

**Issues with the Psychoeducational Assessment from a Parents Perspective and the
Effectiveness of Academic Interventions for Adolescents with ADHD Provided by the
School: A Narrative Literature Review**

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Abstract

This narrative literature review explores the challenges of adolescents with ADHD and/or comorbid disorders in classroom interventions (e.g. reading, writing, and organization skills) as well as the psychoeducational assessments involving their parents. The review draws from literature in three disciplines: psychology, education, and critical disability, in order to identify and highlight the issues, gain insights and demonstrate the subject's intricate nature.

The research questions explore the challenges parents face with psychoeducational assessments. It also explores the effectiveness of academic skills interventions provided by special education programs for adolescents with ADHD or ADHD and comorbid disorders. The review surfaces a gap in the literature on the issues of psychoeducational assessments generally and, specifically, a lack of peer-reviewed studies in Canada, which is the primary jurisdiction of interest. Six main themes emerged from ten studies, as well as three intersecting themes related to both assessments and interventions. Intersecting themes included compliance, willingness, effectiveness, and stigma. An analysis of the themes reveals that parents often adhere to assessment recommendations but struggle with the complexity of the report and question its efficacy. Adolescents' unwillingness to participate in interventions was related to issues such as perceived ineffectiveness and stigma. The analysis reveals that these issues hinder effectiveness in assessments and interventions. The conclusions offer insights on these issues and make recommendations that may assist adolescents with ADHD.

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Issues with the Psychoeducational Assessment from a Parents Perspective and Effectiveness of Academic Interventions for Adolescents with ADHD Provided by the School: A Narrative Literature Review

Introduction

Adolescents with ADHD often face academic difficulties at school and may require an assessment and diagnosis in order to access special education services in public schools. This narrative literature review addresses two research questions concerning psychoeducational assessments and school-based academic interventions for adolescents with ADHD, with or without comorbid disorders.

Research indicates that there are ongoing challenges in these areas for children, parents, teachers, psychologists, and medical professionals. The review aims to explore the challenges parents and adolescents face by highlighting the issues and intersecting themes in the literature that may provide insights. While exploring assessment-related issues experienced by parents, a gap in the literature was identified, highlighting the need for further research. Additionally, the effectiveness of school-based interventions for adolescents with ADHD that target academic skills, such as reading, writing, and organization, revealed a gap in peer-reviewed literature specific to Canada.

The two research questions are:

1. What issues do parents face with the psychoeducational process and reports?
2. What are the issues with the academic skills interventions provided by schools for adolescents with ADHD or ADHD and comorbid disorders?

Because the availability of Canadian-specific peer-reviewed studies is limited, and in order to acknowledge the applicability of research findings from US studies, the Canadian context of special education interventions and parental views on assessments were incorporated. The different types of practitioners conducting assessments and the various tools

they use, which may lead to variations in assessments and reports, were acknowledged in relation to the results.

The comorbidity of social-emotional disorders with ADHD and learning disorders was recognized as it has implications for the effectiveness of academic interventions, especially for children without access to mental health services or those not receiving treatment. Lean and Colucci (2010), in their book *Barriers to Learning*, emphasize the interconnection between educational achievement and mental health, highlighting the negative impact on academic progress when academic interventions are not combined with mental health treatment. Barriers to learning, such as learning disabilities, ADHD, ODD, conduct disorders, and related anxieties, affect both slow learners and gifted students. Additionally, environmental and circumstantial barriers outside of school also impact learning.

Theoretical concepts and models of disability are examined regarding academic interventions and psychoeducational assessments, which are the central research questions of the study. Understanding these models and concepts is essential for grasping the underlying meaning and implications of the current system and the themes under discussion.

A narrative literature review method was chosen because it aligns with the scope of the questions and the writer's preferred method of delivery. According to Baumeister and Leary (1997), a narrative literature review serves five goals, two of which are particularly relevant to this research: surveying the literature on several topics for integration and identifying problems or weaknesses. In line with these goals, this review aims to inform readers of issues related to assessments and interventions and propose recommendations for addressing these problems. As noted by Sarkar and Bhatia (2021), narrative reviews provide a concise review of the literature while allowing for the exploration of questions and stimulation of additional further research. This method promotes multiple avenues of inquiry relevant to interdisciplinary research. The objectives of this review are twofold: to explore psychoeducational assessments from the perspective of parents and to determine the effectiveness of academic interventions for

adolescents. It will also present the intersecting issues that emerge from both areas, potentially offering insights.

The paper begins with an introduction and an integrated background/ literature review, followed by the method section. It incorporates the steps outlined by Green et al. (2006) for the narrative literature review (detailed in the method section). The results of the ten selected studies are then presented, with the analysis/discussion focusing on the intersecting themes derived from the results. Finally, the conclusion follows the recommendations and the writer's perspectives.

Chapter One

Background and Literature Review

Attention Deficit Hyperactivity Disorder (ADHD)

Description

Attention Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder linked to heredity and environmental factors. ADHD is characterized by inattention, impulsivity, emotional dysregulation, and cognitive performance problems. It is associated with executive function deficits such as dysfunction in verbal and visual-spatial working memory, inhibitory control, and planning. Other cognitive challenges include difficulties with language, memory span, processing speed, response time variability, arousal and activation, and motor control (Faraone et al., 2015). The diagnosis of ADHD is a “diagnosis of exclusion and should not be diagnosed if the behavioural symptoms can be better explained by other mental disorders (e.g. psychotic, mood, or anxiety disorder, personality disorder, substance intoxication, or withdrawal”) (Dreschler et al., 2020, p. 316). Note that comorbidity with other mental disorders is common.

Lange et al. (2010) traced the history of ADHD to physician and author Sir Alexander Crichton in 1798, who described it as “the incapacity of attending to a necessary degree of constancy to any one object” (p.242). The timeline references children's stories by medical doctor and author Heinrich Hoffman, titled “Fidgety Phil” (1844) and “Johnny-Look in the Air” (1847), which reflect ADHD symptoms. German physician Melchior Adam Weikard first described attention disorders in his medical textbook as early as 1775 (Barkley & Peters, 2012). This historical perspective illustrates that ADHD has been recognized and studied for a long time, providing valuable insights into our understanding of the disorder. It highlights how early societal perceptions of ADHD often depicted it in a negative and debilitating light. Today, more authors have emphasized the positive aspects of ADHD, contributing a positive outlook to the

ongoing research in the field (Lee et al., 2020; Sedgwick et al., 2019; Merwood & Asherson, 2011).

Re and Capodieci (2020) discussed two approaches to the theories of ADHD. The neuroscientific approach aims to identify a genetic cause for ADHD while also acknowledging the influence of the environment. The authors referenced a study by Faraone and Larsson (2019), in which a review of 37 twin studies found evidence of a heritability link in 74% of cases. For example, low dopamine levels are associated with genes that regulate this neurotransmitter. On the other hand, the neurocognitive approach explores impairments in cognitive processes, such as executive function, working memory, and inhibition, in order to explain ADHD. One prominent model in this approach is Barkley's theoretical model of behavioural inhibition, which incorporates difficulties with working memory, emotional control, motivation, and arousal. On a related note, Nigg and Casey (2005) discuss the engagement of frontal brain areas in applying voluntary versus involuntary attention that impacts learning. These two approaches provide valuable scientific insight into the underlying genetic and cognitive mechanisms of ADHD, thereby contributing to a better understanding of this complex disorder.

ADHD and Academic Difficulties: Reading, Writing, Organization

Academic challenges often lead to a psychoeducational assessment in order to access special education resources. Research shows that children with ADHD often perform below their ability and have a higher incidence of failing courses, receiving lower grades, repeating courses, and failing to graduate from school (Barkley, 2006). This paper focuses on fundamental academic skills such as reading, writing, and organization.

Studies indicate that children with ADHD frequently have deficits in reading and reading comprehension skills, have comorbidity with reading disabilities, and experience difficulties in language organization and expressive language (Ghelani et al., 2004). The relationship between executive functions and skills in word reading, comprehension and listening, and fluency and verbal reasoning, which predicts comprehension levels in children,

was noted by Cirino et al. (2019). They also report a strong correlation between inattention and reading and comprehension. Hidi (1995) explains the role of attention in learning from reading text through a model that illustrates a causal, linear relationship between importance, attention, and learning. According to this model, the reader allocates or directs attention to information that is deemed important, which brings about learning. Additionally, Miller et al. (2013) examined reading comprehension by assessing the recall abilities of children with ADHD and found that working memory especially contributed to reading recall deficits and reading difficulties.

Writing difficulties are also prevalent among children with ADHD. Research has shown a connection between writing abilities and executive function, specifically the roles of working memory, visual-spatial deficits, attention, and regulation in writing. A meta-analysis on writing revealed lower scores in the writing ability of students with ADHD compared to typical classmates and confirmed the need for support services in this area (Graham et al., 2016). The writing process is goal-directed and requires planning and the logical organization of content. Essential skills include grammar, sentence structure, vocabulary, spelling, handwriting, inference, and perspective-taking (Kim, 2020). In the writing process, inhibition problems make staying on task difficult (Semrud-Clikeman & Harder, 2011).

Regarding *organization*, researchers have discussed the relationship between executive function and working memory, highlighting problems with goal setting and organization, particularly for complex tasks. Nyman et al. (2010) reported that participants often had difficulty sustaining attention, suppressing urges, and maintaining cognitive flexibility. A study on task analysis and a goal-setting intervention found that deficits in executive functions (working memory, inhibition, shifting tasks) affect academic performance (Rivera et al., 2019). Executive function, connected to goal-directed behaviour, is described in Baddeley's model of working memory involving the phonological loop and visuospatial sketchpad (Nyman et al., 2010).

The literature reviewed points out a connection between ADHD and academic difficulties in reading, writing, and organization. For instance, Ghelani et al. (2005) found that ADHD participants had more difficulty with reading, reading comprehension, memory, and attention than the non-ADHD group. Cirino et al. (2019) noted a connection between executive function deficits and reading skills. Semrud-Clikman and Harder (2011) indicated a relationship between executive functions and writing, planning, and organization problems. Furthermore, researchers pointed to significant differences between the ADHD group and the typical group in goal-directed behaviour (planning and goal setting) in Nyman et al. (2010) and a relationship between executive function deficits and goal setting in Rivera et al. (2019).

Academic difficulties become barriers to success for students with ADHD, and access to special education services often depends on receiving an assessment and diagnosis.

ADHD and Comorbidity

Comorbid disorders such as autism, learning disabilities, depression, and anxiety commonly co-exist or overlap with ADHD. Comorbidity is often included in studies on ADHD due to their interconnectedness, as observed in the studies cited for the review. Specifically, students who undergo assessments and receive special education services that encompass accommodations and interventions commonly comprise a combination of these disorders in mainstream classes or resource rooms. For example, children with anxiety may experience similar problems to those with ADHD (with or without the other disorders), such as lack of attention, poor concentration, nervousness, and restlessness, and these problems are influenced by genetics and neurobiological and psychological functioning (Jarrett & Ollendick, 2008). Anxiety and depression are internalizing disorders (American Psychiatric Association, 2013) that are also highly comorbid with ADHD (13%-15%) and with externalizing disorders such as conduct disorder (CD) and opposition defiant disorder (ODD) (43-93%); the overlap of symptoms between generalized anxiety disorder and ADHD is approximately 75% (Jarett & Ollendick, 2008). Clinical experiences suggest that anxiety and depression are common with

ADHD and/or autism, affecting communication, social adjustment, and cognition (Davidsson et al., 2016). In addition, comorbidity between ADD/ADHD and autism spectrum disorders was officially recognized in DSM-V (2013). Patients with various ASD symptoms not shared with ADHD differ from those with ADHD. However, patients with less severe ASD symptoms may not qualitatively differ from those with ADD/ADHD (Acquaviva & Stordeur, 2014). Also described in this same study, there may be a genetic overlap between the two disorders, with 30-80% of patients with ASD meeting the criteria for ADHD and 20-50% of patients with ADHD meeting the criteria for ASD (p. 307).

Additionally, there is a high comorbidity between ADHD and learning disabilities. Research studies indicate that 25-50% of children with ADHD also have learning disabilities (Barkley, 1994, as cited in Mayes et al., 2000). ADHD/LD children face more difficulty with learning compared to those with ADHD or LD alone. It is noteworthy that children with ADHD without diagnosed LD experience learning problems, and children with LD without diagnosed ADHD both experience attention problems. Attention and learning problems are interconnected, and children with ADHD have a higher frequency of learning disabilities compared to children without ADHD (Mayes et al., 2000).

Comorbidity was an inclusion criterion in the studies selected for this paper, highlighting its prevalence among students with ADHD. This characteristic encompasses the diverse range of disabilities encountered in psychoeducational assessments and classrooms requiring academic interventions. Understanding the complex needs of students or participants within the school system is crucial for effectively addressing and mitigating challenges in such environments.

Research Question One: Psychoeducational Assessments

A primary purpose of conducting cognitive and achievement tests is to support students, such as adolescents with ADHD, who experience academic challenges. The following provides a brief introduction to the assessment process related to research question one.

In Canada, psychoeducational assessments are typically administered and evaluated by registered psychologists within or outside the schools. The process generally comprises several stages: intake and clinical interview, self-reported parent and teacher rating scales, standardized testing on cognitive and academic abilities, and socio-emotional functioning, culminating in a written report containing a diagnosis, test results, and recommendations.

An assessment may include the identification of learning disabilities, ADHD, intellectual disabilities, and learning disabilities in reading (dyslexia), writing (dysgraphia), and mathematics (dyscalculia) (DSM-V). The assessment report usually lists recommendations for improving and supporting difficulties with learning. Following an assessment and identification of a disorder, such as a learning disability, children in public schools may be eligible for academic support through special education programs. In Ontario, the Education Act defines five categories of exceptionalities: behavioral, communication, intellectual, physical, or multiple. These categories allow for consideration of placement in special education programs implemented by school boards, which are designed to meet the needs of students with various challenges, including ADHD. Special education in public schools is the primary method for helping students with ADHD to develop or improve their academic skills. This helps students succeed in high school, pursue higher education, and achieve lifelong social mobility. Key components of the program include interventions in math, reading, written language, note-taking, test-taking, and time management, typically taught by special education teachers.

Parents' Perspectives: Canadian Considerations

The Canadian contribution to the topic of parents' perspectives and assessments highlights this area of interest. It addresses the identified gap in peer-reviewed studies on parents' views and complements the US literature.

Fletcher et al. (2015) identified three components of an effective assessment report for parents: understanding the report, utility of the report, and ratings of satisfaction. Parents

expressed dissatisfaction with the assessment labels, content, and inclusion processes (Edmunds & Martsch-Litt, 2008; Buzanko, 2018).

Pentyliuk (2002) and Buzanko (2018) emphasized the importance of parental involvement and understanding in the assessment and school intervention process. Pentyliuk (2002) found that parents often faced challenges understanding the assessment process, the report's results, and the diagnosis because of technical language, confusing test results, and lack of information. Parents also raised concerns about the stigma associated with the learning disability label, feeling that their child was being labeled without sufficient emphasis on their strengths. For instance, one parent perceived the label as implying *slowness*. Similarly, Buzanko (2018) highlighted concerns about the clarity and substance of the reports and stressed the need to incorporate parental input in the process to enhance satisfaction. Parents expressed concerns about insufficient transparency and a lack of knowledge about what was being tested. The reports were often too technical and difficult to comprehend, making it challenging for parents and students to prepare for the assessment.

Despite these challenges, there were positive aspects to the assessments. Pentyliuk (2002) found that parents valued the assessment information as useful in relation to services for their children. Positive outcomes included gaining insight into their child's strengths and weaknesses, receiving recommendations, and accessing resources. Regular communication between teachers and parents was considered essential to support parents at home, along with annual reviews and Individualized Education Program (IEP) meetings.

Pentyliuk (2002) suggested that increasing parent participation in the assessment and school intervention process through education reform could enhance effectiveness, acceptance, and understanding, leading to improved academic achievement. Both Pentyliuk (2002) and Buzanko (2018) concluded that parental input and understanding of assessments are essential for improving clinical practices, delivering quality services, and enhancing parental well-being.

Regarding compliance with the recommendations, Dreyer et al. (2010) reported that parents highly valued the recommendations in the assessment report, with 81.5% reporting compliance and 74.9% considering them important. However, compliance faced barriers such as lack of time, financial constraints, and negative beliefs or views about the interventions. The authors highlight the limited literature on compliance outcomes following assessment recommendations.

Teachers' Perspectives

Although the primary focus of this research paper is on parents, it is important to note that the reports are also intended for teachers, school psychologists, counselors, special education administrative staff, and other school officials. In addition to the literature discussed below, some studies include both teachers' and parents' viewpoints. This integration is important for gaining a better understanding of the broader challenges.

The literature on teachers reveals that they generally prefer theme-based, non-technical reports over test-by-test results technical style reports (Fletcher et al., 2015; Lindelauf et al., 2018; Umana et al., 2020; Mastoras et al., 2011). However, their experience makes a difference: new teachers find the non-technical, theme-based reports more useful and understandable, whereas experienced teachers find the technical test results-based reports more useful -- especially if they include recommendations and appendices (Fletcher et al., 2015). Test-by-test results helped experienced teachers understand the underlying reasons for the child's difficulties more than teachers with less than 10 years of experience (Lindelauf et al., 2018). Teachers prefer detailed, concrete, specific recommendations, especially as they find them useful for individualized education planning and intervention implementation (Fletcher et al., 2015; Umana et al., 2011). They dislike general and impractical recommendations irrelevant to their daily work and prefer that psychologists provide examples of how they work in teaching practice (Lindelauf et al., 2011). All teachers found jargon-filled, excessive technical language challenging to understand (similar to parents) and read (Fletcher et al., 2015; Lindelauf et al.,

2018; Umana et al., 2020). Teachers preferred long descriptive reports (Umana et al., 2020) and considered the reports more useful than psychologists (Fletcher et al., 2015). Lindelauf et al. (2018) found that teachers preferred reports that include assessment information on the student's personality. Psychologists in the Fletcher et al. (2015) study were neutral toward either style – theme-based or test-by-test results – finding no difference in understanding, readability, and organization of the report. They rated various styles of reports as equivalent. The literature indicated that psychologists understand reports better than teachers, possibly because psychologists are more familiar with the genre's style of writing and presentation.

Integrating the perspectives of both teachers and parents reveals shared concerns. Both parents and teachers find jargon-filled, excessively technical language challenging to understand. Additionally, both groups appreciate detailed, specific recommendations that are practical and relevant to their needs. This alignment suggests that reports could be improved by focusing on clear language and providing practical recommendations. Increasing parent and teacher input in the assessment process, as suggested by Pentyliuk (2002), could enhance understanding, acceptance, and the effectiveness of the assessments.

Practitioners Differences

Differences among practitioners refer to variations in assessment tools, practices, and settings employed by different practitioners, even within the same profession. These may influence assessments and reports and how parents interpret them. Note that the studies on parents' perspectives did not account for these nuances.

Other than psychologists, various practitioners such as general practitioners, psychiatrists, and pediatricians conduct psychoeducational assessments for school-aged students. These practitioners may utilize diagnostic criteria other than the recommended Diagnostic and Statistical Manual of Mental Disorders (DSM-V), created, published, and updated by the American Psychological Association (APA). Inconsistent tools and methods employed by various practitioners could result in variances in their reports' results, diagnosis, and content.

Research Question Two: Academic Interventions

Special Education

Special education in Canada and the US share similarities that make the literature on academic interventions from both jurisdictions relevant in this paper. To provide context, it is useful to briefly describe special education in both countries. Key aspects of service delivery highlighted include relevant laws, interventions for academic skill difficulties, Individual Education Plans (IEPs), prerequisite assessments for accessing resources, and segregated classrooms. Both the Canadian and US systems are designed to support children with difficulties in academic areas.

In these countries, a diagnosis of ADHD and/or comorbid disorders may be necessary to access public special education services. These resources are aimed at helping students overcome academic challenges and reduce the achievement gap between students with and without disabilities, thus increasing their likelihood of obtaining a high school diploma, which is often a requirement for higher education. In Canada, special education programs are based on the principles of civil rights and social justice. The provincial and territorial governments are responsible for special education programs, while the federal government has a funding and research role. Each province and territory has its education system and policies for special education. School boards are legally responsible for providing education for all children, including exceptional children (Ontario, Ministry of Education, 2017). An estimated 5-9% of children and 3-5% of adults have ADHD (1.8 million Canadians) (CADDAC, 2022).

According to the Ontario Ministry of Education (2017), an “exceptional pupil” means a pupil whose behavioural, communicational, intellectual, physical or multiple exceptionalities are such that he or she is considered to need placement in a special education program by a committee, established under subparagraph iii of paragraph 5 of subsection 11 (1), of the board” (p. D35). Teachers who work with exceptional children receive specialized education training.

Educational policies in Canada may involve making changes to the school environment to support exceptional children. These changes could include placing students with disabilities in self-contained (or separate) classrooms or schools and creating an individual education plan (IEP) that caters to the student's needs through accommodations and interventions.

Children who receive special education services may spend one part of their day in separate classrooms and another part in mainstream classrooms, depending on the severity of their disability (ranging from mild to severe). Though some parents may prefer special education classrooms for their children (DeBoer et al., 2010; Gordon, 2010), research indicates that the exclusionary nature of separate classrooms is not just viewed as an injustice and an infringement of children's right to an equal education, but it also has negative effects. Dalgaard et al. (2022) highlight the social isolation and stigma that students experience in segregated classrooms tailored to their academic needs. Tkachyk (2013) argues that segregated classes are necessary for some exceptional students, such as those with mild cognitive disabilities, who have a significant gap between cognitive ability and achievement. Special education in public schools is complex and intricate, with both positive and negative aspects.

In the United States, legislation has shaped special education, beginning with the Education for All Handicapped Children Act of 1975. The act was renamed the Individuals with Disabilities Education Act (IDEA) in 1990 and amended several times, with a key amendment in 2004 (Wilmshurst & Brue, 2010). The Act is similar to Canadian legislation in that it aims to ensure equal educational rights for children with disabilities (Terman et al., 1996). IDEA mandates that all children with disabilities receive a free, appropriate public education that includes procedural protections and IEPs in the least restrictive environment. The Federal Government in the United States establishes the legal framework through the Individuals with Disabilities Education Act (IDEA). The state governments are responsible for implementing and administering special education programs, and the local school districts develop Individualized Education Programs (IEPs) and provide educational accommodations and support to students.

Similar to Canada, IEPs are used to customize educational plans based on the individual needs of students with disabilities. With respect to separate classrooms, most students in the US with an identified disability spend more than 80% of their school day in a general education classroom (Dudley-Marling & Burns, 2014, p. 17).

Academic Interventions

Academic intervention is a “strategy used to teach a new skill, build fluency in a skill, or encourage a child to apply an existing skill to new situations or settings” (Academic Intervention: Definition, Plan & Strategies, 2021). It is not an accommodation or modification. Modifications “alter or reduce expectations to allow the individual to succeed” (p. 335), and accommodations are “strategies designed to mediate the impact of disability by providing a benefit to the student with the disability that would be of a lesser benefit to the student without the disability; this is referred to as a deferential boost” (Harrison et al., 2013, as cited in Hustus, 2020, p. 335).

Interventions provided by special education programs aim to help students develop skills in areas such as reading, writing, organization, and note-taking. An example of a modification is reducing the length of an assignment. Extra time on tests and assignments is considered an accommodation.

The literature on academic and study skills often overlaps, and interventions can address both areas. Since the literature on interventions and the recommendations in the assessment may not distinguish between these two areas, the criteria for selecting studies for the current review were broad.

Academic Interventions: Canadian and US Considerations

The literature on academic interventions (the second research question) emphasizes the efficacy of interventions. Although the literature reports positive outcomes in terms of improved academic performance and efficacy, several authors comment on the challenges of efficacy.

The positive findings for the efficacy of academic interventions for students with ADHD are supported by several studies. The key findings are as follows: (1) A meta-analysis by

DuPaul et al. (2012) of 60 outcome studies found positive efficacy outcomes for academic interventions. (2) Stewart and Austin (2020) conducted a systematic review of 16 studies on reading interventions, which also showed positive efficacy outcomes. (3) Cheng et al. (2022) conducted a rapid review of 18 studies on higher-order writing interventions, reporting positive results for efficacy. These reviews collectively demonstrate the efficacy of interventions for students with ADHD in enhancing academic performance.

On the other hand, some authors had concerns about the efficacy of interventions. (Elik et al., 2015) identified “probably efficacious interventions” (p. 41-43) in their article on the usage of evidence-based interventions by teachers. Hustus et al. (2020) indicated that “the alignment between deficits, goals, and evidence-based interventions is inconsistent with expectations in IDEA” (p. 343), the Individuals with Disabilities Education Improvement Act (US). Furthermore, Cheng et al. (2022), Raggi and Chronis (2006), Bramlett et al. (2010), and Datchuk and Kubina (2013) commented on gaps in the literature regarding outcome studies on writing.

Disability Theories

A Discussion of Models

The discussion on the theoretical concepts of disability models aims to provide a deeper understanding of deficit-based psychoeducational assessments and special education practices. Academic interventions and psychoeducational assessments are central to the research questions and are closely tied to disability concepts.

Several models have emerged to understand disability in relation to psychoeducational assessments and special education academic interventions. This narrative literature review acknowledges the value of the medical model of disability for offering practical and pragmatic strategies to support learners and their families. However, this perspective is also infused with a relational lens that recognizes the stigma experienced by individuals as a result of medical models and special education practices, which often suggest that learners should “change” to fit the system rather than advocating to change the system that gives rise to disability concerns.

First, the DSM 5, the taxonomy for identifying impairments in psychoeducational assessments, aligns with the medical model. This model suggests a person's 'impairment' can be diagnosed, and these difficulties can be improved through interventions (Oliver, 1998; Scotch, 2000; Pfeiffer 2001, as cited by Jackson, 2018, p.3). ADHD, therefore, can be viewed as a deficit-based diagnosis where the deficit is seen as residing within the individual and in need of remediation (Baglieri et al., 2015). This leads to special education programs and academic skill interventions that modify and improve the individual's performance, aiming for academic success.

However, the use of disability labels in assessments is controversial. Dirth and Branscombe (2017) note that viewing disability as a medical condition that is inherent in individual bodies and minds sets the stage for bias and discrimination against people with disabilities as it becomes challenging to separate disability from individuals who experience it. Adams et. al. (2005) point out that disability is a "social construct that places people in social, political, and cultural categories" (pp. 103-104); it is often associated with negative stereotypes, stigma, and discrimination when frameworks of identification and responses operate from the position of a deficit. Stigma—"refers to the disapproval and disadvantage attached to people who are seen as different" (p. 173).

Second, the environmental model encompasses not only the physical environment but also cultural, economic, institutional, and educational factors that limit the participation of individuals with disabilities (Siebers, 2008, as cited in Gallagher et al., 2014). It advocates for modifying the environment, such as policies and practices, to reduce or eliminate these barriers; special education examples include having a private room in schools for test-taking, providing extra time, and integrating students with disabilities into general education classrooms.

Third, the social-relational model of disability posits that disability arises from the interaction between individuals with impairments and societal attitudes, communication, norms, and structures that create barriers. This model expands the social model, considering both

societal barriers and personal relationships. Reindal (2008) notes that in social-relational theory, the disadvantages of reduced function and restriction of activity associated with becoming disabled are dependent on social restrictions. For example, a child with disabilities who processes information slower may be viewed as having a "deficit" based on societal norms. Discrimination and prejudice against people with disabilities are based on the belief that typical abilities (e.g., speed of reading) are superior.

Alternatively, emphasizing students' strengths and recognizing the impact of social factors on their learning experience can help avoid negative experiences. Notably, there is a growing recognition among researchers of the positive aspects of ADHD. A study by (Sedgwick et al., 2018) identified six core themes related to positive aspects of ADHD: cognitive dynamism, courage, energy, humanity, resilience, and transcendence. They explain that ADHD is not a simple matter of normal versus abnormal but exists on a spectrum or continuum, and some aspects of ADHD can be adaptive - meaning that they can be strengths or attributes that compensate for deficits or impairments. Strengths include high functioning, hyperfocus, eidetic learning, compensatory strategies to overcome difficulties, high energy levels, creativity, empathy, and willingness to assist others. The positive aspects of ADHD align with neurodiversity perspectives that emphasize differences over deficits (medical model) and universal design for learning practices that focus on individual strengths, presumed competence, and learning to high standards for all students regardless of differences.

Stigma

Research indicates that families face stigma due to disability labels and diagnoses, which impacts self-esteem, inclusion, identity, and participation in academic interventions. Goffman's (1991) classic text noted that stigma:

...diminishes people "in our minds from whole and usual people to tainted, discounted ones. Such an attribute is a stigma, especially when its discrediting effect is very extensive; sometimes it is also called a failing, a shortcoming, a handicap."; "The

term stigma, then, will be used to refer to an attribute that is deeply discrediting, but it should be seen that a language of relationships, not attributes, is needed" (Goffman, 1991, p. 11, cited in Andersen, et al. 2022, p. 848).

The use of labels in assessments and special education is contentious. Lauchlan and Boyle (2007) discuss the benefits and drawbacks, noting that stigma from labels can lead to social exclusion and discrimination. Labeling can place the problem or impairment within the child, leading to lowered expectations and feelings of helplessness in overcoming difficulties. Additionally, subjective biases in labeling can result in inaccurate "truths and scientific facts" (Lauchlan & Boyle, 2007, p. 39). Individuals with ADHD often view their issues as beyond their control, pervasive, and unchanging (Varma & Wiener, 2020). ADHD is sometimes seen more as a personality trait than a disorder. Jones and Hesse (2018) explore how adolescents with ADHD perceive their diagnosis, which often negatively impacts their self-image and self-worth due to its association with a lack of abilities and school difficulties. The diagnosis can be seen as an external label that categorizes the individual as different, creating a devalued status that leads to stigma and self-esteem issues. However, a diagnosis can also provide access to resources and treatments, helping individuals understand their challenges and promoting clearer communication among professionals by reducing ambiguities (Jones & Hesse, 2018).

In conclusion, the dual nature of labeling can either facilitate or hinder academic interventions; or help or hurt students. The impact of labeling varies among individuals and requires further attention, especially from a family's perspective. To receive support, students must first identify with a disability—a label that many view as stigmatizing.

Neurodiversity

The term neurodiversity is an attempt to move away from the medical model of disability, as neurodiversity describes the variation in processing information and how people experience their environment. Sociologist Judy Singer coined the term in the late 1990s (Botha et al., 2024). It aligns with the social models of disability and refers to a concept and social movement that

advocates for the rights, inclusion, and acceptance of neurominorities. A neurodivergent person can be described as someone with a “diagnosis of a neurodevelopmental condition or who self-identifies with the features of a neurodevelopmental condition” (p. 451). Estimates suggest that 15-20% of the population is neurodivergent, which includes ADHD and autism, as well as specific learning differences such as dyslexia, dyspraxia, and dyscalculia (Bell, 2023).

According to Goldberg (2023), neurodiversity is about recognizing and valuing the natural variations in human neurological functioning rather than pathologizing or stigmatizing them. Neurodiversity challenges the traditional notion of ADHD as a deficit-based disorder. Instead, neurodiversity views neurominorities as having normal neurological variations representing human diversity, similar to biodiversity in the natural world (Masataka, 2017). Notably, these conceptualizations may help reduce the stereotypes and social stigma associated with mental disorders, including ADHD. Disability labels affect not only how children perceive themselves but also how they are treated by peers and teachers. Labels may also influence teachers’ assessments, leading to potentially inaccurate evaluations and a self-fulfilling prophecy (Metzger & Hamilton, 2021). The neurodiversity perspective challenges service delivery in schools, as it advocates for the implementation of inclusive education and adaptive teaching methods.

ADHD, diagnosed from a deficit-based perspective in an assessment, contrasts with the neurodiversity framework, which rejects deficit-based thinking. Psychological assessments reveal profiles of neurotypical and atypical individuals. The terms typical and atypical are neutral terms and describe the variations found in biological measurements among individuals (Bell, 2023, p. 973). In a distribution, data tends to cluster around an average, with fewer data points at the two extremes. A neurotypical person falls within this central cluster, while neurominorities are located at the extreme ends where fewer data points are found. Neurodiversity reframes ADHD from a deficit to a difference, promoting inclusivity.

The literature reviewed has given us valuable insights into the advantages and difficulties in the areas of study of this paper. However, there is a clear gap in the literature concerning psychoeducational assessments and the experiences of Canadian parents.

Chapter Two

Methodology

Description

This narrative literature review (review) examined the challenges faced by parents of adolescents with ADHD regarding psychoeducational assessments. It also addressed the issues with academic skills interventions provided by schools for adolescents.

The method followed the steps Green et al. (2006) listed for narrative literature reviews. The goal of this research was to examine and analyze the issues identified in the existing literature in order to gain insight into the challenges of helping adolescents with ADHD overcome difficulties with academic skills.

For this thesis, a narrative literature review was selected, as it aligns with a interdisciplinary and qualitative approach. Methodological guidance for conducting a narrative literature review was derived from two key articles: Green et al. (2006), *Writing Narrative Literature Reviews for Peer-Reviewed Journals*, and Baumeister and Leary (1997), *Writing Narrative Literature Reviews*.

First, this review focuses on two related topics of investigation that align with Baumeister and Leary's (1997) definition that "a narrative literature review is valuable when one is attempting to link together many studies on different topics, either for reinterpretation or interconnection" (p. 312). These topics include psychoeducational assessments and school-based academic interventions for adolescents with ADHD, which were analyzed in an interconnected way that also aligns with its interdisciplinary approach. Second, the narrative literature review follows a qualitative approach synthesizing existing, primary published materials on selected topics (Green et al., 2006). The search for articles in the review is not exhaustive; the author selects key materials that fit the argument rather than including everything relevant to the research questions. The narrative literature review thus enables a single researcher to conduct a literature research project within a reasonable timeframe. Third,

narrative literature reviews are often used for personal interest investigations, which is in line with this paper. It involves critically evaluating literature related to one or more investigations on a topic of interest to the researcher (Bourhis, 2017). Fourth, the narrative literature review method aligns with this project's research goals by discovering issues related to the research questions, identifying and discussing existing problems (Baumeister & Leary, 1997), and providing insights gleaned from the relationships and issues. The findings are expected to inform the reader, raise questions for future investigation, and propose solutions. Lastly, while there are no standardized rules for conducting a narrative review, and they are "less likely to adhere to high levels of methodological rigour" (Green et al., 2006, p. 5), the authors provide step-by-step instructions for the research process.

Overview of the Steps of the Narrative Literature Review by Bart Green et al. (2006), that this review will follow:

1. Step One
 - 1.1 Preliminary Search on Topics - to preview the number of articles available based on the research questions and refine the topic
 - 1.2 Research Questions
 - 1.3 Search Strategy – search, date range, keep track of search strings and search results; list sources of information
 - 1.4 Selection Criteria: Inclusions / Exclusions for selecting the articles guided by research questions (see Table 1)
 - 1.5 Search Results and Identification of Studies (see Appendix D and E)
2. Step Two: Synthesize the literature: Describe and synthesize the literature based on guidelines that have not been published and are not rigid; articles into paragraphs; include a table of information (studies)
 - 2.1 Table of Studies (Appendix A2)
 - 2.2 Thematic Summaries (Appendix B and C)

2.3 Table of Themes (Table 3)

3. Step Three: Results (Table 3 and Figure 1)

3.1 Psychoeducational Assessments

3.2 Academic Interventions

4. Step Four: Analysis -- Indicate if you agree or disagree and tie in with the current body of literature; make logical interpretations from the literature viewed [intersecting themes are analyzed]
5. Conclusion

Step One: Search and Selection

1.1 -- *The Research Questions*

1. What issues do parents face with the psychoeducational process and reports?
2. What are the issues with the academic skills interventions provided by schools for adolescents with ADHD or ADHD and comorbid disorders?

The research questions for this thesis were developed based on my interest and experience with the psychoeducational process, assessment reports, disability identification, and the special education program in Ontario schools. These questions were refined and modified during the research process, leading to the final version included in the study.

Key Phrases and Keywords: Research Questions

The phrases and keywords derived from the research questions are listed below. These words reflect the focus of the research questions and will be used to conduct the study.

1. In-classroom interventions refer to interventions or strategies implemented within the public-school classroom setting to address academic difficulties, specifically related to reading, writing, and organization skills for adolescents with ADHD with or without comorbid disorders.
2. Effectiveness (Interventions) refers to the evaluation of how well interventions or strategies address or improve the academic difficulties faced by students.

3. Psychoeducational assessments: Refers to all parts of the assessment process conducted by professionals to evaluate a student's cognitive, academic, and emotional functioning.
4. Psychoeducational report: refers to the report, including the results, given to parents after the assessment. (diagnosis and recommendations)
5. Effectiveness (Assessments): refers to parents' perceptions of the quality, usefulness or helpfulness, value, and satisfaction with the report and the assessment process.
6. Issue refers to themes found in the studies that reflect "significant matter for debate or discussion" (Oxford Online Dictionary, n.d)
7. Student success refers to academic achievement and performance, good academic skills, graduation, engagement in learning activities, and well-being.

1.2: *Preliminary Search on the Topics*

The initial step of the review involved conducting a preliminary literature search to understand the available articles and further refine the research topics. This process was initiated during the research proposal stage and focused on peer-reviewed literature, including non-studies. In the preliminary search on psychoeducational assessment, a lack of studies from the parents' perspective was observed, which corresponded to the gap in the literature identified in the study. The preliminary research on academic skills interventions resulted in the discovery of a significant number of articles on efficacy from the United States but none from Canada.

During this stage, the search terms were better refined to fit the inclusions and exclusions of the research questions to identify issues in the literature. For the psychoeducational assessment topic, keywords like "understand" were used in some search strings and excluded in others. Similarly, the term "effectiveness" was selectively utilized in specific search strings related to the academic interventions' topic, focusing on efficacy, reading, writing, and organization. Academic interventions aim to alleviate difficulties and enhance student performance by focusing on efficacy.

1.3 – Search Strategy

With the help of York University librarians, effective Boolean search strategies and strings for each topic were developed. Approximately 33 search strings (combinations of keywords and phrases) were used. The aim was to use search strings that would yield a manageable number of records, preferably 500 or fewer, that one person could handle while yielding optimal results for relevancy. The records were screened, and studies were selected or discarded based on inclusion and exclusion criteria developed in alignment with the research questions and informed by knowledge gained throughout the research proposal and thesis stages. Searches were conducted using two databases, ERIC and PsycINFO, which were recommended by York's librarians and supervisors.

Search Criteria:

1. Search sources of information: PsycINFO and ERIC Database:
 - The PsycINFO database provides high-quality literature on psychology and related fields. It is published by ProQuest, a leading company in information content and technology.
 - Eric is a database containing extensive education-related literature from the US Department of Education.
2. Date of search – January 2023
3. Range of search – 1990 – January 2023
4. Constraints -- Peer-reviewed studies

Sixteen search strings were created by combining one or more terms from the sample list below to execute searches in the PsycINFO database for psychoeducational assessments. The terms were combined using the Boolean connectors AND and OR (refer to Appendix D).

1. "psychoeducational assessment*" OR "psychoeducational report"
2. ADHD OR "attention deficit hyperactivity disorder"
3. parent* OR adolescent* OR child OR student*

4. "parent perception*"
5. recommendation*
6. recommendation* AND reading OR writing OR organization
7. Issue OR problem
8. Ontario OR Canada

Note: Adding Canada OR Ontario resulted in few or irrelevant studies.

Similarly, seventeen search strings were created by combining one or more terms from the sample list below to execute searches in the ERIC Database for academic interventions.

The terms were combined using Boolean connectors AND and OR (refer to Appendix E).

1. ADHD OR "attention hyperactivity disorder"
2. "classroom-based" OR "school-based" OR class OR school
3. "classroom strateg*" OR "school strateg*"
4. Intervention* OR strateg*
5. "classroom intervention*"
6. "school-based intervention*"
7. effect* OR outcome* OR efficacy
8. reading OR writing OR organization*
9. "writing strateg*" OR "reading strateg*" OR organization
10. "special education"
11. "individual education plan*" OR "IEP"
12. ADHD AND autism OR "learning disability"
13. Ontario OR Canada

Given the numerous and diverse terms used in the fields of ADHD and education, it is possible that the combinations of search terms and strings could miss some relevant studies.

Therefore, 50 search string combinations were tested for the most relevant results and narrowed to those listed above.

1.4 – Inclusions and Exclusions Criteria

Regarding exclusions, meta-analyses, systematic reviews, dissertations, and non-peer-reviewed studies were excluded from the study. Parents were mandatory, but teachers and psychologists as participants were optional for the psychoeducational assessment studies. Additionally, non-classroom or non-school-based interventions were also excluded.

Regarding inclusions, the academic intervention studies included participants with ADHD or ADHD with comorbid disorders. Additionally, the studies included students who were either taking medication or not. Efficacy, reading, writing, and organization were a focus. The study sample targeted elementary and high school participants aged 10 to 18 and grades 6 to 12.

The table below lists the inclusions and exclusions criteria for the articles selected in the narrative literature review.

Table 1

Inclusions and Exclusions

Inclusions	Exclusions
Literature type: experimental and non-experimental studies, case studies, peer-reviewed journals, randomized clinical trials,	Meta-analysis, systematic reviews, dissertations
ADHD with other comorbid disorders: such as depression, anxiety, reading, or writing disabilities, ODD, and CD in the studies for academic interventions	Not peer-reviewed
Students who take or do not take pharmaceuticals for the disorder	The study includes teachers and/or psychologists' participants without parent

	participants for the psychoeducational assessment studies
Academic interventions that focus on efficacy, reading, writing, and organization	Not classroom-based or school-based
The study focuses on elementary and high school participants aged 10-18 years, grades 6-12 as the mean average or majority of participants in the academic intervention studies	Reliability and Validity of Assessments (diagnostic testing)
The study focuses on parents of children of any age with or without ADHD for studies in psychoeducational assessments	Any educational system that significantly differs from Canadian educational systems or does not include special education academic interventions in public schools

1.5 Search Results and Selection of Studies

The number of records from the searches performed in the last two weeks of January 2023 was 1,017 from PsycINFO and 1007 from ERIC. A total of 2,024 records were screened. Screening involved scanning the records from the search results to identify irrelevant titles and reading abstracts. As a result, 1,963 articles were discarded because they did not meet one or more inclusion and exclusion criteria or did not align with the research questions. The remaining articles numbered 61 peer-reviewed studies, which were downloaded, printed, and examined based on characteristics related to inclusions and exclusions. After the assessment, 51 studies did not meet one or more criteria, such as the population sample, parent requirement or intervention type focus. Ultimately, 10 peer-reviewed were selected for the review. See the

search strategy above for the search strings used for the year 1990-current (January 2023). The Search Results can be found in Appendices D and E.

- Number of records identified:
 - PsycINFO (n = 1,017)
 - ERIC Database (n = 1007)
- Records screened (n = 2,024)
 - 61 peer-reviewed studies retrieved and assessed for eligibility
 - 51 excluded
 - 10 selected

Step Two: Synthesize the Literature

2.1: Table of Studies (see Appendix A2)

2.2: Table of Thematic Summaries (see Appendices B and C)

Steps Three and Four: Results and Analysis

The results adhere to step three of the narrative literature review by Green et al. (2006), and step four involves the analysis following the results.

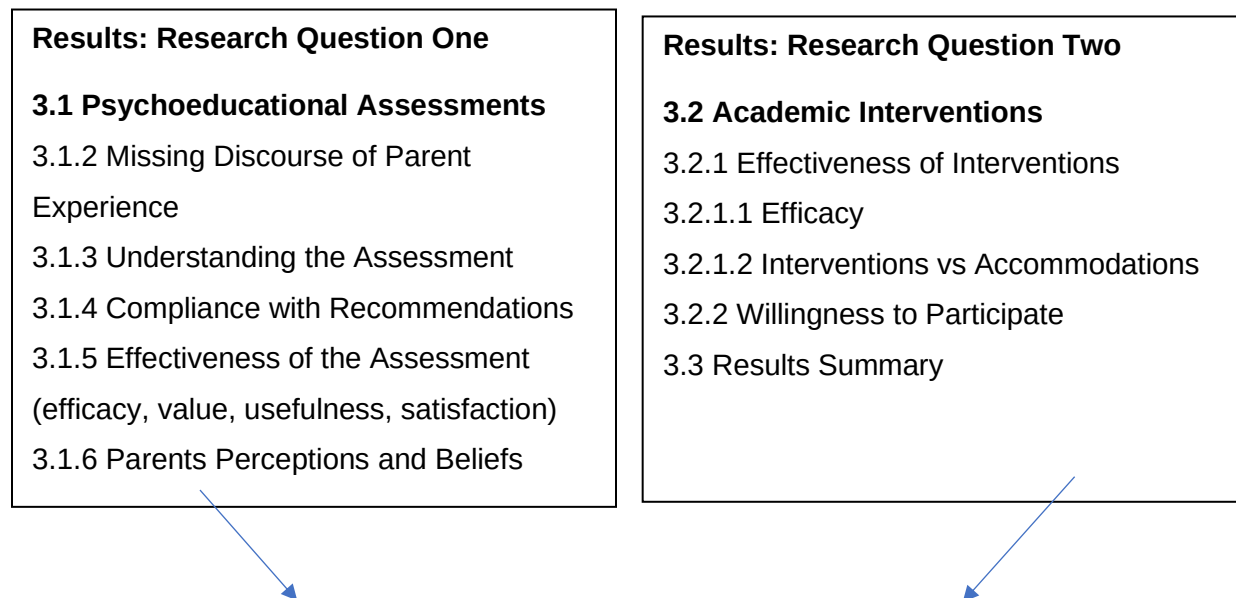
Chapter Three

Results and Analysis

Themes

The identified themes were derived from the terminology used in the results of the studies. For instance, the term understanding appeared in the results of various studies and is categorized under the theme of Understanding the Assessment. Similarly, compliance is categorized under Compliance with Recommendations and willingness under Willingness to Participate. The terms usefulness, helpfulness, satisfaction, value, and benefits were extracted from the results and categorized under the theme of Effectiveness. Within Effectiveness, the sub-theme of Efficacy specifically refers to performance outcomes. These themes were organized to group similar terms and align related objectives under the headings. A summary of the themes and associated terms derived from the results is presented in Table 3 below. Additionally, an exception is the Missing Discourse of Parent Experience theme, which included authors' comments on the gap in the literature for psychoeducational assessments. For further details, refer to section 3, the results.

Figure 1: Results and Analysis



Analysis: Intersecting Themes

4.1 Compliance and Willingness

4.1.1 Recommendations (assessments)

4.1.2 Willingness (interventions)

4.2 Effectiveness

4.2.1 Usefulness and Understanding

4.2.2 Efficacy

4.3 Parents' Perceptions and Stigma

4.4 Summary

3. Results

Table 3

Themes: Authors and Year

Psychoeducational Assessments	Author and Year
Themes	
Understanding the Assessment (3 studies)	Rahill (2018); Miller and Watkins
Term: understanding	(2010); Cornwall (1990)
Compliance with the Recommendations (2 studies)	Mucka et al. (2017); Human and Teglasi (1993)
Terms: compliance, adherence	
Effectiveness of the Assessment (4 studies)	Miller and Watkins (2010); Rahill (2018); Mucka et al. (2017); Cornwall
Terms: usefulness, helpfulness, satisfaction, value, benefits	(1990)
Missing Discourse of Parent Experience (3 studies)	Mucka et al. (2017); Human and Teglasi (1993); Cornwall (1990)

Comments of authors on the gap in the literature for parents' perspectives	
Parents Perceptions and Beliefs (3 studies)	Mucka et al. (2017); Rahill (2018) Human and Teglas (1993)
Terms: perceptions, beliefs	
Academic Interventions	Author and Year
Themes	
Effectiveness of Interventions (5 studies)	Langberg et al. (2008); Evans et al. (2009); Harrison et al. (2020);
• <i>Efficacy (4 studies) Interventions / Accommodations (1 study)</i>	Bussing et al. (2016); Johnson et al. (2012)
Terms: performance outcome, improvement	
Willingness to Participate (3 studies)	Evans et al. (2009); Harrison et al. (2020); Bussing et al. (2016)
Term: willingness	

Note: The table above represents the themes identified and presented in the results with noted exceptions.

3.1: Research Question One: Psychoeducational Assessments

Five themes were identified in the five psychoeducational assessment studies (Rahill, 2018; Miller & Watkins, 2010; Cornwall, 1990; Mucka et al., 2017; Human & Teglas, 1993). These themes include understanding the assessment report and recommendations, compliance with recommendations, parents' beliefs and perceptions about assessments, the effectiveness of the assessments (efficacy, value, benefits, satisfaction), and the missing discourse of parent

experience (the gap in the literature) on this topic. The studies involved parents as participants but may include teachers and various school and medical professionals. This section presents the results of five studies on psychoeducational assessments (Section 3.1). Please refer to Table 3 for more details.

3.1.2: The Missing Discourse of Parent Experience

Two databases, ERIC and PsycINFO, were searched, and five studies were selected after screening based on inclusion and exclusion criteria and the research questions, as detailed in the method section. The search revealed a gap in the literature on parents' beliefs, experiences, or perspectives on psychoeducational assessments, further supported by the comments made by researchers in the examined studies. These comments generally highlighted that there was a need for more studies that included parents.

For instance, Teglas and Human (1993) state that "there is little research that evaluates assessments from the perspective of parents" (p. 449). Similarly, Mucka et al. (2017) indicate that few studies focus on parent satisfaction and adherence to recommendations. The authors express concern that "the process of parents adhering to assessment recommendations has received less attention" (p. 1,029), and they cite Geffken et al. (2006) in stating that this gap in research is a "disturbing reality" (p. 499). According to Cornwall (1990), there have been few instances where pediatric psychologists have sought input from consumers regarding the goals, procedures, and treatments provided to them (Wolf, 1978 as cited in Cornwall, 1990). This suggests that there is missing discourse by parents, and it is this gap that this study documents. Given this gap, the study seeks to spotlight studies that engage parent perspectives and streamline themes into a narrative.

3.1.3: Understanding the Assessment

Three of the five studies (Rahill, 2018; Miller & Watkins, 2010; Cornwall, 1990) on psychoeducational assessments included parents' understanding of the psychoeducational report. Two were conducted in the United States (Rahill, 2018; Miller & Watkins, 2010) and one

in Canada (Cornwall,1990). Regarding the theme of understanding, the findings indicate that parents in all three studies had difficulties understanding the report.

The study by Rahill (2018) used a mixed-method design for survey responses. The sample consisted of twenty-two parents and sixty-eight teachers from school districts in various areas of the United States. The children received special education services in grades K-12. The survey questions were coded into themes for two groups: (1) parents and (2) teachers. Twenty-two parents and sixty-eight teachers used a five-point Likert scale to rate an online survey with open-ended questions. The results of the ratings (for parents) showed that only 19% felt the reports were easy to understand; no respondents assigned a “strongly agreed” rating; 27% felt that the reports explained the strengths and weaknesses of their child in an understandable way; and 100% said there was too much jargon. In other results, 75% of parents said the report focused on tests and test scores, 13% believed that the reports provided information for delivering interventions, and 17% were satisfied with the report. Additionally, teachers expressed problems in understanding due to jargon and found the results not comprehensible. They were also dissatisfied with the extensive focus on tests and test scores, wishing for emphasis on intervention development.

The strengths and weaknesses of the report were identified in the open-ended questions and placed into ten categories. The weaknesses or issues (percentage of responses in category) included too much jargon (25%), lack of appropriate recommendations (25%), psychologist variables ¹ (15%), and emphasis on weaknesses (15%). The comments in the open-ended responses alluded to difficulties in understanding, quality, and usefulness of the report.

¹ Variables refer to parents' responses to the question-- on page 702-- “What do you see as the weaknesses of the psychoeducational report you have read?” Their responses included “the psychologist didn’t really know my child” and “seems to be influenced by the person doing the testing”.

In the Rahill (2018) study, perceptions of the reports for the Likert-scale items were analyzed using mean and standard deviations for ratings/scores and t-tests for differences. The differences in the perceptions of the report regarding questions about the child's three areas of functioning (cognitive, academic, behavioral) and the focus on test scores rather than information about the child were significant between the groups. Parents' responses had lower ratings across the areas, and they agreed that reports focus more on tests and test scores.

The purpose of the study by Miller and Watkins (2010) was to test whether reports with graphs were easier to read and understand. The participants were 144 parents of children aged 8 to 16 years (mean=11.2, SD=2.38) who received special education services and attended meetings of 13 parent organizations in the US. They (parents) were randomly placed into a control group (without graphs) and an experimental group (with graphs). The parents read the reports, and their recall of information was tested using a recall measure (12 multiple-choice questions); in addition, their satisfaction with the report was rated using a Likert-scale measure. The data from the recall measure were analyzed for the main effects of the report type (i.e., with graphs and without graphs) and education level (high school and some college vs college graduates). The results revealed that the accuracy of information recalled was higher by 8% for parents in the experimental group than in the control group. Parents of all education levels scored higher on the recall measure for reports with graphs than those without graphs. The findings indicate that the interaction between report type and education level was insignificant. Note that the reports were identical, except for 5 bar graphs added for the experimental group. After modifications were made to the reports to reduce the technical language, change the reading level to grade 8, and remove social, emotional, and behavioral data (the reasoning for the latter change was that referrals are typically for academic purposes).

The Cornwall (1990) study investigated the question of understandability, which was one of five questions on a questionnaire with a Likert-scale rating. The participants included 79 parents of 80 children with a mean age of 10.14 yrs, SD=2.69, and 244 professionals (school,

medical, other). Regarding the statement for understandability, significant differences across groups were found, with parents and physicians rating the report as less understandable than the other groups. Additionally, teachers found reports more favorable than parents did, while parents found the recommendations more favourable than the teachers did.

The findings of all three studies (Cornwall,1990; Miller & Watkins, 2010; Rahill, 2018) highlight parents' difficulties in understanding the report. Concerns about comprehension date back to 1959 (Rahill, 1990), suggesting that this is a long-term problem.

3.1.4: Compliance with Recommendations

Two studies (Mucka et al., 2017 and Human and Teglas, 1993) examined the issue of compliance with recommendations. Mucka et al. (2017) generally found positive findings regarding compliance, while Human and Teglas (1993) highlighted the role of parents' reactions in complying with the recommendations. Notably, parents' perceptions of the effectiveness of the recommendations (Human & Teglas,1993) influenced their compliance with them. Compliance in the studies is closely linked to the recommendations in the assessment report. Therefore, the discussion on compliance will generally reference the recommendations in the report.

The study by Mucka et al. (2017) evaluated adherence to recommendations according to the impacts of barriers, satisfaction, and the recommendation type. The findings show that 71.5 % adhered to recommendations. Also, fewer barriers resulted in higher compliance. In general, parents indicate that the assessment is helpful. The participants were the parents of 51 children aged 8-16 years ($m=11.2$, $SD = 2.38$) who had completed psychoeducational assessments from a Midwestern university in the US. The children had various disorders, including learning disorders. Parents participated in a follow-up study regarding their adherence to recommendations from an assessment their child had received at least 12 months previously. Data was collected through semi-structured interviews. Barriers reported included limited resources, low priority, relationship/personal challenges, and stigma.

In their study, Human and Teglas (1993) used an adapted version of the Belief Health Model to assess the effectiveness of psychoeducational assessments in a US sample. Data on perceived barriers, perceived severity, views on treatment efficacy, agreement with the evaluation, and understanding of the evaluation for its influences on compliance and satisfaction were collected from the parents of children 5-18 years of age who had received assessments. The results indicated that parents' reactions to recommendations play a significant role in whether they comply with recommendations. The results also showed that the evaluation process is beneficial for parents. Severity played a limited role in compliance.

3.1.5: Effectiveness: Assessments (efficacy, value, usefulness, satisfaction)

The theme of the effectiveness of psychoeducational assessments relates to efficacy, value, utility, and satisfaction. The results of the four studies (Miller & Watkins, 2010; Rahill, 2018; Mucka et al., 2018; Cornwall, 1990) addressed one or more of these. Three of the four studies, Mucka et al. (2017), Miller and Watkins (2010), and Cornwall (1990), reported positive results, and one study (Rahill, 2018) reported negative results.

Miller and Watkins (2010) assessed satisfaction with the reports by the use of graphs vs without graphs using a Likert point scale. The mean score on the total satisfaction measure was greater for the experimental group than for the control group. The relationship between parents who had prior experience with special education and satisfaction scores was insignificant. The study by Rahill (2018) reported that, overall, parents were less satisfied than teachers with the reports. The results on satisfaction with services by Mucka et al. (2017) pointed to the value and utility of recommendations and beneficial changes from the evaluation process. Also, parents generally indicated that the assessment process was helpful and that the assessments were useful.

One of the five questions investigated in the Cornwall (1990) study was whether the recommendations were useful. The findings showed a significant difference among groups in rating the usefulness of the recommendations; parents reported recommendations as more

useful than school professionals. The findings of Rahill (2018) indicated that there are implications for parents, teachers, etc., on the report's usefulness, and the ratings revealed that only 22% of parents indicated that recommendations are useful.

In summary, the effectiveness of psychoeducational assessments encompasses various narrow themes, including efficacy, value, utility, and satisfaction. Two out of three studies reported positive satisfaction outcomes. Specifically, Miller and Watkins (2010) found higher satisfaction scores with graph-enhanced reports, while Rahill (2018) noted a difference in satisfaction between parents and teachers, with parents viewing reports less favorable. Mucka et al. (2017) emphasized the value and utility of recommendations derived from assessments, highlighting the beneficial impact on the evaluation process. Cornwall (1990) reported positive results for the usefulness of recommendations, and parents in Rahill (2018) found them more useful than teachers. Collectively, these findings underline the multifaceted nature of psychoeducational assessment effectiveness.

3.1.6: Parents' Perceptions and Beliefs

In the Mucka et al. study (2017), parents' perceptions that stigma (one of four barriers to adherence) was a barrier to complying with recommendations, as compliance could stigmatize the child. Barriers identified by parents' responses to the question "Did you try the recommendation?" included stigma, limited resources, low priority, and relationship/personal challenges.

In Human and Teglas (1993), parents' ratings (perceptions) of the severity of their children's problems were not highly significant in whether they complied with the recommendations. In Rahill (2018), the means and standard deviations (SDs) for data on parent ratings of perceptions of psychoeducational reports revealed that 1/3 of parents felt the report answered questions about cognitive and academic functioning. The three studies discussed above highlight parents' perceptions and feedback on the assessment report.

3.1.7: Results Summary

The results encompassing the five identified themes indicate that understanding the assessment reports was influenced by various factors such as the level of writing, layout, jargon and technical language, clarity of test results, and overall satisfaction. The perceived complexity, relevance, usefulness, and effectiveness of the recommendations all played a role in determining the extent to which parents complied with them. The report was important to parents, especially when it provided comprehensive information on the child's strengths and weaknesses and addressed the referral questions. Additionally, parents' perception of stigma (Mucka et al., 2017) was viewed as a barrier to their compliance with the recommendations.

3.2: Research Question Two: Academic Interventions

. This section presents the results of five studies on academic interventions for adolescents with ADHD, which typically follow a psychoeducational assessment. Two main themes were identified in the intervention studies: effectiveness (Langberg et al., 2008; Evans et al., 2009; Harrison et al., 2020; Bussing et al., 2016; Johnson et al., 2012) and willingness to participate (Bussing et al., 2016; Harrison et al., 2020; Evans et al., 2009). Comorbid disorders such as learning disabilities, depression, and anxiety commonly co-exist or overlap with ADHD and were not excluded criteria in literature selection. Note that three out of five studies indicated students had ADHD and comorbid disorders (Johnston et al., 2012; Bussing et al., 2016; Harrison et al., 2020).

3.2.1: Effectiveness of Interventions

3.2.1.1: Efficacy

Langberg et al. (2008) implemented an 8-week organization skills intervention to improve homework management through organization skills training and assessment for 37 students with ADHD in grades 4-7, ages 9-14 years, in a US public school. The findings, measured through parents' ratings and completed checklists, revealed that decreased homework problems were maintained after the 8-week follow-up. Positive gains were made in

homework management and organization skills. Teachers rated gains/improvement in GPA by comparing pre-post program implementation and reported small gains in GPA.

Students were randomly assigned to the intervention group (experimental) and wait-list group (control). A measurement of the decrease in homework problems was utilized, and a homework problem checklist (HPC) of 20 items was used to measure inattention/avoidance of homework and poor productivity/nonadherence to homework rules. Parents completed the HPC at baseline and post-intervention and indicated improvement in the intervention group compared to no significant improvement pre-post for the control group. Homework management checklists were completed by school counselors at the program baseline and daily for 8 weeks. Homework management improved from 30% to 72% in the final 2 weeks of the program. Post-intervention was maintained at 65%. Gains in organization skills were measured using an organization checklist of 14 items completed by school counselors at the first-day baseline, and 2 times weekly for 8 weeks. Participants' organization skills improved from 38% to 98% for binder criteria, 69% to 92% for bookbag criteria, and 47% to 95% for locker criteria, and were largely maintained after 8 weeks. Small gains in GPA were observed.

Evans et al. (2009) examined whether there was a relationship between an organization skills intervention and improved grades and organization in a US school. The study found that both organization skills and grades for Math, English, and Social Studies improved following the organization intervention. Twenty-eight students with ADHD, aged 11-15 years ($M=11$) in grades 6-8, participated in the intervention in Virginia (US) and were assessed for its effects. Most study participants improved in organizing materials (binders), and higher grades were recorded for Math, English, and Social Studies.

The study by Johnson et al. (2012) investigated the effectiveness of the "think before reading, think before writing, and think after reading" (TWA) strategy/intervention on reading recall for three students with ADHD and comorbid impairments in reading. The students in a U.S. high school are aged 14-15 and receive special education services. Before introducing

the strategy, the reading difficulties/performance of the three students were assessed. They were expected to complete five lessons. Two students completed the lessons in 6 sessions and one in 7 sessions. TWA intervention was integrated with the self-regulated strategy development model of strategy instruction (SRSD), an intervention that helps learners improve academic performance. The data was collected and analyzed for gains in reading recall using a check sheet after the baseline phase was completed. At post-instruction, reading recall increased for all students. Also, performance remained high at maintenance checks - 2-week, 4-week, and follow-ups – post-implementation. Thus, the TWA intervention results showed that the reading intervention was helpful to the students. There were improvements in the number of main ideas and the percentage of supporting details recalled for each main idea, and gains were maintained post-treatment.

The study by Bussing et al. (2016) addressed the feasibility of interventions based on the perceptions of parents, adolescents with ADHD, teachers, and healthcare professionals. The study examined participants' willingness to use interventions related to their perceived effectiveness. Seven academic interventions were assessed using data collected via an online survey. Participants' willingness to use the intervention was contingent on feeling knowledgeable and whether they considered activity-focused interventions acceptable and effective. Willingness was, however, reduced by anticipation of negative side effects. The findings concerning effectiveness suggest that parents and adolescents viewed ADHD interventions as ineffective unless combined with other interventions, such as medication. The perception of stigma and willingness contributed to feasibility factors. In conclusion, ineffectiveness is seen as a barrier to implementation as it increases the likelihood of participants not using the intervention, contributing to its unfeasibility. Note that in this study, 34% of the students had comorbid disorders with ADHD that included mood disturbances and learning disabilities.

3.2.1.2: Interventions vs Accommodations

The Harrison et al. (2020) study addresses the difficulties of organization and sustaining attention in a class by comparing the efficacy of three interventions: notetaking, self-management, and organization, as well as three accommodations: extended time, teacher notes, and organization support. Sixty-four middle school students with ADHD were randomly placed into two groups: (1) interventions and (2) accommodations. Grades were 6-9, and ages were between 11-15 years, with a mean age of 12.66. The study was conducted in two schools in the northeastern USA for 13 weeks. The students in the intervention group were further subdivided into (1) willing to follow procedures and (2) unwilling to follow procedures. The study's primary purpose was to compare three interventions and three accommodations on materials (binder) organization, student engagement, note-taking, and task completion and accuracy and to discover the benefits during and after its implementation. Results on the benefits of interventions revealed that the members of this group were significantly more likely to organize and maintain binder organization and take more accurate and complete notes. In contrast, the members of the accommodations group were less likely to do the same. The secondary purpose was to measure social validity with self-reporting measures on students' willingness to follow intervention procedures and to evaluate differences in the benefits between accommodations and interventions. The results showed that the members of the intervention group who were more willing were also more engaged. Those less willing were less engaged in tasks such as following instructions and working independently.

In summary, Harrison et al. (2020) found that the intervention group showed greater positive benefits than the accommodations group, supporting the efficacy of interventions. Students who received interventions were more likely to organize and maintain a binder and take complete and accurate notes than students who received accommodations.

3.2.2: Willingness to Participate

The Bussing et al. (2016) study is part of a longitudinal mixed methods research project. The participants included 161 parents, 148 adolescents, 122 teachers, and 46

healthcare professionals from a school district in Florida, US. The adolescents were between 14-19 years old ($m = 16.5$ yrs.), and 34% had received services for emotional and disturbance-specific learning disabilities. A cross-sectional survey included open-ended questions and vignettes on seven academic interventions with a 5-point rating scale for acceptability, helpfulness, and embarrassment (a proxy for stigma). The three questions focused on (1) differences in the willingness to use interventions, (2) factors that predict willingness, and (3) concerns about unwanted side effects related to willingness. The results showed that adolescents had significantly lower willingness in the seven interventions than adults, whose intervention willingness did not differ across groups. Feeling knowledgeable increased willingness and the perceived effectiveness and acceptability of the intervention. Willingness was reduced if adverse side effects such as embarrassment (stigma) were anticipated. The respondent type did not impact willingness significantly. Regarding unwanted side effects related to willingness, results showed that the perceived, unintended effect of stigma is an issue with intervention feasibility and influences willingness to engage in the intervention. Individualized interventions were perceived as a barrier and viewed as being unequal and offering an unfair advantage. Other perceived barriers were ineffectiveness, confidential concerns, and future dependence.

Evans et al. (2009) evaluated the role of patterns of responding as part of a binder organization intervention in a US public school (CHP program, 28 students with ADHD responded to the intervention).

The patterns of responding to the organization intervention utilized visual analysis to identify patterns. The three patterns were immediate, slow/steady, and honeymoon. The data from the analysis findings were as follows: 93% were immediately successful with organization interventions in general, and 73% achieved mastery in the first few weeks; 42% sustained mastery consistently for a year; 31% acquired quick mastery followed by a decline (honeymoon pattern); and 27% had a gradual improvement (slow/steady) over the intervention period. The variability in

response is common in young people and suggests that patience and persistence are needed. A relationship or association between organization scores and grade improvements was found, especially for classes with heavy homework demands, such as Math. Overall, most respondents improved organization regardless of the type of response. The findings emphasize how the type of response may impact academic outcomes and the importance of responding in successfully remediating disorganization for students.

Harrison et al. (2020) investigated the benefits of interventions versus accommodations to determine their efficacy and social validity. Student participants with ADHD, aged 11-15 years ($M=12.66$) in grades 6-9, were randomly placed in an intervention group and an accommodations group. The measures regarding data collection were as follows: binder organization was measured by an Organization Assessment Sheet (OAS), task engagement was measured by direct observation, note-taking was measured with a coded/rubric, and social validation was measured with SIRF. A self-report measure was used to measure students' willingness to follow intervention procedures and evaluate differences in the benefits between accommodations and interventions. Within the intervention group, participants were later categorized into subgroups of willing and unwilling. The results show that members of the intervention group who were willing to follow intervention procedures were also more engaged, and those who were less willing were less engaged in tasks such as independent work and following instructions.

3.3: Results Summary

Four of the five studies showed positive results for the efficacy of interventions. However, the three studies on the willingness to participate in interventions were influenced by several factors such as perceptions of effectiveness, knowledge about interventions, and barriers such as stigma, the latter observed by Bussing et al. (2016). Additionally, the benefits of interventions compared to the accommodations group were more favourable in the study by Harrison et al. (2020).

Step Four: Analysis: Intersecting Themes

The analysis aims to integrate the themes from the studies on psychoeducational assessments and academic interventions. Three intersecting themes emerged: (1) compliance and willingness, (2) effectiveness, and (3) parents' perceptions and stigma. By analyzing these themes, potential insights may be gleaned from the studies.

Table 4

Assessments and Interventions: Intersecting Themes

Intersecting Themes	Author (year)
Compliance and Willingness (4 studies) • Recommendations (2 studies) • Willingness (2 studies)	Mucka et al. (2017); Human and Teglas (1993); Bussing et al. (2016); Harrison et al. (2020); Evans et al. (2009)
Effectiveness (7 studies) • Usefulness and Understanding (5 studies) • Efficacy (4 studies)	Bussing et al. (2016); Miller and Watkins (2010); Landberg et al. (2008); Evans et al. (2009); Harrison et al. (2020); Rahill (2018); Mucka et al. (2017); Cornwall (1990)
Parents' Perceptions and Stigma (2 studies)	Bussing et al. (2016); Mucka et al. (2017)

4.1. Compliance and Willingness

The themes in this section highlight the interconnectedness of compliance with the recommendations in assessment reports and willingness to engage in interventions.

4.1.1: Recommendations (assessments)

Two studies, Human and Telgasi (1993) and Mucka et al. (2017) found that compliance with recommendations was related to being perceived as valuable, effective, clear and useful.

Mucka et al. (2017) reported that 71.5% of parents followed the recommendations listed in the report. Parents viewed the recommendations as valuable and were motivated to adhere to them even if they were complex and initially unclear.

The Human and Telgasi (1993) study examined compliance with recommendations by considering parents' reactions and beliefs in effectiveness. Parents provided various reasons for their partial compliance or lack thereof, which included adapting to suit their needs, reluctance, and finding ways to implement the recommendations. Factors such as perceived barriers contributed to non-compliance. However, parents in the study perceived the recommendations as valuable and important. The Cornwall study (1990) also supported the following recommendations and the perceived usefulness of the recommendations.

Several factors in the two studies impact parents' compliance with recommendations. Recommendations perceived as effective, valuable, clear, understandable, and relevant are more likely to be followed. In addition, parents are generally more motivated to adhere to recommendations than other groups, even if they are complex and lack clarity.

4.1.2: Willingness

Two studies, Bussing et al. (2016) and Harrison et al. (2020), examined willingness to participate in interventions.

Harrison et al. (2020) found that students who did not perceive interventions as useful or helpful were less willing to participate, while the students who were more willing to follow intervention procedures were more engaged. Specifically, the study investigated the willingness to follow intervention procedures by placing students into two intervention subgroups (willing

and unwilling). Students in the willingness subgroup demonstrated a higher willingness to participate than those in the unwilling subgroup. The lack of perceived helpfulness of the interventions was identified as a factor contributing to lower willingness among the participants.

In the study conducted by Bussing et al. (2016), participants, including parents and adolescents, were surveyed to assess willingness to use interventions considering views of effectiveness, acceptability and undesirable effects of ADHD-focused interventions. The study predicted that higher ratings of acceptability and effectiveness would lead to increased willingness to use the interventions, while unintended effects such as stigma would decrease willingness. Overall, the study highlighted the role of perceived effectiveness and acceptability in influencing the willingness to engage with ADHD-focused interventions.

In conclusion, the intersection of compliance with assessments (Mucka et al., 2017; Human & Teglas, 1993) and willingness to participate in interventions (Bussing et al., 2016; Harrison et al., 2020) is driven by perceptions of effectiveness, clarity and usefulness that influence both behaviours.

4.2: Effectiveness

The broad theme of effectiveness encompasses the usefulness and understanding themes and the efficacy theme in the four intervention studies.

4.2.1: *Usefulness and Understanding*

Five studies, Rahill (2018), Miller and Watkins (2010), Mucka (2017), Cornwall (1990) and Bussing et al. (2016), addressed usefulness and understanding. Regarding assessments, the perceived usefulness of reports is closely tied to how well parents understand the content and recommendations. Rahill (2018) identified issues such as excessive technical jargon, overemphasis on tests and test scores, and lack of clear, relevant recommendations, which negatively impacted the understanding and usefulness of reports. Cornwall (1990) reported that parents found the reports less understandable than other groups. The connection between understanding and perceived usefulness was further supported by Miller and Watkins (2010),

which showed that incorporating graphs into reports improved satisfaction and information recall, suggesting better understanding. Additionally, Mucka et al. (2017) and Cornwall (1990) found the recommendations in reports understandable or helpful to parents.

Sufficient or explanatory information is also aligned with the perceived value and usefulness of assessments and interventions. Bussing et al. (2016) found that when participants felt knowledgeable, their participation increased, highlighting the impact of informed understanding. Cornwall (1990) similarly emphasized the value of explanatory information, reporting favourable responses to whether the report provided detailed descriptions of learning difficulties and explanations of learning problems and addressed referral questions. Rahill's (2018) study demonstrated that a lack of sufficient information regarding the child's strengths and weaknesses in reports negatively affected their perceived usefulness and satisfaction.

Together, Rahill (2018), Miller and Watkins (2010), Mucka (2017), Cornwall (1990) and Bussing et al. (2016) highlight the importance of clear, comprehensive, and explanatory information in enhancing the effectiveness of assessments and interventions.

4.2.2: Efficacy

The efficacy of interventions in this section is based on improvements in academic performance or skills reported in the results. The following four studies reported positive results for the efficacy of interventions (Evans et al., 2009; Harrison et al., 2020; Johnson et al., 2012; Landberg et al., 2008), suggesting they are effective in helping children with difficulties.

The study by Harrison et al. (2020) highlighted that evidence-based interventions were more effective than accommodations, the latter often leading to dependency without fostering long-term competencies. The study questioned the social validity of providing accommodations as standard educational services in special education programs. Landberg (2008) reported positive results: decreased homework problems, improved organization skills and small gains in GPA. Evans et al. (2009) found that grades in Math, English, and Social Studies improved after the intervention. Harrison et al. (2020) and Evans et al. (2009) also advocated developing

competencies through intervention instead of reducing expectations through accommodations. The study by Johnson et al. (2012) on the effectiveness of a TWA reading strategy intervention showed improvements in the recall of main ideas and details. Overall, these findings indicate that interventions improve academic performance. The studies on the efficacy of interventions (Evans et al., 2009; Harrison et al., 2020; Johnson et al., 2012; Landberg et al., 2008) align with literature reviews conducted by DuPaul et al. (2012), Stewart and Austin (2020), and Cheng et al. (2022).

4.3: Parents' Perceptions and Stigma

The theme of stigma surrounding assessments, recommendations, and interventions emerges in two studies -- Mucka et al. (2017) and Bussing et al. (2016). Mucka et al. (2017) found that parents feared that following recommendations and engaging in interventions would subject their children to stigma and negative repercussions. Concerns were expressed about interventions at schools leading to potential embarrassment and negative attention. Bussing et al. (2016) classified stigma as an unintended effect and an implementation barrier to academic interventions. Their study, focusing on the feasibility of school-based interventions, revealed that perceptions of stigma influenced the willingness to use interventions. Parents believed that involvement in interventions could cast their children in a negative light. At the same time, students expressed concerns about standing out or being conspicuous at school, impacting their willingness to participate.

The presence of stigma as a barrier in both the assessment and intervention study highlights concerns about children's acceptance of necessary support for their academic difficulties. Literature indicates that labeling associated with a disability diagnosis can lead to self-esteem issues, identity challenges, and discrimination. Adolescents may experience apprehensions, particularly within the public-school setting where stereotyping by teachers and peers can happen. Labels for disabilities can make students feel different or less capable than their peers and visible interventions may lead to fear of embarrassment and negative attention.

Addressing the stigma could help to ensure that children receive the support they need without experiencing negative consequences related to their self-image and social standing.

4.4: Summary

While the intervention studies demonstrated effectiveness in terms of positive outcomes, the issue of reluctance to use interventions, related to perceptions of ineffectiveness and usefulness, and the impact of stigma emerged as problematic for adolescents. These issues are interrelated with the findings of the assessment studies, which highlighted the theme of effectiveness. This included the usefulness and understanding of reports and recommendations, as well as the stigma that can hinder adherence to academic interventions.

5: Limitations

This research project was focused on locating studies conducted in Canada and Ontario that fit the inclusion and exclusion criteria for the literature review. However, despite conducting exhaustive searches in two reputable databases on the subjects, relevant peer-reviewed studies specific to these criteria did not result. The search also included studies from countries with similar education systems, such as the United States, that provide special education academic support. However, the search generally revealed a gap in the existing literature regarding parents' perspectives on psychoeducational assessments. Limited studies were available on this specific topic, indicating a need for further research in this area.

Regarding an effective search strategy, search term combinations and search strings were tested with the assistance of York University librarians to achieve optimal results in relevance and a manageable number of records (500 or fewer). However, the diverse range of search terms related to education and ADHD presented a risk of potentially missing some peer-reviewed studies. Additionally, the objective of identifying issues in the literature, along with the gaps, presented limitations.

Ferrari (2015) noted that a concern of narrative literature reviews is the absence of structured guidelines such as PRISMA, which can result in biases in article selection. In this

thesis, articles were selected based on specific inclusion and exclusion criteria, using search terms that aligned with the research questions.

Chapter Four

Recommendations and Perspectives

The recommendations follow Baumeister and Leary's (1997) goal of "proposing solutions to problems" (p. 312) for narrative literature reviews. Recommendations are based on the themes or issues identified in the results and reviewed literature. It also incorporates the author's (this paper) perspectives in some places. Green et al. (2006) outlined that narrative literature reviews include the author's logical interpretations. This section also includes additional research to provide more details on recommendations for selected themes aligned with the study.

Recommendation 1: No Jargon

The theme of understanding the assessment led to this recommendation, which is based on the studies and literature reviewed.

Parents often face difficulties understanding the assessment report and navigating the extensive test results in order to obtain comprehensive information about their child's challenges. To address this issue, the report should be presented in a non-technical and jargon-free language that parents can easily comprehend. Additionally, incorporating more graphs to communicate the test results (Miller & Watkins, 2010) and balancing negative and positive information by highlighting the child's strengths would be beneficial. The report should use an integrated style that prioritizes explanations of the child's strengths and weaknesses in clear and easy-to-understand English, followed by the corresponding recommendations. Using simple, jargon-free language in the reports can enhance understanding for parents, regardless of their education level. Additionally, utilizing graphs enhances reports by improving information recall accuracy (Miller & Watkins, 2010). Rahill, 2018 recommended that the report include the referral questions and provide answers to these questions. The results from the assessment

should also be linked to classroom practices so that the information and recommendations can be applied practically and effectively in the classroom (Rahill, 2018). Much like parents, teachers experience similar issues and, in general, prefer theme-based reports over test-by-test reporting. However, to accommodate the benefits of the test-by-test reports for experienced teachers, clinicians could add a test-by-test version supplement to theme-based reports for all users, especially considering that the data utilized is essential to the testing process.

Recommendation 2: Be Positive

This recommendation reflects the author's interpretation and perspective on the compliance issues related to the theme.

Recommendations are considered the most valuable and useful part of the assessment report, and parents tend to adhere to them more than teachers. Arguably, recommendations address problems identified within reports. Ideally, they should provide a sense of agency and empowerment for parents and adolescents. Therefore, in addition to documenting challenges and limitations that may be encountered, practitioners could also focus on strengths and provide parents with a positive outlook on how they can affect their child's experiences and future success. Professionals, such as teachers and psychologists, might consider mitigating parents' perceptions of insufficient information and concerns about ineffectiveness and stigma by providing explanations for the effectiveness of recommendations and interventions in a positive light. This could include details on how they can address a specific problem, their working mechanisms, and the possibilities opened up by following the recommendations. This approach could assist parents in understanding the utility of the recommendations and motivate students to participate (Mucka et al., 2017).

Recommendation 3: Challenge Stereotypes

The diverse aspects of this recommendation incorporate research insights and the author's perspective.

The literature has shown that the stigma associated with a disability diagnosis and label can impact parents' perceptions and their willingness to participate in recommended interventions. Children with ADHD may face stereotyping and discomfort when they withdraw from regular classes to attend special education classes or are segregated from their peers. To mitigate the negative impact of stigmatization, children with ADHD or ADHD and learning disabilities could be placed in inclusive classrooms. Additionally, regular classroom teachers could receive training in effective teaching methods and tools for this population. Schools can consider transitioning to UDL designs. Governments may consider reallocating funds from segregated special education to support mainstream education for students with ADHD, facilitating their transition. Presently, most students with ADHD are placed in mainstream classes most of the day and removed part of the day for special education instruction in the resource room (partial inclusion). However, based on the literature on inclusion, ADHD students could potentially benefit from full inclusion, eliminating segregated classrooms and offering individualized instruction/support integrated into one class for all children, with or without disabilities, including smaller class sizes and teachers trained in special education pedagogy. Stigma leads to issues such as lack of participation in interventions, self-esteem challenges, discrimination, and stereotyping, where segregation may play a role.

Recommendation 4: Include Parents too

The missing discourse of parents' experience is a theme that calls for advocacy and action to include them. For example, Mucka et al. (2017) recommended that parents should have the opportunity to express their concerns regarding the recommendations, including any barriers, such as the stigma they may perceive arising from participation. Both parents' and adolescents' perspectives are considered valuable and contribute significantly to success at school, but they are often under-represented in studies. Bussing et al. (2016) suggested incorporating more adolescents' perspectives into research and finding ways to reduce stigma,

enhance confidentiality, and maintain discretion during interventions. This approach could help make interventions less conspicuous and more socially acceptable. These efforts would encourage greater participation, which, in turn, could lead to better academic outcomes and overall well-being.

Recommendation 5: Inclusive Education

Inclusive education was researched to provide information on alternative solutions that align with the themes.

The key elements of inclusion include all children, with or without ADHD or disabilities, attending the same class; every student receiving individual help within the class; fostering a sense of belonging; ensuring everyone understands the curriculum; training teachers to teach all students; and hearing the voices of children (Inclusion International, n.d.).

Inclusive classrooms should be considered as an alternative to special education for students with ADHD. This approach allows these students to remain in the mainstream class, preferably excluding those with severe learning disorders. While inclusive classrooms have both benefits and potential drawbacks, as outlined in the literature, they can help alleviate parents' and students' concerns about stigmatization. The decision between fully inclusive and segregated classrooms or classrooms with low inclusion is complex and requires careful consideration. The following information supports keeping students with ADHD or ADHD and comorbid disorders in mainstream classes and emphasizes the benefits of doing so.

Advantages include improved academic achievement and social skills competencies.

Scourbys (2019) cites several studies that showcase the positive impact of inclusive education on academic achievement. For instance, a study by Szumski et al. (2017) involved kindergarten to grade 12 participants from the US, Canada, and European countries. The study demonstrated the advantages of inclusive education for both special needs (SEN) students and non-SEN students. Cole et al. (2021) reported that students with disabilities demonstrated improved performance in reading and math when placed in general education-inclusive

classrooms 80% of the time or more, compared to classrooms with mixed inclusion or low inclusion. Another study by Signor-Buhl et al. (2006) evaluating special education services found that students with disabilities achieved comparable or better results than students in self-contained classrooms. Social advantages include enhanced self-esteem, a sense of belonging, and the development of appropriate social behaviour (Scourbys, 2019). Gordon's (2010) examination of educational policies in Canada reveals that students with disabilities enjoy classroom activities, form friendships, and have positive interactions with teachers.

While research shows the benefits of inclusion, opponents argue that full inclusion may not be in the best interest of all children, particularly those with severe disabilities who require specialized support from trained teachers. They contend that mainstream teachers would need more attention and preparation time for these students, potentially negatively impacting the education of students without disabilities. Additionally, some parents may prefer special education classrooms for their children (DeBoer et al., 2010; Gordon, 2010). Tkachyk (2013) argues that segregated classes are necessary for some exceptional students, such as those with mild cognitive disabilities. According to the author, while differentiated instruction supports the curriculum, it may not sufficiently address the unique needs of these students. Moreover, teachers' attitudes towards inclusion vary, particularly for students with severe learning needs and behavioral difficulties. Dalgaard et al. (2022) presented conflicting viewpoints. The author points out the negative effects of segregation, such as social isolation and stigma, as well as the challenges of placing all students in inclusive classrooms that may not adequately meet their needs.

Recommendation 6: Go Local

The review reveals that more research is needed to explore parents' perspectives on assessments, with a specific focus on Canada and Ontario and the efficacy of academic interventions in these jurisdictions. This is essential to address the current gap in the existing literature on the jurisdiction, which was the primary area of interest for the research questions.

Recommendation 7: Intervention Over Accommodation

Notably, Harrison et al. (2020) and Evans et al. (2009) favoured skills-building interventions over accommodations and discouraged reducing expectations and workload. Specifically, the Harrison et al. (2020) study indicated that participants in the intervention group gained more benefits from the intervention than the participants in the accommodations group. The authors recommend further research on the effectiveness of interventions versus accommodations and advocate implementing interventions alongside accommodations.

Recommendation 8: Universal Design for Learning

Universal Design for Learning (UDL) was also researched to provide information on alternative solutions that align with the themes.

UDL can benefit students with ADHD by offering a flexible learning environment. It is a set of guidelines developed by the Center for Applied Special Technology (CAST) (see Appendix F) consisting of an individualized and flexible approach to teaching students, including those with disabilities, within a mainstream classroom. UDL redefines the deficit-based disability impairment (associated with the labels that families are concerned about) as a neurodiverse difference that promotes increased inclusion and the adoption of strengths-based IEPs (Gomez & Mckee, 2020; Gallagher et al., 2014). It sets high achievement expectations for all students while incorporating accommodations and support for students with difficulties (French & French, 2020).

Research shows positive results for UDL instruction. For example, Frolli et al. (2023) focused on third-year primary school students with ADHD and compared traditional instruction with UDL. Both interventions improved test performance, but the UDL demonstrated more significant improvements. Teachers also reported positive effects of UDL. Furthermore, the authors pointed out that the individualized approach to improving students' self-regulation, motivation, and engagement is helpful to ADHD students.

In a study cited by French and French (2020), French (1985) found that “learners who have more control over their own use of strategies that are relevant to them become more adept at self-regulation, more metacognitively aware, and utilized executive control” (p. 20). This is particularly helpful for those with ADHD. Although research supports the benefits of UDL, there are some criticisms. For instance, Hamraie (2017) argues that the focus on universal benefits may overlook the unique needs of disabled individuals and that UDL should not ignore their specific experiences.

The mechanisms of UDL incorporate adaptive and flexible teaching methods that align with Vygotsky and Bloom's learning theories/principles and affective, receptive, and strategic themes in psychology (Frolli et al., 2023). The three principles of UDL—1. representation, 2. engagement, and 3. action and expression—aim to create an equal learning environment for all students, including those with exceptionalities (French & French, 2020)

The Representation Principle refers to the various methods that educators use to present content, including print, videos, visual aids, audio, graphs, and other media (Frolli et al., 2023; French & French, 2020). This approach can assist students with ADHD in better comprehending and remembering information, as they can select the format that suits them best. Additionally, it caters to different learning preferences and helps maintain attention.

The Engagement Principle motivates students by offering meaningful choices that stimulate their interest and lead to ownership of their work. For instance, students could choose topics of interest and project preferences (Frolli et al., 2023; French & French, 2020), boosting their motivation and interest. This helps students with ADHD who may struggle with attention and need engaging tasks to maintain focus. Supplying clear, concise instructions and expectations can help them stay on track and understand what is required. Various activities, such as hands-on, teamwork, and individual work, can cater to different learning styles and needs.

The Action and Expression Principle refers to the use of multiple formats such as interviews, podcasts, videos, artwork, oral presentations, scientific papers, and short quizzes so that students can show what they know and understand as opposed to a traditional essay or text-based assignments (Frolli et al., 2023; French & French, 2020; Zelenka, 2017). Students may also participate in their evaluation by doing self-assessments or creating the assessment criteria. Flexible responses allow students to demonstrate knowledge through written work, oral presentations, or creative projects. This approach can help students with ADHD express their understanding based on their strengths in contrast to standardized tests and uniform assessment methods, which may not accurately reflect all students' understanding or skills.

UDL also uses a range of assistive technologies. Students may use speech-to-text software, audiobooks, and screen readers for reading, as well as tools like speech-to-text, word prediction, graphic organizers, and specialized keyboards to assist in writing. Note that computer-assisted instruction in reading and math is associated with improved academic performance and on-task behaviour (Zelenka, 2017). Assistive tools, such as graphic organizers, speech-to-text software, and timers, can help students with ADHD organize their thoughts and manage their time effectively.

Implementing UDL principles means educators can create a learning environment that accommodates the unique needs of students with disabilities and ADHD, supporting their academic and social success. Unlike special education interventions that target specific learners, UDL principles and tools are utilized to develop a flexible curriculum accessible to all students in an inclusive classroom setting, ensuring equity; however, for UDL to be effective, schools must educate teachers in evidence-based practices and provide the resources to support these practices (Zelenka, 2017).

Perspectives from the Writer

This thesis is informed by my own challenges with ADHD, learning disabilities, and academic achievement. These experiences provided the inspiration and context for the inquiries in this research. As a parent of two children with ADHD and learning disabilities, my experience with psychoeducational assessments, the special education system in Ontario, and academic interventions began in 2002. My family completed seven assessments and participated in academic accommodations and interventions during high school. Teachers made the referrals for assessments; however, during the implementation, no one provided sufficient information on them or the IPRC, IEP, and special education classes. The pros and cons of participating in the system and the risks and negative effects of stigma were unknown. Ritalin was frequently discussed.

The seven reports received followed the same format, and the issues described in this paper were similar to my experience. The test scores and overall reports were not easily understandable, and the strengths and weaknesses were not well-organized and comprehensive. The recommendations were rote, generic, and vague. Additionally, most regular teachers did not have the knowledge or skills to teach students with ADHD and learning disabilities. Special education teachers were reserved for classes outside the regular classroom, and my children felt uncomfortable with the process. The IEP was a generic form that included items such as chunking and additional time. The program included assistive technology such as Kurzweil, time management sheets, memory aids, and other tools. However, it is unlikely that additional steps required of students, which were not built into an assignment or learning, were followed. For example, a concept map would not be done unless it had to be produced as part of the assignment. Having an additional set of textbooks at home and knowing the homework assigned daily would have been more useful in ninth grade.

Apart from striving for academic achievement, the more serious issue, in my view, was the impact of stigma on self-esteem. I was asked, "Why can't I be normal like everyone else?"

Taking French was not an option; a skills class replaced it in grade 9, which was mainly comprised of more impaired students. Bias was evident in many instances. The students did not have the power to choose not to attend special education classes. Clear, specific information about the assessment, special education process, and the type and efficacy of tools in the classroom is important for informed decision-making but was not made available. Additionally, decisions made by teachers regarding applied and academic pathways in grade 8 were too early for an ADHD child who developed late and could not make choices. This led to a significant risk of missed opportunities. In my opinion, the system failed my children during that time; therefore, I added academic programming to their essential life skills programs, which included music lessons, sports, arts, math and science tutors, memory training, neurofeedback, naturopathic remedies, biofeedback, vitamins, supplements, and ADHD medications. That period was hectic, expensive, and tiring, especially for a full-time law librarian commuting to Toronto. However, that period concluded with two university graduates and one in first-class standing. Many parents may not have the resources or time to mitigate challenges with academic achievement if the system does not work for their child. Therefore, it is imperative that the system in place for providing equal and inclusive education and promoting well-being for all students is effective and delivers positive outcomes for students and parents.

Chapter Five

Conclusion

The research yielded overarching and intersecting themes between academic interventions and parents' perceptions of psychoeducational assessments. Parents' and adolescents' perceptions of stigma and concerns about the effectiveness of interventions were shown to decrease both compliance and willingness to participate in interventions. Despite these concerns, the literature reviewed indicates a more positive than negative outlook on the efficacy of academic interventions. The positive results support the potential for interventions to make a difference in improving academic performance. Although there is a need to enhance the report to increase parental satisfaction and compliance, the positive aspects of the assessment were recognized, such as the value of providing essential information about the child in the assessments, granting access to resources, and offering recommendations. Ultimately, factors such as parental satisfaction, the role of stigma, and the effectiveness of intervention influence compliance, participation and the success of interventions, and consequently, the success and well-being of students at school.

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Appendix A2

Table 2: Table of Studies

No.	Author, Year, Title	Place	Method	Main Ideas and Results
1	Rahill (2018) Parent and Teacher Satisfaction with school- based Psychologica l Reports	School districts US	Mixed method design 22 parents, 68 teachers Groups: parents; teachers (parents: location, special education, number of reports read, meeting attended) Data collection: online survey Analysis: Independent analysis; grounded theory approach to qualitative analysis; Means (average) and standard deviations on perceptions of reports; thematic categories for strengths and weaknesses, sample T-tests for differences for parents and teachers	Purpose: "Examines parent and teacher perceptions regarding quality, understandability & usefulness of report"; value, strength, weakness) Results: (parents) 19% report easy to understand; 27% strengths and weaknesses understandable; 75% focus on test scores; 22 %% useful recommendations; 13 % provided recommendations; 17% report satisfaction Differences to teachers: parents have less favourable ratings than teachers: less satisfied, parents prefer theme-based reports; less

			Statistical differences can be found on p.698.	technical reports; parents' lower ratings for reports answering questions on cognitive, academic, and behavioral functioning; strengths and weaknesses of the child; recommendations more useful for parents; School professionals: more understandable, useful
2	Human & Telglasi (1993) Parents Satisfaction and Compliance with Recommendations Following the Psychoeducational	US	Belief Health Model framework (adapted version) - integrate and organize information from educational and compliance research. (interviews and questionnaire) Participants – 77 parents of children 5-18 years of age who received psychoeducational assessments & recommendations for tutoring Average parent has a college degree	Purpose: Used the adapted model to assess parents' compliance with recommendations and satisfaction of services (parents perspectives) Results: Parents' reactions to recommendations play a significant role in complying with recommendations; level of concern over problems predicts compliance; severity

Assessment of Children		Data was organized using the Belief Health Model Framework for compliance and satisfaction. Data: age, sex, verbal IQ, performance IQ, Reading achievement, math achievement >Perceived susceptibility >perceived severity >compliance (recommendations) Socioeconomic status (SES) > perceived benefits/barriers >initial satisfaction >follow up satisfaction Data analysis: series of multiple regression analyses examined selected relationships for compliance and satisfaction	has – limited role in compliance Beneficial changes from the evaluation to parents Efficacy of recommendations (belief) – effective in predicting compliance Perceptions: child's vulnerabilities & severity, the utility of recommendations (influences compliance
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3	Mucka et al. (2017) Barriers to Adherence to Child Assessment Recommend ations	Illinois Midwes terUniv ersity US	Follow-up study (12 or more months) Semi-structured interviews Participants: parents of 51 children, aged 8-16 yrs(children – race, disorder diagnosis, IQ) Data collected: Recommendations, complexity, clarity, barriers, adherence, satisfaction Data analysis all analysis using SPSS 22 – lineal regression using averaged data by participant (N-51 Descriptive analyses (recommendation & satisfaction)	Purpose – if assessments were helpful to families after one year of receiving the assessment; did they follow the recommendations and the role barriers in adherence Results 71.5 % followed recommendations Assessment process helpful Stigma is a barrier to complying with recommendations Fewer barriers, higher compliance Overall, the assessments were useful.

			Chi-square analyses – adherence to recommendations	
4	Miller and Watkins (2010) The Use of Graphs to Communicate Psychoeducational Test Results to Parents	Pennsylvania US	A between-subjects, post-test-only design 2 randomized groups (1) control (report without graphs) and (2) experimental (report with graphs). Two versions of report (1) controlled (2) experimental 144 parents (123 mothers, 21 fathers) of children who have evaluations and receive special ed services; mean age 40 years (race, marital status); High school diploma (all); some college (19%); college grads (35%); graduate (24%) Data collected: Recall measure, satisfaction measure	Purpose – to test if reports with graphs are easier to read and understand; problem parents have difficulty understanding reports Results: Main effects of report type (graphs vs without graphs): Parents recalled more information with graphs compared to no graphs regardless of education – with or without college. Parents more satisfied with reports with graphs The mean score on recall measure greater for experimental group vs control group (M=6.47, SD=1.83) (8%

			Data analysis – descriptive statistics, mean scores and SDs, ANOVAS.	recall accuracy increase); parents of all educational levels scored higher on recall measure; Interaction between report type and education level not significant; the relationship between parents' prior experience with special education and recall scores not significant The mean score for on total satisfaction measure was greater for the experimental group (M=3.80, SD=.58) than the control group; the main effect was found on report type, but education level and the interaction between report type and education level was not significant; medium effect size for report type found; relationship between parents' prior experience with special education and satisfaction scores not significant.
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				All parents helped with graphs regardless of education (p.10).
5	Cornwall (1990) Social Validation of Psychoeducational Assessment Reports	Canada	Study: received written feedback from questionnaires sent to participants which were analyzed for quality and utility of the report (10 questions). Participants: 79 parents, 50 physicians, 73 school professionals, one ward of the crown, 36 school psychologists, 31 others. Parents of 80 children, aged 10-14 yrs (S.D. 2.69 referred to pediatric hospitals for learning difficulties Data collected / Results 170 returned questionnaires: parents (46%); physicians (74%); school professionals (78%); school board psychologists (61%); and other (58%).	Purpose: To obtain feedback from the consumers of the psychoeducational assessment to assess the quality and utility of the report based on 5 questions. Results Understandability Significant differences across groups for understandability $F(4,159)=2.30, p<.06$ with parents and physicians rating the report as less understandable to the other groups Answered referral questions no significant differences for the statement on referral questions [number]; concluded favorably

			Five questions were asked: (1) understandability, (2)answered referral questions;(3) providing detailed description of the child's difficulties; (4)explanation of the child's learning difficulties;(5) recommendations were useful Data analysis Mean ratings, standard deviations (SD) ANOVAs conducted to determine if the differences in mean rating for each statement across groups were significant e.g. parents vs teachers vs physicians.	Detailed description of difficulties explanations and descriptions of learning problems were favorable. Recommendations useful There was a significant difference among groups for rating the usefulness of the recommendations; parents reported recommendations as more useful than school professionals; more parents implemented the recommendations than teachers and parents were more motivated to follow recommendations. no other comparisons are significant; In general, responses were favorable to reports even
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				though parents' results were lower in some areas
6	Langberg et al. (2008) Efficacy of an Organization Skills Intervention to Improve the Academic Functioning of Students with Attention Deficit /Hyperactivity Disorder	Public school Ohio US	Study: 8 wk organization skills intervention; post 8-week follow-up maintenance check Participants: 37 children with ADHD in public school, grades 4-7, age 9-14 Randomly assigned: (1)experimental: receive the intervention immediately (2)control: placed on a waitlist Data collection Baseline measures: homework problem checklist (HPC)completed by parent; homework management checklist (HMC) by school counselor, organization checklist (OC) completed first	Purpose: examine the efficacy of an 8-week organization and homework management skills intervention Results: Decreased homework problems, gains maintained at 8-week follow-up; academic performance improved (pre-post gains); Improvement in homework management and organization skills – gains measured by parents' ratings; pre-post; small gains on GPA – rated by teachers in 4 subjects Details On the HPC ratings, there was a significant main effect of time, $F(1,35) = 15.30$, $p < .001$, indicating an overall trend toward improvement

		day; APRS completed by the teacher Introduce intervention During: HMC twice weekly for 8 weeks; HMC daily, 8 wks; OC twice weekly; Post, 8-weeks: HPC completed by parents Analyses: Establish baselines Introduce intervention Percentage meeting criteria of the checklists for homework organization and organization; Rating scales – independent sample t-tests for academic performance rating scale (APRS)for effects; homework problems checklist (HPC); MANOVA; ANOVA for change over time for GPA / class grade	during 8 weeks” (p. 413). The data by parents indicated improvement in the intervention group compared to no significant improvement pre-post for the control group (p. 413). Homework management improved from 30% to 72% in the final 2 weeks of the program. Post-intervention was maintained at 65%.; compared to participants in wait-list control --homework was recorded at an average 21% during 8 wks. Organization skills Participants’ organization skills improved from 38% to 98% for binder criteria, 69% to 92% for bookbag criteria, and 47% to 95% for locker criteria. There was an insignificant
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				decrease post-8 weeks (check)
7	Evans et al. (2009) A School- Based Organization Hyperactivity Disorder	Middle school Virginia US	Study: implement a 5-month, binder organization intervention (CHP), 2 sessions wk. to evaluate efficacy in an organization and link to improved grades Participants: 28 students with ADHD, aged 11-15 years. grades 6-8, public school Data collection: Organization assessment sheet (OAS), CHP – 11 items coded for adherence to criteria. Observations Grades from English, Math, Social Studies, and Science were recorded for each of the 6 weeks of grading periods; 4 grades and GPAs used in the analysis	Purpose: extent students improved their organization over time; find out if there is a relationship between binder organization and improved grades; do a descriptive analysis of patterns of responding. Results: Most participants improved on organizing materials (binders) Improved grades were recorded Patterns of responding – measured by visual analysis and descriptive analysis. Patterns of responding to the intervention analyzed

			Data analysis --Improve organization over time-two methods (p. 83). --Change in grade performance (p. 83, calculation) --Descriptive analysis, visual analysis of patterns of responding	(immediate, slow/steady, and honeymoon.
8	Harrison et al. (2020) Comparison of Accommodations and Interventions for Youth with ADHD: A Randomized Controlled Trial.	Middle school US	Type of Study: repeated measures, randomized controlled trial (RCT) - compare the efficacy of three interventions and three accommodations (science class) and social validity Interventions group (31) ➤ Post-hoc subdivided groups: 1. Willing 2. Not willing to follow procedures Accommodations group (36)	Purpose Addresses the difficulties of organization and sustaining attention in class by comparing the efficacy of 3 interventions to three accommodations for usefulness, helpfulness, and improvements in organization, independent work, notetaking, and (post-hoc) the benefits of behavioral responses (willing/not willing to participate); and social validity effects and benefits

		Participants: 64 middle school students with ADHD; Grades 6-9, 11-15 yrs (M=12.66, SD=1.27) Conducted in two schools for 13 weeks Measures: 12 measures; Procedures -5 sets Data collection: <i>Invention</i>: organization training, self-management, and notetaking instruction <i>Accommodation</i>: organization support, extended time, copy of teachers' notes <i>Pre-implementation</i>- baseline data (first 3 wks), % binder organization using OAS sheet; direct observation data on engagement and disruptions during the lesson;	Results Relative benefits Large benefits for students; they are more likely to organize and maintain binders –significant increases in note completion and accurate notes 4 times more compared to baseline and 2 times at follow-up compared to accommodation group where teachers notes during and post-implementation and resulted in the decrease of note completion and accuracy Independent work: steady for the interventions group (62% to 64% to 62%) and decreased for the accommodations group (from 57% to 50% to 39%); Intervention group: self-initiated self-management and more willing to take notes which leads to engagement; accommodations group less
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			<i>Implementation:</i> 7 weeks, organization data (OAS), observations, notes scored Post-implementation: final 3 weeks; binder organization (OAS); independent work (science lesson) Data analysis Pre-intervention: power analysis (G*Power 3) and analysis for group equivalence between the accommodation and intervention groups; Group equivalence tests (ANOVA, Chi-Square) – pre and implementation data (relative benefits; willing / not willing); social validity effects and benefits - behavioral indices of social validity; self-report indices.	likely to complete independent work Post – statistically significant differences – intervention group maintained higher levels over the accommodations group; notes 4 times more accurate for the intervention group (post) Social validity (behavior and relative benefits) students in the interventions group rated the six social validity questions higher than the accommodations group (it increased when the ratings of the unwilling group were removed); the unwilling group did not find interventions helpful, understand them, or willing to learn strategies) because, for example, their IEPs or 504 plans (p. 33)
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				accommodated them with teachers' notes [re LCM – independent functioning]
9	Johnson et al. (2012) Improving Reading Recall of High School Students with ADHD	Urban high school Midwestern State US	Study: Multiple baselines across participants design with multiple probes study; experimental design and analysis Participants: 3 students, ADHD with co-morbid impairments; grades 9-12, aged 14-15 yrs.; reading difficulty assessed Reading performance is assessed to establish a baseline before beginning TWA instruction (think before reading, think while reading, and think after reading); five lessons taken from Powerful Writing Strategies for all Students (Harris, et.al. 2008); nine steps in TWA strategy –	Purpose – examines the effectiveness of a multicomponent reading intervention taught with self-regulated strategy development (SRSD). The TWA-SRSD strategy -- to improve reading recall thereby reading comprehension Results Main ideas – The baseline was low for all participants (zero to one main idea recalled); At post-instruction, all students increased main ideas; PND averaged greater than 90% (strong effect) Supporting details - Baseline was low for all participants; 4-28% supporting details

			Measures/data collection: check sheets, graph organizers, etc. are used to score each probe for the number of main ideas, and percentage of supporting details; baseline, post- instruction, and maintenance retells were scored by the first author and teacher from the school; 43 retells (instructions provided); measured improvement (scores) in main ideas recalled percentage of supporting details for each main idea recalled. Data analysis: Data analyzed for stability, level, and trend using visual inspection techniques (p. 263); means and SDs for the number of main ideas in oral retells; percentage of	recalled; post-instruction recall of supporting details increased more than 200%; (large effect) Performance remained high at maintenance checks – 2 weeks, 4 weeks, and follow- ups post-implementation. TWA reading interventions are helpful for students with ADHD who have reading difficulties.
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			supporting details with each oral retells during baseline, post-instruction, and maintenance	
10	Bussing et al. (2016) Feasibility of School-Based ADHD Interventions: A Mixed-Methods Study of Perceptions of Adolescents and Adults	North Florida School District US	A cross-sectional survey study conducted in 2008-2009 as part of a longitudinal mixed methods study (1998-2009) Participants: 161 parents, 148 adolescents, 122 teachers, 46 health care professionals. Adolescents aged 14-19 years (m =16.5 yrs.) (M = 16.5 yrs.) SD=1.3 yrs.); includes members of an ADHD high-risk group and a low-risk group from the previous longitudinal mixed methods study (1998-2009)/ Data collection Survey: (mail, in-person) – participants were presented with case vignettes and	Purpose: Evaluate participant's willingness to use school-based ADHD interventions considering views on acceptability, effectiveness, and undesirable effects of interventions; associated with intervention feasibility Results: Differences in willingness to use interventions or recommendations or use them? Willingness increases - feeling knowledgeable, perceived effectiveness, acceptability; willingness decreases embarrassment (stigma); adolescents lower willingness than adults; adults

		responded to questions that included open-ended questions on 7 academic interventions; a 5-point rating scale for acceptability, perceived effectiveness, helpfulness, self-knowledge, embarrassment (a proxy for stigma), and likely to cause undesirable effects. Also, respondents <i>rate</i> willingness to use the intervention or recommend it and comment on undesirable effects. Seven interventions were included. Data analysis_(incomplete list; too many) Question 1 -- Differences in willingness to use interventions or recommendations or use them?	did not differ across groups, but expressed high willingness What perceptual or experiential factors: predict willingness? Stigma, inequality, ineffectiveness, limited confidentiality Unwanted effects of school-based ADHD interventions expressed by participants. stigma, disruptions to self and others; dependence
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			Kruskal-Wallis analysis for each of 7 variables (intervention willingness); main independent predictor variable (respondent type); followed by Bonferroni corrected Wilcoxon rank sum tests. Research Question 2 – What perceptions or experiences predict willingness? Multiple regression analysis for two composite dependent variables (activity focused, attention focused) and the point of contact teacher variable. Question 3 –Unwanted effects of school-based ADHD interventions expressed by participants. applied grounded theory methods to analyze open-ended survey responses to the	
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			question "What other undesirable effects are you concerned about?)	
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Appendix B

Thematic Summaries: Psychoeducational Assessments

Understanding the Psychoeducational Assessment

The study by Rahill (2018) investigates the satisfaction with psychoeducational reports of twenty-two parents and sixty-eight teachers from school districts in various areas of the United States. The children received special education services in grades K-12. Satisfaction was measured by parents' and teachers' perceptions of the reports in terms of their quality, usefulness, and understandability.

An online survey was customized for each group with a 5-point Likert scale and open-ended questions. The data from the results showed that parents reported problems with understanding the report. Specifically, jargon and technical language made comprehension difficult, and organizing the report by test scores instead of topical themes compounded the problem. Both the Likert scale and open-ended responses reinforced the issues with understanding the assessment. For the Likert scale, only 19% felt the reports were easy to understand, 27% reported that strengths and weaknesses were explained in an understandable way, and 100% said there was too much jargon and focus on tests and scores which hindered readability. The results for the open-ended responses also indicated that reports were difficult to read and understand -- too much jargon, lack of appropriate interventions, and emphasis on weaknesses. According to Rahill (2018), parents suggested using the child's strengths and weaknesses to structure the report as they considered this information a priority. Also, the literature reviewed by the author showed that less jargon, technical language, and the use of graphs would help with the issues discussed above.

In the study, Miller and Watkins (2010) added graphs to a traditional but modified psychoeducation report to test if parents' understanding would increase compared to a report without graphs. One hundred and forty-four parents who attended meetings of 13 parent

organizations in Pennsylvania were given reports with graphs and without graphs. After reading the reports, parents were tested for recall of information and satisfaction.

The study's results confirmed that using graphs in reports that contained text and tabular information improved parents' recall ability (parents had an 8% higher recall of information in the group with graphs). This was true regardless of education level—those with and without college (all parents scored higher for reports with graphs).

The Cornwall (1990) study assessed the quality and utility of 80 psychoeducational reports through written feedback received from 170 of 269 questionnaires that were sent to parents and teachers (parental consent); and 269 questionnaires sent to 79 parents, 50 doctors, 73 teachers, 36 school board psychologists, and 31 others. Feedback was obtained from five questions that were assessed, using a Likert scale, regarding the ease of understanding the report and whether it answered the referral questions. The adequacy of descriptions and explanations of learning difficulties and the usefulness and implementation of the recommendations were also assessed. Regarding the statement/question on the ease of understanding the report, compared to school professionals, both parents and physicians indicated that reports were less understandable.

Effectiveness (Usefulness and Understanding)

Rahill (2018) addressed the quality and usefulness (categorized as effectiveness in the review) of the report while assessing its strengths and weaknesses. Parents reported a lack of appropriate recommendations and less satisfaction with the reports. They had more difficulty understanding the reports than teachers, evidenced by less favourable ratings (p. 698) on the Likert scale. Parents also thought the assessment did not provide sufficient information on the child's strengths and weaknesses.

In the Miller and Watkins (2010) study, the satisfaction of the reports with graphs vs those without graphs was rated by parents by the report type, using a five-point Likert scale for understanding, clarity, and layout. The study concluded that parents were more satisfied with

reports that included graphs than those that did not include graphs. The mean score on total satisfaction in the experimental group (with graphs) was higher ($M=3.80$, $SD=.58$) compared to the control group ($M=3.51$, $SD=.74$) (without graphs). Overall, reports with graphs were easier to read and understand by parents in the experimental group compared to parents in the control group.

One of the five questions in the questionnaire sent to parents and other professionals in the Cornwall (1990) study asked about the usefulness and implementation of the recommendations. Written responses indicated that parents rated the recommendations as more useful and valuable than teachers did.

Satisfaction with their child's assessment by parents in Mucka et al. (2017) were placed under the theme of effectiveness, quality, and usefulness in this review. Data on satisfaction was collected and analyzed in a 13-question survey with a 4-point Likert scale ranging from unsatisfied to very satisfied. Questions were asked about the quality of service, quality of the report, competence of the clinician, and overall usefulness of the report. The study reported high satisfaction with the assessment process and results and found the assessments helpful.

Parents' Perceptions and Beliefs

There were differences in perceptions and beliefs between parents and teachers' groups in the Rahill (2018) study calculated through t-tests. Parents submitted lower ratings for the questions on report comprehension and layout. They preferred theme-based reports versus technical test-scores-based reports. Parents also submitted lower ratings if the report answered questions on cognitive, academic, and behavioral functioning. Parents' views on strengths and weaknesses, collected from the open-ended questions, indicated that they believed there was a lack of appropriate recommendations (25%) and too much jargon (25%).

In Mucka et al. (2017), perspectives included: the recommendations were irrelevant or not helpful, they lacked credibility, and the time/cost of the intervention were barriers to parents' compliance. Also, cultural views that compliance would be stigmatizing were mentioned. The

barrier of stigma related to feelings of embarrassment or the fear that following the recommendation would lead to labeling and detrimental consequences for their children. The findings were that stigma and the view that the recommendations are not helpful to deter parents from complying with recommendations.

Compliance with the Recommendations

In the Human and Telglasi (1993), study parents' compliance with recommendations and satisfaction with services were studied through the Belief Health Model (adapted). The study assessed the effectiveness of the evaluation (based on criteria) from parents' perceptions and their follow-through with recommendations.

Questionnaires completed by participants provided feedback relating to compliance with recommendations (tutoring). Parents' perceptions of barriers/benefits, perceived problem severity, perceived susceptibility, the efficacy of treatment, and satisfaction were analyzed for compliance with recommendations and satisfaction with services (effectiveness). The results found that parents' reactions play a significant role in complying with recommendations.

Key findings report that barriers and benefits contribute to predicting compliance and are also predictors of satisfaction. Problem severity plays a limited role in compliance. Agreement and understanding of the evaluation influence compliance and satisfaction. Parents' perceptions of the efficacy of treatment influence compliance and satisfaction. The themes of effectiveness and parents' perceptions identified in the study all contribute to the parents' level of compliance.

The Cornwall (1990) study addressed the usefulness and implementation of the recommendations as one of five areas of investigation. More parents than teachers implemented the recommendations, and parents were more motivated to follow through with them. Parents also rated the recommendations as more valuable.

The study by Mucka et al. (2017) assesses, from a parents' perspective, the adherence to recommendations in the assessment based on barriers, recommendation type, and

satisfaction. The participants included parents of 51 children, aged 8-16 years, with various learning disorders.

Semi-structured interviews using a Likert scale questionnaire were conducted and responses to questions were categorized by recommendations, barriers to adherence, and the recommendations' clarity and/or complexity. The data was analyzed using Chi-square analyses for parental adherence to assessment recommendation type and barrier identification. Linear regression was conducted to assess the relative contributions of satisfaction, recommendation type, and total barriers to adherence percentage.

The criteria for barriers that resulted in non-adherence or predicted it were categorized as follows: limited resources, childcare problems, transportation, insurance delays, lack of time, stress, teachers not cooperating, teacher-parent communication, perceptions the recommendation would be irrelevant or not helpful credibility, and time/cost of the intervention. The results show that fewer barriers result in higher compliance.

Satisfaction was not significantly related to adherence. The assessment was found to be helpful. Also, providing complex or unclear recommendations did not affect adherence. In terms of adherence, 71.5% adhered to the recommendations.

Appendix C

Academic Interventions: Thematic Summaries

Effectiveness

The study by Langberg et al. (2008) is the first of three studies on organization, and it addresses the efficacy of a fundamental homework-management intervention which included three components: organization of physical materials (book, binder, locker); use of a planner to record homework and tests; and the management of projects and planning for tests (p. 408). Homework management is an essential requirement for academic success. The program was delivered 2 days a week for 8 weeks, and students received 1 hr. 15 minutes of instruction daily (individual & group). Counselors completed an organization and homework management checklist for each student for the physical materials organization and checked their assignment notebooks/planners for accuracy in Math, Science, Language Arts, and History. When the students completed 55 min for group activities - completing homework, math worksheets, and outlining chapters in textbooks, they earned some free time as a behavior/reward incentive for finishing the work. Parents were also involved by participating in two 1 hr. sessions. Homework problems were captured through the homework problem checklist and the roles of inattention in work avoidance and poor productivity were noted in the BASC scale. The 19-item academic performance rating scale (APRS) for measuring performance (success, impulse control, productivity) was completed by teachers, and changes in class grades were collected. After 8 weeks and follow-up, the program proved generally effective for the participants in the interventions. Homework problems decreased as homework completion and productivity improved. Homework management and organization (physical materials and accuracy of recording in planners and planning for tests and projects) improved, and teachers reported small gains in class grades and overall GPA (p. 415). According to the findings, the efficacy of interventions was positive and helpful in improving academic skills. The authors pointed out the value of training in materials organization and homework skills (p. 415) for students with ADHD

because these are core areas of academic skills that are essential for the success of interventions in general. However, the author also pointed out that there is not enough research organization and homework management and, in general, academic gains are questionable.

Evans et al. (2009) is the second of the three studies on an organization intervention that discussed the efficacy of the program. The study examined the relationship between the organization of materials and improved grades for middle-school students with ADHD who participated in the binder organization intervention in the CHP program. The binder organization intervention is considered a solution for the problem of disorganization – a diagnostic criterion in the DSM (V) Evidence of disorganization is seen in students who have difficulties with homework and the management of long-term projects, as well as poor time management, difficulty in keeping track, or not having materials for the class.

The program's sessions lasted 2hr 15 min, 2 sessions per week, over 5 months. Students received a binder to organize class materials, in addition to an assignment notebook, daily planner, and homework folder. Eleven items on the *Organization Assessment Sheet* (OAS) were coded yes/no and used for marking adherence to criteria and scores recorded on a checklist. The purpose of the intervention was to discover if the organization of the binders improved in response to training; the relationship between binder organization and improved grades and, through a descriptive analysis of response patterns, analyze the relationship between the response to improved grades. In the study, most participants improved their organization of materials, alleviating the difficulty they had prior to the intervention. Also, an improvement in academic performance as evidenced by higher grades. Most participants improved their organization of materials, which resulted in improved grades and performance in Social Studies, Math, and English.

The authors stressed the need to target disorganization with organization interventions (p. 80) as it is a major difficulty for these students. Secondary school teachers' expectations are

high for organization and planning, and they reported the challenges students with ADHD face in this area.

The authors also compare academic intervention and accommodations, noting that the latter is frequently recommended and includes shortening homework, credit for late assignments, extra time for tests, and open-book tests, which lower expectations rather than help students improve. They (authors) emphasized that it is better to train students to be competent than it is to reduce expectations in classroom settings. They clearly point to the issue of building competency through interventions rather than accommodations, which creates dependencies.

The study by Johnson et al. (2012), “Improving the Reading Recall of High School Students With ADHD addressed the issue of reading comprehension in three students with ADHD in grades 9-12 and will be discussed in terms of its efficacy. Students with ADHD typically have difficulty with reading comprehension, and the literature has identified it as an academic skills problem, Special Education programs include reading strategies for problems with reading and writing. Reading comprehension difficulties are linked to deficits in attention, executive functions, and working memory which are core features of ADHD. The intervention implemented in the study was the “think before reading, think before writing, and think after reading “(TWA) strategy, combined with the self-regulation strategy (SRSD) for instruction. Teachers assessed the reading for difficulties prior to the implementation. Scores were average or below average in the standardized assessment. All students had a medical diagnosis of ADHD.

The results of the TWA–SRSD supported its efficacy by demonstrating an improvement (scores) in the number of main ideas and the percentage of supporting details for each main idea recalled which, are key components of reading comprehension. In addition, the gains from the TWA intervention were maintained at follow-up.

In the implementation of TWA, a mnemonic chart was introduced; students memorized nine steps, orally recalled them and wrote the mnemonic. The teacher modeled the strategy and

demonstrated it prior to the activity. A TWA graphic organizer and self-statement sheets were some of the tools and there were five lessons in total.

The positive outcomes in the findings of the TWA strategy supported its efficacy in helping high school students with ADHD with reading comprehension problems, and it is therefore advantageous and useful in mitigating reading problems.

Interventions vs Accommodations

Harrison et al. (2020) "Comparison of Accommodations and Interventions for Youth with ADHD: A Randomized Controlled Trial" is the final of the five studies on the efficacy of academic interventions. The study compares the efficacy of three interventions - notetaking, self-management, and organization and three accommodations – extended time, teacher notes, and organization support. The author commented that the life course model (LCM) prioritizes interventions over accommodations in comparing long-term helpfulness and value (p.16), and the study is the first to compare and evaluate the efficacy of the two educational supports.

Five dependent measures were used for binder organization, task engagement and disruptive behavior, task completion, and accuracy of notes for each variable, totaling 175 direct observations and 175 permanent products. The relative benefits of interventions and accommodations during and after implementation showed significant effects for binder organization, note completion, and note accuracy: 4x as much information for notetaking and increased accuracy; significant benefits for binder organization; and scores ranging from 73.51% to 80.49%, Effects for self-management showed that it was more likely to increase on-task behavior, and independent work completion, compared to those provided with accommodations such as teachers' notes and extra time to complete a task.

In summary, the benefits of the interventions group over the accommodations group were significant. Students in the intervention group were more likely to organize and maintain a binder and take complete and accurate notes than students in the accommodation group. The authors showed, through the findings that compared interventions and accommodations, that

interventions are more effective than accommodations for similar tasks, and they made the case for the advantages of the intervention.

Willingness to Participate

In the Evans et al. (2009) study, patterns of responding to the intervention were analyzed as immediate, slow/steady, and honeymoon and measured by visual and descriptive analysis. Mastery of the task was described as those respondents who received 90% or greater scores in the first six weeks and maintained the scores throughout the study were labeled *immediate*. *Slow and steady* meant that responders' scores increased gradually to the end. Those who were labeled *honeymoon* had scores that increased in the first few weeks, declined within 6 weeks, and picked up again at a steady pace for the duration of the study. Immediate responders made up 42% (N=11), slow and steady, 27% (n=7), and honeymoon, 31% (N=8). Because binder organization had a relationship with improved grades in the study and the response pattern determines the extent of successful binder organization, it is logical to interpret willingness to participate in intervention as determined by a response pattern and as an issue. The secondary purpose of the Harrison et al. (2020) study was to investigate the social validity of interventions and accommodations which was measured with a self-report measure and by observing students' willingness to follow intervention procedures. [The intervention group was divided into 2 sub-groups: those willing to follow intervention procedures and those not willing to follow the intervention procedures]. The six validity questions were rated higher in the interventions group compared to students in the accommodations group. The unwilling group was "less likely to like or understand the intervention or find it easy or helpful than students willing to use the strategies" (p. 33). Also, the perception that the binder organization skills were useless resulted in a lack of willingness. Furthermore, students in the intervention group were more inclined to take notes, follow procedures, engage in instruction and independent work, and organize binders than students with accommodations.

The study by Bussing et al. (2016) looks at the role of adults' and adolescents' perceptions of ADHD in its feasibility. Perceptions include stigma, inequity, class disruptions, and ineffectiveness, which decreases the willingness to use the intervention. Willingness is, therefore, determined by perception. Perceptions are classified as barriers or unintended consequences in the study. There were seven interventions included in the survey, which were a mix of interventions and accommodations but grouped as interventions. Data was collected on the perceptions of four groups, including parents and adolescents. The willingness of participants to use school-based recommendations was assessed based on their views on the acceptability, effectiveness, and undesirable effects of interventions. Interventions are intended to help students overcome academic difficulties, but many issues linked to the willingness or unwillingness to use the interventions emerged from this study. The key areas of problems identified in the study were as follows.

First, many respondents in the study felt that the interventions provided an advantage to some students and not others, which was viewed as unfair, favoritism, and inequality. Parents thought that restructuring a task should apply to all students and not just to some students. This created a feeling of unacceptability, which was negative for willingness.

Second, attention-focused interventions were considered ineffective without other strategies or therapies, such as medication, and class-based interventions were viewed as restrictive to the setting. These issues with effectiveness decreased willingness to participate, which is problematic as the intervention may be helpful.

Third, the disruption that results from some interventions was thought to hinder schoolwork both for the ADHD student and the entire class which led to unacceptability and a decrease in willingness.

Lastly, attention-focused interventions were viewed as very stigmatizing, creating the feeling of being different and bringing attention to the person in a negative way. Students felt singled out, isolated, embarrassed, and "like there was something wrong with them" (p. 409)

and these feelings hindered positive participation in various interventions. The use of reminders was viewed as helpful, ineffective in some ways, and stigmatizing. Reminders created dependence over time and negatively eroded self-monitoring. The unintended, undesirable effects of stigma decreased willingness.

Appendix D

Psychoeducational Assessments: Search Results

Psych-Info	Search String	Additional Limits	Results
	Note: The word "noft" is computer-generated in the results and is not part of the search.		
1	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(parent*) AND noft(Ontario OR Canada)	1990-2023 Peer-reviewed	5 hits
2	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(parent) AND noft(issue* OR problem*)	1990-2023 Peer-reviewed	52 hits
3	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(ADHD OR "attention deficit hyperactivity disorder*" OR "learning disability" OR "learning disabilities")	1990-2023 Peer-reviewed	180 hits
4	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(ADHD OR "attention deficit hyperactivity disorder*") AND noft(parent*)	1990-2023 Peer-reviewed	20 hits
5	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(parent*)	1990-2023 Peer-reviewed	150 hits
6	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft("parent perception*")	1990-2023 Peer-reviewed	2 hits

7	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(parent*) AND noft(Canada)	1990-2023 Peer-reviewed	5 hits irrelevant
8	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(Canada)	1990-2023 Peer-reviewed	28 hits
9	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(understand*)	1990-2023 Peer-reviewed	109 hits
10	"psychoeducational assessment*" OR "psychoeducational report*" AND parent* OR student* OR adolescent* OR child* AND Canada OR Ontario	1990-2023 Peer-reviewed	35 hits
11	Noft ("psychoeducational assessment*" OR "psychoeducational report*") AND noft(student OR adolescent* OR child OR children) AND noft(clarity OR understand*)	1990-2023 Peer-reviewed	91 hits
12	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(parent* OR adolescent* OR child OR Children) AND noft(recommendation* AND reading OR writing OR organization)	1990-2023 Peer reviewed	46 hits

13	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(recommendation*) AND noft(reading)	1990-2023 Peer-reviewed	11 hits
14	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft(recommendation*)	1990-2023 Peer-reviewed	65
15	noft("psychoeducational assessment*" OR "psychoeducational report*") AND noft("individual education plan*" OR IEP)	1990-2023, Peer-reviewed	8 hits
16	title(recommendation OR intervention*) AND title(perception*) AND noft(parent OR adolescent*)	1990-2023, Peer-reviewed title	210 hits

Appendix E

Academic Interventions Search Results

ERIC	Search String	Additional Limits	Results
	Note: The word "noft" is computer-generated in the results and is not part of the search.		
1	noft("special education") AND noft(IEP OR "individual education plan*") AND noft(Ontario OR Canada)	Year 1990-2023 Peer reviewed	5 hits, not relevant
2	noft("special education") AND noft(efficacy OR effect*) AND noft(Ontario OR Canada)	1990-2023 Peer reviewed	91 hits,
3	noft(adhd OR "attention deficit hyperactivity disorder*" OR autism OR "learning disability") AND noft("writing strateg*" OR "reading strateg*") AND noft(efficacy OR effect*)	1990-2023 Peer reviewed	71 hits
4	noft(adhd OR "attention deficit hyperactivity disorder*") AND noft("classroom strateg*" OR "school strateg*") AND noft("special education")	1990-2023 Peer reviewed	2 hits
5	noft(adhd OR "attention deficit hyperactivity disorder*") AND noft("classroom intervention*" OR "school-based intervention*") AND noft(reading OR writing)	1990-2023 Peer reviewed	4 hits
6	noft("classroom intervention*" OR "school-based intervention*") AND noft(effective*) AND noft(reading OR writing)	1990-2023 Peer reviewed	52 hits

7	noft(ADHD OR "attention deficit hyperactivity disorder" OR ADHD AND "learning disability" OR ADHD AND autism) AND noft(intervention*) AND title(effect* OR outcome)	Peer reviewed 1990-2023 title	138
8	noft(ADHD OR "attention deficit hyperactivity disorder") AND noft("special education") AND noft(effect* OR outcome*)	1990-2023 Peer reviewed	134 hits
9	Your search for noft(ADHD OR "attention deficit hyperactivity disorder") AND noft("special education") AND noft(effect* OR outcome*) AND noft(ontario OR Canada) found 0 results.	1990-2023 Peer reviewed	0 results when Canada or Ontario added
10	noft(ADHD OR "attention deficit hyperactivity disorder") AND noft(intervention) AND noft(classroom)	1990-2023 Peer reviewed High school	224
11	noft("reading interventions") AND noft("special education") AND noft(effect* OR outcome*)	1990-2023 Peer reviewed	64 hits
12	noft(adhd OR "attention deficit hyperactivitiy disorder*") AND noft(intervention* OR strateg*) AND noft("classroom-based" OR "school-based") AND noft(effect* OR outcome*)	1990-2023 Peer reviewed	50 hits
13	noft(adhd OR "attention deficit hyperactivity disorder*") AND noft(intervention* OR strateg*) AND noft("classroom-based" OR "school-based") AND noft(effect* OR outcome*) Canada OR Ontario	1990-2023 Peer reviewed	2 hits (1 relevant)

14	noft(adhd OR "attention deficit hyperactivitiy disorder*") AND noft(intervention* OR strateg*) AND noft("classroom-based" OR "school-based") AND noft(writing OR reading OR organization) AND noft(effect* OR outcome*)	1990-2023 Peer reviewed	7 hits
15	(adhd OR "attention deficit hyperactivity disorder*") AND noft(Intervention* OR strateg*) AND noft("classroom-based" OR "school-based") AND noft(writing OR reading OR organization)	1990-2023 Peer reviewed	11 results
16	noft(adhd OR "attention deficit hyperactivitiy disorder*") AND noft(intervention* OR strateg*) AND adolescent* AND noft(effect* OR outcome*)	1990-2023 Peer reviewed	124 hits
17	noft(adhd) AND noft(intervention*) AND noft("school-based") AND noft(adolescents)	1990-2023 Peer reviewed	28 hits

Appendix F

UDL Principles

The details on how UDL Principles can contribute to creating a flexible and adaptable learning environment are as follows:

- The Representation Principle: Educators present content using a range of formats such as print, videos, visual aids, audio, graphs, and other media (Frolli et al., 2023; French & French, 2020).
- This principle can help individuals with reading and writing problems by presenting content through visual aids, audio, and multimedia instead of relying solely on written text; children can benefit from a multisensory teaching approach, making content processing more accessible (Nexus, 2017).
- This approach will particularly help children facing reading difficulties. Instead of reading questions during test-taking, they can listen to them, facilitating a more inclusive assessment process. The use of audiobooks is a valuable resource in this inclusive learning environment (Nexus, 2017).
- Children with writing disorders, such as dysgraphia, experience issues with spelling, grammar, punctuation, handwriting, and organizing thoughts on paper (APA, n.d). The same representation methods beneficial for children with reading disabilities can also support those with dysgraphia.
- Providing various methods of presentation that incorporate visual, auditory, and kinesthetic elements benefits children with ADHD.
- The Engagement Principle: is intended to motivate students by offering meaningful choices that stimulate their interest and lead to ownership of work. For example, students get to choose topics of interest and project preferences (Frolli et al., 2023;

French & French, 2020). Educators also use interactive teaching methods that are student-centered, such as problem-solving groups, individual work, group work, etc.

- Allowing children with ADHD to choose topics of interest and the method of expression can help them overcome their difficulties. Meaningful choices consider their preferences and cater to their strengths.
- When children are interested in a topic, they are more likely to be actively engaged in learning. Engagement can lead to improved focus and attention, which are challenging areas for individuals with ADHD.
- Allowing different methods of expression accommodates diverse learning styles. Some children prefer visual presentations, while others excel in hands-on activities. Customizing teaching methods to individual preferences can enhance the learning experience.
- The Action and Expression Principle: Students use formats such as interviews, podcasts, videos, artwork, oral presentations, scientific papers, and short quizzes to show what they know and understand instead of traditional essay or text-based assignments (Frolli et al., 2023; French & French, 2020; Zelenka, 2017). Students may also participate in their evaluation, for example, by doing self-assessments or creating the criteria for assessments.
 - Children with reading or writing disabilities can express their understanding through verbal presentations and multimedia projects instead of written work.
 - For writing problems, oral exams, note-takers, and podcasting or video assignments are preferred over traditional writing.
- Technologies
 - Reading disabilities: Speech-to-text software, audiobooks, and screen readers.

- Writing disabilities: Assistive technology tools like speech-to-text, word. prediction, graphic organizers, and specialized keyboards.
- ADHD: Educational apps, interactive software, and other assistive technology.
- Computer-assisted instruction in reading and math is associated with improved academic performance and on-task behaviour (Zelenka, 2017)

Note: The application of UDL principles, guided by the steps outlined above, helps us understand their distinctions from the academic interventions discussed in this paper and highlights their potential to address issues within special education through flexible and adaptive processes.