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Evidence Brief
Innovation and Scale Up Lab

Meeting the Mental Health Needs of Students with Specific Learning Disorder: Recommendations to Advance and Innovate Current School-Based Approaches

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Overview

A review of the current, published literature was conducted to summarize the co-occurring prevalence of mental health challenges associated with SLD and describe the risk and protective factors contributing to the mental health of students with SLD. The findings of this literature review informed a set of recommendations to modify and advance existing school-based supports for students with SLD.

Specific Learning Disorders

In the lay literature, specific learning disorders are often referred to as learning disabilities. Many theories had been proposed to define and conceptualize learning disabilities. However, in Canadian educational jurisdictions, learning disorder (LD) is typically used synonymously with the Diagnostic and Statistical Manual of Mental Health Disorders (DSM-5) diagnosis of specific learning disorder (SLD; McDowell, 2018). According to the DSM-5, SLD is a neurodevelopmental disorder characterized by significant difficulties in learning and using academic skills and typically begins during school-age years. Of note, these learning deficits will be present despite having average or above-average intellectual functioning (Panicker & Chelliah, 2016).

Students with SLD comprise a heterogeneous population that includes individuals with marked weaknesses in aspects of reading, writing, and math (American Psychiatric Association, 2013). Although some students with SLD exhibit a specific weakness in one academic domain, SLDs in reading, writing, and math often co-occur with one another (Willcutt et al., 2019).

Students with SLD may have difficulty analyzing materials presented during instructional time and organizing information in their minds, leading to poor understanding of the material taught and difficulty remembering instructions. Further, students may be overwhelmed by large amounts of information and have difficulty integrating new information, retrieving material from memory spontaneously and responding quickly. In general, these students require more time to process information, make decisions, and provide responses. In the absence of appropriate modifications, interventions, and learning expectations, students' rate of academic progress may be limited, resulting in

impairments in school and individual (e.g., emotional, social) functioning (McDowell, 2018).

Beyond significant learning challenges, these students may be at an increased risk for future mental health problems, maladaptive coping strategies (i.e., antisocial behaviour, problematic substance use), as well as vocational difficulties (McDowell 2018). For example, in a recent study exploring the impact of childhood SLD on adult-age mental health, education, and employment, findings indicated less favourable outcomes among the SLD group than the group of adults with no SLD (Aro et al., 2019). That is, individuals in the SLD were more likely to have a mental health problem and experience difficulties attaining degrees following compulsory education and gaining employment.

Types and Prevalence of Co-morbid Mental Health Conditions in SLD

Co-morbid mental health conditions are common among individuals diagnosed with SLD. For example, a recent study found that among children aged 7-11 years diagnosed with SLD, 62.75% had one or more co-morbid mental health diagnoses (Buber et al., 2020). Several factors may play a role in developing mental health challenges among students with SLD, including social rejection, low self-efficacy and self-esteem (Bennery et al., 2021). Etiological characteristics inducing the learning disorder may also contribute to difficulties with social and emotional regulations, resulting in co-occurring behavioural challenges. Socially, students with SLD may be less accepted by their peers and have fewer opportunities to build meaningful relationships with classmates and teachers (Mugnaini et al., 2009). Further, difficulties managing school demands coupled with repeated experiences of school failure may contribute to feelings of inadequacy or social isolation (Zeleke, 2004).

Externalizing Disorders

Attention-deficit hyperactivity disorder (ADHD).

Comorbidity of ADHD is common among children with SLD, with prevalence rates ranging from 30-60% (Kohli et al., 2005; Bandla et al., 2017; Buber et al., 2020; Visser et al., 2020). ADHD and SLD are both neurodevelopmental disorders, and there appear to be shared etiological factors between them. For example, students with ADHD and SLD may have deficits in phonemic awareness, working memory, response inhibition, and processing speed (Pham & Riviere, 2015). Furthermore, specific ADHD characteristics may also put students at risk for having certain LDs (e.g., inattention and reading disorders; Sahoo et al., 2015). Additionally, while depending on the severity, executive functioning deficits that are central to ADHD may also manifest learning disorders in students (Hendren et al., 2018).

Conduct disorder.

Research suggests that conduct disorder and related externalizing problems are somewhat common among students with SLD (22%; Visser et al., 2020). One explanation for this pattern may be the co-occurrence of ADHD with both conduct disorders and SLD (Hendren et al., 2018). It has been widely suggested that ADHD moderates the relationship between conduct disorders and SLD. In addition, behavioural problems may be exacerbated by feelings of frustration or of being misunderstood by peers, teachers, and caregivers (LDMH Handbook, 2016).

Internalizing Disorders

Anxiety challenges and disorders.

A meta-analysis of the literature found that 70% of students with SLD experience higher anxious symptomatology than students with no SLD (Nelson & Harwood, 2011a). Overall, anxiety disorder comorbidity is estimated to be 20-30% in SLD (Buber et al., 2020; Visser et al., 2020; Singh et al., 2017). Several theories have been put forth to explain the relationship between SLD and anxiety; however, the most widely accepted is the *secondary reaction theory*, which posits that anxiety develops due to learning challenges (Nelson & Harwood, 2011a).

Academic skill development is a central part of most children's lives, and children learn at an early age the importance placed on academic success by our society. When a student repeatedly fails or underachieves academically, they are at risk of developing a deficit-oriented self-concept affecting their sense of self-efficacy and creating anxiety and avoidance for their academic work (Nelson & Hardwood, 2011a). Unfortunately, anxiety can further exacerbate academic performance and increase task avoidance (Eysenck et al., 2007). Untreated anxiety in SLD puts students at risk for negative outcomes such as failure to complete high schools and having co-morbid internalizing challenges (Nelson & Harwood, 2011a).

Depression and mood disorders.

The adverse academic and psychosocial outcomes associated with SLDs can also place students at risk for depressive conditions and related mood challenges. Increased school stress, poor academic achievement, and perceptions of low self-worth had been found to be associated with depressive symptomatology among students with SLDs (Undheim & Sund, 2008). Furthermore, peer victimization has been identified to be a risk factor for depression among students with SLDs (Hendren et al., 2018). However, research findings illustrate discrepancies in the prevalence rates for depressive symptoms among children and adolescents with SLD. For example, a meta-analysis exploring the co-occurrence found that parents and teachers perceive students with SLD to experience significantly higher depressive symptomatology compared to non-SLD students (Nelson & Harwood, 2011b However, a less recent analysis of depressive symptomatology found that students with SLD reported only slightly more symptoms of depression compared to non-SLD students (Maag & Reid, 2006). Along with the discrepancies seen due to unique perceptions of different informants (parent-teacher- or self-ratings), the risk for depressive conditions in SLD is moderated by several factors, including the severity and number of learning disorders that a student has, plus the presence of other co-morbid disorders, particularly ADHD (Visser et al., 2020).

Suicidal symptoms and behaviours.

In a 2012 nationally representative Canadian Community Health Survey (n = 21, 744), findings showed that the prevalence of lifetime suicide attempts among those with SLD was much higher than those without SLD (11.1% vs. 2.7%, p < .001; Fuller-Thomson et al., 2018). It is important to note that several risk factors likely explain the association between SLD and suicidal behaviours. Individuals with SLD are more likely to engage in negative health behaviours (e.g., cannabis use; Finn et al., 2010), are at a heightened

risk of developing anxiety and depression (Gallegos et al., 2012), and come disproportionately from low-income homes (Sifrer et al., 2011). These factors, individually and cumulatively, including low social support and adverse childhood experiences, are linked to suicidal behaviours among individuals with SLDs (Fuller-Thomson et al., 2018).

Risk Factors Predicting Mental Health Conditions in SLD

The development of SLD and co-morbid mental health challenges result from a complex interplay between genetic, environmental, and psychological factors (Visser et al., 2020). With respect to environmental factors, where a child lives and attends school, parenting styles, and exposure to quality literacy coaching and exercises at home and in the community, all interact and contribute to child development and academic abilities. Furthermore, exposure to early childhood stressors (e.g., avoidant or dismissive parenting style, bullying) can also increase the likelihood for a mental health problem to develop among children with SLD (Capozzi et al., 2007).

Specific-SLD characteristics could also moderate the risk for students to have co-morbid mental health conditions. For example, students with SLD in more than one domain (e.g., reading and writing) are at an increased risk for developing a mental health problem or having multiple or severe mental health problems (Vissier et al., 2020). Having multiple learning impairments can magnify negative academic and social experiences at school, increasing vulnerabilities for developing mental health problems like anxiety and depression (Hendren et al., 2018). Additionally, a literature review specific to students diagnosed with dyslexia identified an extensive list of risk factors for internalizing mental health problems; including, the severity of dyslexia, late diagnosis, low average intellectual functioning, the total exclusion from the regular classroom, co-morbid ADHD, being female, social and problem-solving skill deficits, poverty, and immigration status (Mugnaini et al., 2009).

Extensive research has also been conducted to explain how stigmatization can contribute to the risk for co-morbid mental health conditions in SLD (Prasher & Kapadia, 2006). There are five elements of stigma: labelling, stereotyping, separation, loss of status, and discrimination, and students with SLD are vulnerable to each of these elements (Shifer, 2016). First, students with SDLs are often *labelled* as having a learning disability in educational jurisdictions, drawing and producing stereotypes (e.g., laziness) about them from teachers and peers (Daley & Rappolt-Schlichtmann, 2018). Second, students with SLD often experience peer rejection and loneliness (Maza & Margalit, 2016), which may lead to *separation* from peers and *loss of status*, particularly in less inclusive educational settings. Finally, labelling, stereotyping, separation, and loss of status could make students vulnerable to being bullied or viewed more negatively by their peers and teachers than their typically developing peers (*discrimination*; Daley & Rappolt-Schlichtmann, 2018). The lived experience of stigma could induce and amplify feelings of low self-worth and confidence, learned helplessness, and ultimately students with SLD can also begin to internalize the negative qualities related to the stereotype (Daley & Rappolt-Schlichtmann, 2018), further increasing risks for co-morbid mental health conditions.

Protective and Promotive Factors Enhancing Mental Well-Being in SLD

> ### *Summary of Protective and Promotive Factors*
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> ➢ School and family connectedness
> ➢ High intrinsic motivation
> ➢ Self-efficacy and self-confidence
> ➢ Coping strategies to many academic demands or setbacks
> ➢ Caring relationship and responsive pedagogy from teacher
> ➢ Collaborative partnership between families and schools

Research suggests that school and family connectedness is markedly important for the well-being of students with SLD (Hendren et al., 2018; Svetaz et al., 2000; Mugnaini et al., 2009). For example, mentorship by teachers has been shown to increase self-esteem and graduation rates among students with SLD compared to their non-mentored counterparts (Kiuru et al., 2012). Specifically, mentorship focused on fostering a growth mindset among students with SLD had been shown to shift perspectives about their academic efforts and achievements (Baird et al., 2009). Stronger parent and school connectedness have been found to be associated with reduced emotional distress, fewer suicide attempts, and reduced violence involvement among adolescents with SLD (Svetaz et al., 2000) among adolescents with SLD. Peer connectedness also appears to be an important protective factor. For example, peer social support correlates with reduced bullying, victimization, fighting, and anger for students with and without SLD (Rose et al., 2015).

Additional protective factors identified in the literature include high intrinsic motivation, self-efficacy, self-confidence, and coping strategies to manage academic demands or setbacks (Visser et al., 2020). Students with these protective factors may be more likely to seek out resources available to them at school and be better able to persist through challenging tasks. Teaching self-advocacy tools and helping students identify and understand their strengths and areas of growth have been suggested as strategies for promoting resilience among students with SLD (Hendren et al., 2018; Panicker & Chelliah, 2016).

Furthermore, a caring relationship and implementing evidence-informed pedagogy to effectively teach students with SLD may promote a sense of belonging and reduce feelings of failure (Hamre & Pinanta, 2006). For example, it is important that teachers understand and are competent with using technology (i.e., Chromebooks) that may assist a student with SLD (Akturk & Ozturk, 2019). Lastly, a collaborative partnership between the family and school is ideal for best supporting SLD students (Cefai & Cavioni, 2016). Many caregivers, especially at the elementary level, may need psychoeducation, training, and resources to support their children's academic growth and progress, and caregivers' participation and inclusion should be encouraged and

promoted (e.g., being informed of homework and deadlines, collaboratively developing academic expectations) whenever possible and feasible (Panicker & Chelliah, 2016).

Implications and Recommendations for School Mental Health Approaches

The review of the current literature suggests that having SLD increases the risks for students to develop mental health conditions and disorders. However, these mental health challenges often emerge as a response to negative schooling and academic experience among students (Nelson & Harwood, 2011a), emphasizing that individualized and intensive academic interventions should be prioritized to promote resilience and enhance student well-being. Early diagnosis and interventions have also been found to be protective factors against worsening mental health conditions. Therefore, continuous use of data-based screening procedures that regularly monitor students' academic progress and system of care providing timely assessments and interventions responding to students' learning gaps and struggles will be beneficial in promoting mental well-being, both in the short and long term.

Building Strengths and Protective Factors

We suggest that schools continue developing opportunities for students with SLD to utilize their strengths to learn a new skill and further develop that skill to experience real-life success and positive outcomes. Classroom-based assessments, for example, could also be used to identify students' strengths in both academic and non-academic domains. The experiential process of learning a skill and experiencing success is essential to developing self-efficacy and positive self-concepts. Such skill-building opportunities could be linked to vocational, athletic, and other recreational activities in schools. Involvement in activities, clubs, and groups where students build their strengths may also enhance their sense of belonging in schools and contribute to positive identity development. This degree of involvement is critical, especially when negative outcomes and academic underachievement could be characterizing the majority of schooling experience for students with SLD.

Accommodations for SEL programs

The delivery of classroom-based social-emotional learning (SEL) programs is becoming increasingly common in many Ontario school boards. As educators are already aware, the content and skills taught through these programs need to be further individualized for students with SLD. Individualization of the contents and skills will depend on students' respective processing weaknesses and deficits. Students with SLD may need more repetitions, individualized scenarios and examples, modelling, and adult support in developing the fluency to apply the learned SEL skills in real-life scenarios.

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