than typical classrooms (Pas et al., 2012). In classrooms with higher aggregate externalizing behaviours, these classroom settings are highly demanding, resulting in more job-related feelings of burnout and can impact classroom instruction as well (Dicke et al., 2014). Higher externalizing behaviours in the classroom can negatively impact teachers' ability to maintain a supportive and organized classroom, to bond with students, to lead lessons, and to engage children (Dicke et al., 2014; Pianta & Allen, 2008). Often, children with disruptive behaviours require more one-on-one support (Hoglund & Leadbeater, 2004), but a teacher may already be feeling too overwhelmed by work to invest more energy into additional support (Hoglund et al., 2015). Teachers of students with behavioural disorders tend to experience higher burnout and depart from their positions in higher proportions than other special education positions (Adera & Bullock, 2010; Kaff, 2004). It is important to highlight the gap

in the literature for behaviours specifically of kids with complex needs. It is expected that these behaviours might be more different than those with primary behaviour challenges with a different etiology and the way they express themselves, but due to the gap in research, it becomes challenging to make those direct comparisons.

There are many challenges specifically associated with teaching children with ASD that make this more complex such as a pervasiveness of the core impairments and the increased parent-teacher contact necessary for students' success (Dymond et al., 2007). Furthermore, various comorbid disorders associated with ASD, such as anxiety and ID, make teaching this specific population more difficult (Coman et al., 2013). In particular, students with ASD demonstrate behavioural problems that produce educational concerns and stress to teachers (Probst & Leppert, 2008). Particularly, in the younger student and those with more severe symptomology with ASD self-injurious behaviour: head banging, biting students or staff members, meltdowns, and struggles with changes in routine or transitions between tasks are prominent as ASD students struggle to regulate themselves and communicate their needs through more appropriate means (Coman et al., 2013). These common occurrences as well as the aftermath of getting everyone back on track to focus and learn again have been described as additional stressors for teachers as they can impact educational programming, result in losing valuable time, and take away from instruction provided to other students (Coman et al., 2013).

As a result, more awareness is growing that undergraduate training for teachers is limited and lacking that specifically trains teachers with the skills to educate ASD students (Probst & Leppert, 2008). It has been brought forward those interventional methods and knowledge about the particular characteristics of children with ASD should be integrated into teacher training educational programs (Probst & Leppert, 2008). Teachers and professionals

with specialized mental health training and previous experience of serving ASD children has a positive impact on teachers' capabilities to adjust the educational programme to remediate the deficits of ASD students (Cotugno 2009; Dip & Sturmey, 2007; Lerman et al., 2008). Providing teachers with more specialized training and workshops on ASD has also shown improvement in children's behaviour, language, and social capabilities (Probst & Leppert, 2008). When considering teachers' perceptions related to the management of student with ASD in the classroom, teachers considered autistic students to be highly demanding and needy compared to typically developing students for achieving similar educational outcomes (Syriopoulou-Delli, et al., 2012). Teachers' reported that additional training and specialized education strengthened their self-esteem and put them in a better position to work as a team with specialized professionals, parents, and staff and confidence in managing their classroom.

Summary

In sum, the literature reviewed common neurodevelopmental and medical disorders that can be comorbid and commonly found diagnosed together in addition to other diagnoses as well as research exploring teacher well-being and burnout in special education, along with potential barriers they face. Given the dearth of information in the area of how teachers support students with complex needs, the purpose of this exploratory study was to 1) explore common supports utilized in the academic environment for students with complex needs; 2) understand challenges and potential barriers teachers experience in regard to supporting students with complex needs; and 3) describe the profiles of children with complex needs in early and elementary education. The population of students being studied with complex needs are those that have more than one co-occurring diagnoses and are at the preschool or elementary level within a specialized academic setting where they receive necessary supports to participate in

the classroom. While conducting the literature review, a gap identified within the literature was to compare students who have comorbid disorders, identified as students with complex needs within this study, versus those who have just one diagnosis in terms of how well they function in the classroom and the supports they require and even how their behaviours might differ as well. A large focus remained on teaching students with ASD and so it was difficult to find research that identifies possible barriers teachers are experiencing related to teaching students with complex needs.

Chapter Three: Methodology

The purpose of the present study was to better understand the kind of supports that early education and elementary teachers of students with complex needs access to aid their students' academics, behavioural, and developmental needs in a school environment. By better understanding how teachers access supports, we can better understand how supporting teachers will assist students with complex needs in an academic environment, potential barriers in supporting students, and teacher well-being. For the purposes of this study, students with complex needs are defined as having a neurodevelopmental disorder or medical disorder as well as an associated comorbid disorder. This research has the potential to provide a better understanding of how teachers support complex students and how teachers can be supported further, in return improving students' success within an academic environment. This chapter will present the methodological framework and methods used in the present study. It begins with a description of the research paradigm, followed by a discussion of the chosen methodology, focus groups research design, and highlighting potential researcher biases. Second, the selected data analysis approach, thematic analysis (TA), will be outlined, including its origin, limitations, and comparison with other methodologies. A demographic piece of the diagnoses of the students, their Alberta Education Code, gender, and age is also included to better understand the profiles of the students with complex needs. These two approaches will assist in achieving the following primary aims of this study: 1) identify the supports this population is receiving within an academic environment; 2) understand how teachers can support these students and any challenges they experience; and 3) describe the profiles of preschool and elementary children with complex needs.

Ontology and Epistemology

The major dimensions of qualitative research are ontology, epistemology, methodology, and methods (Carter & Little, 2007). The chosen ontology and epistemology guides the research design, methods, and data analysis (Carter & Little, 2007). Researchers should identify their understanding of the nature of reality (ontological assumptions) and their beliefs about what can be known (epistemological assumptions), and consider how these assumptions inform their methodological approach and methods (Madill et al., 2000).

Ontology. Ontology refers to characteristics of reality and the nature of being (Bloomberg & Volpe, 2016; Creswell, 2013). Ontology assumes that the way we view reality is complex and can be interpreted through many lenses (Willis, 2012). Ontology enables researchers to evaluate how their perceptions of reality impact the approach they use to reveal truths (David & Sutton, 2004). The present study was approached from the ontological stance of critical realism, which lies in the space between realism and relativism (Braun & Clarke, 2013). *Critical realism* states that what is real and true varies according to time and context and that what we know is a reflection of where and how knowledge was generated (Braun & Clarke, 2013). A critical realist approach was adopted as an approach to eliciting participants' unique opinions and experiences (on supporting students with complex needs) and for ascribing human meaning to reality (Carter & Little, 2007). In critical realism, researchers assume that there is an objective reality that exists for knowledge to be useful and relevant (Stainton Rogers & Stainton Rogers, 1997). Within this position, the reality of the participants in this study provides the foundation for knowledge (Braun & Clarke, 2013), while the interpretive work of the researcher assists in the clarity and applicability of the results. Attempting to access and understand portions of this reality can potentially provide valuable information that can be

translated into meaningful content useful for researchers and those supporting complex students.

Epistemology. *Epistemology* refers to how we create knowledge and the assumptions about the nature of knowledge, how knowledge is acquired, and the relationship between the participant and the researcher (Carter & Little, 2007; Scotland, 2012). The social constructivist approach was used for this study. The *social constructivist approach* views knowledge as being co-constructed by individuals who interact with and make meaning of their world in an active way (Creswell, 2014; Willig, 2012). Therefore, within this framework, knowledge is constructed based on participants' experiences, through the interaction and discussion between the researcher and participants, and the interactions among participants (e.g., commenting on each other's experiences; Bloomberg & Volpe, 2016; Creswell, 2013). As a result, in relation to the critical realism view mentioned above, there will be an objective reality about the supports needed for complex students within an academic environment. The researcher approaches and gathers reports of the experiences of participants on the supports being currently used for complex students and how teachers can better support these students, based on the perspective of participants.

Axiology and Reflexivity. Utilizing the social constructionist framework, researchers acknowledge how the interaction between themselves and participants and their own values influence how they identify themes and patterns (Carter & Little, 2007). In this research study, I acknowledge the central role I played as the primary research contact with the participants through the focus group discussions. *Axiology* refers to a researcher's personal values and biases that contribute to the interpretation of research (Bloomberg & Volpe, 2016). As part of qualitative research, researchers need to actively acknowledge and reflect on their own values,

preconceptions, and interests throughout the process (Carter & Little, 2007). *Reflexivity* entails researchers' active and intentional awareness of their values, opinions, and experiences brought forward and their effect on the process and outcomes on research. Reflexivity is influenced by the extent to which the researcher is part of the research and shares the participant's experiences (Berger, 2015). This acknowledgment and self-monitoring is known as *bracketing*, and is intended to reduce the deleterious effects that the researcher's preconceptions can have on tainting the research process (Morrow, 2005; Tufford & Newman, 2012). Bracketing is an ongoing process in which a qualitative researcher recognizes personal perspectives and makes effort to prevent their personal meaning from being imposed on the data (Fischer, 2009; Tufford & Newman, 2010). The goals of bracketing are to continually check assumptions about a topic and compare emerging insights against former understandings and assumptions about the data (Fischer, 2009). Engaging in this process helps a researcher to recognize personal opinions and set them aside to view the data through a different perspective. Therefore, researchers need to actively acknowledge and reflect on what personal experiences and biases may influence the analysis process and outcomes of the study.

During the process of this research project, I acknowledge my position as a mother to a son recently diagnosed with ASD. From this recent experience, I have developed empathy and understanding towards parents and students with exceptional needs and recognize that additional supports are crucial to their success within an academic environment. I assume, from a parent's perspective, that children with exceptional needs require greater support in self-care, communication, social skills, and academics, which parents would advocate for and request assistance from the school to achieve. At the same time, I have also worked as a support worker for elementary students with diverse needs within a specialized classroom setting, and so I

recognize that teachers often have diverse duties they need to juggle to meet the needs of their students, which can interfere with providing those supports. As a result, my background can produce biases that teachers require better support and resources to teach their students but also that even with resources and strategies in place, there are occasions where students may not be fully supported to the extent they require. The steps taken to minimize the effect of this bias are discussed below.

During all stages of the research process, I engaged in reflexivity to be mindful of my experiences that can create any biases and ensure they are not impacting data collection or interpretation, especially when developing codes and themes. Strategies such as discrepant findings, where I am being aware of and identifying negative findings that are discrepant from my assumptions or expectations acted as a form of credibility (Bloomberg & Volpe, 2016). For instance, I assumed that teachers would require more material resources, but one teacher was very satisfied with the material resources she accessed. Therefore, it was important for me to be attuned to evidence from the data that contradicted my preconceptions. Other strategies included recruiting a second coder to review the data, and consulting with a colleague and my supervisor to review the themes emerged were utilized. Additionally, keeping self-reflective notes when reviewing the transcripts and highlighting impressions, reflections and thoughts throughout the transcript analysis as a way to engage in reflexive practice and manage potential biases. Throughout the data analysis, a second coder reviewed the data, and we discussed emergent themes and patterns, to offer alternative ways of looking at the data. This also included discussing with my research supervisor of the emergent themes and frequent check-ins.

Research Design

The research design is the plan for conducting the study (Bloomberg & Volpe, 2016). The methodological design to address the research questions of this study entails the use of a qualitative research approach. The qualitative research framework emerged as an outcome to research questions that could not be answered using quantitative methodologies and questions. This study was guided by qualitative methodology, designed as a research approach that seeks an understanding of a social setting or activity from the perspectives of the research participants (Bloomberg & Volpe, 2008; Creswell, 2012). Also, the current study examines words and phrases that participants used to describe their experiences and reality. Quantitative approaches would not provide this insight into the experiences of educators. Qualitative approaches allows for the analysis of themes to provide answers to research questions which was needed for this thesis research design. Therefore, the current study utilized a qualitative design to adequately capture the personal, situational and contextual nature of participants' perspectives, views, and experiences (Johnson & Christensen, 2014; Yin, 2011).

Qualitative component. Qualitative methodologies offer the ability to understand the personal experiences, perceptions, and meanings constructed by individuals (Bowen, 2008). Primarily, qualitative research draws on narratives and observations as its data to understand and interpret the meaning of data gathered in specific contexts and then uses that knowledge to contribute to more general understandings and applications (Braun & Clarke, 2013). The primary aim of qualitative research is to gain a better understanding of the phenomenon of interest through the experience of those who have direct experience, thus recognizing the value of participants' unique viewpoints that can only be fully understood within the context of their experience and worldview (Braun & Clarke, 2013). This is valuable as it provides, a deeper,

richer understanding of the meanings that people place on actions, events, and relationships to allow the researcher to build a complex picture in a natural setting. (Lichtman, 2012).

Qualitative approaches allow for the analysis of themes to provide answers to research questions which was needed for this thesis research design.

Focus groups. Focus groups were chosen over other types of qualitative data procedures because they permit accrual of considerable information in a short period of time (Onwuegbuzie et al., 2009). A *focus group* is defined as a discussion by research participants targeting a specific theme or idea and is an effective method for analyzing perceptions as well as gathering ideas and input from the participants (Bloomberg & Volpe, 2008; Krueger & Casey, 2009). In other words, focus groups can be viewed as performances in which the participants jointly produce dialogue about proposed topics in a socially organized situation (Rio-Roberts, 2011). An important characteristic of focus groups is that groups are the main unit of analysis, rather than individuals (Kreuger, 1994). This characteristic is beneficial as it allows for group interaction to answer the research questions, as the goal of focus groups is to create a candid dialogue among participants that addresses, in depth, a particular topic that is devised by the researcher (Krueger & Casey, 2009; Morgan, 1996). The assumption of a focus group is that there will be an environment that encourages a range of opinions and discussions that can lead to a clearer view of the issues and reveal other information that a research might not have uncovered in the literature review. Focus groups naturally lend themselves to attaining more insight into a topic as focus groups are composed of participants who are similar to each other in a way that is important to the researcher (Krueger & Casey, 2009). Focus groups allow insight into a topic when participants feel comfortable, respected and free to give their opinions

and bounce ideas off each other or expand on others' points and discussions (Krueger & Casey, 2009).

At the same time, participants should be selected based on characteristics they have in common related to the purpose of the study (Kreuger, 2000). Therefore, focus groups do not involve representative samples but instead teachers in each school were asked to participate because they have pertinent knowledge and share key characteristics with the population or research questions at hand due to the nature of the student population served in the schools. A major advantage of focus groups was that it allowed participants the opportunity to question and explain themselves to each other, providing further depth of data on both the consensus and diversity of perspectives among the participants for a richer dialogue (Morgan & Krueger, 1993). Therefore, determining any agreements and disagreements among participants is a benefit of focus groups that would not be achieved through conducting semi-structured interviews (Morgan & Krueger, 1993). As a result, focus groups appear to be the most effective method to address the present study's research questions.

There are disadvantages to conducting focus groups as well, such as potentially dominant and controlling viewpoints that can emerge, irrelevant discussions, participants' reluctance to share their thoughts with others present, the position of the facilitator of the focus groups in the organization, and participants' concerns about confidentiality are potential issues resulting from the nature of focus groups (Smithson, 2008; Soklaridis, 2009). Krueger (2007) suggest that facilitators use a variety of strategies such as asking good questions, using probing and pauses, and keeping the conversation going while balancing the opinions in the group. Focus group facilitators often struggle with the degree to which they should allow the participant group to stray away from the interview questions (Piercy, Franz, Donaldson, &

Richard, 2011). As a result, it is important for the facilitator to have a balance throughout the group discussions between the facilitator and the group participants to prevent participants from overtaking the discussion off topic in order to produce important insights (Grudens-Schuck et al., 2004). Smithson (2008) expands on this by suggesting that research interests are best met by having the facilitator achieve a balance between the interview protocol questions and a healthy discussion by participants. A difficulty that can arise when transcribing focus groups is knowing who is speaking and identifying their contribution to the discussion. Krueger (2007) suggested that researchers transcribe their own interviews to avoid the chance of incorrectly attributing statements and to ask participants to introduce themselves at the start of the interview. Both these suggestions were implemented for this study. Furthermore, the facilitators used probing and follow-up questions to keep the conversation moving forward while balancing the opinions in the group.

The researcher's primary role is to facilitate a small number of questions to produce responses from all participants in the group. Krueger and Casey (2009) noted that groups of seven to ten participants are an ideal size to ensure everyone feels comfortable sharing information and enough to provide a diversity of perspectives. They also suggested having multiple focus groups on the same topic to balance out the idiosyncrasies of individuals and to include enough people to provide information and perspective on what is being explored (Krueger & Casey, 2009). A similar group discussion conducted across several groups allows the researcher to identify trends and patterns in perceptions (Krueger & Casey, 2009). Furthermore, designing a specific set of interview questions for all focus groups helps identify group similarities and differences, to allow a form of structure along with some degree of flexibility (Knodel, 1993; Vaughan et al., 1996).

Although the focus groups provided a better understanding of the supports complex students are accessing and provided by teachers, the chart review of these complex students gave additional insight into their demographic profiles. Data from the charts of students enrolled at Renfrew Educational Services were analyzed to obtain information on students' age, gender, Alberta Education Code, and diagnoses. A staff member from Renfrew Educational Services compiled an anonymized dataset with the above variables for all students currently enrolled in the schools in which the focus groups were conducted.

Thematic analysis

Through appropriate consideration and consultation, Thematic Analysis (TA), as outlined by Braun and Clarke (2006) was chosen to analyze the current research purpose. TA is defined as “a method for identifying, analysing and reporting patterns (themes) within the data” (Braun & Clarke, 2006, p. 79). TA is an approach that is foundational for qualitative analysis (Clarke et al., 2010) and is useful when exploring the experiences of people (Braun & Clarke, 2006). TA can be used to gain a comprehensive understanding of participants' experiences and to identify themes and patterns in the data that reflect those experiences in a meaningful way (Yin, 2011). TA was deemed most suitable to address the current research questions as it facilitated the identification and analysis of supports which teachers are currently providing to students with complex needs and identifying associated barriers in an open and non-restrictive manner. This allows the researcher to create meaning out of written data and then translate this meaning to the present research context. Therefore, TA was deemed suitable to adequately address the current research questions.

Although focus groups are useful in studying issues when participants have experienced shared, concrete situations, no defined framework has been provided that encourages specific

types of qualitative analysis techniques that focus group researchers have at their disposal (Ahmed et al., 2017; Leech & Onwuegbuzie, 2008). There is an array of qualitative analysis techniques available to qualitative researchers, but TA is frequently used for analyzing focus group data and varies depending on the complexity of the data (Ahmed et al., 2017; Leech & Onwuegbuzie, 2008). TA is a method for identifying, analyzing, and reporting patterns within data, and a theme captures something important about the data in relation to the research question (Ahmed et al., 2017; Onwuegbuzie et al., 2009). As such, TA suits focus group and interview data when analyzing dialogues and can be used with different epistemological paradigms, but there is a need to make such epistemological and theoretical interests clear (Ahmed et al., 2017). Furthermore, focus group data can be analyzed through thematic analysis, especially when there are multiple focus groups within the same study. Because focus group data are analyzed one focus group at a time, researchers could use the multiple groups to assess if the codes that emerged from one group also emerged from other groups, which helps to refine themes (Leech & Onwuegbuzie, 2008; Onwuegbuzie et al., 2009).

Thematic Analysis Considerations. TA is not linked to any particular framework, so it can be applied when using a range of theories and epistemological approaches (Joffe, 2012). Braun and Clarke (2006) offered guidelines and steps for conducting TA for use as a framework to interpret qualitative data. TA allows for the use of inductive (data-driven) or deductive (theory-driven) approaches when examining data to identify, check, and modify codes in the data (Braun & Clarke 2006; Feraday & Muir-Cochrane, 2006). The themes are linked to the data through the inductive approach, which establishes clear links, categories, and associations between the research questions and findings (Braun & Clarke, 2006). The deductive approach involves data analysis of the themes being driven by the researcher's

theoretical framework and gives a more detailed description of some aspect of the data. In this case, the data was analyzed inductively as the research study is more exploratory in nature. Since the inductive approach was taken, the process of coding the data was done without trying to fit into a pre-existing theoretical framework or the researcher's theoretical interest.

Themes and patterns were generated based on the participants' accounts of their experiences supporting complex students within an academic environment, rather than confirming or refuting pre-established hypotheses and theoretical frameworks. It is important to acknowledge that the literature review carried out prior to the data analysis along with previous clinical knowledge likely influenced in the interpretation of the data. However, the coding was not driven by theory, and there was no effort to frame the data within pre-existing theoretical frameworks or themes (Braun & Clarke, 2013). To my knowledge, no known research has examined the demographic profiles of this population of complex students, which supports they are accessing, which ones they need, and the barriers on how best to support them in an academic environment. Therefore, the present study had no previous literature which could reliably inform any themes or categories in the dataset, and the open and flexible nature of focus groups allowed participants to provide detailed and varied responses that became this present study's dataset. As such, inductive thematic analysis was the best option for interpreting the study's data in a detailed and thorough manner.

Furthermore, in thematic analysis, the researcher examines the dataset to extract meaningful units of information, referred to as codes, and looking for patterns across the codes that fit into themes. The process of how codes fit into themes is based on the researcher's interpretation, and these themes help capture information relevant to the research questions (Braun & Clarke, 2009). The researcher indicates which level of analysis the themes will be

identified, either at the semantic or latent level (Braun & Clarke, 2006). Themes generated at the *semantic level* are considered surface level or at face value and do not look for interpretation beyond what the participant has said (Braun & Clarke, 2006). The semantic lens focuses on deriving themes from the explicit or surface meanings of the data (Braun & Clarke, 2006). On the other hand, *latent coding* goes beyond the semantic content and identifies underlying assumptions or inferences are made regarding what was meant by the participants' statement. In latent coding, researchers apply their own interpretation of the information that participants have communicated. The semantic approach to data analysis aligns well with our approach because individuals develop subjective meanings of their experience, and the goal of the research is to rely more on participants' views of the situations being studied.

Although the flexibility of TA is beneficial for the present study, undertaking TA should be done in a rigorously and methodically to ensure accurate results (Nowell, Norris, White & Moules, 2017). This is done through the step-by-step approach to conducting thematic analysis, which provides a detailed approach to analyzing the data (Braun & Clarke, 2006, Nowell et al., 2017). Based on the six-step guide by Braun and Clarke (2006), the current study used thematic analysis to examine the supports complex students are accessing, which ones they need, and how best to support them in an academic environment.

6 steps of thematic analysis:

Step 1: Familiarization with the data. The initial stage of the analysis was to become familiar with the data by actively reading each source of data in its entirety and then re-reading to understand the depth of the information (Braun & Clarke, 2006). Braun & Clarke (2006) consider transcribing interviews as a facet of data analysis that should be done by researchers because it helps researchers to familiarize themselves with the data. Initially, I actively read and

re-read each transcript of the focus groups to understand the depth of the information, familiarize myself with the data and to begin initial interpretive considerations, while making note of significant phrasing and recurring ideas expressed by the participants

Step 2: Generating initial codes. Next, each interview transcript was carefully read, and codes were generated with regard to the supports school staff utilized and required in supporting complex students in an academic environment. The codes were created using words that were commonly used in each individual statement or those that reflected the overt meaning of the quote. New codes were often developed in response to sections of data that did not fit into one of the initial codes.

Step 3: Searching for themes. The next phase involved the process of organizing codes and their excerpts from the transcripts into meaningful groups, themes and sub-themes. After data was initially coded and collated, this phase involved focusing on the broader themes that more fully described the research aims. Codes that fit together were separated and combined into potential themes. According to Braun and Clarke (2006), meaningful themes are not dependent on quantifiable measures but rather whether it captures something important in relation to the overall research questions.

Step 4: Reviewing themes. In this phase, the researcher began to critically evaluate the themes to determine if there was enough data to support them, if some themes could be collapsed, or whether themes needed to be broken down further into sub-themes, to answer the research aims. Each theme and subtheme was checked against the codes they contained and the sections of transcripts pertaining to those codes to ensure best fit. In this phase, the themes were also checked against their representativeness of the whole data set, (e.g., themes were not consistently answering only one question from the data set) and against their ability to answer

the research question (e.g., were the themes able to provide insight into the supports utilized for complex students and how they can be supported further).

Once all codes were identified and successfully sorted into themes, they were gathered in a codebook that consisted of a definition and example from the dataset. The second coder then used it as a guideline and examined and coded the entire dataset. The second coder provided an external perspective in determining how well the data fit within the developed themes.

Step 5: Defining and naming themes. The fifth step involves refining the themes, analyzing their related excerpts, and generating clear definitions for them. Themes and subthemes were defined regarding what they represented and how they related to the research question. In this step, each theme and subtheme are described in terms of their differential characteristics, outlining why each theme and subtheme was unique, and any similar qualities that they had with one another. A second coder was used to provide an additional outlook on the names of themes and subthemes.

Step 6. Producing report. In this step, the final analysis of the data was completed, including more detailed information on the themes and subthemes, and the report written based on that analysis.

Method

Focus groups were the chosen method of data collection for this study. Prior to starting the study and data collection, ethics approval was obtained by the University of Calgary Conjoint Faculties Research Ethics Board for the project and covered by ethics certificate number REB 17-0195. The procedural steps involved: 1) conducting focus groups with the participants recruited by Renfrew Educational Services at specified schools; 3) analyzing data

to determine emerging themes and patterns regarding the supports received by complex students; 4) analyzing the demographic profiles of the complex students at the specific schools the focus groups were conducted. These steps are outlined in the section below.

Research Setting or Context

The research setting consisted of five schools within Renfrew Educational Services in the province of Alberta that provides a specialized educational setting for students with a wide range of disabilities, including but not limited to ASD, Cerebral Palsy, Fetal Alcohol Spectrum Disorders (FASD), physical, cognitive and developmental delays. They offer both early childhood services (ECS) and elementary education programs. The schools serve a diverse population of students and their families with varied English proficiencies, cultural backgrounds, socio-economic status, and learning needs. Each school included a team of professional staff including teachers, child development facilitators, speech and language pathologists (SLP), occupational therapists (OT), psychologists, therapy assistants, and family support workers. School A consisted of an elementary school in the northeast quadrant of the city whereas School B was an elementary school situated in the southeast quadrant. School C, School D, and School E are early childhood services schools, serving of students aged six and under. School C and School D are located in the northwest quadrant while School E is within the northeast quadrant of the city.

Research Participants

The research sample for this study was made up of 22 individuals, working primarily as teachers, within the schools. Considering the primary aims of this study were to: 1) identify the supports this population is receiving within an academic environment and 2) understanding how teachers can support students with complex needs, a purposeful sampling strategy was

utilized for this inquiry. These aims sought to gain insight into the supports students with complex needs are receiving and understand how teachers can support these students along with any associated barriers. This study was funded by the Werklund School of Education, Research Collaboration Grant, and the lead principal investigator, Dr. Carly McMorris, was the primary person in contact with the schools, scheduling the focus groups with staff members. Within all schools, teachers interested in discussing the supports utilized for complex students and possible barriers were invited to participate in focus groups. Managers at participating schools were asked to forward an email from the research team with a Letter of Invitation (Appendix B) and the Informed Consent form to teachers in their schools (Appendix C). The focus groups were organized for the noon hour at participating schools, as the most suitable time for participants. Lunch was provided to acknowledge the effort in participating in the groups, along with a draw of the names of the participants entered to win 1 of 6 \$25 Visa gift cards.

The participant breakdown (Table 1) included twenty certified teachers and two uncertified teachers. All participants were female. The group consisted of teachers of varying background and experiences.

Table 1

Number of Participants on Demographics Variable

		Number
Gender	Male	0
	Female	22
Job title	Teachers	19
	Uncertified Teachers	3
Educational Background	Diploma	3
	Bachelors	15
	Masters	4
Training in Mental Health Needs	Limited	4
	Moderate	8
	Extensive	10

Years of Experience	Less than 5 years	4
	5-10 years	10
	10-15 years	4
	15-20 years	3
	20+ years	1

Data Collection for Qualitative Component

The main form of data collection for this study was audio-recorded, transcribed focus groups with teachers from each of the schools. A brief demographics questionnaire was provided prior to the focus group discussion that included questions related to self-identified gender, type of education, job title, years of experience, and specific training related to child development and mental health (Appendix E).

The same open-ended interview questions were used for all five focus groups (Appendix D). Focus group size ranged for two to eleven participants. The manner in which the research questions were structured allowed them to be addressed in an open dialogue from the participants' professional experiences and their perceptions of the barriers and supports and resources accessed. Discussions followed a focus group protocol, and participants were provided with guiding questions at the beginning of the focus group discussion to follow along and allow for reflection and time to collect relevant information to be shared. My supervisor, Dr. Gabrielle Wilcox, and the lead principal investigator, Dr. Carly McMorris, co-facilitated the initial two focus groups after which I facilitated them independently. Once informed consent was obtained, focus group discussions lasted approximately 60 minutes each. The focus group discussions were audio-recorded with consent of participants for later transcription. Upon the conclusion of each focus group, participants were also asked to complete a brief demographics questionnaire with questions on gender, level and type of education, job title,

years of experience, and training related to child development and mental health, in order to gain a better idea of the participant sample (Appendix E).

Data Recording, Transcription, and Storage. The focus groups were audio-recorded and transcribed verbatim by the researcher. In the transcription process, the participants were assigned a Participant ID to represent their comments and to protect their anonymity and confidentiality. Any identifying information such as city, school and people's names were removed from the transcriptions as much as possible. All electronic data (including transcriptions) were stored on encrypted devices (researcher's personal computer) and password protected. Following this, voice files from the digital recording device were deleted.

Information of students enrolled at Renfrew Educational Services such as age, gender, Alberta Education Code, the specific program they were enrolled in and diagnoses were collected for the demographics component. A staff member from Renfrew Educational Services compiled an anonymized dataset with the above variables for all students currently enrolled at Renfrew Educational Services.

Data Analysis

For the demographic information of students, the anonymized dataset gathered from a staff member at Renfrew Educational Services was used to gather information about the students enrolled within the specialized academic setting. For the purposes of this study and aligning with the definition of complex students (those who have a neurodevelopmental disorder or medical disorder, as well as an associated comorbid disorder) only students who had more than one diagnosis was selected for looking at the profiles of students with complex needs. The information gathered for the demographic profiles includes the mean age of the

students, the frequency of male and female students, the number of diagnoses each student has, and the most frequent educational codes that has been assigned to these students.

Once all focus group transcripts were transcribed and read for accuracy, they were then analyzed using TA. For the analysis and generation of themes and categories, NVivo 12 was utilized as a computer-based analysis tool that is used frequently in the literature for use with TA (Silver & Lewins, 2014). Initially, I actively read and re-read each transcript of the focus groups to understand the depth of the information and to familiarize myself with the data and began to form initial interpretive considerations, while making note of significant phrasing and recurring ideas expressed by the participants. At first, codes were generated as they related to the research questions of the study questions while being open to other information that could be helpful to understand the phenomenon (Hays & Singh, 2012); as more codes were generated, and using the functionality of NVivo 12, some were merged or renamed. The process of coding was an integral part in the analysis as the researcher organized the data into meaningful categories. This process involved an open coding approach whereby each line of the data was closely examined “giving full and equal attention to each item” (Braun & Clark, 2006; p. 86) to generate codes.

After data were initially coded and collated, the next phase involved focusing on the broader themes that more fully described the phenomenon. There is no hard and fast rule for determining what constitutes a theme. Themes are not necessarily based on the frequency at which a theme occurs. Therefore, whether something is insightful or important for answering the research question is not necessarily determined by whether large numbers of people said it. Instead, a researcher’s judgment is key in determining which themes are considered crucial. Nevertheless, themes generally represent recurring patterns of response derived from the data

that is related to the research question. Once initial themes were determined, they were reviewed and refined. Codes that did not fit within a theme upon review were re-assessed and either assigned to a more appropriate theme or became an entirely distinct theme. Throughout this analysis, the researcher initially wrote separate notes in the columns to capture reflections and tentative themes. While analyzing the codes and focusing on the broader themes, the researcher engaged in reflexive practice of keeping self-reflective notes when reviewing the transcripts and highlighting impressions and thoughts as a way to engage and make note of possible emerging themes. This also consisted of identifying findings that were discrepant with my assumptions as a form of credibility (e.g., I came across a teacher who shared she had a wide variety of resources available for her students and felt well supported in the classroom). The second coder was also a School and Applied Child Psychology Masters student with a similar educational background. Using the code book as a guideline, a second coder examined and coded the dataset. Afterwards, both I and the second coder compared the codes we had assigned separately. Miles and Huberman (1994) recommended that an inter-rater reliability (IRR) of at least 80% agreement between coders on at least 95% is considered acceptable and sufficient. The first and second coder had over 83% agreement on over 97% of the data. We compared the codes generated from the data and refined the themes. Any examples of codes and data that did not conform to the emergent themes were noted and any discrepancies between raters were discussed and a resolution was agreed upon before proceeding. Coders shared their rationale for the themes and sub-themes generated as well as excerpts that embodied those themes. Each section of the finalized transcripts was carefully analyzed and discussed to ensure that the assigned code and theme best represented that portion of the data.

Following this, the names for the themes were selected based on how well they captured the theme's content. After initial names and definitions were created, the second coder was consulted to determine the level of applicability. Together, it was decided which names and definitions were successful in capturing the essence of the data set, and which required refinement. Refinements were discussed together until agreement was reached on how best to name or describe the theme. The results of the thematic analysis including more detailed information on the themes and subthemes, are report in chapter four.

Chapter 4: Results

This chapter reviews the results of the present study. The purpose of the present study was to better understand the kind of supports that early education and elementary teachers of students with complex needs access to aid their students' needs in a school environment. By better understanding how teachers access supports and potential barriers teachers face in supporting students, we will have more knowledge which can be used to mitigate potential challenges teachers experience, improve teacher well-being, and prioritize resources teachers need to effectively assist students with complex needs in an academic environment. This chapter presents the key findings obtained from the demographic data of the profiles of the students and the qualitative data obtained from the five focus groups, with the presentation of the themes and sub-themes that emerged from these focus groups.

Demographic Results

The anonymized dataset gathered by Renfrew Educational Services was used to generate demographic information about the students enrolled within the specialized academic setting. This included the mean age of the students, the frequency of male versus female students, the number of diagnoses, and the most frequent educational codes assigned to this population of students. There was a total of 397 students attending Renfrew in the compiled dataset. Only students who had more than one diagnosis were selected for the demographic information, which led to 53 students in total and consisted of 17 female students and 36 male students. The students were preschool and primarily elementary-aged students, with an age range of 4 to 11 years old and led to a mean age of $M = 7.6$ years.

Table 3

Demographics of Students with Complex Needs

Educational Code	Initially Listed Diagnoses	Enrolled Programs at Renfrew Educational Services
Code 44: 46 students Code 43: 7 students	ASD: 21 Medical: 19 Cerebral Palsy: 13	Kindergarten (KSN): 3 students Kindergarten/ISMD (Integrated Services for Children with Motor Disabilities): 5 Junior Kindergarten (JKSN): 7 students Junior Kindergarten/ISMD (Integrated Services for Children with Motor Disabilities): 3 students Elementary Education Program (EEP): 35 students

Educational Code. The most common educational code was 44, Severe Physical or Medical Disability, which was attached to 46 students in the dataset. Code 44 are given to students in early childhood services up to grade 12, who have a severe physical, medical or neurological disability. This includes those with ASD, CP, FASD, a medical condition, or specific neurological disorder that severely impacts a student's ability to function and learn in an educational environment. Seven students were given the educational code 43, Severe Multiple Disabilities, which includes students who have severe multiple disabilities, of two or more non-associated moderate to severe cognitive and physical disabilities which impact a student's functioning at a profound level. This also includes students diagnosed with Down Syndrome who require extensive support in the classroom. In this dataset, this included students with Down Syndrome, those with brain malformations such as microcephaly, and students who had

severe cortical visual impairment along with other severe multiple disabilities such as microcephaly, CP, and epilepsy, which all impacted both their cognitive and physical abilities.

Diagnoses. While the total dataset had 397 students, only 53 students were selected that were classified as students with complex needs. Out of these 53 students, 38 students had 2 diagnoses, 11 students had 3 diagnoses, and 4 students had 4 diagnoses. The most common diagnosis listed first was ASD (21 students); comorbid disorders included ID (16 students), ADHD (three students), Generalized Anxiety Disorder (GAD; two students), Developmental Coordination Disorder (DCD; one student), and selective mutism (one student). Nineteen students had an initial medical or genetic disorder such as Down Syndrome, abnormal brain malformations, and rare genetic syndromes (e.g., Kleeftstra Syndrome or 15q13.3 microdeletion) along with a second associated disorder of ID (twelve students), ASD (four students), or a secondary medical disorder (three students). CP was the first listed diagnosis for 13 students, along with a comorbid disorder of both epilepsy and visual impairments (five students) or ID (13 students).

It is important to highlight that although ID was diagnosed in quite a few elementary students, the severity of the ID was not always specified. As mentioned in the literature review, the severity of the ID can greatly impact the functioning of the students in the classroom, and the level of support they may require. Likewise, the severity of the ASD was also not identified as part of the diagnosis.

Different Educational programs. A variety of programs are available at Renfrew Educational Services to help support the diverse needs of their students. When looking at the profiles of students with complex needs, the largest number of students are enrolled in the Elementary Education Program (EEP). This program provides modified elementary education

to students within a safe environment, and teachers modify their programs to meet the needs of each child. The Junior Kindergarten (JKSN) and Kindergarten (KSN) programs form the early childhood services and also receive PUF funding. A focus is on learning through play and the curriculum set out by Alberta Education is also modified to meet the special needs of the students. Some of the students enrolled in JKSN and KSN are also part of the Integrated Services for Children with Motor Disabilities (ISMD), which is a program offered for students diagnosed with motor disorders, such as CP, with a multi-disciplinary team targeting the severe motor challenges. Although a large number of students at Renfrew are enrolled in the early childhood services programs, only a few of them were recognized as students with complex needs because many of them have not yet received a comorbid diagnosis.

Qualitative Results

This section presents the results of the thematic analysis of the focus group data. Only summaries are provided with no quotes because of limitations related to informed consent. It describes the themes that emerged pertaining to the supports students with complex needs are receiving and possible barriers to these supports. Five themes emerged from the data. Each theme will be described in terms of what it represents, how each is unique from the others, and how they answer the purpose of this study. The five themes and its subthemes are depicted in Table 2.

Table 2:

Overview of Themes and Sub-Themes Developed Through Thematic Analysis of Focus Groups

Theme	Subthemes	Description
1: Utilization of Current Supports and Resources for Students	1.1: Therapists 1.2: Family Programs	Supports and resources utilized by teachers to assist students with complex needs in the classroom, within their

	1.3: Specialized equipment, areas, and material resources	families, and in the community through the use of tools, programs, and professionals.
	1.4: Community Services	
2: Utilization of Resources for Teachers	2.1: Professional Development	This theme focuses specifically on supports for teachers within schools in each of the subthemes. Specific resources available for teachers to expand their knowledge and skillset and create a positive support network between colleagues at school.
	2.2: Supportive Staff Relationships	
3: Barriers to Supporting Students	3.1: Classroom Size	Barriers and challenges that make it hard to support students in the academic environment.
	3.2: Wide range of Needs	
	3.3: Communication with Families	
	3.4: Available Staffing	
	3.5: Funding and Wait Times	
	3.6: Available Time	
4: Well-being of teachers	4.1: Wellness for Teachers	Focuses on teachers' wellness options offered to teachers and self-care outside the school, along with managing a work-life balance.
	4.2: Unequal Work-Life Balance	
	4.2: Inadequate Self-Care	
5. Recommendations for Better Supporting Students	5.1: Communication between staff	Recommendations given by teachers for better supporting their students with complex needs.
	5.2: Better compensation	
	5.3: Increased manpower	

5.4: Awareness of early intervention

Theme One: Utilization of Current Supports and Resources for Students

The first theme refers to the current supports and resources regularly used in the academic environment by teachers to support students with complex needs in their classroom. This was one of the most prevalent themes represented across the focus group data and relates to the research purpose of determining what supports are available to students with complex needs in an academic environment. This theme is made of up of the various subthemes that described each of the supports being received in the subthemes. These subthemes were appropriate to explain the different supports and resources that emerged in the classroom for teachers. Separate themes were not created because of the similarity and links between the dialogue making up each of the subthemes, as resources utilized to assist their students in the classroom.

Sub-theme 1.1: Therapists. Each of the focus groups mentioned the utilization of therapists in the classroom with therapists either being physically present in the classroom to help implement strategies and offer support, or through providing consultation through team planning meetings on a regular basis. A multi-disciplinary team was mentioned in each focus group that were needed for consultation such as occupational therapists, physical therapists, physiotherapists, assistive technology team, speech and language pathologists, psychologists, family support worker, and early learning specialists. Both in focus group #4 (FG#4) and focus group #2 (FG#2), it was mentioned that team planning meetings occur on a regular basis with the teachers and therapists, discussing immediate concerns, strengths, challenges, strategies that are working and need modifications of strategies required, and IPP goals. Other teachers

mentioned that therapists support them in implementing different pieces of equipment and devices in the classroom. For example, occupational therapist (OT) or physiotherapist for mobility or the IT team on different devices and software to be used with the students.

Alongside ongoing consultation for child development facilitators (CDFs) and teachers, therapists are also involved in teaching on the correct use of equipment and devices in the classroom and how to implement them accordingly to address the needs of specific students. Furthermore, therapists are also present in the classroom to coach teachers further on additional strategies. It was discussed within the focus groups that both the SLP and OT will come into the classrooms weekly to run classroom centers based on the weekly theme and to coach the teachers and CDFs on strategies to be used with each child to work on certain goals.

Furthermore, a family support worker, also referred to as a home visit coordinator, is an additional support utilized to maintain a connection with students' families to provide feedback and coaching to parents as needed, to help with consistency and the carryover of knowledge and strategies in the home environment as well, by modeling strategies used with their child, and to give parents an opportunity to ask questions.

As indicated in the focus group discussions, the use of a multi-disciplinary team is a significant support system available for teachers in discussing the developmental and behavioural needs of their students within an academic environment. The extension of support to the family system also allows for consistency in strategies between both environments to help students strive further.

Sub-theme 1.2: Family Programs. Although a family support worker was mentioned as part of the multidisciplinary team available for teachers, an additional subtheme was created discussing family programs and resources as a focus on connecting with families to better assist

them in addressing the needs of their child was highlighted in the discussion of focus groups. One example of how families are supported is through the family support worker who helps parents develop a network with other families of children with similar needs through organizing coffee and chat groups and connections to relevant community resources. In terms of financial resources, the family support worker also helps with bursaries and supporting families with grocery gift cards when needed.

Often during times of transitions, such as switching schools, the family support team is available to help parents walk through the process and explore options available at different school boards and private schools, including transitioning kids in grade six out of Renfrew.

The need for programs to offer specialized home programming, funded through FSCD, is another resource available to eligible parents as it allows for a common approach between home and school, since the same therapists working with a student at school are also the same ones that provide services in the home environment. Certain programs that bring therapy into the home included a specialized autism services program and a program for fetal alcohol syndrome. These programs also extend to a respite relief programs for parents on the weekend and seminars available throughout the year for parents on unique topics such as toileting and feeding.

Moreover, family resources are also available to help overcome barriers that might impact the parents' mental health and point them in the direction needed to obtain help, as it was discussed within the groups that parents often have a hard time coming to terms with their child's diagnosis. Also, families coming from diverse backgrounds with English not being their first language, support is available for families to help overcome this barrier, through the use of interpreters.

Finally, teachers having ongoing communication with parents through meetings, newsletters, sending pictures to parents of their children in the classroom, and frequent emails, is another key aspect brought up during the focus group discussions, to keep parents updated on their child's progress. Teachers shared they send a newsletter home at least once a week and frequently communicate back and forth with parents to provide updates on each child. These resources help families expand their knowledge and skillset, as well as overcome barriers such as language or some financial limitations. Resources and services are suggested to guide families and equip them to support their children better.

Sub-theme 1.3: Specialized equipment, areas, and material resources. Throughout each of the focus groups' discussion, teachers noted a diverse range of material resources, particular devices and programs, and specialized areas within the schools that were available to support them in addressing the needs of their students in areas such as speech, gross motor, fine motor, and emotional and behavioral regulation. Teachers also reported the use specialized equipment such as sensory rooms and areas to help their students regulate and a fitness room with treadmills and variety of equipment for children with motor challenges, that are frequently used by OTs and physiotherapists.

In addition to specialized areas within the school, there are also programs to aid with speech and language for those students with minimal language and specialized chairs and equipment to help those with gross and fine motor delays. Teachers shared that iPads, GoTalks, eye gaze communication system and the PECS (picture exchange communication systems) are available for students with minimal language. It was discussed that access to programs available for teachers, such as Boardmaker, are especially useful in creating visuals to help teach students self-care skills, that are not always academic related, such as dressing and

toileting. Beyond language, certain switches and buttons for child with fine motor and gross motor difficulties to activate electric devices are also other resources teachers mentioned were in use for the classroom.

In addition, material resources that are available to staff by the school such as a variety of educational toys, games, puzzles, and fidget and sensory toys were another common resource implemented by teachers in the classroom. Teachers shared that they relied heavily on the use of visuals made for individual students based on their needs, for transitions, and classroom activity schedules,

Throughout these focus group discussions and the development of this subtheme, the diversity of specialized devices, sensory areas, and material resource available for teachers became more apparent. A variety of programs were also utilized by teachers that have not all been highlighted in the information listed above, such as eye gaze communication systems. Considering the different developmental, behavioural, speech, and motor needs of students present in the classroom, these wide range of supports are essential to enhance the programming provided to students.

Sub-theme 1.4 Community Services. Beyond the services available within the school environment, an array of options is used within the community that involved visitors coming into the classroom to provide the service. The community services mentioned consisted of specialists such as music therapists and vision and mobility specialists who provided consultation for checking specialized equipment and also consultation for supporting students' direct needs. These specific examples were the only ones shared within the focus group discussions.

In general, a wide range of supports are needed to help students with complex needs succeed in the classroom environment. These supports also extend to the family environment to increase consistency, offer respite, and help overcome barriers. Through the focus groups discussions, teachers frequently reported use of programs to create visuals (e.g., BoardMaker) for their students to support teaching academic skills as well as life skills to increase independence. Teachers also reported helping students regulate their emotions, through the use of sensory rooms, visuals, and movement breaks, and also requested community services to come to their classrooms, such as music and dance therapy, or the local library. Furthermore, teachers also mentioned utilizing the multi-disciplinary team to help their students thrive in the classroom. However, resources available are not limited to supporting students but are also accessible to teachers for their own well-being, as detailed in the next section.

Theme Two: Utilization of Resources for Teachers

Theme Two focused on the participants' perceptions of the different resources available to expand their knowledge and skillset and create a positive support network between colleagues at school. The distinctiveness of Theme Two is its focus on supports for teachers and staff members to better support their students in the classroom. Overall, a similar response was found amongst participants across the focus group discussions for Theme Two.

Sub-theme 2.1: Professional Development. The first subtheme pertains to the different types of avenues available for professional development, such as conferences, workshops, and training communicated to staff members. Teachers mentioned that there's a lot of in-services trainings that occur during lunchtime that teachers attend to learn new skills and help them feel more confident in the classroom when meeting their students' needs.

The teachers discussed that although these opportunities for professional development are communicated to staff on an ongoing basis, if there is a certain conference or training teachers seek out on their own that they would like to attend, this is also an option. The use of professional development was highlighted as a resource frequently used by teachers and other staff members in each of the focus group discussions, because of its benefit in increasing their knowledge and skillset to feel better equipped in the classroom.

Sub-theme 2.2: Supportive Staff Relationships. Secondly, throughout each of the focus groups, the positive atmosphere present in each of the schools with staff members feeling connected and relying on each other to form a supportive and understanding network, either to vent or being offered an extra pair of hands, from the therapy teams and even the admins, was continuously highlighted.

In addition to the hands-on support available by staff members, many of the teachers felt very fortunate that their co-workers were open to brainstorming ideas, allowing observations and sharing ideas for any challenges that may be present. Participants in the different focus groups described that peer mentoring was done by most teachers where they would travel to another site or another classroom to observe and complete a checklist that offers feedback and takeaways, or things learned. Teachers find this useful to share ideas and consider things they might want to change or implement in their own classroom as they have children with similar needs.

Overall, beyond the resources available to assist students, specific supports were also highlighted as being available for teachers to support them in their well-being, relying on a positive staff network, and having opportunities to expand their skills in order to feel better equipped in working with students with complex needs in the classroom. At the same time,

there are certain barriers to supporting students that have been brought up through the focus groups and are discussed further as part of Theme Three.

Theme Three: Barriers to Supporting Students

Theme Three notes the participants' perceptions on common barriers that make it difficult to fully support students in the classroom. The barriers mentioned throughout the focus groups related to classroom size, community services, diverse needs of students, family, funding, staffing and time.

Sub-theme 3.1: Classroom size. The first subtheme for barriers in supporting students is related to classroom size. The one focus group that did not bring up classroom size as a possible barrier was a smaller Renfrew location that consisted only of PUF students (preschool and kindergarten students). In four of the focus groups, educators noted that having smaller class sizes, in terms of fewer number of students in the classroom, would make a big difference in the time and support provided to students. Teachers shared that more time and support is available with smaller classes, especially, because a small number of students require direct one-on-one support which cannot always be provided due to the class size. Other participants also mentioned that on days when fewer children are present, there is more time available to focus on each student, providing students with better language opportunities compared to days when more students are present.

In the focus group discussion, the classroom size not only pertained to the number of students present in the classroom, but also in terms of physical space. In particular, it also relates to the ability to easily use devices and equipment related to mobility, such as wheelchairs or standing frames in the classroom, which is difficult with more students and a lack of space.

Sub-theme 3.2: Wide Range of Needs. The second subtheme relates to the diverse needs of students present in the classroom. Often, these students require one-on-one support. Teachers mentioned that the number of higher needs students have increased over the years and certain students require larger amounts of supports in certain areas than others. Many of the participants mentioned they only have students with severe codes in the classroom that require one-to-one support on many tasks throughout the day but are not funded for one-to-one and often do not have the manpower to provide that level of support either.

Furthermore, although the number of students with a wide range of higher needs have increased, the way to better identify those that require more support has not. It was mentioned that although PUF funding is similar for all children, one child may need much more support than another child, but there is not a system to identify a general level of support required for students based on where they are developmentally.

Additionally, because most of these students need support to keep regulated, programming and other students in the classroom, are impacted as a result of this outcome. It was shared that at times, programming suffers because a child is underregulated and showing aggressive behavioural concerns which impacts other students in the classroom, leading to planned programming being pushed aside as teachers struggle to manage these behaviour problems. Teachers in four of the focus groups said they also have severe medical needs in the classroom, with students having seizures on a frequent basis and it becomes difficult to keep other kids on-task when incidents like these occur.

In other focus groups, the topic of programming and finding an environment that is developmentally appropriate for all children was seen as an area of difficulty. Teachers in all focus groups pointed out although there are different resources and activities available, it is

difficult to create a classroom environment that is entirely developmentally appropriate for every single child because they are all at different levels. Teachers highlighted that some of their students with complex needs have a wide range of goals that focus not only on academics or language, but also self-care skills, and are often taught these adaptive functioning skills by staff members. However, because not all students require this level of support in self-care skills, it impacts those who present as being more independent. These skills include being taught to sit at a table to eat and certain kids require a two-person bathroom change, which mean fewer staff supporting the larger group because one child needs a higher level of support.

The comprehensive range of needs present amongst the students has shown up throughout the different focus group discussions. The diverse needs have an impact on efficient programming and maintaining a developmentally appropriate classroom environment for all which impacts the type of supports and teaching all students are receiving.

Sub-theme 3.3: Communication with Families. Communication with families, providing families with resources and seminars, and assisting those who may have language barriers was mentioned as a support system used to assist students. However, challenges working with families were also brought up that impact how well these supports are provided to families. One such challenge that was emphasized was parents placing high expectations on teachers and the school that they will “fix” their children, which becomes challenging for all individuals involved. Teachers shared that since a lot of the younger students attending have just been diagnosed, parents are often going through phases of grief, anger, and confusion and place unrealistic expectations on teachers to help overcome their complex needs.

Another aspect of some challenges involved includes open communication that consists of not only overcoming language barriers, but not all parents are responsive. Teachers

discussed that with language barriers, it does impact understanding with communication methods like emails and newsletters. Other parents are less involved and not always available for meeting or responsive to emails means of communication.

At the same time, while some parents are not very involved in communication with their child's teacher, other parents can also have difficulty understanding the teachers' perspective or pursuing with recommended assessments suggested to better understand and assist the student. It was discussed in four of the focus groups that families are contacted when their child has a language delay or global developmental delay (GDD) but further assessments are recommended by teachers and the therapy team as other delays or diagnoses, such as ASD, are suspected as well. However, parents have refused to do further assessments as they believe only a deficit in language is the main cause, thus impacting additional supports the child could avail. Participants also said that another challenge is when parents become upset and have a hard time understanding and accepting the challenges their child experiences in the classroom and often putting the blame on the teacher when these difficulties occur, suggesting they are not doing things right.

Many of the students are still in early education and are preschool age, so although most students began their school with a severe language delay, they later on receive another primary diagnosis such as ASD or ADHD along with the language delay or GDD. Some parents are not open for further assessments as participants shared that this is often a result of parents not fully understanding the diagnosis, even if they do understand English, and being at different stages in understanding and fully accepting the diagnosis, and its long-term prognosis.

Sub-theme 3.4: Available Staffing. Another common area pinpointed during the focus groups related to barriers to supporting their students with complex needs was the limited

number of staffing available. Due to the varying and high needs of students in the classroom, a limitation of staff members can make it more demanding to manage it safely. Participants emphasized that especially in cases when a student escalates and is in a behavioural crisis, more than two people are required to restrain and take the student to a safe spot, leaving the other kids in the classroom without proper supervision.

When staff is limited, teachers often rely on staff members from different classrooms, but it is considered stressful when this happens, since it is a matter of shuffling staff around and pulling others into the classroom when some students need to be taken out of the classroom for safety reasons or require a two-person bathroom change. Considering the limited number of staff members available, this often impacts the programming or activities planned for the classroom, as well as individual programming, such as not placing a student in a standing frame because the classroom is short-staffed.

The limited number of staff not only impacts programming and how efficiently students are supported but also the ability to make community outings, due to safety concerns without sufficient staff members. Participants in two of the focus groups shared that a lot of the field trips previously done are no longer appropriate because of the higher needs of the students attending and the level of support required to take them out into the community is not available, especially with the older kids who require more one-on-one staff support in the community.

It was highlighted during the discussions that since it is a private and specialized school, there is often no substitute teacher list available when needed if more than one staff members is sick. Participants mentioned that classroom staff levels are a barrier and would benefit immensely from more educational assistants and manpower; however, although increased staffing is highly needed in the classroom, it is often the first impacted during funding cuts.

Finally, increased turnover was also brought up because of the demands that can arise in the position of teaching students with complex needs. Teachers share that a lot of time is devoted to training and preparing new staff and once they start the role, they find it overwhelming and decide it is not for them. This often makes it difficult for students to build rapport and start to become comfortable with staff members and for staff to understand their needs and strengths, only for them to leave their position and someone new takes up the role.

Limitations in the number of staffing available has an impact on how well students are supported within and outside of the classroom. Based on the perspective of participants, the limited number of available staff can make it stressful for teachers to safely manage the classroom, affect both classroom programming and direct support available for students, and community outings. Sometimes, the busy roles of staff members can lead to increase employee turnover and impact the time for students to develop good rapport with the new staff members.

Sub-theme 3.5: Funding and wait times. Another barrier to efficiently supporting students is reduced access to funding and wait times. This was discussed mainly in two of the focus groups, and it was specifically those groups that consisted of both preschool and elementary students at the school site. Teachers discussed that a lot more support was available for preschool and kindergarten as they have the family-oriented program (FOPs) and the specialized autism services program, with a lot more support from therapists whereas the elementary level has minimal therapist time, because of decreased funding at the elementary level. This not only includes funding but also long wait times to access suitable devices or equipment for students, which can act as a barrier to assist students fully. It was mentioned that although the assistive technology team is resourceful, it still takes a long time to get the appropriate numbered wheelchair for a student and several of them with complex needs have

been on a wait list for some sort of augmentative communication device. Visuals and sign language are not producing sufficient results which is discouraging for teachers as they wait for communication devices for students.

Overall, the drop in funding in elementary school for students with complex needs requires teachers to do a full documentation of a child's needs, even if a student has severe needs, this needs to be proven to Alberta Education, and then they are only partially funded to attend. This has been a limitation in terms of the number of hours and supports received by professionals, compared to the preschool level. This not only consists of funding but increased wait times for communication devices and equipment to support students' physical and language deficits.

Sub-theme 3.6: Available Time. There is a lack of time available to prepare resources such as visuals for students, communicate with parents, and complete required documentation and so most prep time is done outside work hours, leading to an unequal work-life balance. Teachers shared that if they functioned the same way as the public-school board where they have every Friday afternoon for tasks like prepping for the coming week, meetings, communication with parents, and completing documentation, they would be functioning more smoother with a lot less stress. All the focus groups recognized time as a barrier to supporting their students as they are already short-staffed and often need to help their students transitions and on top of their normal job duties, teachers are also required to complete additional responsibilities such as cleaning the classrooms, documentation for IPP goals, communicating with parents, meetings or lunch coverage, which further adds on to the time spent working in the classroom. Participants also discussed that since their time is so stretched thin throughout the day, just having time to create materials, additional training, train staff, team meetings and

conferences with parents and daily communication leads to a stressful work experience and an unequal work-life balance.

Overall, additional job responsibilities and lack of prep time available during the school hours has brought forward the unequal work-life balance teachers are managing. The following theme dives further into the teachers' perspectives on the difficulty maintaining a balance outside school hours and their own personal health and wellness.

Theme Four: Well-Being of Teachers

Theme Four goes further into wellness activities available for teachers offered by the school is initially discussed followed by the discussions with the participants regarding their wellness and self-care outside school, along with managing a work-life balance.

Sub-theme 4.1: Wellness for Teachers. The first subtheme refers to the availability of options for promoting staff wellness and self-care, through wellness activities planned during school hours, but staff are still responsible for creating their own work-life balance outside school hours. Renfrew encourages wellness activities during the lunch hour such as potlucks, exercise groups like yoga, and a wellness day. Beyond wellness activities available during hours, staff members also have health benefits that can be utilized on a more personal basis, such as personal counseling from the family support worker,

Sub-theme 4.2: Unequal Work-Life Balance. Due to the increased responsibilities on top of their role as a teacher (e.g., increased documentation, preparing resources, providing appropriate programming), and the minimal prep time available during school hours, many teachers highlighted their lack of a proper work-life balance. Teachers worked at home in the evenings or weekends or took a sick or personal day when deadlines needed to be met, to prep and plan resources, complete IPPs, and documentation to get the tasks completed.

Sub-theme 4.3: Inadequate Self-Care. During the focus groups, teachers shared how they often feel guilty if they do not complete a task or if they do not spend extra time after work as it helps their classrooms run more smoothly. Teachers shared that they often push through a rough day in order to be more supportive for their students, even if it causes them mental stress. Teachers shared that although they might be experiencing stressors in their personal life, they push themselves to the side to be happy and supportive to the kids, especially since there is no substitute list to cover their position if away.

Three of the teachers who identified themselves as veteran employees at Renfrew shared how they are diligent to ensure self-care as part of their work-life balance and avoid burnout. They mentioned how mindful they needed to be to ensure a balancing lifestyle, which was a real challenge when they first started. Veteran teachers shared that they needed a conscious effort to not feel guilty about not working in the evenings or weekends because they were experiencing burnout if they did not take this approach. Other teachers who were not as experienced mentioned they noticed their colleagues investing time outside typical work hours to complete tasks, and they started to do the same.

Quite a few teachers are aware of the services available through Renfrew, which were discussed in subtheme 4.1 such as a family support worker for counselling and wellness activities such as exercise groups or potlucks over the lunch hour. However, it is up to teachers to create a balance outside of school hours; teachers noted that it is a struggle to make adequate time for self-care.

Theme Five: Recommendations for Better Supporting Students

Theme Five captures educator recommendations for better supporting students with complex needs. These recommendations varied and revolved around increased communication

between staff, more manpower in the classrooms, increased prep time, better compensation, better coding for PUF students, and more increased awareness for the services available at Renfrew. Most of these recommendations' teachers shared are compiled together to form a separate theme and some were also addressing the barriers brought up in Theme 3.

Sub-theme 5.1: Communication between staff. During the focus groups, teachers discussed the need for increased and more frequent communication between staff members, therapists, and teachers to discuss new behaviours when they emerge in order be more up-to-date regarding any changes in their students. Teachers shared that lots of communication between staff and constant debriefing and strategizing awhile help them better manage new behaviours and relay advice to parents.

Sub-theme 5.2: Better compensation. Another recommendation brought up by some participants revolved around the high stress and increased responsibility staff members experienced in their position. They also noted that there is inadequate compensation related to their duties. Participants in four of the focus groups shared that the job is very stressful, and they are not compensated to the level of stress and responsibility, with staff leaving throughout the year because they are not paid enough for the high demand and stress of the job.

Sub-theme 5.3: Increased manpower. Quite a few discussions for recommendations revolved around ways to include more staff members or small class sizes to better support students with complex needs. This allows teachers to have some extra prep time and a better ratio of adults to students, especially for those who require the extra level of support. It was put forward that a system to determine those students who require the increased support would allow for extra staff members within those particular classrooms.

Sub-theme 5.4: Awareness of early intervention. Another recommendation revolved around increased awareness of the services available at Renfrew. Teachers shared that students who began Renfrew at a later age have more difficulty adjusting to the classroom and responding quickly to the therapy services provided. The earlier children start to access services, the more support they will receive early on for a longer period of time and the more responsive they are to the interventions. Teachers shared that parents have mentioned that their child was not babbling or saying any words at two years old but they were not aware of the services out there until a later age.

Summary

The results consisted of the demographics information of the students enrolled within a specialized academic setting. Each of the students in the dataset had comorbid disorders along with the primary disorder. A large number of students with complex needs were part of the elementary education program, with a smaller portion enrolled in early childhood services in junior kindergarten or kindergarten. The most common diagnosis was ASD and associated comorbid disorders, followed by medical disorders, such as rare genetic syndromes, brain malformations, and Down Syndrome, and finally a group of students with CP along with comorbid diagnoses.

For the qualitative results, five themes were derived identifying the supports and resources students with complex needs are receiving, barriers teachers experience, and understanding how teachers can better assist this population of students. Resources and supports used for students was discussed in theme one while theme two focused on resources available for teachers in the school environment to better assist their students and maintain their own wellness at school. Barriers and challenges that made it difficult to help students was

highlighted in theme three along with teachers' well-being and self-care along with their work-life balance was brought forward in theme four. Some recommendations given by teachers to improve the supports being received was discussed in theme five.

Chapter Five: Discussion

The purpose of this thesis was to better understand the kind of supports that early education and elementary teachers of students with complex needs access to aid their students' academics, behavioural, and developmental needs in a specialized school environment along with identifying barriers and challenges they experience in supporting these students.

By better understanding how teachers access supports, we can better understand how supporting teachers will assist students with complex needs in an academic environment, potential barriers in working with students, and how to more effectively support teacher well-being. The following aims were investigated via five focus group discussions and exploring the dataset for brief demographic information of students with complex needs: 1) identify the supports this population is receiving within an academic environment; 2) understand how potential barriers teachers experience in supporting students with complex needs; and 3) describe the profiles of preschool and elementary children with complex needs.

Qualitative methods through focus groups were utilized to determine the resources being received within an academic environment and potential barriers to supports. Through thematic analysis (Braun & Clarke, 2006) of focus groups transcripts, five themes were identified: 1) supports and resources for students; 2) supports and resources for teachers; 3) barriers to supporting students; 4) well-being of teachers; 5) recommendations for better supporting students. An additional portion consisted of a demographics piece of the diagnoses of the students, their Alberta Education Code, gender and age to better understand the profiles of the students with complex needs being supported by the teachers in the focus group discussions. The results are discussed as they relate to the primary research aims, followed by the implications of the study, strengths and limitations and suggestions for future research.

Research Aim 1: Identifying the Supports Students with Complex Needs Are Receiving

Through this aim, I explored the supports and resources students with complex needs are receiving within an academic environment. This section will compare our findings to the existing research. It is important to note that research has explored general supports and resources students with special needs receive but very minimal literature has examined the supports utilized for young students with complex needs.

Themes One and Two focused on current resources for students and teachers to help address this research aim. Since few studies have examined this area, findings from this study are novel and give insight into specific supports and resources utilized for both students and teachers within a specialized academic setting.

Utilization of Current Supports & Resources for Students and Teachers. Most of the existing literature has a primary focus on ways to include students in inclusive classroom settings whereas these focus groups concentrated on teachers within a specialized academic setting due to the severe needs of the children. Notably, as part of the inclusive education movement, it is encouraged for students to be in inclusive settings. Systemic changes to remove barriers and provide reasonable accommodations and supports is required to ensure students with disabilities are in the least restrictive environment and not excluded from mainstream educational opportunities. In our research, all students are within a specialized academic setting modified for students with severe needs in different domains, such as communication, motor, and behaviour. It is important to address that according to the inclusive education movement, the school system should identify and remove barriers and provide appropriate accommodation, allowing every learner to participate and achieve within mainstream settings (WHO, 2011). It should be considered that these students may have different outcomes in a mainstream

environment because some research does point to better social outcomes for students with disabilities in mainstream education (Jordan, 2009; Idol, 2006). A wide range of supports and resources were highlighted in the focus groups as being frequently used by teachers to assist their students. Supporting medical, physical, and health needs has been identified consistently by teachers as an important skill area for students with severe disabilities (Westling et al., 2015).

Previous literature that explored the experience of four new teachers teaching kindergarten-age children with ASD and ASD-like behaviours in a self-contained classroom within a public school board mentioned that one of the main difficulties they had was collaborating with professionals such as occupational, speech, and physical therapists in planning and providing for services required within everyday teaching because there accessibility was limited within a large school board (Leko et al., 2012). This made it harder for teachers to work with students with severe behaviours, such as biting and head-banging, and they were less likely to receive effective training to use assistive technology devices (Leko et al., 2012). In this study, however, many teachers mentioned accessing therapists as part of the multi-disciplinary team in the school for consultations and meetings to enhance strategies and resources implemented in the classroom. Since this was a specialized academic setting, many of the therapists are in-house, and they have team planning meetings on a regular basis. The multi-disciplinary team consists of professionals who work with students to support their language, self-care, gross and fine motor skills, behavior and regulation, learning, and who connect with students' families. The findings in our study showed teachers access assistive technology to support students' learning in the classroom through collaboration with an assistive technology team. This is related to research that shows assistive technology is critical

for ensuring students' access to instructional content and helps create a comprehensible learning environment to make sense of what is happening and build independence and communication skills. (Ruppar et al., 2016). Beyond ongoing consultation, therapists also provide support implementing new pieces of equipment or devices in the classroom such as augmentative and alternative communication supports; are present in the classroom, especially to run centers; and demonstrate ways to implement strategies or modify ones being used to help teachers work effectively towards the goals for individual children in the classroom. The therapists are also part of family meetings and communicate with parents on how to use specific devices that might have been sent home or to implement strategies used in the classroom.

Alongside readily available therapists, the use of specialized settings to target goals, such as the fitness room for students working towards gross motor-related goals and sensory rooms to help students regulate, are frequently utilized by teachers. The sensory room was especially needed when students presented with high anxiety or had extreme energy, and students were taken to the fitness room to do some heavy work and play to release energy before returning back to the classroom. Other tangible items are provided to all teachers such as a wide range of toys to suit the varying developmental levels of their students, fidget and sensory toys, and different types of timers for transitions. In addition to communication devices, supportive equipment is also available to children who require more motor support such as large strollers for outside trips, walkers, adaptive chairs in the classrooms, and switches and buttons for toys and electronics for those with fine motor difficulties. In a study examining the academic goals of preschool and kindergarten students enrolled in a special educational setting, the goals consisted primarily of pre-academic skills such as writing and recognizing their names, identifying colours, eye contact, turn-taking, the alphabet, and working on

adaptive skills such as toilet training (Ruppar et al., 2016). The students in the study were also not toilet trained and had accidents throughout the day (Ruppar et al., 2016). This overlaps with our findings, since the students in our study also focused more on adaptive independence skills like toileting and basic pre-academic skills with a modified curriculum for both the preschool and kindergarten students. In the discussions, teachers highlighted that due to significant developmental delays, many of the students in preschool, kindergarten, and even early elementary focused on basic academic skills that involved pre-reading and pre-math skills: recognizing their names, basic greetings, and attending and responding to their names. Visual supports were noted as a significant tool used by teachers to support students in a variety of activities throughout the classroom including daily routines, transitions, academics, and teaching independence, as they can be individualized for each child. Visual supports were a primary resource to aid children with significant developmental delays, especially ASD, to maintain attention, understand spoken language and make sense of their environment, especially when they have difficulty processing and understanding language (Achinstein et al., 2010; Hamilton & Vail, 2013; Jones et al., 2013). Visual supports allow students to predict scheduled events, organize their environment, comprehend expectations placed on them and anticipate changes made during the day (Dettmer et al., 2005). Visual scheduling and visual warning devices to alert students of the time remaining are commonly used in special education settings, and to also acquire skills in cooking, daily living and self-care, education and vocational skills, facilitate social interaction and manage behaviours (Hamilton & Vail, 2013; Jones et al., 2013). Similarly, our findings indicate visual supports played an important role in the way teachers assist their students in the classroom. Alongside academics, teachers in our focus groups also created visuals to help teach self-care skills such as dressing, toileting, as part

of the routine to promote independence and life skills as this is an area of need for many of the students and also part of their goals, as reported by teachers. In our study, visuals tools were used with a variety of students with varying cognitive and social abilities because they can be easily individualized. Many teachers also heavily relied on visuals for classroom activities, transitions, individual schedules, and pre-teaching materials, which they created themselves through Boardmaker[®], as a very large portion of early education and elementary students within their classroom required visual support for academic instruction and understanding.

A large part of the discussion also focused on providing supports to students within their family circle and going beyond the classroom setting to also utilize community services. A family support worker regularly availed families of resources in the community to help cover the cost of devices or diapers, tickets to the zoo or grocery gift cards for low-income families, and for counselling or programs that can be accessed by parents themselves. Setting up home-visits with coordinators to go into the homes and model the strategies and activities that are being used with their child for parents can support the extension of these strategies in the home environment. Supporting families also included providing seminars on topics like menstruation for parents of pre-adolescent girls and discussing class options of local schools with parents to give them the knowledge needed to support and make effective choices for their children. Research indicates that parent training related to their child's education results in positive outcomes for children with special needs including greater generalization and maintenance of strategies and treatment gains (Duke et al., 2007). Parents are more satisfied and willing to fully participate when school officials' partner with families though communicating on an ongoing basis, inviting parents to attend school activities, involve parents' input on IPP goals, and allowing them to address their own needs (Duke et al., 2007). Similar to our study, teachers

reported frequently communicating with and updating parents, involving them in their child's IPP meetings, finalizing IPP goals, and taking part in family programs and events at the specialized school (Duke et al., 2007; Dymond et al., 2007; Grayson & Alvarez, 2008). In our research, respite services on the weekends as a relief program for parents and events also helped families develop a support network with others going through the same challenges. Also, teachers regularly communicated with parents through newsletters, emails, sending pictures of their children to keep parents updated on their child's progress and providing them a glimpse of the activities that occurred in the classroom. Moreover, with the diversity of families being assisted, access to interpreters to support new families who do not speak English is an essential service being provided to reduce miscommunication. Overall, compared with other findings (Daniels et al., 2011; Dymond et al., 2007; Langher et al., 2017) that show schools providing support to parents through frequent communication and updates, involvement in their child's IPP meetings and goals, and taking part in family programs at school, Renfrew goes further and provides more support for parents such as assistance with in-home support, modelling of strategies for the family, and respite programs on the weekend, which proves to be a strength of this program.

Agencies and services within the community, such as dance therapists, music specialists, bakers, magicians, and public library staff have been invited into the classroom as special guests instead of taking all the students in the classroom into the community, as a lot of planning and logistics, such as arranging for a sufficient number of staff and volunteers, need to be sorted out before each outing can occur. Teachers stated that depending on the size of the classroom and the number of students with complex needs, some field trips can occur such as short walks in the community, (e.g., local fire station), but a large number of agencies come

into the school because it becomes difficult to have sufficient one-on-one support for each child with complex needs for community field trips. Beyond just field trips, community agencies are also needed for consultation and specific suggestions for individual students in the classroom, such as those with vision problems.

There were also different supports available specifically for teachers and staff members to expand their knowledge and skillset. In our study, a primary support offered to teachers in assisting their students was professional development opportunities such as conferences, workshops, and in-service training accessible during lunchtime. Teachers are also supported to attend other professional development opportunities they seek out. This is supported by research because professional development is a key factor in reducing teacher occupational stress, increasing well-being, and promoting job control (Langher et al., 2017). Importantly, teachers should have a say about the types of professional development they would like to attend and the topics it should cover whenever possible, as they are much more motivated and likely to see it in a positive light and as a way to solving a problem or challenge in the classroom, instead of making professional development compulsory and teachers viewing it as another list of duties that need to be done (Langher et al., 2017). Similarly, in the focus groups discussions, opportunities for professional development brought forward feelings of confidence when meeting the varying needs of their students in the classroom.

In the present study, teachers reported that positive staff relationships and a supportive work atmosphere was present in each of the schools. Supportive staff relationships and the positive atmosphere present in each of the schools helps staff members and teachers rely on each other to form a supportive and understanding network and was highlighted by teachers as an ongoing resource for them. These results lend support to previous research suggesting that

strong relationships with colleagues and positive perceptions increases levels of commitment and emotional support for special educators (Kane & Francis, 2013). Along with hands-on support from available staff members and the opportunity to vent at the end of the day, many teachers felt their co-workers were very open to brainstorming ideas and peer mentoring, through observing other classroom and sharing ideas for recommendations or any challenges for students that have similar needs. This also includes observing classrooms at other school sites, offering feedback and weekly team planning that helps teachers brainstorm and think of ways they may want to change how they run their classroom. This supportive staff network was discussed as an ongoing resource recommended by teachers.

In general, a wide range of supports were identified to support students with complex needs succeed and promote independence in an academic setting. The details of the diverse supports and resources identified for this population of students is not readily available in literature and, consequently, these findings contribute to this notable gap. Based on these findings, there is an overlap in the kinds of supports being used, such as visuals, parent involvement and training in their child's education, professional development, sensory areas, and material resources like fidgets and sensory toys. At the same time, our findings also show additional ongoing resources that teachers with complex needs require, indicating that these teachers are asking for more than just what is available for students with special needs. Teachers of students with complex needs are using more frequent and ongoing involvement and consultations with professionals from the multi-disciplinary teams available, more use of assistive technology such as specialized equipment for fine and gross motor, augmentative and alternative communication supports, and increased involvement of community agencies for both consultative support and to compensate for the lack of outside field trips. Positive staff

relationships in special needs settings are generally a supportive resource (Kane & Francis, 2013), and our findings also show that the teachers relied on supportive staff relationships to help manage their classrooms during behaviour crises.

Furthermore, in our findings, the staff support also extended to observations, weekly team planning and brainstorming new ideas to implement with their students. This form of peer mentoring and feedback through observations was seen as an additional support for teachers working with complex students.

Research Aim 2: Understand How Teachers Can Better Support Students with Complex Needs

The second research aim involved understanding how teachers can better support students with complex needs and potential barriers that arise in assisting their students. Existing literature (Adera & Bullock, 2010; Beltman et al., 2011; Brunsting et al., 2014) has explored teacher well-being and additional duties required by special education teachers that can lead to stress and teacher burnout but less of a focus has been from a teachers' perspective on identifying specific barriers to resources or understanding how teachers can improve these supports for students; therefore, this research focus is considered novel. This research aim is answered using Themes Three to Five. Theme Three identified possible barriers to supporting students with complex needs, Theme Four concentrated on teacher well-being and Theme Five on recommendations provided to better supporting students with complex needs.

Identified Barriers to Supporting Students. A common set of responses were provided related to recognizing barriers and challenges that make it difficult to fully assist students in the classroom. First, both class size (i.e., number of students) and classroom size (i.e., physical space), along with limited staffing were noted as significant barriers. Based on

the discussions, it was brought forward that having a greater number of students with varying needs present in the classroom was a more substantial barrier to providing effective student supports compared with the physical space in the classrooms. Teachers in four out of the five focus groups highlighted that class size is a concern when students require more one-on-one support than can be provided because of the number of students present in the class combined with the severity of their needs. The specific school that did not report classroom size as a barrier was a school that consisted of only PUF students and had fewer students per class than other schools. Teachers reported that students often produce far more language and appear more attentive on days when fewer students are present in the classroom. It was discussed that with fewer children present, there is more focus on each student, allowing for more intensive language opportunities resulting in better student communication. Along with the number of students present, insufficient physical space in classrooms makes it difficult to fully support students due to large equipment, such as wheelchairs or physical supports (standing frames), that students require.

Secondly, available staffing was also identified as a barrier. Participants shared that if more staff were accessible in the classroom, the difficulties associated with having high numbers of students with severe needs in the classroom would be reduced because more manpower would be available to assist students with toileting and would permit smaller group activities, trips in the community, and improve managing behavioural crises. Since the focus groups were conducted at a private school, there is not a substitute list available if teachers or educational assistants are sick. Unfortunately, limited available staff in classrooms combined with a large number of students with varying high needs makes managing classroom safety more demanding, making the absence of substitutes even more challenging. Due to limited

staff, teachers and educational assistants reported coming to work even if they were sick because extra work would be placed on others by their absence. Situations often occur where all available staff members in the classroom are needed to help manage and regulate one student, which requires the teacher to shuffle staff around and request assistance from staff from other classrooms. This can be challenging as it takes time away from other students in the initial classroom where classrooms staff were recruited from. These situations interfere with planned lessons or other programming. For example, planned activities like going to the gym are delayed, or a student who should have been placed in a standing frame does not receive this opportunity due to safety concerns related to being short-staffed. Also, limited staff supports makes it harder to have community outings because of the high level of support required, especially with elementary students who often require one-on-one staff support for field trips. Finally, the busy and demanding roles of teachers and other staff in the classroom can lead to increased employee turnover as new staff members can find the position is overwhelming. This makes it challenging for the students to build good rapport and to become comfortable with staff members. These findings are consistent with previous studies that show special needs educators and educational assistants who leave the profession early because there is too much paperwork and extra duties, insufficient administrative support, insufficient supplies and resources, too many high needs students in a class, pressure from parents, and scarce collaboration with colleagues as major reasons for leaving their positions (Prather-Jones; 2011). Additionally, whenever there is a funding cut, it often comes from staffing instead of resources; consequently, the limited classroom staff levels can become a barrier in efficiently supporting students.

Another barrier to adequately supporting students is reduced access to funding and increased wait times. Although this was only identified as a barrier by teachers in two focus groups, specifically from those school sites that consisted of both preschool and elementary students. This is primarily due to the drop in the funding for elementary students with complex needs, even if they have severe needs, as it needs to be proven by a full documentation of the student's needs. Teachers and therapists are tasked with completing this paperwork and making the case that students need these services. If this extensive documentation is successful, the student receives only partial funding. This decreased funding often limits the number of hours and therapy received by students in elementary school compared to the preschool and kindergarten students who receive PUF funding, which consists of a larger amount of funding per student. For instance, students with PUF have family-oriented programming sessions (FOPs), which are developmentally appropriate interventions for children with severe disabilities and their families and helps supports parents in implementing IPP goals within the home and community environment (Alberta Education, 2018). No such programming is available for families from Alberta Education due to the decreased level of funding for elementary students. Therefore, schools such as Renfrew often utilize their own funding and the yearly tuition paid to continue some level of support for families at the elementary level. Longer wait times for accessing devices or equipment for students at the elementary level also acts as a barrier to assist students fully in the classroom. For instance, one student was temporarily given a poorly fitting wheelchair because there was a delay for a specialist to come in. After the specialist came, the student still needed to wait for the new wheelchair to be delivered. In another example, students with complex needs were still on a wait list for augmentative communication devices after waiting for more than half of an academic year.

Another barrier identified in the present study was the challenge in working with families. A common challenge emphasized in the focus groups was parents placing unrealistically high expectations on teachers and the school to “fix” their children. One participant shared that these discussions with parents placed a huge burden on teachers’ shoulders. Some parents have difficulty understanding the teacher’s perspective when challenges their child is facing in the classroom are communicated during meetings. Teachers reported that parents sometimes suggested that they are not providing the right supports to assist their child and place the blame on teachers for their child’s slow progress. This challenge is similar to what is consistently reported by special education teachers in research, where teachers note that pressure from parents is intense and stressful due to the complex emotional state parents may go through when dealing with the diagnosis and health of their children (Kourkoutas et al., 2015). Parents can have unrealistic expectations and undervalue the work of teachers in supporting their children (Kourkoutas et al., 2015). Also, in our study, although teachers felt that they worked hard to provide frequent communication, they felt that parents were not always forthcoming and responsive to that communication. Moreover, although there are translators present for meetings, families with language barriers have a hard time understanding emails and newsletters on their own or completely understanding the diagnosis and ways to access better supports and resources, which can act as a barrier. Teachers working at schools that cater to families from diverse backgrounds shared that language barriers can impact the process of offering additional assessments and supports to students. Preschool and kindergarten students diagnosed with a severe language delay often demonstrate additional needs beyond just a language delay (e.g., gross motor and fine motor delays, deficits in social skills, restrictive and repetitive behaviour, and other behavioural concerns such as biting),

based on formal observations by therapists. Therapists reach out to parents to obtain consent for a formal assessment due to these concerns. However, some families have declined additional testing as parents believed that their child only has a language delay, which feels like a milder disorder than additional assessments could reveal. Teachers shared their concerns that students cannot access appropriate supports without the appropriate diagnoses, so when parents decline additional assessment, they often do not understand the implications: their children miss opportunities for appropriate intervention. Teachers shared that since all families are at a different place in accepting their child's diagnosis and long-term prognosis, especially families that speak English as second language and are new to Canada, they are not always open for further assessments and have a hard time fully accepting their child's challenges and needs due to differing cultural views on disability. Teachers mentioned this being a concern when further assessments or testing is suggested if additional diagnoses should be looked at, but parents refuse consent because they believe their child only has a language delay.

Moreover, the diverse needs of students present in the classroom along with minimal prep time available was also highlighted as barriers in fully supporting students in all of the focus groups. Teachers mentioned the number of students with high needs attending the schools have increased over the years and have been coded as severe, which also constitutes those with just a single diagnosis of either severe language delays or ASD. They require one-to-one support but are not funded for that level of support, so teachers try to manage and to creatively provide the level of supports needed for tasks throughout the day. The teachers in this study provided specific examples of students in their classroom who need additional assistance. Teachers shared that there are students who have had seizures on a daily basis as well as other severe medical needs that need to be managed. Furthermore, when a student is in sensory

overload and showing aggressive behaviours like biting or pushing, students who use physical supports for mobility need to be moved out of the way so that no one gets hurt. Teachers commented that having such a diverse range of needs in one classroom often makes programming suffer as the goal reverts to keeping everyone regulated and managing behavior or medical crises rather than meeting IPP goals. Results from De Stasio and colleagues 2017 compared teachers who worked primarily in a school for students with ASD with those working in a special needs school catering to students diagnosed with a range of disabilities and identified that teachers working in the diverse special education classroom experienced more stress, exhaustion, and turnover. They claimed the nature of special education teaching with a variety of needs requires full use of specialized skills and resources to cater to the different levels of ability and meet the diverse socio-emotional, behavioural, and learning needs on the parts of students. In the present study, teachers also expressed that programming and creating a classroom environment that is developmentally suitable for all students can become challenging when students are at such different levels in their self-care and independence, language, cognitive ability, and academic skill. Various toys and activities need to be modified to suit the different levels of each child, to promote good participation in the classroom. Unfortunately, although the diversity and complexity have increased, there has not been an improvement in better identifying those that will require more support. The teachers in the focus groups commented on how having a better way to identify students with higher level of needs and supports required prior to entry would allow administrators to plan for smaller number of students or higher level of staffing in that particular classroom.

All of the focus groups in this study expressed that the lack of time available during school hours acted as a barrier and shared they would be able to support students with complex

needs more effectively and function much better if more prep time was available. The teachers participating highlighted the importance of extra time to complete additional duties on top of their typical job duties such as sanitizing the classrooms and toys, since some students still explore objects orally; taking part in meetings during the lunch hour or after school; communicating with parents; completing extra documentation related to their students' needs to access funding or IPP goals; and preparing resources such as visuals becomes challenging to juggle on a daily basis. Along with providing academic teaching, teachers also teach self-care skills such as toileting, dressing, and eating at the table as part of their classroom routines. Teachers also have frequent conferences with parents and the therapy team along with daily parent communication. Teachers highlighted that many public-school boards have Friday afternoons as a half day of prep. They noted that a similar schedule would give them the time needed for meetings and to complete additional duties required for the following week, such as creating material resources and individualized visual supports that neither teachers nor therapists have time to complete during the school hours. Teachers noted that they need to either leave these tasks unfinished or complete them on their own time outside of school hours. In relation to previous literature, similar factors were reported by teachers as a source of stress that impacted their well-being such as problematic relationships with parents and miscommunication, time pressures, not enough resources, lack of administrative support, and large classroom sizes (Jones, 2009; Split et al., 2011).

Teachers Identified Ways to Better Supporting Students with Complex Needs.

Teachers participating in the present study brought light on the number of barriers they experienced supporting students with complex needs. The barriers of limited staffing, increased number of students with varying high needs in the classrooms, and lack of prep time available

during the school hours had led to an unequal work-life balance for teachers. Additionally, research states that teachers who reported higher level of stress related to certain risk factors such as difficult working relationships with colleagues, time pressure, and large classes showed higher levels of burnout, were more likely to experiences problems with their health, personal well-being, and commitment to their work (Brunsting et al., 2014; Duli, 2015). Teachers in this study expressed that along with identifying the barriers, they need discussions surrounding ways to manage a work-life balance, as many teachers are not participating in self-care needed outside of school hours. One such teacher stated that she is new to Renfrew and noticed her colleagues working outside school hours in the evening and even on the weekends when things needed to get done to meet deadlines. Since there is a normalcy surrounding this practice and no discussions occur on the importance of a healthy work-life balance and obtaining self-care, many teachers, including new ones, have adopted this process to get their work completed, and some even use their personal days to get some tasks completed. Inexperienced teachers benefit from mentorship from experienced teachers and following their example in managing their workload and educational tasks (Young, 2018). A similar approach was found in our research with teachers observing other school sites and classrooms to takeaway new strategies they can this to be a positive experience they benefited from, new teachers also noted they observed and followed the more experienced teachers in working long hours and not maintaining a healthy work-life balance. Having more healthy discussions around normalizing boundary settings is especially important for inexperienced teachers, to develop these habits early on in their career and a recommendation raised by teachers within our study. This is important since burnout and attrition of new teachers occurs at a higher rate in special education (Pas et al., 2012).

The schools in our present study promote staff wellness through activities planned during school hours and lunch hours such as potlucks, yoga, and wellness days, along with a family support worker that can offer resources such as personal counseling and employee health benefits. This is a positive contribution and supported by literature that shows teachers reporting higher levels of support for well-being at an organizational level results in teachers showing more satisfaction with their job and better self-esteem (Kang & Berliner, 2012). However, it is up to the teachers to create their own self-care and to maintain a balance of work and personal life outside school hours, which many teachers in the present study noted they have difficulty doing. Teachers even expressed feelings of guilt if a certain task is not completed because spending extra time after work helps their classrooms run smoother the next day. At the same time, teachers identified how having such an excessive work schedule causes mental stress as they have less quality time with their own families, and they push through a rough day in order to be more supportive for their students. The lack of a substitute list especially causes them to push themselves to come into work for their students when they should take the day off. A few teachers who identified themselves as working at Renfrew for more than ten years highlighted that they personally had to be diligent in ensuring their own self-care and maintaining a work-life balance to avoid burnout. Some teachers shared that not feeling guilty for not working in the evenings and weekends required a conscious effort, but they put limits on their time because they realized their mental health was important in supporting their students more efficiently. This practice of maintaining a work-life balance was used by more of the self-identified experienced teachers and should be discussed and shared more openly with new teachers, as they transition into teaching in a special needs classroom and to create a healthy self-care approach early on in their careers. These findings are

consistent with existing literature that states teachers' stress levels and job satisfaction has implications for student learning. Satisfied teachers may provide better quality and more consistent instruction to their students whereas those with reporting higher levels of work burnout are less motivated to give their best in the classroom (Split et al., 2011). Furthermore, similar to our findings, teachers in special education frequently leave because of the stresses of limited supported, limited staff development, feeling overwhelmed by students' needs, and difficulty managing workload, (Emery & Vandenberg, 2010). These feelings referred to lack of preparedness, for the position, unsupportive environment, which all has an impact on their job satisfaction (Emery & Vandenberg, 2010). Likewise, our findings showed that professional development opportunities and a supportive staff network, along with the peer mentoring, was viewed positively and acted as a small buffer for the stress and burnout teachers experienced. However, the high needs of students, lack of time to manage workload during the day, and few support staff leads to an unequal work-life balance and feeds into the cycle of burnout.

Alongside increased awareness of self-care outside school, teachers also identified other recommendations for better supporting their students with complex needs. The supportive staff network and the form of peer mentoring is an ongoing practice at Renfrew which teachers considered a recommendation that should be continued, especially for new staff, to better supporting their students with complex needs. This type of supportive atmosphere for teachers, not surprisingly, is consistent with previous literature revealing that positive interpersonal relationships in special education teaching settings can act as a buffer against risk of high levels of work burnout (Skaalvik & Skaalvik, 2016; Van Droogenbroeck et al., 2014). Mentoring programs have been introduced in special needs settings to reduce feelings of isolation, especially for novice teachers, provide emotional and mental support, act as an avenue to share

resources in an open-minded environment, and to ultimately reduce turnover rates impacting special needs schools (Kang & Berliner, 2012). Furthermore, literature focusing on teachers' voices within special education emphasized the value teachers gave to professional development sessions and an added emphasis on the value of being able to observe others putting into practice the techniques and strategies being learned (Young, 2018). Within the focus groups, teachers highlighted that increased communication between therapists and teachers allow teachers to manage new student behaviours more effectively and to relay the same advice to parents earlier on. Having more frequent communication amongst professionals and teachers was recommended in the present study as a way to keep therapists updated with their students and modify strategies or amend recommendations to parents when a student's needs or behavior changes.

Quite a few discussions by teachers in each of the focus groups commented on recommendations around ways to either have smaller classroom size or include more staff members for a better ratio of adults to students, especially for those that require an increased level of support. In the literature, the use of an increased ratio of teacher's aides in the classroom has offered a middle ground for special education teachers instead of reducing the class size to improve the level of supports teachers required (Morewood & Condu, 2012). In the present study, teachers expressed that having smaller class sizes, in terms of the number of students, or more manpower would allow teachers to carve out some prep time during music or gym class and also explore more potential community outings. This sheds light on a better system by administrators to code or identify those students who would require an extra level of support to ensure a smaller number of students or additional staffing in that particular classroom. It was also brought up in the focus group discussions that despite the high stress,

additional tasks, and increased level of responsibility required in working with students with complex needs, not enough compensation is provided in relation to their duties. This is consistent with literature that indicates large class sizes, low salary, lack of professional development, and poor peer relations are several reasons contributing to special education teachers exiting the field earlier on compared to general mainstream teachers (Mee & Haverback, 2014; Morewood & Condu, 2012).

Furthermore, teachers commented that increased awareness around the services and supports available at Renfrew for young children, even those who have just a language delay and might not be meeting all developmental milestones, will improve outcomes for children due to the early intervention. Teachers mentioned they often have students coming in for just kindergarten, at which time some of the behaviours and routines become harder to change and require a lot more extra effort to help them adjust. Often, parents are unaware of the services available at Renfrew, and those who have their children already enrolled are hesitant for further assessments as they believe their child just has a language delay. However, helping parents become more aware of the benefits and additional resources that can become accessible following a diagnosis, beyond language delay, is crucial in offering more intensive supports to students who require it in all areas of development. In the present study, teachers shared that they have students at the preschool and kindergarten level who present with severe needs in more than one developmental domain and will likely receive additional diagnoses later on. However, at the moment, they are just diagnosed with ASD only or just a severe language delay but are not considered as complex needs yet, even though they present with high needs similar to students with complex needs.

Research Aim 3: Describe the profiles of preschool and elementary children with complex needs

This final purpose aimed to describe the basic demographics of preschool and elementary children with complex needs attending a special educational setting, such as Renfrew. No known literature, especially in Canada, has examined the profiles of students specifically with complex needs. Although existing literature is available discussing comorbid disorders and the features of the diagnoses, no known literature has focused specifically on students with complex needs. For this particular study, the demographics describe the students of teachers who participated in the focus groups discussions. The demographics relate to the age of the students, the frequency of identified male and female students, the number and type of diagnoses, and the most common educational codes assigned to this population, along with the educational program they are enrolled in within their schools. Although the information used to describe their profiles are limited for this particular study, it will help us gain some insight into the students that were discussed by teachers within the focus groups.

Based on the demographic findings, out of 397 students, only 53 students were selected in the dataset who had more than one diagnosis and all had an educational code at a severe level. It is important to note that many of the younger students in preschool and kindergarten only have a single diagnosis upon entrance to the school combined with some parents declining further assessments contributes to a smaller number of students with complex needs identified than likely exists in the school. The most common diagnoses were ASD, CP, and a medical condition that severely impacts students' ability to function in the classroom. A few students also had severe multiple disabilities such as Down Syndrome, brain malformations, severe visual impairment and other severe multiple disabilities like microcephaly, CP, and epilepsy

that impacts both cognitive and physical abilities. Even within this dataset of 53 students, the number of diagnoses varied for each child with most students commonly have two diagnoses, to a few other students having three or more diagnoses. The types of diagnoses also varied greatly with ASD being the most common one with associated comorbid disorders, along with other students having medical disorders, rare genetic syndromes, CP, epilepsy and visual impairments. Eighteen of the students at the elementary level beyond the age of six had a diagnosis of ID, while the preschool and kindergarten students had diagnoses of global developmental delay that will likely lead to a diagnosis of ID later on. These wide range of diagnoses and varying needs of each student coincides with the discussions the teachers had in the focus groups that a diverse range of students and needs are present in each classroom and certain students require large amounts of supports than others. Students in the dataset with multiple severe disabilities impacting both their cognitive and physical abilities likely require one-on-one support in many areas, including bathroom changes and supporting their self-care skills. Although students with complex needs are the focus of this study, teachers also need to support students in their classroom who are not classified as complex but still require some level of assistance. Connecting the experiences of teachers mentioned in the focus groups along with the data shines light on how having such a range of different needs can make it difficult to create a classroom environment that is developmentally appropriate for all children, with different resources, toys, and activities required. Coupled with the limitation of available staff members teachers shared in the focus groups and the varying high needs of students can make it more demanding to manage the classroom safely, allow for efficient programming of activities, and become challenging to take the students out in the community.

It is clear that twice as many male students are identified as students with complex needs in the dataset, which is consistent with previous literature that shows a consistent characteristic of special education services has been the disproportionate number of male students served (Dymond & Orelove, 2010). Although the reasons for the higher number of males is not straightforward, it has been suggested that overrepresentation is due to biological factors, because boys are generally more vulnerable to some genetically determined disorders and predisposed to specific learning disabilities, such as ASD (Wehmeyer & Schwartz, 2001). The mean age of students with complex needs within this dataset is 7.6 years. This likely is related to additional diagnoses such as ID or ADHD given within the elementary years instead of early on in the preschool years. It should be known that many preschool students had a diagnosis of severe language delays and speech delay when receiving services. However, some of these students might later go on to have different primary diagnosis or additional diagnoses such as ASD or ADHD. Current literature shows that children with severe receptive-expressive language impairment are more likely to have lower cognitive scores, ASD, social-emotional difficulties, or comorbid behavioural disorders, compared to their peers (Lindsay et al., 2010). Especially, because as teachers highlighted in the focus groups, some parents are hesitant on pursuing further assessments in the early preschool years. Furthermore, quite a few students with language delays and speech delays enrolled in the junior kindergarten and kindergarten programs for PUF services move onto other schools in elementary. The students who are enrolled within the elementary services are those who have higher needs with extensive support required and are not able to function independently within a mainstream classroom. However, as teachers mentioned, the funding level drops by Alberta Education for students in elementary schools compared to the funding for the preschool and kindergarten level, which equates to less

time received by professionals and increased wait times for equipment and devices needed, even though students present with severe needs.

The diversity of students with differing diagnoses and support levels explains the need for a variety of supports and resources required in the classroom. Although most students in the dataset had just two diagnoses, 15 students had three or more diagnoses. In relation to the literature, it is expected that as the number of diagnoses increase the expected level of supports required and the level of independence in school and societal integration decrease (Costello et al., 2003). As teachers mentioned, the assistive technology and consultation by professionals from different disciplines accessible at the school is a crucial resource needed to work with a wide range of students. Since many of these students likely have limited language skills and some also have diagnoses such as CP impacting their physical abilities, the need for communication devices, software programs like Boardmaker and eye gaze communication system, along with walkers and adaptive chairs are central supports to effectively working with students with complex needs. Furthermore, due to the minimal language skills students with complex needs were discussed to have, the necessity of visual resources is a major tool teachers relied on for transitions, classroom activity schedules to teach self-care and more functional skills for promoting independence. Additionally, taking students with complex needs out for community outings can only be safely possible when sufficient staff numbers are available due to students having multiple high needs and a few also having physical disabilities as well, thus requiring one on one support. Finally, teachers also discussed the opportunity for professional development available. This is especially resourceful as teachers are working with such varying high needs in their classroom from visual impairments, DS, students with ASD, and those who have seizures or other medical conditions; therefore, require additional training and learning

opportunities to expand their knowledge and skillset to better understand their students' needs and the response required. Professional development is a necessary resource because even though universities across Canada offer courses in special education areas, the only province that requires extra qualifications for special education teachers is Ontario (McBride, 2008). Other provinces note that such qualifications are desirable but not necessarily required for teaching in segregated special education settings (McBride, 2008).

In the dataset, a common comorbidity seen was ASD and ID. As mentioned in chapter two, ASD and ID can co-occur, especially with severe receptive and expressive language delays, and repetitive and restricted behaviours also increase as the severity of the ID increases (Matson & Nebel-Schwalm, 2007). Other common comorbid conditions found in the dataset sample was epilepsy and CP. All the students diagnosed with epilepsy were above the age of six. Based on previous literature, children with comorbid conditions of cerebral palsy and developmental delays along with epilepsy had moderate to severe learning disabilities, scored the lowest in adaptive functioning and language skills, and were more likely to access special educational services (Beckung & Hagberg, 2002; Duncan et al., 2007; Prasad et al., 2014). Medical and cognitive conditions can also be comorbid with children diagnosed with epilepsy (Seidenberg et al., 2009), which is seen in the dataset as two of the students with epilepsy also presented with rare brain malformations. The students in the dataset require an additional level of support best available with a special educational setting due to their difficulties in academic achievements in early childhood. Along with the combination of cerebral palsy and epilepsy, students also presented with difficulties in their vision, cognition, and motor function. Students who had CP also presented with hemiplegia, that includes paralysis of one side of the body, along with quadriplegia, that is paralysis impacting all four limbs, including the torso. Other

students also had spasticity in which muscles stiffen or tighten, affecting muscles and joints of growing children, and impact movement, speech, and gait (Beckung & Hagberg, 2002).

Intellectual abilities and the severity of gross motor function is a strong indicator of future level of functional independence and participation in society in areas of academics, occupation, and social integration (Gabis et al., 2015). Considering some of the students with CP also experienced hearing loss and visual impairments, this further impacts their functional level in daily life and requires teachers to use a variety of devices, adaptive supports, different technologies and consultation with professionals to assist these students.

Strengths and Limitations

The study has both strengths and limitations for future research. The study considers the gap in research when exploring the supports students with complex needs receive. A strength is that it is among the first to contribute to understanding the supports students with complex needs are currently receiving, possible barriers in providing these supports, and understand how teachers can support them better. This is an area of growth needed in literature, especially using the voices of teachers.

Another strength is that it focuses on teachers' perspectives as they are the ones providing the firsthand support within an academic environment while managing their classrooms and providing day to day programming and instruction for all students. Research has focused more on what leads to stress and teacher burnout but less of a focus has been from a teachers' perspectives on identifying specific barriers or resources or understand how teachers can improve these supports for students. Therefore, this offers that insight as teachers are the ones primarily assisting complex needs students in the classroom. Another strength was this research was a qualitative research design, which allowed us to use thematic analysis as the

method of analysis, and this analytical process is very useful when doing novel, inductive research by allowing a researcher to create themes without the use of existing background information (Vaismoradi et al., 2013). Furthermore, the demographic information exploring the basic profiles of the students who are discussed in the focus groups gave us some insight into the diversity of diagnoses and ages of students classified as complex students within this specialized school.

Finally, the diversity of teachers as participants ranged from those who had fifteen or more years of experience, to those who were within their first few years of teaching with seven years or less. These teachers in the focus group also had varying level of education, from a bachelor's degree to those who also had a master's degree along with lots of professional development. This can be seen as a strength as we got to acknowledge the different perspectives of teachers coming from heterogenous backgrounds, both at the preschool and elementary levels, which is expected in a school setting, and the kinds of supports they utilized in their classroom.

At the same time, this can also be seen as a limitation since we were not able to connect the demographic information provided by teachers, such as their educational level or years of experience, to perhaps the kinds of supports they provided or how they managed their work-life balance and self-care. However, to maintain participant anonymity, the focus group discussions and viewpoints were grouped together and not based on site. As a result, we were not able to determine if there were any differences between the focus groups based on the area of city and ages of students served. In the demographic data, all the teachers within our study were female. This is fairly representative of what is observed in early education, with male teachers facing suspicion as to why they would choose primary teaching and this field remains predominantly

female (Haase, 2008). This is a limitation for our study because young children are only exposed to females on how to interact, solve problems, and learn at school. Another limitation involves the lack of direct participant quotes to portray the results. No direct quotes from the focus groups were used within the results and group information was summarized instead because use of direct quotes was not indicated in the consent. Since the consent forms did not specify that quotes would be used and the results can also be shared with the organization where the focus groups were conducted, the researchers offered a summary of the results.

Additionally, using an interview protocol for the focus groups provided more flexibility for moderating group discussions, so that the focus centered on focus group participants' conversations on the topic and with one another. At the beginning of each focus group, the researcher shared multiple viewpoints are welcomed and acknowledged and that there are no particular views being solicited. Even though confidentiality pertaining to not sharing any information discussed within the focus groups was reviewed each time, researchers cannot guarantee all participants will hold up to this standard. Therefore, it is important to acknowledge that a possible limitation might be that some participants' might be hesitant to share personal experiences, viewpoints, or their challenges in a focus group format with their colleagues. Member checking is used to explore the trustworthiness of results, where the results are returned to participants to check for accuracy and confirms it represents their experiences. This additional step for member checking and reviewing the themes emerged with the participants would have strengthened the validity of this study, and the absence of member checking is seen as an additional limitation.

Another possible limitation is that it is suspected that more younger students attending the specialized school sites likely have additional diagnoses, but perhaps have not yet been

diagnosed and require further assessments. As such, it is possible that the demographic information provided does not encompass all students with complex needs attending Renfrew. Furthermore, in relation to the demographics profile, the severity levels related to the ID diagnoses and ASD diagnoses was not always given, which made it difficult to determine the exact severity level of the students with complex needs. In addition, it was unfortunate that the primary and secondary diagnoses was not indicated in the demographic dataset. This made it challenging to know which diagnosis a primary diagnosis and which ones were secondary diagnoses. A further limitation was the lack of information related to the English proficiencies of the families. This information would have provided insight into the extent that limited English proficiency impacted families of students with complex needs. For future studies, these should be considered as an additional piece of data to be added to better understand the profiles of students.

Finally, a substantial consideration and limitation is that since the focus group data and demographics data was all gathered from one educational organization, specifically an organization specializing in providing services to children with special needs, it is difficult to generalize the results to public school settings. First of all, whenever possible, the focus of public schools is primarily to place students in least restrictive settings that allow opportunities for integration (McBride, 2008). Even though public schools consist of specialized classrooms for students with high needs that make mainstream integration less of an option, the availability of some of the supports and resources mentioned in this study might differ or may not be available at the same level, such as accessibility of therapists for consultation, resources for families, sensory rooms, or specialized equipment and devices. Also, the types of students with

complex needs within specialized programs at public school sites may also differ in their profiles compared to the students in the present study.

Implications & Directions for Future Research

The findings from the present study have a practical utility for researchers and educators of special educational settings. This contributes to reducing a gap in the literature because minimal literature has investigated the supports teachers access for students with complex needs in a school environment related to their academics and developmental needs.

The present study extends our knowledge in supporting students with complex needs as teachers provided specific examples of barriers they have experienced in the classroom. There is a need to listen to and hear the voices of teachers in order to understand the additional supports required to better assist students with complex needs. Therefore, the results of this study have the potential to benefit administrators at the school-site level, more so in specialized settings, in identifying essential specific supports required for students in the classroom that should be included or maintained, supporting novice and experienced teachers through providing opportunities for training and increased resources and discussions for promoting a healthy work-life balance and self-care.

For teachers, it helps them understand the perspectives and potential barriers special education teachers experience while supporting students with complex needs and be aware of possible supports and resources being utilized. It also helps emphasize to teachers the need to maintain a balance and ensure their own self-care to better support their students in the classroom. Specifically, for school psychologists, it provides insight to a general need to offer more opportunities for professional workshops for teachers as an opportunity to expand their skills and be better equipped to support their students. Furthermore, school psychologists can

play a further role in helping parents understand the need and benefits for further assessments if it is deemed beneficial, for assessing additional diagnoses.

These findings may also shed light on some of the characteristics of students with complex needs that the teachers were supporting within specialized settings. Although the information related to the profiles of the students was brief, it provided a small snapshot of the potential high needs and diverse range of diagnoses possibly present in classrooms that teachers need to support. Based on the diagnoses, it also suggested more students with rare medical disorders and severe neurodevelopmental disorders as the primary diagnoses falling under complex students, with co-occurring conditions added as they get older. In better understanding the profiles of students with complex needs and the difficulties teachers experience in supporting students with complex needs, specific resources required and problem-solving ways to overcome present barriers can be generated. It also highlights the need to conduct further research on exploring the profiles of students with more than one disorder to help teachers assist them better.

For further steps, the present study was an initial attempt in understanding the types of supports students with complex needs are currently receiving, identifying barriers, and how to better support them in the classroom, based on the voices of teachers. This attempt occurred primarily in a specialized school setting, not connected with the public-school board. An interesting future direction can be to also focus on the supports provided to students with complex needs and possible barriers within specialized programs in a public board and see how they compare. This will give further insight into the levels of supports provided in public schools and if different types of resources are available for students with complex needs that might not be present in specialized schools.

Another interesting future development of the findings from this study would be to also explore the kinds of supports received in middle school and high school in comparison to the supports received in the early educational levels. The barriers related to the supports and the ways teachers can assist them better could also differ as students enter puberty and into the teenager years, with a larger focus on vocational goals and increased independence.

In addition, gathering increased information regarding the profiles of students with complex needs would be another beneficial future aim. This could also look at the profiles of students in middle school and high school or those attending specialized programs within public schools to see how they compare and help expand our current information on the types and number of diagnoses. Along with the basic demographic information looked at within this study, it will also be helpful for future studies to also look at IPP goals of students with complex needs, their academic profiles, and the types of funding and supports they receive outside of school hours.

Teachers in the present study provided unique viewpoints regarding the barriers they identified to supporting students and ways to support them better. Future studies may also employ the use of qualitative methods to explore the perspective of professionals, that also consult and provide therapy to the students, as to any specific challenges they experience in working with students with complex needs along with recommendations to assist students better.

Conclusion

Overall, the primary interest and focus of this study was to explore the kinds of supports students with complex needs are currently receiving, along with understanding challenges teachers experience. Based on the conversations generated among the study participants, a

variety of supports are utilized consisting of multi-disciplinary teams, equipment and devices, sensory rooms, visuals and material resources, resources for families, and community services, along with wellness programs and professional development to help teachers in their roles.

Teachers also experience unique challenges in supporting students with complex needs due to a lack of available staffing, limited prep time, funding and long wait times, classroom sizes, the wide range of needs within the classrooms, and difficulties in communication with families.

This study's findings also brought to the light the unequal work-life balance teachers shared they had been experiencing, leading to mental stress and lack of self-care outside of school hours. The study highlighted recommendations by teachers for better assisting their students within the classroom included increased discussions and openness regarding the need for self-care and maintaining a healthy work balance, smaller classrooms sizes, better identification of students that require an extra level of support, and increased awareness around the services available for children with developmental delays. Along with understanding the types of supports and barriers, the demographics of students with complex needs provided us with brief information that most students had 2 diagnoses, while others also had 3 or more co-occurring diagnoses. Most of the students had primary diagnoses related to ASD, CP, and other rare genetic syndromes, with more students falling within the elementary school range. This is just the beginning of better understanding the profiles of students with complex needs present in classrooms and hopefully this research study has planted the seeds for exploring the resources currently used and ways to assist students with complex needs more effectively within the academic environment.

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Appendices

Appendix A

Focus Group Guide

Complex Students: Understanding how to best supports students with a comorbid developmental or physical health need.

I. INTRODUCTION AND INSTRUCTIONS:

Hello, my name is Carly, and this is Muzna. Thank you for agreeing to participate in this focus group meeting. Just to remind everyone, we're discussing your experiences and opinions regarding students with complex needs in the classroom and the services you use to support these students. To clarify, when we say complex students we mean those who have a neurodevelopmental or medical disorder (e.g., Learning Disability, Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Epilepsy) as well as a mental health issue (e.g., Anxiety, Depression).

What is a focus group? A focus group is an interactive group discussion where we can gain several perspectives about a topic and members of the group can think about and comment on what others have said in the group. The data collected will be used as part of the audio transcription to reflect and analyze the discussion topics for the study.

Hand out name tags – people should use their first name or participant ID only.

In a minute, we will all introduce ourselves – first names only. But first, I would like to walk you through the consent form that is in front of you.

Review informed consent form and answer any questions about it. Collect signed consent forms.

Confidentiality: [READ ALOUD] - Before we begin our discussion, I want to spend a few moments talking about confidentiality and to go over some basic ground rules for our focus group discussion today:

- Everyone's views are welcomed and important.
- The information which we will collect today will be attributed to you as a group.
- We will not identify quotes or ideas with *any one person* of this group. This information will be used to describe the whole group and will not be associated with any individual participants..
- We *are* assuming that when we learn about one another's views, they remain confidential and not disclose anything from the focus group.
- Having said this, and having made these requests, you know that we cannot guarantee that the request will be honoured by everyone in the room.
- So we are asking you to make only those comments that you would be comfortable making in a public setting; and to hold back making comments that you would not say publicly.

- If you want to stop being in the focus group you may leave or stay and simply stop contributing.
- All voices are to be heard, so we will step in if too many people are speaking at once or to make sure that everyone has a chance to speak.
- We may also step in if we feel the conversation is straying off topic.
- After the discussion, we will invite you to fill in an anonymous “background information sheet” to us help generally describe the kind of people who were part of the group today.
- You can also use a piece of paper to write down your opinions or a comment during the discussion, if you don’t feel comfortable saying it in front of everyone else, or if we run out of time.
- You can expect this discussion group to last about 2 hours.

Use of Tape Recorder

- As you will recall, this focus/discussion group will be recorded to increase accuracy, analyze the discussion topics and to reduce the chance of misinterpreting what anyone says.
- Transcripts will be created using the audio recordings of the focus/discussion groups. All tapes and transcripts will be kept under lock and key by the researcher.
- Names will be removed from transcripts. Participants will have coded numbers attached to their name which only we will know.
- Only I and the co-researchers will have access to transcripts (with your personal names removed) of this focus group.
- I’ll also ask that when using abbreviations or acronyms, you say the full name at least once to aid transcription.
- We may also write down key points during the focus group and take notes.

Group members introduce themselves to the group – remind them that it is first name only.

Hand out a copy of the questions for private responses.

II. INTERVIEW

Facilitator will remind the group that when we refer to a complex student, we mean those who have a neurodevelopmental or medical disorder (e.g., Learning Disability, Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Epilepsy) as well as a mental health issue (e.g., Anxiety, Depression).

Focus group discussion begins with the facilitator asking the first question.

Interview questions:

- 1) What resources are available to you to support students with complex needs?
- 2) What resources do you use regularly:
 - a) From your school?
 - b) From community?

- c) For teachers/staff?
 - d) For students?
- 3) How easy or challenging is it for you to access resources to support students with complex needs?
- 4) What do you see as barriers for supporting students with complex needs?
- a) In the classroom
 - b) In your school
 - c) In your community
- 5) How effective are the resources:
- a) For teachers/staff?
 - b) For students?
- 6) Do you feel the students are adequately supported as a result of using the resources that you have available?
- 7) What do you need as a teacher/staff to better support students with complex needs?

Is there anything we missed or is there something else important that we should know about?

III. CONCLUSION

- Introduce the background information sheet and have participants complete and leave the sheet face down.
- Remind participants that what was said in the focus should not be repeated
- Thank the participants.

Appendix B

**Recruitment Email
Sent on Behalf of the Researcher
By the Renfrew Educational Services**

**Carly McMorris, PhD
University of Calgary**

Study Title:

Complex Students: Understanding how to best supports students with a comorbid developmental or physical health need.

Email Subject: University of Calgary study about supporting students with complex needs.

A message for all staff:

Dr. Carly McMorris, a researcher from the University of Calgary, has contacted Renfrew Educational Services asking us to inform staff about a study she is completing on students with complex needs. Students with both a developmental or physical health issue have complex needs, and Carly is interested in understanding how these students are supported within classrooms at Renfrew, and what resources staff use or need to help students with complex needs to be successful.

You are encouraged to take part in a 1-hour group discussion with a small group of teachers/staff (focus group) to share your experience working with students with complex needs. Lunch will be provided and you will have your name entered in to win 1 of 3 Visa gift cards worth \$25.00

The focus group will meet during lunch hour at various Renfrew locations. As discussing experiences is personal, the information you provide is handled confidentially and you may stop being in the study at any point. Information received from the focus group will be presented back to Renfrew Education Services as aggregated data (group data). Thus no individual or identifying information will be associated responses provided in the focus group.

The purpose of the focus group is to collect information from teachers/staff that will inform Renfrew and local decision-makers about how teachers/staff and students access resources and the gaps that exist in current supports. If you have a unique opinion on how to support students with complex needs, this is an opportunity to share your perspective through research that aims to improve future education policies and practice.

If you are interested in participating in the focus group, please **contact Carly directly** via email at camcmorr@ucalgary.ca and she would be happy to give you more information and full details of the study.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

Thank you,

Carly McMorris, PhD, R. Psych

Assistant Professor, Werklund School of Education
Alberta Children's Hospital Research Institute (ACHRI)
University of Calgary
EDT 508; 2500 University Dr. NW
Calgary, AB T2N 1N4
403-220-5457

The Owerko Centre
Child Development Centre (CDC)
355, 3820- 24 Avenue NW, Third Floor
Calgary, AB T3B 2X9
403-441-8410

Appendix C

Name of Researcher, Faculty, Department, Telephone & Email:

Carly McMorris
Werklund School of Education, School and Applied Child Psychology
403-220-5457, camcmorr@ucalgary.ca

Gabrielle Wilcox
Werklund School of Education, School and Applied Child Psychology
403-220-2534, gwilcox@ucalgary.ca

David Nordstokke
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403-220-4212, dnordsto@ucalgary.ca

Research Assistant:

Muzna Choudhry
Werklund School of Education, School and Applied Child Psychology
michoudh@ucalgary.ca

Renfrew Researcher:

Ryan Matchullis
RyanMatchullis@renfreweducation.org

Title of Project:

Complex students: Understanding how to best supports students with a comorbid developmental or physical health need

Sponsor:

Werklund Research Collaboration Grant
Werklund School of Education, University of Calgary

This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

Participation in this study is completely voluntary. You are free to discontinue participation at any time during the study.

Purpose of the Study

Approximately 20% of youth in Canada suffer from a mental health issue. Individuals with neurodevelopmental or medical disorders are at even higher risk for experiencing poor mental health than the general population. Students who experience multiple complex issues require more academic, behavioural, and social-emotional supports. Little is known about what supports these individuals are accessing, what they need, and how to support them at school. The purpose of the study is to identify the academic needs of students with complex needs (e.g., a mental health disorder and a developmental issue), and understand how teachers and staff support these students in an academic environment. Findings from this study could improve the use and accessibility of resources, as well as teacher and staff well-being within schools in Calgary.

What Will I Be Asked To Do?

You will participate in a focus group comprised of teachers and staff from Renfrew Education Services to discuss current matters pertaining to services for students who have complex needs in the classroom. Complex students may have a neurodevelopmental (e.g., Learning Disability, Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder, Epilepsy) as well as a physical or mental health issue, and require more support at school. Researchers from the study will act as group facilitators to guide a collaborative discussion based on your experience of how school or community services are accessed or coordinated for these students. Your group will consist of a maximum 15 participants, and the focus group will convene during lunch, for approximately 1 hour, at a Renfrew location. Lunch will be provided and your name will be entered into win 1 of 3 Visa cards (\$25.00).

An audiotape of the entire meeting will be recorded for the researchers to reflect and analyze the discussion topics for the purpose of the study.

All participants are invited to freely and respectfully express their opinion, build and elaborate on the ideas of others, and share their personal experiences or challenges on the topic. Additionally, participants may discuss issues that the researchers had not previously considered. This allows the researchers to gain a more authentic understanding of teacher perspectives without over-guiding the discussion.

An example of a discussion topic we would like to explore is: “What resources are available to you to support students with complex needs?”

Participation is completely voluntary. You may refuse to participate altogether, refuse to participate in parts of the study, decline to answer any and all questions, and may withdraw from the study at any point in time without judgment or penalty from the researchers, or Renfrew Education Services.

What Type of Personal Information Will Be Collected?

Minimal personal information is collected in this study. Should you agree to participate, you will be asked to provide your gender, teaching area, years of experience, experience with complex students and current position. This information will be used to describe the whole group and will not be associated with any individual participants.

The audio recording of the focus group will only be accessed by members of the research team and will not be shown to the public at any time. Your given name may be used during the discussion, but it will be excluded from the audio transcription.

There are several options for you to consider if you decide to take part in this research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I grant permission to be audio-taped: Yes: ___ No: ___

I wish to remain anonymous: Yes: ___ No: ___

I wish to remain anonymous, but you may refer to me by a pseudonym: Yes: ___ No: ___

You may quote me if I remain anonymous: Yes: ___ No: ___

The pseudonym I choose for myself is: _____

Are there Risks or Benefits if I Participate

There are no foreseeable risks associated with this research project. However, some teachers or staff may feel uncomfortable when sharing a difficult experience working with a challenging student. You do not have to disclose information that you are not comfortable sharing. You will have an opportunity to provide a private written statement to the researchers to disclose information you are not comfortable sharing in the focus group.

Hearing other teachers and staff express their challenges and successes in the classroom can be a rewarding experience, and it is beneficial to learn about new and effective services or resources used in practice by other teachers.

What Happens to the Information I Provide?

The research team, including the research assistant, will have access to the information collected, but each participant will be coded with a participant ID to ensure anonymity. All identifiable information will be encrypted. Your employer will not have access to the information you provide, and your participation will not affect your job position.

The nature of the focus group prevents complete confidentiality, as participants are exposed to the personal responses of other group members through the context of discussion. All participants will be asked not to disclose anything said during the focus group, and by consenting to participate, you agree to not disclose anything from the focus group.

You can withdraw your participation and data collected at anytime. Please contact Dr. Carly McMorris at camcmorr@ucalgary.ca or 403-220-5457 should you decide to withdraw. All previously collected data you have provided will be destroyed. Withdrawal from the study does not impact your ability to participate in future research with the University of Calgary. There are certain limitations to this withdrawal process. Focus groups involve participants building off of the contributions of others, meaning that even if one statement is removed, the participant’s contribution could be alluded to by others. Additionally, voices may be difficult to distinguish, so removing the entire contribution of a participant may be infeasible.

No one except the researchers will be allowed to see or hear any of the focus group responses or the audio recording. None of the administrators will be present for the focus groups and information provided by the participants will not be shared with Renfrew Educational Services. Only group information will be summarized for any presentation or publication of results. The data are kept in a locked cabinet only accessible by the researcher team. The anonymous data will be stored for five years on a computer disk, at which time, it will be permanently erased.

Would you like to receive a summary of the study’s results? Yes: ___ No: ___
If yes, please provide your contact information (e-mail address, or phone number)



Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____

Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date: _____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Dr. Carly McMorris
Werklund School of Education, School and Applied Child Psychology
403-220-5457, camcmorr@ucalgary.ca

If you have any concerns about the way you've been treated as a participant, please contact the Research Ethics Analyst, Research Services Office, University of Calgary at (403) 220-6289/220-4283; email cfreb@ucalgary.ca. A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

Appendix D

Focus group discussion begins with the facilitator asking the first question.

Interview questions:

- 1) What resources are available to you to support students with complex needs?
- 2) What resources do you use regularly:
 - e) From your school?
 - f) From community?
 - g) For teachers/staff?
 - h) For students?
- 3) How easy or challenging is it for you to access resources to support students with complex needs?
- 4) What do you see as barriers for supporting students with complex needs?
 - a) In the classroom
 - b) In your school
 - c) In your community
- 5) How effective are the resources:
 - c) For teachers/staff?
 - d) For students?
- 6) Do you feel the students are adequately supported as a result of using the resources that you have available?
- 7) What do you need as a teacher/staff to better support students with complex needs?

Is there anything we missed or is there something else important that we should know about?

Appendix E

Focus Group Background Information Sheet

Complex Students: Understanding How to Best Support Students with Mental Health Issues and a Comorbid Developmental or Physical Health Need

Instructions:

The following information will be used to describe the whole focus group. Please complete the background information questions and **do not provide your name:**

1. I am a (Check one):

Male Female Prefer not to say Other:

2. What is your job title: _____

2. How many years have you been in this role: _____

3. How many years of experience do you have working with children with developmental or physical disabilities: _____

4. Please outline your education background:

5. My training or experience in working with mental health needs is:

limited (less than 1 year)

moderate (1-5 years)

extensive (more than 5 years)

6. Do you have any specialized training in working with students with mental health needs?
