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Understanding the Mental Health Needs of Students with Autism: Recommendations to Enhancing School-Based Mental Health Care

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Overview

A review of the current literature was undertaken to investigate the prevalence and impacts of co-occurring mental health challenges in students with autism spectrum disorder (ASD). The review also sought to identify risk and protective factors that moderate or mediate the onset, maintenance, and worsening of mental health problems in students with ASD. The findings from the literature review were then used to develop tentative guidelines for improving the school functioning and well-being of students with ASD.

What is ASD?

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by impairments in social and communication behaviours, as well as a presence of a restricted range of activities and interests (Klinger et al., 2014). Manifestations of these social, communication and behavioural impairments vary greatly depending on ASD severity, developmental level, and chronological age (American Psychiatric Association [APA], 2013). Thus, ASD is now recognized as a spectrum of related disorders representing complex neurodevelopmental conditions with significant heterogeneity in clinical presentation, severity, and type (Masi et al., 2017). Recent prevalence rate estimates of ASD in Canada, in particular, are approximately 15.2 per 1,000 children and youth 5–17 years of age (Public Health Agency of Canada [PHAC], 2015).

ASD and School Functioning

ASD may impact students' school functioning, especially in academic and social domains. The type and severity of academic challenges largely depend on students' cognitive profile, and they may also have a co-morbid intellectual or learning disability (Planche & Lemonnier, 2012). Furthermore, students with ASD may underachieve in the absence of an intellectual or learning disability (Estes et al., 2011). Underachievement in academics has been linked to challenges with cognitive rigidity, sensory difficulties (e.g., tactile sensitivity causing attentional problems) and challenges adapting to changes, transitions, and switching classroom activities (Ashburner et al., 2008; Keen et al., 2016).

In the social domains of schooling, ASD linked challenges with social communication, social cognition, and executive functioning make it difficult for students to appropriately adhere to the interpersonal demands of social interactions and relationship building with peers and teachers (Marsh et al., 2017). Students with ASD may also struggle with emotion regulation, leading to externalizing behaviours at school and putting another barrier to social engagement with teachers and peers. Negative social outcomes such as fewer reciprocal friendships (Rotheram-Fuller et al., 2010),

bullying involvement (Kloosterman et al., 2013; Sterzing et al., 2012) combined with poor academic achievement, emphasize the need for a multi-tier system of interventions and supports to enhance school functioning of students with ASD (Fleury et al., 2015).

ASD and Mental Health

A large percentage of students with ASD have at least one co-occurring psychiatric diagnosis or mental health challenge. Co-occurring mental health challenges are more prevalent in the ASD population than in the general population (Brookman-Frazee et al., 2018; Lai et al., 2019; Leyfer et al., 2006; Salazar et al., 2015). Factors such as age, gender, intellectual functioning, and environment are associated with heterogeneity in the prevalence of co-occurring mental health challenges (Lai et al., 2019). Co-occurring mental health challenges can exacerbate students' functional impairment and difficulties with adaptation, significantly impacting their school functioning (Joshi et al., 2010).

Anxiety

Numerous scholarly findings suggest anxiety-related challenges and disorders are among the most common co-morbid mental health challenges experienced in people with ASD (van Steensel et al., 2011; Zaboski & Storch, 2018). The prevalence rates of anxiety in children and adolescents with ASD ranges between 20-66% depending on sample type, age, and country of study (Brookman-Frazee et al., 2018; Lai et al., 2019; Salazar et al., 2015; White et al., 2009). The most common co-morbid anxiety diagnoses were generalized anxiety disorder (GAD) and specific phobia (Layfer et al., 2006; Salazar et al., 2015). The higher prevalence of GAD among people with ASD is likely due to their significant challenge with tolerating uncertainty (Boulter et al., 2014).

The core symptoms of ASD increase the risk for anxiety challenges among students (Hyman et al., 2020). Anxiety may be a common response to being exposed to an environment with increased social or sensory stimulations or activities demanding frequent changes or transitions (Marsh et al., 2017; Wigham et al., 2015). In exchange, the anxiety response exacerbates pre-existing behavioural, social and communication challenges such as social skills deficits, resistance to change and repetitive behaviours (Zaboski & Storch, 2018). For example, higher anxiety has been associated with increased repetitive behaviours and insistence on sameness among children with ASD (Rodgers et al., 2012b).

Students with ASD may also experience excessive discomfort in certain social situations (Corbett et al., 2010; Lopata et al., 2008). Studies have shown that the discomfort is often exacerbated due to the presence of accompanying physiological symptoms (e.g., the release of increased cortisol) and elicit anxiety in students with ASD. For example, Corbett et al. (2010) found that when students with ASD were exposed to new peers, they experienced higher physiological stress and engaged in less cooperative play with the new peers compared to their typically developing peers. Hence, the experience of physiological discomfort in certain social situations might elicit avoidant behaviours among students with ASD and make it even more stressful to initiate and practise social skills, leading to heightened risks for experiencing loneliness (White & Roberson-Nay, 2009).

Depression, Self-Injurious Behaviours and Suicidal Behaviours

Depression is another mental health challenge that is prevalent in children and adolescents with ASD. Specifically, people with ASD report more clinically elevated symptoms of depression compared to those without ASD (Brookman-Frazee et al., 2018; Lai et al., 2019; Leyfer et al., 2009; Simonoff et al., 2008; Smith & White, 2020). The risk for the onset and persistence of depressive symptoms in ASD is understood to be associated with reduced social support and self-perceived atypicality (i.e., feeling different from others; Smith & White, 2020). Furthermore, a systematic review highlighted that higher ASD symptom severity, social comparison, peer victimization and lower friendship quality and mutual friendships were associated with depression severity among adolescents and adults with ASD (Smith & White, 2020). Therefore, interventions aiming to enhance social well-being (e.g., social skills coaching, friendship clubs) may reduce depression severity among students with ASD.

Students with ASD may also engage in self-injurious behaviours (e.g., skin picking). However, it is important to note that atypical sensory processing, a hallmark symptom of ASD, has been found to be the strongest predictor for self-injurious behaviour (Duerden et al., 2012). Students with ASD may have hyper-or-hyposensitivity to certain sensory stimuli or unusual interests in sensory aspects of their environment (APA, 2013). Students' perseverance with sensory stimuli or processing may lead to self-injury. Nonetheless, continuous monitoring and coaching of displacement behaviours are important to enhance the safety of students with ASD. Finally, insistence on sameness, weaker cognitive functioning, and poor social functioning can also predict self-injurious behaviours among students with ASD (Duerden et al., 2012).

There is also emerging literature and rising concern for the risk of suicidal behaviours in ASD. Findings of updated published literature suggest that the rates of suicidal behaviours may be elevated in ASD compared to the general population (Cassidy et al., 2014; Oliphant, Smith, & Grahame, 2020). While future research is needed to clearly understand the prevalence rates and individual and environmental risks predicting suicidal behaviours in ASD, available research indicates that cognitive rigidity, social communication deficits, and depression may be associated with suicidal ideations in ASD (Cassidy et al., 2014; Hedley et al., 2021). For example, Hedley et al. (2021) published their recent findings showing that higher scores on social communication problems, insistence on sameness and rumination, and lower scores on attentional and inhibitory control were all significantly correlated with depression and suicidal ideation. The results of this study also indicated that core ASD characteristics could play a role in the development of suicidal ideation.

Risk Factors Predicting Mental Health Conditions in ASD

As mentioned earlier, having the diagnosis of ASD increases the risk for students to develop co-morbid mental health conditions. In particular, extensive research has been conducted to understand the role of social communication deficits in predicting mental health conditions in ASD. The findings suggest that bullying involvement, lack of close friendships, and loneliness are possible mediators explaining the risk between ASD and mental health challenges like anxiety and depression.

Bullying Involvement, Lack of Close Friendships

Students with ASD may be more vulnerable to peer victimization than their typically developing peers due to reasons related to their social-communicative and behavioural challenges and the effect of these difficulties on peer relationships (Kloosterman et al., 2013). Maiano et al. (2016) reported students with ASD are bullied at a rate three times that of typically developing students. Cappadocia et al. (2012) examined the association between bullying victimization and mental health problems. The authors found that students with ASD who were victimized were more likely to have higher levels of internalizing mental health problems. Additionally, compared to students who were not victimized, those who were victimized were more likely to have higher levels of communication difficulties. Communication difficulties include repetitive or rigid language, narrow interests, and poor nonverbal communication skills (i.e., youth with ASD have difficulties using gestures and may avoid eye contact; National Institutes of Health, 2012).

Thus, deficits in communication were found to be a significant predictor of bullying victimization. Furthermore, students with ASD may not have close friends and reduced social networks (Bauminger & Shulman, 2003), and the general lack of support from peers can place students at greater risk of bullying victimization than their typically developing peers (Symes & Humphrey, 2010). Challenges with navigating complex social cues, engaging in appropriate non-verbal behaviours (e.g., tone of voice, gestures and facial expressions) and having restrictive interests and repetitive behaviours are considerable barriers for students with ASD to develop friendship and often make them appear 'different' from their peers (Rowley et al., 2012).

Students with ASD may also be perceived to be perpetrators of bullying (Maiano et al., 2016; Sterzing et al., 2012). Due to their challenges with social cues, social rules, and difficulty with perspective-taking, students with ASD may have more difficulty understanding what will cause discomfort for other students (Roekel et al., 2010). Students with ASD may be unaware of the implications of their own actions and words on peers. Finally, disruptions in routines or exposure to certain sensory stimuli may elicit aggression due to challenges in self-regulation. Cumulatively, these ASD-linked behaviours and reactions may be attributed as bullying, but they may not be intended to be hurtful. Interestingly, having co-morbid attention-deficit/hyperactivity disorder (ADHD) has been found to increase the risk for bullying in ASD in a few studies (Sterzing et al., 2012). Hwang et al. (2018) found that perpetrating behaviours in children with ASD disappeared when co-morbid psychopathology (hyperactivity, aggression, conduct problems, and atypicality) was controlled.

Loneliness, Exclusion, Fewer Quality Friendships

Due to challenges with social communication, individuals with ASD experience difficulty establishing and maintaining friendships or are socially excluded (Mazurek, 2014) and, therefore, can experience higher rates of social isolation and loneliness compared to typically developing peers (Deckers et al., 2017; Lasgaard et al., 2010). Kasari and colleagues (2011) discovered that, compared to typically developing students, students with ASD are more likely to be on the periphery of their social networks, have lower quality friendships, and have fewer mutual friendships. Whitehouse et al. (2009) found that compared to their typically developing peers, adolescents with ASD

reported poorer quality of best friendships and higher levels of loneliness and depressive symptoms, with loneliness being negatively correlated with their quality best-friendship.

Hedley et al. (2018) examined loneliness and social support as risk and protective factors associated with depression and suicidal ideation in individuals with ASD. Their results showed that depression and suicidal ideation were positively correlated with loneliness and negatively correlated with the social support scales, with both factors emerging as unique predictors of depression scores as well. Mazurek (2014) discovered a bidirectional association between loneliness and social relationships in a study of adults with ASD, with greater quantity and higher quality friendships being associated with reduced loneliness.

Protective and Promotive Factors Enhancing Mental Well-Being in ASD

Limited research has been carried out to explore direct protective and promotive factors enhancing the mental health of students with ASD. The studies conducted on this topic have mostly focused on exploring social skills and success in promoting mental well-being among students with ASD. The findings of these studies are briefly summarized below.

Social Support, Social Skills Training

In a study of adolescent boys with ASD, Lasgaard et al. (2010) found that perceived social support from classmates, parents, and close friends was negatively correlated with loneliness, indicating that perceived social support could be an important protective factor to mental health issues. Based on their findings, Lasgaard et al. (2010) recommend the need for approaches that recognize and facilitate multiple sources of social support and encourage social interactions and training for students with ASD at school and home settings.

Humphrey and Symes (2010) conducted a study to identify the role of social support in response to bullying in students with ASD. Students were interviewed about their bullying experiences and their utilization of social support in school. Interview results showed that although the majority of students said they usually seek support from a teacher when they have a bullying problem, their friends are seen as having the most important effect on their well-being, especially their feelings of safety and security at school.

Hotton and Coles (2016) conducted a review of the social skills training literature involving adolescents and adults with ASD. The review of thirteen studies revealed that group-based social skills training was generally successful in improving social skills, with some studies finding improved mental health (reductions in anxiety and depression symptoms). Therefore, the literature suggests that improved social skills can contribute to improvements in broader psychosocial factors like friendships and mental health.

Implications and Recommendations for School Mental Health Approaches

Having ASD places students at considerable risk for several functional impairments affecting school functioning (Marsh et al., 2017). The review of the current literature highlights the common co-occurrence of mental health conditions among students with ASD and their adverse impact on school outcomes and well-being, indicating the clear need for schools to implement evidence-based, student-centred, multi-tiered

interventions and supports. Upon analyzing the literature, we describe recommendations for consideration to enhance the school mental health care for students with ASD.

1. Taking a Student-Centred Approach to Assessments, Consultations and Interventions

ASD is highly heterogeneous, and there may be considerable variations in intellectual functioning, learning challenges and academic achievement, communication, and other behavioural anomalies across students with ASD. The heterogeneity of ASD strongly indicates that taking a standardized approach in creating or implementing academic, social, and psychological interventions and accommodations may not be effective or practical. Instead, holistic assessments and consultations to identify specific strengths and needs of students will help determine multi-tiered supports. For example, structured and unstructured observations in multiple school settings (e.g., classrooms, playgrounds), functional behavioural assessments, and service need assessments conducted in collaboration with teachers, caregivers and relevant stakeholders are recommended to identify the specific level of supports needed for a student with ASD in areas of:

- *Communication and Social Skills Development*
  - Strengthening non-verbal versus verbal communication (i.e., some students with ASD may only communicate non-verbally)
  - Identify specific areas of social skills development:
    - Understanding social cues
    - Practising appropriate facial expressions and body gestures
    - Learning perspective-taking and accepting of others' ideas (may begin with certain verbal scripts first)
    - Step-by-step coaching for entering and exiting conversations and maintaining circles of communication
    - Incorporate these social skill-building exercises the student as part of classroom-wide anti-bullying efforts

- *Management with Sensory Processing and Stimulations*
  - Conduct an environmental scan and ecological evaluation to eliminate or reduce sensory stimuli that may be distressing or interfering with students' participation in the classroom (distinguishing between distressing versus soothing stimulation)
  - Evaluate whether the student is engaging in sensory-related behaviours that increase their self-injury risks (e.g., excessive skin picking). If so, explore replacement activities that will serve the same function of sensory soothing.

- *Coping with Changes, Transitions, and Intolerance to Uncertainty*
  - Maintaining predictability in classroom-and-school-wide routines and uncertainty
  - Providing advance notice for predictable changes and co-creating a plan with the student accordingly (e.g., changes in teachers, assignments with different expectations, assemblies, fire drills, etc.)

- On the other hand, the reality is that teachers and other professionals at school may not be aware of certain changes or transitions that may demand immediate adaptability from students. Therefore, it is important that students are at least taught basic self-regulation skills to help them deal with changes and uncertainty.
    - As physiological symptoms often accompany anxiety reactions among students with ASD, self-regulation skills that promote parasympathetic regulation may be beneficial (e.g., body relaxation exercises, deep or mindfulness breathing)
    - Access to a safe and quiet space to engage in self-regulation. Depending on the student's age, they may need the support of a trusted adult as their co-regulators (e.g., modelling the specific regulation skill, guiding them to carry out the skill in a step-by-step process)

2. Optimize ASD Interventions First

It is clear from the literature that the functional impairments associated with ASD directly put students at risk of developing co-morbid mental health conditions. Therefore, evidence-based and individualized interventions targeting the areas of impairments should be prioritized to promote and enhance the mental well-being of students with ASD. According to the current literature review, it was apparent that outcomes stemming from social communication deficits in ASD are significant to increasing risks for depression and related internalizing challenges in students. As school presents ample opportunities to develop social relationships, it appears to be an ideal setting to implement group interventions and individualized, 'at-the-moment' coaching to strengthen social communication and relationships skills in students with ASD.

Students with ASD will need extensive modelling, scaffolding, and coaching to apply the social or self-regulation skills learned in Tier-2 psychosocial programs in real-life situations (e.g., doing group work with peers, group play at the playground, etc.). The implementation of these scaffolding and coaching techniques will vary depending on the student's age, developmental level, and intellectual and language functioning. We should minimize the risks to single out the students during social and self-regulation coaching and explore ways to integrate them in accordance with inclusion pedagogical frameworks. Finally, regular monitoring of mental health functioning through multi-informant behavioural reports, interviews, and observations is highly recommended for students with (especially adolescents and young adults) to identify possible safety concerns and the need for Tier-3 interventions.

3. Supports to Build Social and Community Connections

Reduced social networks can lead to isolation and loneliness, making students with ASD vulnerable to having mood challenges and possibly increasing the risk for self-harm behaviours. Students with ASD across various chronological and developmental levels may need explicit, continuous, but distinguished guidance from trusted adults to seek opportunities to develop and maintain social and community networks. In the school setting, students will still require coaching with applying learned social and self-regulation skills when they participated in these structured or non-structured social opportunities.

- Pairing students with peers with similar interests, hobbies, and skill-level to plan and carry out collaborative, goal-oriented activities
- Exploring school-and-community based recreational activities that students with ASD can join to explore and further work on their hobbies and have access to a platform to connect and potentially develop friendships with peers with similar interests

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